SAFETY INSTRUCTIONS

D5000 series
 Intrinsically safe Isolators and Relays
 PSD5000 Series Power Supplies

Note: This manual contains only safety instructions.
For the complete installation and user manuals, data sheets and certificates, supplier code of conduct, code of ethics, terms and conditions of sale and warranty please refer to www.gminternational.com.
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SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 25.9 V, Io/Isc = 92 mA, Po/Po = 594 mW at terminals 7-8, 9-10.

**Approvals:**
BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Uo/Vmax, Io/Imax, Po/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5011 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 25.9 V</td>
<td>≤ Ul / Vmax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 92 mA</td>
<td>≤ Il / Imax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 594 mW</td>
<td>≤ Pi / Pi</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 100 nF</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 770 nF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.63 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 4.02 μF</td>
<td>I</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 770 nF</td>
<td>IIIC (E, F, G)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 4.2 mH</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 16.8 mH</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 33.7 mH</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 55.2 mH</td>
<td>I</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 16.8 mH</td>
<td>IIIC (E, F, G)</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5011 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5011 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.
**INSTALLATION**

D5011 series are Repeater power supply HART® compatible housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5011 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accomplished by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5011 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided. D5011 series must be connected to SELV or PELV supplies. All circuits connected to D5011 series must comply with the overvoltage category II (or better) according to EN/IEC60079-15.

**For the complete instruction manual ISM0124, datasheet and certifications please refer to our website www.gminternational.com.**

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**D5014 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)I [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 25.9 V, Io/Isc = 92 mA, Po/Po = 594 mW at terminals 7-8, 9-10.

Uo/Voc = 1.1 V, Io/Isc = 56 mA, Po/Po = 16 mW at terminals 8-11, 10-12.

Ui/Vmax = 30 V, li/lmax = 128 mA, Ci/Ci = 0 nF, Li/Li = 0 mH, at terminals 8-11, 10-12.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/lmax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5014 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 25.9 V</td>
<td>≤ Ui / Vmax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>Uo / Voc = 1.1 V</td>
<td>≤ li / lmax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 92 mA</td>
<td>≤ Pi / Pi</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>Io / Isc = 56 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 594 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>Po / Po = 16 mW</td>
<td></td>
</tr>
<tr>
<td>Terminals</td>
<td>Associated Apparatus Parameters</td>
<td>must be</td>
<td>Haz. Area/Haz. Locations Device Parameters</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------</td>
<td>---------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 100 nF IIC (A, B)</td>
<td>Ci / Ci device + C cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 770 nF IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 2.63 μF IIA (D)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Co / Ca = 4.02 μF I (E)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Co / Ca = 770 nF IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>Co / Ca = 100 μF IIC (A, B)</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 1000 μF IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 1000 μF IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 1000 μF I (E)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 1000 μF IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 3 mH IIC (A, B)</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 16.8 mH IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 33.7 mH IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 55.2 mH I (E)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 16.8 mH IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>Lo / Ra = 59.9 μH/Ω IIC (A, B)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ra = 239.7 μH/Ω IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ra = 479.4 μH/Ω IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ra = 786.6 μH/Ω I (E)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ra = 239.7 μH/Ω IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 59.9 μH/Ω IIC (A, B)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 239.7 μH/Ω IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 479.4 μH/Ω IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 786.6 μH/Ω I (E)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 239.7 μH/Ω IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>Lo/Ro = 30545.4 μH/Ω I (E)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 18618.1 μH/Ω IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 9309 μH/Ω IIIC (E, F, G)</td>
<td></td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5014 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Ui / Vmax</th>
<th>li / Imax</th>
<th>Uo / Voc</th>
<th>Io / Isc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>30 V</td>
<td>=</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>128 mA</td>
<td>=</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>0 μF, Li = 0 mH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20 μH per foot).

**WARNING**

D5014 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5014 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5014 series are Repeater power supply HART® compatible housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5014 series can be mounted with any orientation over the entire ambient temperature range.
Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60066-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5014 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5014 series must be connected to SELV or PELV supplies.

All circuits connected to D5014 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

*For the complete instruction manual ISM0103, datasheet and certifications please refer to our website www.gminternational.com.*

### D5020 series

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

\[
\text{Uo/Voc} = 25.9 \text{ V}, \ \text{Io/Isc} = 93 \text{ mA}, \ \text{Po/Po} = 595 \text{ mW} \text{ at terminals 7-8, 9-10.} \\
\text{Um} = 250 \text{ Vrms or Vdc, } -40 \degree \text{C} \leq T_a \leq 70 \degree \text{C.}
\]

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072 X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, Ii/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5020 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
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<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 25.9 V</td>
<td>( \leq )</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 93 mA</td>
<td>( \leq )</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 595 mW</td>
<td>( \leq )</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 100 nF, 770 nF, 2.63 ( \mu )F, 4.02 ( \mu )F, 770 nF</td>
<td>IIC (A, B), IIC (C), IIC (D), IIA (E, F, G), IIB (C), IIA (D)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 2 mH, 16.7 mH, 33.5 mH, 54.9 mH, 16.7 mH</td>
<td>IIC (A, B), IIB (C), IIA (D), I</td>
</tr>
</tbody>
</table>
For installations in which both the $C_i$ and $L_i$ of the Intrinsically Safe apparatus exceed 1% of the $C_0$ and $L_0$ parameters of the Associated Apparatus (excluding the cable), then 50% of $C_0$ and $L_0$ parameters are applicable and shall not be exceeded (50% of the $C_0$ and $L_0$ become the limits which must include the cable such that $C_i$ device + $C_c$ cable ≤ 50% of $C_0$ and $L_i$ device + $L_c$ cable ≤ 50% of $L_0$). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 $\mu$F for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 $\mu$H per meter (0.20 $\mu$H per foot).

**WARNING**

D5020 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits $-40$ to $+70$ °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5020 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

**Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.**

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

D5020 series are Isolating Driver housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5020 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits. Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60064-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5020 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

D5020 series must be connected to SELV or PELV supplies.

All circuits connected to D5020 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

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**For the complete instruction manual ISM0118, datasheet and certifications please refer to our website [www.gminternational.com](http://www.gminternational.com).**
SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] III C, (M1) [Ex ia Ma] I

**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072 X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, Ii/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5030 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 22 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.4 μF</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 75 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 66 μF</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td>IIC (E, F, G)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 78.3 mH</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 313.4 mH</td>
<td>IIB (C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 626.9 mH</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 1,082.6 H</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 313.4 mH</td>
<td>IIC (E, F, G)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 635.9 μH/Ω</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 2543.9 μH/Ω</td>
<td>IIB (C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 5087.9 μH/Ω</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 8347.4 μH/Ω</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 2543.9 μH/Ω</td>
<td>IIC (E, F, G)</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5030 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5030 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

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Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5030 series are Switch/Proximity Detector Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus.

D5030 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

Connect load relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5030 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5030 series must be connected to SELV or PELV supplies.

All circuits connected to D5030 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual **ISM0106**, datasheet and certifications please refer to our website [www.gminternational.com](http://www.gminternational.com).

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**D5031 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEX:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEX BVS 10.0072 X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/limax, Pi/Plim) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5031 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Lo) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:
in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is
hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250

WARNING
Connect output transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)).

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1

D5031 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5031 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

WARNING
Substitution of components may impair Intrinsic Safety and suitability for Zone 2. Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION
D5031 series are Switch/Proximity Detector Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5031 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

Connect output transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60064-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is
responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned only use a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5031 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5031 series must be connected to SELV or PELV supplies.

All circuits connected to D5031 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

*For the complete instruction manual ISM0107, datasheet and certifications please refer to our website www.gminternational.com.*

### D5032 series

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (U/Vmax, I/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5032 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 22 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.4 μF</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 16.8 μF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 75 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 66 μF</td>
<td>I</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 16.8 μF</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 78.3 mH</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 313.4 mH</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 626.9 mH</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 1.0286 H</td>
<td>I</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 313.4 mH</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 635.9 μH/Ω</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 254.3 μH/Ω</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 5087.9 μH/Ω</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 8347.4 μH/Ω</td>
<td>I</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 2543.9 μH/Ω</td>
<td>IIIC (E, F, G)</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5032 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature...
limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5032 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

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### INSTALLATION

D5032 series are Switch/Proximity Detector Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5032 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

Connect output relay contacts checking the load rating to be within the contact maximum rating (100 mA 50 Vac 5 VA, 100 mA 50 Vdc 5 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5032 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5032 series must be protected against SELV or PELV supplies.

All circuits connected to D5032 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

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For the complete instruction manual ISM0108, datasheet and certifications please refer to our website [www.gminternational.com](http://www.gminternational.com).

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### D5034 series

#### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

\[
\text{Uo/Voc} = 10.5 \, \text{V}, \text{Io/Isc} = 15 \, \text{mA}, \text{Po/Po} = 39 \, \text{mW} \text{ at terminals } 7-8, 9-10.
\]

\[
\text{Um} = 250 \, \text{Vrms or Vdc}, -40 \, ^\circ\text{C} \leq \text{Ta} \leq 70 \, ^\circ\text{C}.
\]

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.
### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/PI) are not exceeded by the safety parameters (Uo/Voc, lo/isc, Po/Po) of the D5034 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>lo / isc = 15 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 39 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.4 μF</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 75 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 66 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 163 mH</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 652 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 1.3 H</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 2.14 H</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 652 mH</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/ Ro = 918.2 μH/Ω</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/ Ro = 367.2 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/ Ro = 734.5 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/ Ro = 12051.8 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/ Ro = 3672.9 μH/Ω</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 μH per meter (0.2μH per foot).

### WARNING

D5034 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5034 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

D5034 series are Switch/Proximity Interface housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board. D5034 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11.
clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

The enclosure provides, according to EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5034 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5034 series must be connected to SELV or PELV supplies.

D5036 series

SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Uo/Vmax, Ii/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5036 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤ Ui / Vmax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 22 mA</td>
<td>≤ Ii / Imax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤ Pi / Pi</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.4 μF</td>
<td>≥ Ci / Ci device + C cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 75 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 66 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td>IIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 78.3 mH</td>
<td>≥ Li / Li device + L cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 313.4 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 626.9 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 1.0286 H</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 313.4 mH</td>
<td>IIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 635 μH/Ω</td>
<td>≥ Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 2543 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 5087 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 8347 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 2543 μH/Ω</td>
<td>IIC (E, F, G)</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable)
WARNING

D5036 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5036 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area orunless area is known to be nonhazardous.

Installation

D5036 series are Switch/Proximity Detector Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus. D5036 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6Nm. Use only cables that are suitable for a temperature of at least 85°C.The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits. Connect output relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions. The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60066-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5036 series must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided. D5036 series must be connected to SELV or PELV supplies. All circuits connected to D5036 series must comply with the overvoltage category II (or better) according to EN/IEC60066-1.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0269, datasheet and certifications please refer to our website www.gminternational.com.
D5037 series

SAFETY DESCRIPTION

ATEX: II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I


Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/PO = 56 mW at terminals 7-8, 9-10.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

Approvals:
BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Uo/Vmax, Io/Imax, Po/Po) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/PO) of the D5037 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤ Uo / Vmax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 22 mA</td>
<td>≤ Io / Imax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / PO = 56 mW</td>
<td>≤ Pi / Pi</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 μH per meter (0.20 μH per foot).

WARNING

D5037 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5037 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.
D5037 series are Switch/Proximity Detector Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5037 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

Connect output transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5037 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5037 series must be connected to SELV or PELV supplies.

All circuits connected to D5037 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual ISM0270, datasheet and certifications please refer to our website www.gminternational.com.

D5038, D5039 series

SAFETY DESCRIPTION

ATEX: II 3(1)G Ex ec [ia Ga] IIIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I

IECEx: Ex ec [ia Ga] IIIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

Approvals:
DEMKO 19 ATEX 2290 X conforms to EN60079-0, EN60079-7, EN60079-11, EN50303.
IECEx ULD 19.0029X conforms to IEC60079-0, IEC60079-7, IEC60079-11.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Uo/Vmax, Io/Imax, Po/Po) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5038, D5039 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 22 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.4 μF</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.7 μF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 74.9 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 94.9 μF</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.7 μF</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥</td>
<td>Cl / Cl device + C cable</td>
</tr>
</tbody>
</table>
**WARNING**

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5038, D5039 series must be cleaned only by use of a cloth lightly moistened by a mixture of detergent in water. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and responsible to ensure that the operating temperature of the module is not exceeded in the end use application. In accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Explosive Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous. Warning: substitution of components may impair Intriniscally Safety and suitability for Zone 2. Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous. Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5038, D5039 series are Switch/Prox. Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group II, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5038, D5039 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous. Warning: substitution of components may impair Intriniscally Safety and suitability for Zone 2. Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous. Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>Lo / La = 78.3 mH</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td></td>
<td>Lo / La = 313.5 mH</td>
<td>IIB (C)</td>
</tr>
<tr>
<td></td>
<td>Lo / La = 627.1 mH</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td>Lo / La = 1.0288 H</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>Lo / La = 313.5 mH</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td></td>
<td>Lo /Ro = 635 μH/Ω</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td></td>
<td>Lo /Ro = 2543 μH/Ω</td>
<td>IIB (C)</td>
</tr>
<tr>
<td></td>
<td>Lo /Ro = 5087 μH/Ω</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td>Lo /Ro = 8347 μH/Ω</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>Lo /Ro = 2543 μH/Ω</td>
<td>IIIC (E, F, G)</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).
All circuits connected to D5038, D5039 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual, datasheet and certifications please refer to our website www.gminternational.com.

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D5040 series

SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 25.2 V, Io/Isc = 146 mA, Po/Po = 916 mW at terminals 7-8, 10-11 Out A.

Uo/Voc = 25.2 V, Io/Isc = 108 mA, Po/Po = 676 mW at terminals 7-9, 10-12 Out B.

Uo/Voc = 25.2 V, Io/Isc = 292 mA, Po/Po = 1352 mW at terminals 7//10-8//11 Out A+A.

Uo/Voc = 25.2 V, Io/Isc = 216 mA, Po/Po = 1352 mW at terminals 7//10-9//12 Out B+B.

Uo/Voc = 25.2 V, Io/Isc = 254 mA, Po/Po = 1592 mW at terminals 7//10-8//12, 7//10-9//11 Out A+B.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 14 ATEX E 159 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 14.0111X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5040 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 10-11</td>
<td>Uo / Voc = 25.2 V</td>
<td>≤ Ui / Vmax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-9, 10-12</td>
<td>Io / Isc = 146 mA</td>
<td>≤ li / Imax</td>
</tr>
<tr>
<td>Ch1//2</td>
<td>7//10-8//11</td>
<td>Io / Isc = 292 mA</td>
<td>≤ Po / Po = 916 mW</td>
</tr>
<tr>
<td>Ch1//2</td>
<td>7//10-9//12</td>
<td>Io / Isc = 216 mA</td>
<td>≤ Po / Po = 676 mW</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 10-11</td>
<td>Io / Isc = 108 mA</td>
<td>≤ Po / Po = 1352 mW</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-9, 10-12</td>
<td>Po / Po = 1592 mW</td>
<td>≥ Ci / Ci device + C cable</td>
</tr>
<tr>
<td>Ch1//2</td>
<td>7//10-8//11</td>
<td>Co / Ca = 107 nF</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td>Ch1//2</td>
<td>7//10-9//12</td>
<td>Co / Ca = 2.9 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1//2</td>
<td>7//10-8//12, 7//10-9//11</td>
<td>Co / Ca = 280 nF</td>
<td>IIC (E, F, G)</td>
</tr>
<tr>
<td>Terminals</td>
<td>Associated Apparatus Parameters</td>
<td>must be</td>
<td>Haz. Area/Haz. Locations Device Parameters</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------</td>
<td>---------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 10-11</td>
<td>Lo / La = 1.67 mH IIC (A, B)</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 6.7 mH IIB (C)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 13.4 mH IIA (D)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 22 mH I</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 6.7 mH IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-9, 10-12</td>
<td>Lo / La = 3 mH IIC (A, B)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 12.3 mH IIB (C)</td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 40 mH IIA (D)</td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 12.3 mH I</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 13.4 mH IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1/2</td>
<td>7//10-8//11</td>
<td>Lo / La = 1.67 mH IIB (C)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 3.3 mH IIA (D)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 5.5 mH I</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 1.67 mH IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1/2</td>
<td>7//10-9//12</td>
<td>Lo / La = 3 mH IIB (C)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 6.1 mH IIA (D)</td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 10.09 mH I</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 3 mH IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1/2</td>
<td>7//10-8//12, 7//10-9//11</td>
<td>Lo / La = 2.2 mH IIB (C)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 4.4 mH IIA (D)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 7.28 mH I</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 2.2 mH IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 10-11</td>
<td>Lo/Ro = 38.8 μH/Ω IIC (A, B)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 155.3 μH/Ω IIB (C)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 310.7 μH/Ω IIA (D)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 509.8 μH/Ω I</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 155.3 μH/Ω IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-9, 10-12</td>
<td>Lo/Ro = 52.6 μH/Ω IIC (A, B)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 210.4 μH/Ω IIB (C)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 420 μH/Ω IIA (D)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 690.3 μH/Ω I</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 210.4 μH/Ω IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1/2</td>
<td>7//10-8//11</td>
<td>Lo/Ro = 77.6 μH/Ω IIB (C)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 254.9 μH/Ω IIA (D)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 77.6 μH/Ω IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1/2</td>
<td>7//10-9//12</td>
<td>Lo/Ro = 105.2 μH/Ω IIB (C)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 345.1 μH/Ω IIA (D)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 105.2 μH/Ω IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td>Ch1/2</td>
<td>7//10-8//12, 7//10-9//11</td>
<td>Lo/Ro = 89.3 μH/Ω IIB (C)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 293.2 μH/Ω IIA (D)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 89.3 μH/Ω IIIC (E, F, G)</td>
<td><img src="https://via.placeholder.com/15" alt="" /></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5040 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIB, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5040 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

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Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5040 series are Digital Output Driver housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board. D5040 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5040 series must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided. All circuits connected to D5040 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual ISM0187, datasheet and certifications please refer to our website www.gminternational.com.

**D5048, D5049 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 24.8 V, Io/Isc = 147 mA, Po/Po = 907 mW at terminals 7-10 Out A.

Uo/Voc = 24.8 V, Io/Isc = 108 mA, Po/Po = 667 mW at terminals 8-10 Out B.

Uo/Voc = 24.8 V, Io/Isc = 93 mA, Po/Po = 571 mW at terminals 9-10 Out C.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (U/i/Vmax, li/Imax, Pi/Pl/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5048, D5049 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>D5048/49S Ch1: 7-10</td>
<td>Uo / Voc = 24.8 V</td>
<td>≤</td>
<td>UI / Vmax</td>
</tr>
<tr>
<td>D5048/49S Ch1: 8-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5048/49S Ch1: 9-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminals</td>
<td>Associated Apparatus Parameters</td>
<td>must be</td>
<td>Haz. Area/Haz. Locations Device Parameters</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------</td>
<td>---------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>D5048/49S Ch1: 7-10</td>
<td>Io / Isc = 147 mA</td>
<td>≤</td>
<td>li / Imax</td>
</tr>
<tr>
<td>D5048/49S Ch1: 8-10</td>
<td>Io / Isc = 108 mA</td>
<td>≤</td>
<td>Pi / Pi</td>
</tr>
<tr>
<td>D5048/49S Ch1: 9-10</td>
<td>Io / Isc = 93 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5048/49S Ch1: 7-10</td>
<td>Po / Po = 907 mW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5048/49S Ch1: 8-10</td>
<td>Po / Po = 667 mW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5048/49S Ch1: 9-10</td>
<td>Po / Po = 571 mW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Terminals**

**Associated Apparatus Parameters**

| D5048/49S Ch1: 7-10 | Co / Ca = 113 nF | IIC (A, B) |
| D5048/49S Ch1: 7-10 | Co / Ca = 860 nF | IIB (C) |
| D5048/49S Ch1: 7-10 | Co / Ca = 3.05 μF | IIA (D) |
| D5048/49S Ch1: 7-10 | Co / Ca = 4.35 μF | IIA (D) |
| D5048/49S Ch1: 7-10 | Co / Ca = 860 nF | IIIIC (E, F, G) |

| D5048/49S Ch1: 8-10 | Lo / La = 40 μH | IIC (A, B) |
| D5048/49S Ch1: 8-10 | Lo / La = 6.63 mH | IIB (C) |
| D5048/49S Ch1: 8-10 | Lo / La = 13.27 mH | IIA (D) |
| D5048/49S Ch1: 8-10 | Lo / La = 21.78 mH | IIA (D) |
| D5048/49S Ch1: 8-10 | Lo / La = 6.63 mH | IIIIC (E, F, G) |

| D5048/49S Ch1: 9-10 | Lo / La = 1.42 mH | IIC (A, B) |
| D5048/49S Ch1: 9-10 | Lo / La = 12.3 mH | IIB (C) |
| D5048/49S Ch1: 9-10 | Lo / La = 24.6 mH | IIA (D) |
| D5048/49S Ch1: 9-10 | Lo / La = 40.35 mH | IIA (D) |
| D5048/49S Ch1: 9-10 | Lo / La = 12.3 mH | IIIIC (E, F, G) |

| D5048/49S Ch1: 7-10 | Lo/Ro = 39.2 μH/Ω | IIC (A, B) |
| D5048/49S Ch1: 7-10 | Lo/Ro = 156.8 μH/Ω | IIB (C) |
| D5048/49S Ch1: 7-10 | Lo/Ro = 313.6 μH/Ω | IIA (D) |
| D5048/49S Ch1: 7-10 | Lo/Ro = 514.6 μH/Ω | IIA (D) |
| D5048/49S Ch1: 7-10 | Lo/Ro = 156.8 μH/Ω | IIIIC (E, F, G) |

| D5048/49S Ch1: 8-10 | Lo/Ro = 53.3 μH/Ω | IIC (A, B) |
| D5048/49S Ch1: 8-10 | Lo/Ro = 213.5 μH/Ω | IIB (C) |
| D5048/49S Ch1: 8-10 | Lo/Ro = 427 μH/Ω | IIA (D) |
| D5048/49S Ch1: 8-10 | Lo/Ro = 700.6 μH/Ω | IIA (D) |
| D5048/49S Ch1: 8-10 | Lo/Ro = 213.5 μH/Ω | IIIIC (E, F, G) |

| D5048/49S Ch1: 9-10 | Lo/Ro = 62.3 μH/Ω | IIC (A, B) |
| D5048/49S Ch1: 9-10 | Lo/Ro = 249.4 μH/Ω | IIB (C) |
| D5048/49S Ch1: 9-10 | Lo/Ro = 498.9 μH/Ω | IIA (D) |
| D5048/49S Ch1: 9-10 | Lo/Ro = 818.5 μH/Ω | IIA (D) |
| D5048/49S Ch1: 9-10 | Lo/Ro = 249.4 μH/Ω | IIIIC (E, F, G) |

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5048, D5049 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5048, D5049 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres -
Part 14: Electrical installations in hazardous areas (other than mines), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

D5048, D5049 series are Digital Output Driver housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5048, D5049 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

**NOTE:** Use only one output at a time (Out A or Out B or Out C).

Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5048, D5049 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5049 series must be connected to SELV or PELV supplies.

All circuits connected to D5048, D5049 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

*For the complete instruction manual ISM0119, datasheet and certifications please refer to our website www.gminternational.com.*

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**D5062 series**

### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

\[ U_{o/Voc} = 27 \text{ V}, I_{o/Isc} = 90 \text{ mA}, P_{o/Po} = 576 \text{ mW} \text{ at terminals 7-8, 8-9} \text{ (when used with 2 wire constant current supply mode)} \]

\[ U_{o/Voc} = 25.9 \text{ V}, I_{o/Isc} = 90 \text{ mA}, P_{o/Po} = 576 \text{ mW} \text{ at terminals 7-10, 9-10} \text{ (when used with 3 wires transducer)} \]

\[ U_{o/Voc} = 27 \text{ V}, I_{o/Isc} = 90 \text{ mA}, P_{o/Po} = 576 \text{ mW} \text{ at terminals 7-8, 8-9} \text{ (when used with 2 wires transducer)} \]

\[ U_{i/Vmax} = 30 \text{ V}, C_{i/Ci} = 0 \text{ nF}, L_{i/Li} = 0 \text{ mH} \text{ at terminals 7-8, 8-9} \text{ (when used with 2 wires AC sensor)} \]

**Um** = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 14 ATEX E 073 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 14.0044X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations.
and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Pop) of the D5062 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 7/9-10</td>
<td>Uo / Voc = 25.9 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Uo / Voc = 27 V</td>
<td>≤</td>
<td>li / Imax</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Uo / Voc = 30 V</td>
<td>≥</td>
<td>Po / Po = 576 mW</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Co / Ca = 100 nF</td>
<td>≥</td>
<td>Ci / Ci device + C cable</td>
</tr>
<tr>
<td>Ch1 7/9-10</td>
<td>Co / Ca = 770 nF</td>
<td>≥</td>
<td>Ci / Ci device + C cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / La = 4.4 mH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 16.4 mH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 4.1 mH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 33.9 mH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 54 mH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 14.4 mH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 61.7 μH/Ω</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 247.1 μH/Ω</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 494.3 μH/Ω</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 811 μH/Ω</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-9</td>
<td>Lo / La = 247.1 μH/Ω</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5062 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 7/9-8</td>
<td>Ui / Vmax = 30 V</td>
<td>≥</td>
<td>Uo / Voc</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Ci = 0 μF, Li = 0 mH</td>
<td>≥</td>
<td>Uo / Voc</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

## WARNING

D5062 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamber -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5062 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.
De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

D5062 series are Vibration Transducer Interface housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5062 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5062 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5062 series must be connected to SELV or PELV supplies.

All circuits connected to D5062 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual **ISM0184**, datasheet and certifications please refer to our website [www.gminternational.com](http://www.gminternational.com).

### D5072, D5072-087, D5072-096, D5072-099 series

#### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 7.2 V, Io/Isc = 23 mA, Po/Po = 40 mW at terminals 7-8-9-10 (only for D5072S, D5072S-xxx).

Uo/Voc = 7.2 V, Io/Isc = 16 mA, Po/Po = 27 mW at terminals 7-8-9, 10-11-12 (only for D5072D, D5072D-xxx).

Ui/Vmax = 12.8 V, Ci/Ci = 0 nF, Li/Li = 0 mH, at terminals 7-8-9, 10-11-12 (only for D5072D, D5072D-xxx).

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 12 ATEX E 053 X conforms to EN60079-0, EN60079-11, EN60079-15.


#### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pl) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Pl) of the D5072, D5072-xxx series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/ La, Ro/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:
Terminals | Associated Apparatus Parameters | must be | Haz. Area/Haz. Locations Device Parameters
---|---|---|---
D5072D | Ch1, Ch2: 7-8-9, 10-11-12 | Uo / Voc = 7.2 V | ≤ | Ui / Vmax
D5072S | Ch1: 7-8-9-10 | | | |
D5072D | Ch1, Ch2: 7-8-9, 10-11-12 | Io / Isc = 16 mA | ≤ | Li / Imax
D5072S | Ch1: 7-8-9-10 | Io / Isc = 23 mA | | |
D5072D | Ch1, Ch2: 7-8-9, 10-11-12 | Po / Po = 27 mW | ≤ | Pi / Pi
D5072S | Ch1: 7-8-9-10 | Po / Po = 40 mW | | |
D5072D | Ch1, Ch2: 7-8-9, 10-11-12 | Co / Ca = 13.5 µF | IIC (A, B) | ≥ | Ci / Ci device + C cable
D5072S | Ch1: 7-8-9-10 | | IIA (D) | | |
D5072D | Ch1, Ch2: 7-8-9, 10-11-12 | Lo / La = 138 mH | IIC (A, B) | ≥ | Li / Li device + L cable
D5072S | Ch1: 7-8-9-10 | | IIA (D) | | |
D5072D | Ch1, Ch2: 7-8-9, 10-11-12 | Lo/Ro = 1290 µH/Ω | IIC (A, B) | ≥ | Li/Ri device and L cable/R cable
D5072S | Ch1: 7-8-9-10 | | IIA (D) | | |

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5072, D5072-xxx series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

D5072D | Ch1, Ch2: 7-8-9, 10-11-12 | Ui / Vmax = 12.8 V | ≥ | Uo / Voc
D5072S | Ch1: 7-8-9-10 | | | |
D5072D | Ch1, Ch2: 7-8-9, 10-11-12 | Ci = 0 µF, Li = 0 mH | | | |
D5072S | Ch1: 7-8-9-10 | | | | |

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20 µH per foot).

**WARNING**
D5072, D5072-xxx series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc.
Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5072, D5072-xxx series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.
De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.
**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.
**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
**INSTALLATION**

D5072, D5072-xxx series are Temperature Signal Converter housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5072, D5072-xxx series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

Connect alarm transistors checking the load rating to be within the maximum rating (100 mA at 60 Vdc (≤ 1 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5072, D5072-xxx series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5072, D5072-xxx series must be connected to SELV or PELV supplies.

All circuits connected to D5072 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual **ISM0156**, datasheet and certifications please refer to our website [www.gminternational.com](http://www.gminternational.com).

**D5090, D5090-086 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5090, D5090-xxx series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C.

D5090, D5090-xxx series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5090, D5090-xxx series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5090, D5090-xxx series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable. Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5090, D5090-xxx series must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

All circuits connected to D5090, D5090-xxx series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0109, datasheet and certifications please refer to our website www.gminternational.com.

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**D5091 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5091 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C. D5091 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5091 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5091 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load). To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5091 series must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided. All circuits connected to D5091 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1. Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual **ISM0110**, datasheet and certifications please refer to our website www.gmindernational.com.

**D5093 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA IIC T4 Gc

**IECEx:** Ex nA IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5093 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C. D5093 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous. Warning: substitution of components may impair suitability for Zone 2. Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential. Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5093 series are 24 to 220 Vac/Vdc Switch Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board. D5093 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable. Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect output transistors checking the load rating to be within the maximum rating (50 mA at 35 Vdc (≤ 1 Vdc voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5093 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

All circuits connected to D5093 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual **ISM0175**, datasheet and certifications please refer to our website [www.gminternational.com](http://www.gminternational.com).

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**D5094 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**WARNING**

D5094 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C. D5094 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.
INSTALLATION

D5094 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5094 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5094 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

SAFETY DESCRIPTION

ATEX: II 3G Ex nA nC IIC T4 Gc
IECEx: Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

Approval:
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

WARNING

D5095 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C.

D5095 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative.

Any unauthorized modification must be avoided.
INSTALLATION

D5095 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5095 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5095 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

All circuits connected to D5095 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

WARNING

D5096, D5096-xxx series are electrical apparatus installed in standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C.

D5096, D5096-xxx series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

WARNING: substitution of components may impair suitability for Zone 2.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.
INSTALLATION

D5096, D5096-xxx series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5096, D5096-xxx series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C.The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 V (≤ 1.0 V voltage drop)). The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5096, D5096-xxx series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

All circuits connected to D5096, D5096-xxx series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0301, datasheet and certifications please refer to our website www.gminternational.com.

D5097 series

SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**WARNING**

D5097 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C.

D5097 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.
INSTALLATION

D5097 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5097 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 V (≤ 1.0 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC600664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5097 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

All circuits connected to D5097 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

WARNING

D5098 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C. D5098 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Provision shall be assured, external to the equipment by the installation location, to provide a transient protection to not exceeding 120V or 140% of the peak rated voltage (whichever is the greater) at the power supply terminals. Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

For the complete instruction manual ISM0302, datasheet and certifications please refer to our website www.gminternational.com.
The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

**D5098 series** are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board. D5098 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

**To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.**

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5098 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

All circuits connected to D5098 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

*For the complete instruction manual ISM0305, datasheet and certifications please refer to our website www.gminternational.com.*

**D5099 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex ec nC IIC T4 Gc

**IECEx:** Ex ec nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 18 ATEX E 079 X conforms to EN60079-0, EN60079-7.

IECEx BVS 18.0066X conforms to IEC60079-0, IEC60079-7.

**WARNING**

D5099 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C.

D5099 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.
INSTALLATION

D5099 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5099 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazard areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

All circuits connected to D5099 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0109, datasheet and certifications please refer to our website www.gminternational.com.

D5202 series

SAFETY DESCRIPTION

ATEX: II 3G Ex nA nC IIC T4 Gc
IECEx: Ex nA nC IIC T4 Gc, non-sparking electrical equipment.
Approvals:
BVS 14 ATEX E 031 X conforms to EN60079-0, EN60079-15.
IECEx BVS 14.0025X conforms to IEC60079-0, IEC60079-15.

WARNING

D5202 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C.

D5202 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative.

Any unauthorized modification must be avoided.
INSTALLATION

D5202 series are Power Distribution and Diagnostic Module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus.

D5202 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect fault relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5202 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5202 series must be connected to SELV or PELV supplies.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>13-14, 15-16, 17-18, 19-20</td>
<td>Uo / Voc = 24.1 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>21-22, 23-24</td>
<td>Uo / Voc = 1.1 V</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0177, datasheet and certifications please refer to our website www.gminternational.com.

D5212 series

SAFETY DESCRIPTION

ATEX: Il 3(1)G Ex nA [ia Ga] IIC T4 Gc, Il (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I
Intrinsically Safe equipment only.


Uo/Voc = 24.1 V, Io/Isc = 86 mA, Po/Po = 516 mW at terminals 13-14, 15-16, 17-18, 19-20.
Uo/Voc = 1.1 V, Io/Isc = 66 mA, Po/Po = 16 mW at terminals 21-22, 23-24.
Ui/Vmax = 30 V, li/limax = 128 mA, Ci/Ci = 2.1 nF, Li/Li = 0 mH, at terminals 21-22, 23-24.
Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

Approvals:

DEMKO 18 ATEX 2017X conforms to EN60079-0, EN60079-11, EN60079-15, EN50303.
IECEx ULD 18.0013X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/limax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5212 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3, Ch4</td>
<td>13-14, 15-16, 17-18, 19-20</td>
<td>Uo / Voc = 24.1 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>21-22, 23-24</td>
<td>Uo / Voc = 1.1 V</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations/Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3, Ch4</td>
<td>13-14, 15-16, 17-18, 19-20</td>
<td>lo / Isc = 86 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>21-22, 23-24</td>
<td>lo / Isc = 56 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4</td>
<td>13-14, 15-16, 17-18, 19-20</td>
<td>Po / Po = 516 mW</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>21-22, 23-24</td>
<td>Po / Po = 16 mW</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td>13-14, 15-16, 17-18, 19-20</td>
<td>Co / Ca = 121 nF</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td>21-22, 23-24</td>
<td>Lo / Ra = 68.9 µH/Ω</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td>13-14, 15-16, 17-18, 19-20</td>
<td>Lo / Ra = 2339 µH/Ω</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td>21-22, 23-24</td>
<td>Ci = 2.1 µF, Li = 0 mH</td>
<td>≥</td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5212 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations/Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>21-22, 23-24</td>
<td>Ui / Vmax = 30 V</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>21-22, 23-24</td>
<td>li / Imax = 128 mA</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>21-22, 23-24</td>
<td>Ci = 2.1 µF, Li = 0 mH</td>
<td>≥</td>
</tr>
</tbody>
</table>

**WARNING**

D5212 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5212 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

**For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 µH per meter (0.20 µH per foot).**
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

**D5212 series** are Quadraple Repeater Power Supply housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board. D5212 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is not provided between separate intrinsically safe circuits.

Connect alarm transistors checking the load rating to be within the maximum rating (100 mA at 60 V (≤ 1.0 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. **Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5212 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5212 series must be connected to SELV or PELV supplies.

All circuits connected to D5212 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual ISM0361, datasheet and certifications please refer to our website www.gminternational.com.

### D5231 series

#### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.


Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 12 ATEX E 122 X conforms to EN60079-0, EN60079-11, EN60079-15, EN60079-26, EN50303.


#### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pl) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5231 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Uo / Voc = 11.2 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Terminals</td>
<td>Associated Apparatus Parameters</td>
<td>must be</td>
<td>Haz. Area/Haz. Locations Device Parameters</td>
</tr>
<tr>
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<td>-------------------------------------------</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo / Isc = 12 mA</td>
<td>≥</td>
<td>l_i / I_max</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Po / P_o = 34 mW</td>
<td>≤</td>
<td>P_i / P_i</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Co / Ca = 1.83 µF</td>
<td>≥</td>
<td>C_i / C_i device + C_cable</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Co / Ca = 12.6 µF</td>
<td>≥</td>
<td>C_i / C_i device + C_cable</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo / La = 246 mH</td>
<td>≥</td>
<td>L_i / L_i device + L_cable</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo / La = 246 mH</td>
<td>≥</td>
<td>L_i / L_i device + L_cable</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo / La = 246 mH</td>
<td>≥</td>
<td>L_i / L_i device + L_cable</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Co / Ca = 12.6 µF</td>
<td>≥</td>
<td>C_i / C_i device + C_cable</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 μH per meter (0.20μH per foot).

**WARNING**

D5231 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5231 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5231 series are Switch/Proximity Detector Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5231 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is not provided between separate intrinsically safe circuits.
Connect output transistors checking the load rating to be within the maximum rating (100 mA at 35 V (≤ 1.0 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5231 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5231 series must be connected to SELV or PELV supplies.

All circuits connected to D5231 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual ISM0172, datasheet and certifications please refer to our website www.gminternational.com.

**D5240 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

- Uo/Voc = 25.2 V, Io/Isc = 146 mA, Po/Po = 916 mW at terminals 13-14, 17-18, 21-22 Out A.
- Uo/Voc = 25.2 V, Io/Isc = 108 mA, Po/Po = 676 mW at terminals 13-15, 17-19, 21-23 Out B.
- Uo/Voc = 25.2 V, Io/Isc = 93 mA, Po/Po = 580 mW at terminals 13-16, 17-20, 21-24 Out C.
- Uo/Voc = 25.2 V, Io/Isc = 277 mA, Po/Po = 1740 mW at terminals 13//17//21-16//20//24 Out C+C+C.
- Uo/Voc = 25.2 V, Io/Isc = 323 mA, Po/Po = 2028 mW at terminals 13//17//21-15//19//23 Out B+B+B.
- Uo/Voc = 25.2 V, Io/Isc = 437 mA, Po/Po = 2138 mW at terminals 13//17//21-14//18//22 Out A+A+A.

**Approvals:**

- BVS 14 ATEX E 159 X conforms to EN60079-0, EN60079-11, EN60079-15.
- IECEx BVS 14.0111X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/lmax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5240 series Associated Apparatus connected to it.

Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:
<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-14, 17-18, 21-22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-15, 17-19, 21-23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-16, 17-20, 21-24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>13/17-16//20, 13/21-16//24, 17/21-20//24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>13/17-15/19, 13/21-15/23, 17/21-19/23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>13/17-14/20, 13/21-14/24, 17/13-18//16, 17/21-18//24, 21/13-22//16, 21//17-22//20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 16//20//24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 15//19//23</td>
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<tr>
<td>Ch1/2/3</td>
<td>13//17/21, 14//18//22</td>
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<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 14//18//24, 13//21//17, 14//22//20, 17//21//13, 18//22//16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 14//18//22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1/2/3</td>
<td>13//17/21, 14//18//24, 13//21//17, 14//22//20, 17//21//13, 18//22//16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 14//18//22</td>
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</tbody>
</table>

Uo / Voc = 25.2 V ≤ Ui / Vmax

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-14, 17-18, 21-22</td>
<td>Io / Isc = 146 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-15, 17-19, 21-23</td>
<td>Io / Isc = 108 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-16, 17-20, 21-24</td>
<td>Io / Isc = 93 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>13//17-16//20, 13//21-16//24, 17//21-20//24</td>
<td>Io / Isc = 185 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>13//17-15//19, 13//21-15//23, 17//21-19//23</td>
<td>Io / Isc = 216 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 16//20//24</td>
<td>Io / Isc = 277 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 15//19//23</td>
<td>Io / Isc = 323 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 14//19//23, 17//13//21, 18//15//23, 21//13//17, 22//15//19</td>
<td>Io / Isc = 361 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 14//18//24, 13//21//17, 14//22//20, 17//21//13, 18//22//16</td>
<td>Io / Isc = 384 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17/21, 14//18//22</td>
<td>Io / Isc = 437 mA</td>
<td></td>
</tr>
<tr>
<td>Terminals</td>
<td>Associated Apparatus Parameters</td>
<td>must be</td>
<td>Haz. Area/Haz. Locations Device Parameters</td>
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<td>--------------------------------------------</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-14, 17-18, 21-22</td>
<td>Po / Po = 916 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-15, 17-19, 21-23</td>
<td>Po / Po = 676 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-16, 17-20, 21-24</td>
<td>Po / Po = 580 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>13//17-16//20, 13//21-16//24, 17//21-20//24</td>
<td>Po / Po = 1160 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>13//17-15//19, 13//21-15//23, 17//21-19//23</td>
<td>Po / Po = 1352 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17//21, 16//20//24</td>
<td>Po / Po = 1740 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17//21, 15//19//23</td>
<td>Po / Po = 2028 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1/2//3</td>
<td>13//17//21, 14//19//23, 17//13//21, 18//15//23, 21//13//17, 18//22//16</td>
<td>Po / Po = 2138 mW</td>
<td></td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 14//18//24, 13//21//17, 14//22//20, 17//21//13, 18//22//16</td>
<td>Co / Ca = 96 nF</td>
<td>IIC (A, B)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13-14, 17-18, 21-22</td>
<td>Co / Ca = 809 nF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13-15, 17-19, 21-23</td>
<td>Co / Ca = 2.8 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13-16, 17-20, 21-24</td>
<td>Co / Ca = 4.78 μF</td>
<td>I</td>
</tr>
<tr>
<td>Ch1//2, Ch2/3, Ch1/3</td>
<td>13//17-16//20, 13//21-16//24, 17//21-20//24</td>
<td>Co / Ca = 798 nF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1//2, Ch2/3, Ch1/3</td>
<td>13//17-15//19, 13//21-15//23, 17//21-19//23</td>
<td>Co / Ca = 2.8 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 16//20//24</td>
<td>Co / Ca = 798 nF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 15//19//23</td>
<td>Co / Ca = 2.8 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 14//18//24, 13//21//17, 14//22//20, 17//21//13, 18//22//16</td>
<td>Co / Ca = 787 nF</td>
<td>IIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 14//18//22</td>
<td>Co / Ca = 809 nF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 15//19//23</td>
<td>Co / Ca = 2.8 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td>Terminals</td>
<td>Associated Apparatus Parameters</td>
<td>must be</td>
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</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td></td>
<td>Haz. Area/Haz. Locations</td>
<td></td>
</tr>
<tr>
<td>13-14, 17-18, 21-22</td>
<td>Lo / La = 1.67 mH, IIC (A, B)</td>
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<tr>
<td></td>
<td>Lo / La = 6.7 mH, IIB (C)</td>
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<tr>
<td></td>
<td>Lo / La = 13.4 mH, IIA (D)</td>
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<td></td>
<td>Lo / La = 22 mH, I</td>
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<tr>
<td></td>
<td>Lo / La = 6.7 mH, IIIC (E, F, G)</td>
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<tr>
<td>Ch1, Ch2, Ch3</td>
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<tr>
<td>13-15, 17-19, 21-23</td>
<td>Lo / La = 3 mH, IIC (A, B)</td>
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<tr>
<td></td>
<td>Lo / La = 12.3 mH, IIB (C)</td>
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<td></td>
<td>Lo / La = 24.6 mH, IIA (D)</td>
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<tr>
<td></td>
<td>Lo / La = 40.37 mH, I</td>
<td></td>
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<tr>
<td></td>
<td>Lo / La = 12.3 mH, IIIC (E, F, G)</td>
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<tr>
<td>Ch1, Ch2, Ch3</td>
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<tr>
<td>13-16, 17-20, 21-24</td>
<td>Lo / La = 3.07 mH, IIC (A, B)</td>
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<tr>
<td></td>
<td>Lo / La = 12.3 mH, IIB (C)</td>
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<tr>
<td></td>
<td>Lo / La = 24.6 mH, IIA (D)</td>
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<tr>
<td></td>
<td>Lo / La = 40.37 mH, I</td>
<td></td>
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<tr>
<td></td>
<td>Lo / La = 12.3 mH, IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>13//17-16//20, 13//21-16//24, 17//21-20//24</td>
<td>Lo / La = 4.1 mH, IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo / La = 8.3 mH, IIA (D)</td>
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<td></td>
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<tr>
<td></td>
<td>Lo / La = 13.72 mH, I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo / La = 4.1 mH, IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>13//17-15//19, 13//21-15//23, 17//21-19//23</td>
<td>Lo / La = 3 mH, IIB (C)</td>
<td></td>
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<td></td>
<td>Lo / La = 6.1 mH, IIA (D)</td>
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<td></td>
<td>Lo / La = 10.09 mH, I</td>
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<td></td>
<td>Lo / La = 3 mH, IIIC (E, F, G)</td>
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<td>Lo / La = 5 mH, IIA (D)</td>
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<td>Lo / La = 8.25 mH, I</td>
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<td>Lo / La = 2.5 mH, IIIC (E, F, G)</td>
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<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 16//20//24</td>
<td>Lo / La = 1.85 mH, IIB (C)</td>
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<td>Lo / La = 3.71 mH, IIA (D)</td>
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<td>Lo / La = 6.09 mH, I</td>
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<td>Lo / La = 1.85 mH, IIIC (E, F, G)</td>
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<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 15//19//23</td>
<td>Lo / La = 1.36 mH, IIB (C)</td>
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<td>Lo / La = 2.73 mH, IIA (D)</td>
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<td>Lo / La = 4.48 mH, I</td>
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<td>Lo / La = 1.36 mH, IIIC (E, F, G)</td>
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<td>Ch1//2//3</td>
<td>13//17//21, 14//19//23, 17//13//21, 18//15//23, 21//13//17, 22//15//19</td>
<td>Lo / La = 2.1 mH, IIA (D)</td>
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<td>Lo / La = 3.58 mH, I</td>
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<td>13//17//21, 14//18//24, 13//21//17, 14//22//20, 17//21//13, 18//22//16</td>
<td>Lo / La = 1.9 mH, IIA (D)</td>
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<td>Lo / La = 3.17 mH, I</td>
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<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 14//18//22</td>
<td>Lo / La = 1.49 mH, IIA (D)</td>
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<td>Lo / La = 2.44 mH, I</td>
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Note: Lo / La = L / L device + L cable
<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
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<tbody>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>Lo/Ro = 38.8 μH/Ω</td>
<td>IIC (A,</td>
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<tr>
<td></td>
<td>Lo/Ro = 155.3 μH/Ω</td>
<td>B)</td>
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<td>Lo/Ro = 310.7 μH/Ω</td>
<td>IIA (D)</td>
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<td>Lo/Ro = 509.8 μH/Ω</td>
<td>I</td>
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<tr>
<td></td>
<td>Lo/Ro = 155.3 μH/Ω</td>
<td>IIIC (E,</td>
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<td>F, G</td>
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<td>Ch1, Ch2, Ch3</td>
<td>Lo/Ro = 52.6 μH/Ω</td>
<td>IIC (A,</td>
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<td></td>
<td>Lo/Ro = 210.4 μH/Ω</td>
<td>B)</td>
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<td></td>
<td>Lo/Ro = 420 μH/Ω</td>
<td>IIA (D)</td>
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<td></td>
<td>Lo/Ro = 609.3 μH/Ω</td>
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<td></td>
<td>Lo/Ro = 210.4 μH/Ω</td>
<td>IIIC (E,</td>
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<td>F, G</td>
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<tr>
<td>Ch1, Ch2, Ch3</td>
<td>Lo/Ro = 61.3 μH/Ω</td>
<td>IIC (A,</td>
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<td></td>
<td>Lo/Ro = 245.3 μH/Ω</td>
<td>B)</td>
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<td></td>
<td>Lo/Ro = 490.6 μH/Ω</td>
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<td>Lo/Ro = 804.9 μH/Ω</td>
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<tr>
<td></td>
<td>Lo/Ro = 245.3 μH/Ω</td>
<td>IIIC (E,</td>
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<td>F, G</td>
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<tr>
<td>Ch1, Ch2, Ch3</td>
<td>Lo/Ro = 122.6 μH/Ω</td>
<td>IIB (C)</td>
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<td>Lo/Ro = 402.4 μH/Ω</td>
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<td>Lo/Ro = 122.6 μH/Ω</td>
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<td>F, G</td>
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<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>Lo/Ro = 105.2 μH/Ω</td>
<td>IIB (C)</td>
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<tr>
<td></td>
<td>Lo/Ro = 210.4 μH/Ω</td>
<td>IIA (D)</td>
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<td>Lo/Ro = 345.1 μH/Ω</td>
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<tr>
<td></td>
<td>Lo/Ro = 105.2 μH/Ω</td>
<td>IIIC (E,</td>
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<td>F, G</td>
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<tr>
<td>Ch1/2, Ch2/3, Ch1/3</td>
<td>Lo/Ro = 95.1 μH/Ω</td>
<td>IIB (C)</td>
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<tr>
<td></td>
<td>Lo/Ro = 190.2 μH/Ω</td>
<td>IIA (D)</td>
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<td>Lo/Ro = 312.1 μH/Ω</td>
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<td></td>
<td>Lo/Ro = 95.1 μH/Ω</td>
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<td>F, G</td>
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<tr>
<td>Ch1/2/3</td>
<td>Lo/Ro = 81.7 μH/Ω</td>
<td>IIB (C)</td>
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<tr>
<td></td>
<td>Lo/Ro = 163.5 μH/Ω</td>
<td>IIA (D)</td>
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<td></td>
<td>Lo/Ro = 268.3 μH/Ω</td>
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<tr>
<td></td>
<td>Lo/Ro = 81.7 μH/Ω</td>
<td>IIIC (E,</td>
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<td>F, G</td>
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<tr>
<td>Ch1/2/3</td>
<td>Lo/Ro = 70.1 μH/Ω</td>
<td>IIB (C)</td>
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<tr>
<td></td>
<td>Lo/Ro = 140.2 μH/Ω</td>
<td>IIA (D)</td>
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<td></td>
<td>Lo/Ro = 230.1 μH/Ω</td>
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<tr>
<td></td>
<td>Lo/Ro = 70.1 μH/Ω</td>
<td>IIIC (E,</td>
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<td>F, G</td>
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<tr>
<td>Ch1/2/3</td>
<td>Lo/Ro = 125.4 μH/Ω</td>
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<td>Lo/Ro = 205.8 μH/Ω</td>
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<td>Lo/Ro = 62.7 μH/Ω</td>
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<td>F, G</td>
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<tr>
<td>Ch1/2/3</td>
<td>Lo/Ro = 118 μH/Ω</td>
<td>IIA (D)</td>
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<td>Lo/Ro = 193.6 μH/Ω</td>
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<td></td>
<td>Lo/Ro = 59 μH/Ω</td>
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<tr>
<td>Ch1/2/3</td>
<td>Lo/Ro = 103.5 μH/Ω</td>
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<td></td>
<td>Lo/Ro = 169.9 μH/Ω</td>
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</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA. If the cable parameters are unknown, the following value may be used: Capacitance 200 pF per meter (60 pF per foot), Inductance 1 μH per meter (0.2 μH per foot).

**WARNING**

D5240 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIA, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5240 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.
De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5240 series are Digital Output Driver housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5240 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is not provided between separate intrinsically safe circuits.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5240 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5240 series must be connected to SELV or PELV supplies.

All circuits connected to D5240 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual ISM0209, datasheet and certifications please refer to our website www.gminternational.com.

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**D5244 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIc, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIc, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 0 mV, Io/Isc = 0 μA, Po/Po = 0 μW at terminals 13-14-15/16, 17-18-19/20.

Ui/Vmax = 40 V, li/Imax = 2 A, Ci/Ci = 0 nF, Li/Li = 0 mH, at terminals 13-14-15/16, 17-18-19/20.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 16 ATEX E 109 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 16.0071X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/PI) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5244 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Lo) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:
Terminals | Associated Apparatus Parameters | must be | Haz. Area/Haz. Locations
--- | --- | --- | ---
Ch1, Ch2 | 13-14-15/16, 17-18-19/20 | Uo / Voc = 0 V | ≤ | Ui / Vmax
Ch1, Ch2 | 13-14-15/16, 17-18-19/20 | Io / Isc = 0 mA | ≤ | li / Imax
Ch1, Ch2 | 13-14-15/16, 17-18-19/20 | Po / Po = 0 mW | ≤ | Pi / Pi

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5244 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

Ch1, Ch2 | 13-14-15/16, 17-18-19/20 | Co / Ca = - | IIC (A, B) | ≥ | Ci / Ci device + C cable
Ch1, Ch2 | 13-14-15/16, 17-18-19/20 | Lo/La = - | IIC (A, B) | ≥ | Li/Li device + L cable
Ch1, Ch2 | 13-14-15/16, 17-18-19/20 | Lo/Ro = - | IIC (A, B) | ≥ | Li/Ri device and L cable/R cable

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

**WARNING**
D5244 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC. Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5244 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**
D5244 series are Digital Relay Output Loop Powered housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5244 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to...
2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between separate intrinsically safe circuits.

Connect load relay contacts checking the load rating to be within the contact maximum rating (40 Vdc, 2 A for use in Intrinsic Safety applications, 2 A 250 Vac 500 VA, 2 A 250 Vdc 80 W, resistive load, for non Intrinisc Safety applications). To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60064-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5244 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

All circuits connected to D5244 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM271, datasheet and certifications please refer to our website www.gminternational.com.

### D5254 series

#### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

- **Uo/Voc = 26 V**, Io/Isc = 91 mA, Po/Po = 588 mW at terminals 13-14.
- **Uo/Voc = 1.1 V**, Io/Isc = 56 mA, Po/Po = 16 mW at terminals 14-16.
- **Uo/Voc = 1.1 V**, Io/Isc = 12 μA, Po/Po = 4 μW at terminals 15-16.
- **Ui/Vmax = 30 V**, li/Imax = 128 mA, Ci/Ci = 2.1 nF, Li/Li = 0 mH, at terminals 14-16.
- **Ui/Vmax = 30 V**, Ci/Ci = 2.1 nF, Li/Li = 0 mH, at terminals 15-16.
- **Um = 250 Vrms or Vdc**, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 16 ATEX E 066 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEX BVS 16.0043X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5254 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1</td>
<td>13-14</td>
<td>Uo / Voc = 26 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1</td>
<td>14-16</td>
<td>Uo / Voc = 1.1 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1</td>
<td>15-16</td>
<td>Io / Isc = 91 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1</td>
<td>13-14</td>
<td>Io / Isc = 56 mA</td>
<td></td>
</tr>
<tr>
<td>Ch1</td>
<td>15-16</td>
<td>Io / Isc = 12 μA</td>
<td></td>
</tr>
</tbody>
</table>
### Terminals

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1</td>
<td>13-14</td>
<td>Po / Po = 588 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1</td>
<td>14-16</td>
<td>Po / Po = 16 mW</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1</td>
<td>15-16</td>
<td>Po / Po = 4 μW</td>
<td>≥</td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, Ii/Imax) of the D5254 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

| Ch1  | 14-16 | Ui / Vmax = 30 V | ≥ | Uo / Voc |
| Ch1  | 15-16 | Ii / Imax = 128 mA | ≥ | Io / Isc |

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200 pF per meter (60 pF per foot), Inductance 1 μH per meter (0.20 μH per foot).

### WARNING

D5254 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC. Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5254 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5254 series are Repeater Power Supply / Analog Signal Converter and Trip Amplifiers housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board. D5254 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage *(for Zone 2 installations check the area to be nonhazardous before servicing).* Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Connect alarm relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions. The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. **Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5254 series must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

D5254 series must be connected to SELV or PELV supplies. All circuits connected to D5254 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual *ISM0293*, datasheet and certifications please refer to our website www.gminternational.com.

**D5263 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEX:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo / Voc = 7.2 V, lo / Isc = 177 mA, Po / Po = 471 mW at terminals 13-14-15-16-17-18.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

TUV 15 ATEX 170897 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEX TUN 16.0005X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (U/Imax, il/Imax, Pi/Pl) are not exceeded by the safety parameters (Uo/Voc, I0/Isc, Po/Po) of the D5263 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1</td>
<td>13-14-15-16-17-18</td>
<td>Uo / Voc = 7.2 V</td>
<td>≤</td>
</tr>
</tbody>
</table>
For installations in which both the Cl and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Cl device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 µH per meter (0.20µH per foot).

**WARNING**

D5263 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature 14 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Upm of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5263 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.**

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5263 series are Load Cell/Strain Gauge Bridge Isolating Repeater housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus.

D5263 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.
Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5263 series must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided. D5263 series must be connected to SELV or PELV supplies. All circuits connected to D5263 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual ISM0227, datasheet and certifications please refer to our website www.gminternational.com.

D5264 series

SAFETY DESCRIPTION

ATEX: II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I

Approvals:
TUV 15 ATEX 170897 X conforms to EN60079-0, EN60079-11, EN60079-15.
IECEx TUN 16.0005X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5264 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Uo / Voc = 7.2 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Io / Isc = 177 mA</td>
<td>≤</td>
<td>li / Imax</td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Co / Ca = 300 nF</td>
<td>IIC (A, B)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Co / Ca = 1.5 μF</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Co / Ca = 2.2 μF</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Co / Ca = 2.8 μF</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Co / Ca = 1.5 μF</td>
<td>IIIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo / La = 500 μH</td>
<td>IIC (A, B)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo / La = 6.5 mH</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo / La = 9.5 mH</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo / La = 13 mH</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo / La = 6.5 mH</td>
<td>IIIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo/Ro = -</td>
<td>IIC (A, B)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo/Ro = -</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo/Ro = -</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo/Ro = -</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo/Ro = -</td>
<td>IIIIC (E, F, G)</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

WARNING

D5264 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5264 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres -
Part 14: Electrical installations in hazardous areas (other than mines), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5264 series are Load Cell/Strain Gauge Bridge Isolating Converter housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board. D5264 series can be mounted with any orientation over the entire ambient temperature range. Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

Connect alarm transistors checking the load rating to be within the maximum rating (100 mA at 60 V (≤ 1.0 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5264 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

D5264 series must be connected to SELV or PELV supplies. All circuits connected to D5264 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

For the complete instruction manual ISM0228, datasheet and certifications please refer to our website www.gminternational.com.

**D5273 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEX:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 7.2 V, Io/Isc = 23 mA, Po/Po = 40 mW at terminals 13-14-15-16.

Ui/Vmax = 12.8 V, li/Imax = 28.7 mA, Ci/Cl = 0 nF, Li/Li = 0 mH, at terminals 13-14-15-16.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 12 ATEX E 053 X conforms to EN60079-0, EN60079-11, EN60079-15.


**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/PI) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5273 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device
capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/RO) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Uo / Voc = 7.2 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>lo / Isc = 23 mA</td>
<td>≤</td>
<td>li / Imax</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Po / Po = 40 mW</td>
<td>≤</td>
<td>Pi / PI</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Co / Ca = 13.5 μF</td>
<td>IIC (A, B)</td>
<td>Ci / Ci device + C cable</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Co / Ca = 240 μF</td>
<td>IIB (C)</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Co / Ca = 1000 μF</td>
<td>IIA (D)</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Co / Ca = 100 μF</td>
<td>I</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Co / Ca = 240 μF</td>
<td>IIIC (E, F, G)</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo / La = 67.2 mH</td>
<td>IIC (A, B)</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo / La = 268 mH</td>
<td>IIB (C)</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo / La = 537 mH</td>
<td>IIA (D)</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo / La = 882 mH</td>
<td>I</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo / La = 268 mH</td>
<td>IIIC (E, F, G)</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo/RO = 875 μH/Ω</td>
<td>IIC (A, B)</td>
<td>Li/Ri device + L cable/R cable</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo/RO = 3500 μH/Ω</td>
<td>IIB (C)</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo/RO = 7000 μH/Ω</td>
<td>IIA (D)</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo/RO = 11480 μH/Ω</td>
<td>I</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Lo/RO = 3500 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td>≥</td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5273 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, lo/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Uo / Voc = 12.8 V</td>
<td>≥</td>
<td>Uo / Voc</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>li / Isc = 28.7 mA</td>
<td>≥</td>
<td>li / Isc</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Ci = 0 μF, Li = 0 mH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 μH per meter (0.20 μH per foot).

**WARNING**

D5273 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5273 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning: substitution of components may impair Intrinsically Safety and suitability for Zone 2.**

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5273 series are Temperature Signal Converter housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus.

D5273 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well
isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

Connect alarm relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC600664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5273 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5273 series must be connected to SELV or PELV supplies.

All circuits connected to D5273 series must comply with the overvoltage category II (or better) according to EN/IEC600664-1.

For the complete instruction manual ISM0209, datasheet and certifications please refer to our website www.gminternational.com.

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### D5290 series

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5290 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +60 °C.

D5290 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5290 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5290 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.
Connect load relay contacts checking the load rating to be within the contact maximum rating (10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60064-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5290 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

All circuits connected to D5290 series must comply with the overvoltage category II (or better) according to EN/IEC60064-1.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0111, datasheet and certifications please refer to our website www.gminternational.com.

### D5290-078 series

#### SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5290-078 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +60 °C.

D5290-078 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

#### INSTALLATION

D5290-078 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5290-078 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 175 W resistive load).
To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5290-078 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.
Any unauthorized modification must be avoided.
All circuits connected to D5290-078 series must comply with the overvoltage category II (or better) according to EN/IEC60079-4-1.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0152, datasheet and certifications please refer to our website www.gminternational.com.

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**D5291 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5291 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +60 °C.

D5291 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5291 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail or on customized Termination Board.

D5291 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.
The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60064-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. 

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5291 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

All circuits connected to D5291 series must comply with the overvoltage category II (or better) according to EN/IEC60079-15.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0151, datasheet and certifications please refer to our website [www.gminternational.com](http://www.gminternational.com).

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**D5293 series**

### SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc  
**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.  
**Approvals:**  
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.  
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

### WARNING

D5293 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +60 °C.

D5293 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

D5293 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5293 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load). Connect fault relay contacts checking the load rating to be within the contact maximum rating (500 mA 30 Vac 15 VA, 500 mA 50 Vdc 25 W resistive load - 3 A 250 Vac 750 VA, 3 A 125 Vdc 120 W resistive load).

To prevent relays contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.
The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5293 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

D5293 series must be connected to SELV or PELV supplies. All circuits connected to D5293 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0122, datasheet and certifications please refer to our website www.gminternational.com.

**D5294 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5294 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +60 °C.

D5294 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5294 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5294 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load). Connect fault relay contacts checking the load rating to be within the contact maximum rating (500 mA 30 Vac 15 VA, 500 mA 50 Vdc 25 W resistive load - 3 A 250 Vac 750 VA, 3 A 125 Vdc 120 W resistive load).
To prevent relays contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5294 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5294 series must be connected to SELV or PELV supplies.

All circuits connected to D5294 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0123, datasheet and certifications please refer to our website www.gminternational.com.

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**D5295 series**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5295 series are electrical apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +60 °C.

D5295 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative.

Any unauthorized modification must be avoided.

**INSTALLATION**

D5295 series are Relay output module housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.

D5295 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load). Connect fault relay contacts checking the load rating to be within the contact maximum rating (500 mA 30 Vac 15 VA, 500 mA 50 Vdc 25 W resistive load - 3 A 250 Vac 750 VA, 3 A 125 Vdc 120 W resistive...
To prevent relays contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5295 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized modification must be avoided.

D5295 series must be connected to SELV or PELV supplies.

All circuits connected to D5295 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual **ISM0222**, datasheet and certifications please refer to our website www.gminternational.com.

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### PSD5201 series

#### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIB Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEEx:** Ex nA [ia Ga] IIB Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 21.5 V, Io/Isc = 604 mA, Po/Po = 3243 mW at terminals 13/15-14/16.

Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 14 ATEX E 023 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEEx BVS 14.0019X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

#### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the PSD5201 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1</td>
<td>13/15-14/16</td>
<td>Uo / Voc = 21.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1</td>
<td>13/15-14/16</td>
<td>Io / Isc = 604 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1</td>
<td>13/15-14/16</td>
<td>Po / Po = 3243 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1</td>
<td>13/15-14/16</td>
<td>Co / Ca = 1.2 μF</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 4.5 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 6.5 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 1.2 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1</td>
<td>13/15-14/16</td>
<td>Lo / La = 390 μH</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 780 μH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 1.28 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 390 μH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1</td>
<td>13/15-14/16</td>
<td>Lo/Ro = 43.8 μH/Ω</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 87.7 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 143.9 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 43.8 μH/Ω</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable)
shall not be greater than 1 µF for Groups I, IIA, IIB. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

**WARNING**

PSD5201 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN/IEC60715 TH 35 DIN-Rail located in Safe Area or Zone 2, Group IIB, Temperature T4 Hazardous Area within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms or Vdc. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

PSD5201 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.**

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

PSD5201 series are Power Supply for Hazardous Area Equipment housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail.

PSD5201 series can be mounted with any orientation over the entire ambient temperature range.

Electrical connections are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Isolation in accordance with EN/IEC 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

The enclosure provides, according to EN60529, an IP20 minimum degree of protection (or similar to NEMA Standard 250 type 1). The unit shall be installed in an area of no more than pollution degree 2 according to EN/IEC60664-1. For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN/IEC60079-15, that must have a door or cover accessible only by the use of a tool. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of PSD5201 series must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized modification must be avoided.

PSD5201 series must be connected to SELV or PELV supplies.

All circuits connected to PSD5201 series must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

*For the complete instruction manual ISM0186, datasheet and certifications please refer to our website www.gminternational.com.*
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5011, D5011 xxx; D5014, D5014 xxx; D5020, D5020 xxx; D5031, D5031 xxx;
D5034, D5034 xxx; D5037, D5037-xxx; D5048, D5048 xxx; D5049, D5049 xxx

D5030, D5030 xxx; D5032, D5032 xxx; D5036, D5036-xxx

are in accordance with the following European Directives:

Equipment Intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
Electromagnetic Compatibility (EMC) 2014/30/EU
Low Voltage Directive (LVD) 2014/35/EU
Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

EN 60079-0:2012+A1:2013 Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”
EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

BVS 10 ATEX E 113 X EC-Type Examination Certificate
Prosafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked:

II 3(1)G Ex nA [ia Gc] IIC T4 Gc for models listed in (1)
II 3(1)G Ex nA nC [ia Gc] IIC T4 Gc for models listed in (2)
II (1)D [Ex ia Da] IIIIC
I (M1) [Ex ia Ma] I

are suitable for connection to equipment in atmospheres with Dust and are marked:

are suitable for connection to equipment in Mines and are marked:

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement

G.M. International s.r.l.
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Gilsonte Landrini
Managing Director

G.M. International s.r.l.
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5090, D5090-086; D5091; D5094; D5095; D5096; D5096-100; D5097;
D5290, D5290 078; D5291; D5293; D5294; D5295

(1)

D5093
(2)

are in accordance with the following European Directives:

- Equipment Intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- BVSI 10 ATEX E 114 X Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for connection to equipment in atmospheres with Gas and are marked:

II 3G Ex nA nC IIC T4 Gc for models listed in (1)
II 3G Ex nA IIC T4 Gc for models listed in (2)

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement.

Francesco Landrini
CEO

G.M. International s.r.l.
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EU Declaration of Conformity

G.M. International S.r.l. declares that here below listed Models:

D5072, D5072-xxx  (1)
D5273, D5273-xxx  (2)

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
- EN 60079-26:2007 Electrical apparatus for explosive gas atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
- EN 50303:2000 Group I, Category M1 equipment Intended to remain functional in atmospheres endangered by firedamp and/or coal dust
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- BVS 12 ATEX E 053 X EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(I)G Ex nA [ia Ga] IIC T4 Gc for models listed in (1)
II 3(I)G Ex nA nC [ia Ga] IIC T4 Gc for models listed in (2)

are suitable for connection to equipment in atmospheres with Dust and are marked:

are suitable for connection to equipment in Mines and are marked:

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement

G.M. International s.r.l.
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Glisente Landrini
Managing Director
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5231, D5231 xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

<table>
<thead>
<tr>
<th>Standard Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>EN 60079-0:2012+A11:2013</td>
<td>Explosive atmospheres - Part 0: Equipment - General requirements</td>
</tr>
<tr>
<td>EN 60079-11:2012</td>
<td>Explosive atmospheres - Part 11: Equipment protection by Intrinsic safety “i”</td>
</tr>
<tr>
<td>EN 60079-15:2010</td>
<td>Explosive atmospheres - Part 15: Equipment protection by type of protection “n”</td>
</tr>
<tr>
<td>EN 60079-26:2007</td>
<td>Electrical apparatus for explosive gas atmospheres - Part 26: Equipment with equipment protection level (EPL) G6</td>
</tr>
<tr>
<td>EN 50303:2000</td>
<td>Group I, Category M1 equipment Intended to remain functional in atmospheres endangered by firedamp and/or coal dust</td>
</tr>
<tr>
<td>EN 61000-6-2:2005+AC:2005</td>
<td>Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments</td>
</tr>
<tr>
<td>EN 61326-1:2013</td>
<td>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements</td>
</tr>
<tr>
<td>EN 61326-3-1:2008</td>
<td>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications</td>
</tr>
<tr>
<td>EN 61010-1:2010</td>
<td>Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements</td>
</tr>
</tbody>
</table>

are covered by:

- BVS 12 ATEX E 122 X
- EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q
- Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(T)G Ex nA [ia Ga] IIC T4 Gc

are suitable for connection to equipment in atmospheres with Dust and are marked: II (1)D [Ex ia Da] IIIC

are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement

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Gislante Landrini
Managing Director
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5202, D5202-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A1:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- BVS 14 ATEX E 031 X Type Examination Certificate
- Presafe 15 ATEX 1925440 Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3G Ex nA nC IIC T4 Gc

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement

Gisente Landrini
Managing Director
EU Declaration of Conformity

G.M. International S.r.l.
declares that the below listed Models:

PSD5201, PSD5201-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- BVS 14 ATEX E 023 X EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assurance

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3[(T)]G Ex nA [ia Ga] IIB T4 Gc
are suitable for connection to equipment in atmospheres with Dust and are marked: II (T)D [Ex ia Da] IIIC
are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement.

Gisente Landrini
Managing Director

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EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5062, D5062-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

EN 60079-0:2012+A11:2013  Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-11:2012  Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”
EN 60079-15:2010  Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
EN 61000-6-2:2005+AC:2008  Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61326-1:2013  Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
EN 61326-3-1:2008  Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
EN 61010-1:2010  Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

BVS 14 ATEX E 073 X  EC-Type Examination Certificate
Presafe 15 ATEX 1925440  Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked:  II 3[i]G Ex nA [ia Ga] IIC T4 Gc
are suitable for connection to equipment in atmospheres with Dust and are marked:  II (I)D [Ex ia Da] III C
are suitable for connection to equipment in Mines and are marked:  I (M1) [Ex in Ma] I

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement

Gisente Landrini
Managing Director

G.M. International s.r.l.
Phone: +39 039 232 5038 | Fax: +39 039 232 5107 | info@gmintsrl.com | www.gmintsrl.com
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5040, D5040-xxx, D5240, D5240-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- BVS 14 ATEX E 159 X EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(1)G Ex nA [ia Ga] IIC T4 Gc
are suitable for connection to equipment in atmospheres with Dust and are marked: II (1)D [Ex ia Da] IIC
are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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G.M. International s.r.l.
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EU Declaration of Conformity

G.M. International S.r.l. declares that here below listed Models:

D5263, D5263-xxx, D5264, D5264-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- TÜV 15 ATEX 170897 X EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3[1]G Ex nA [ia Ga] IIC T4 Gc

are suitable for connection to equipment in atmospheres with Dust and are marked: II 1[1]D [Ex ia Da] IIC

are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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G. M. International S.r.l.
Managing Director

G.M. International S.r.l.
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EU Declaration of Conformity

G.M. International S.r.l. declares that here below listed Models:

D5254, D5254-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX): 2014/34/EU
- Electromagnetic Compatibility (EMC): 2014/30/EU
- Low Voltage Directive (LVD): 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS): 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013: Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012: Explosive atmospheres - Part 11: Equipment protection by Intrinsic safety "i"
- EN 60079-15:2010: Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 61326-1:2013: Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008: Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010: Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- BVS 16 ATEX E 066 X: EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q: Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked:

II 3[T]G Ex nA nC [ia Ga] IIC T4 Gc

are suitable for connection to equipment in atmospheres with Dust and are marked:

II (1)D [Ex ia Da] IIIC

are suitable for connection to equipment in Mines and are marked:

I (M1) [Ex ia Ma] I

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G.M. International S.r.l.

Managing Director
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5244, D5244-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A1:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- BVS 16 ATEX E 109 X EU-Type Examination Certificate
- Paresafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(f)G Ex nA nC [ia Ga] IIC T4 Gc
are suitable for connection to equipment in atmospheres with Dust and are marked: II (1)D [Ex ia Da] IIC
are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5098

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) - 2014/34/EU
- Electromagnetic Compatibility (EMC) - 2014/30/EU
- Low Voltage Directive (LVD) - 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) - 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A1:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- IMO 17 ATEX 009 X Type Examination Certificate
- Presafe 15 ATEX 192544O Production Quality Assessment

are suitable for connection to equipment in atmospheres with Gas and are marked: II 3G Ex nA nC IIC T4 Gc

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G. M. Landrini
Managing Director
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

DS212, DS212-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013: Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012: Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-15:2010: Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 50303:2000: Group I, Category M1 equipment intended to remain functional in atmospheres endangered by firedamp and/or coal dust
- EN 61326-1:2013: Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008: Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010: Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- DEMKO 18 ATEX 2017X: EU-Type Examination Certificate
- Presafe 15 ATEX 192544Q: Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(T)G Ex na [ia Ga] IIC T4 Gc
are suitable for connection to equipment in atmospheres with Dust and are marked: II (T)D [Ex ia Da] IIIC
are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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G.M. International s.r.l.
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EU Declaration of Conformity

G.M. International S.r.l.
declared that here below listed Models:

TB-D5016-TRI-010; TB-D5008-INV-005
D6001, D6001-xxx; D6002, D6002-xxx;
(1)

D6003, D6003-xxx; D5099, D5099-xxx
(2)

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-7:2015+A1:2018 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n" (only for models listed in (2))
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61000-6-4:2007+AC:2011 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- BV S 18 ATEX E 079 X Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation in atmospheres with Gas and are marked:

II 3G Ex ec IIC T4 Gc
for models listed in (1)

II 3G Ex ec nC IIC T4 Gc
for models listed in (2)

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement.

Francesco Landrini
CEO

G.M. International s.r.l.
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EU Declaration of Conformity

G.M. International S.r.l. declares that here below listed Models:

D5038, D5038-xxx; D5039, D5039-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:


- EN 61326:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements

are covered by:

- DEMKO 19 ATEX 2290X EU-Type Examination Certificate
- Presafe 15 ATEX 1925444Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(1)G Ex ec [ia Ga] IIC T4 Gc

are suitable for connection to equipment in atmospheres with Dust and are marked: II (1)D [Ex ia Da] IIC

are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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Francesco Landrini
CEO
Warranty

Subject to the conditions set out below, G.M. International warrants that the Instruments supplied will be free from material defects and will correspond to G.M. International’s published specifications at the time of the shipment from the factory.

The above warranty is given by G.M. International subject to the following conditions:

1. G.M. International shall be under no liability in respect of any defect in the Instruments arising from any drawing, design or specification supplied by its client;

2. G.M. International shall be under no liability in respect of any defect in the Instruments arising from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow the G.M. International’s instructions (whether oral or in writing), misuse or alteration or repair of the Instruments without G.M. International’s prior written approval;

3. G.M. International shall be under no liability under the above warranty (or any other warranty, condition or guarantee) if the price for the Instruments has not been paid by the due date for payment in accordance with the agreed terms;

4. The above warranty does not extend to parts, materials or equipment not manufactured by G.M. International, in respect of which the Client shall only be entitled to the benefit of any such warranty or guarantee as is given by the manufacturer to G.M. International;

5. G.M. International shall be under no liability in respect of any repair made by unauthorized personnel because it may completely invalidate the Safety Characteristics of the instruments.

All terms, conditions and warranties (whether implied or made expressly) by G.M. International (other than those express warranties set out in the current edition of the G.M. International’s specification) relating to the quality and/or fitness for purpose of the Instruments or any of the Instruments are excluded.

The client shall satisfy itself that the Instruments are suitable for any product or application for which they are to be used before they are so used.

Any claim by the Client which is based on any defect in quality or condition of the Instruments or their failure to correspond with specification shall (whether or not delivery is refused by the Client) be notified to G.M. International within 30 days from the date of delivery or (where the defect or failure was not apparent on reasonable inspection) within a reasonable time after discovery of the defect or failure. If delivery is not refused, and the Client does not notify G.M. International accordingly, the Client shall not be entitled to reject the Instruments and G.M. International shall have no liability for such defect or failure and the Client shall be bound to pay the price as if the Instruments had been delivered in accordance with the order.

Where any claim in respect of any of the Instruments which is based on any defect in the quality or condition of the Instruments or their failure to meet specification is notified to G.M. International within 5 years from date of delivery and in accordance with these conditions, G.M. International shall be entitled to replace the Instruments (or the part in question) free of charge or at G.M. International’s sole discretion, refund to the Client the price of the Instruments or a proportionate part of the price) but G.M. International shall have no further liability to the Client. Replacement, or repair, is at no charge if the instrument is sent back to G.M. International’s factory, cost for transport prepaid. All repairs carry a 1 year repair warranty, which begins the day the repaired item is shipped back to the customer. The product will continue to be covered by original warranty or by the 1 year repair warranty, whichever is longer.

The quantity of the Instruments stated on G.M. International’s advice note or other notification of dispatch shall be final unless the Client has given notice of any discrepancy in quantity within 10 days after receipt of the goods and has thereafter given to G.M. International a reasonable opportunity to re-count the Instruments prior to their having been used sold or processed.

Except in respect of death or personal injury caused by G.M. International’s negligence, G.M. International shall not be liable to the Client by reason of any representation or any implied warranty, condition or other term, or under the express terms of the contract for the consequential loss or damage (whether for loss of profit or otherwise), costs, expenses or other claims for consequential compensation whatsoever (and whether caused by the negligence of G.M. International, its employees or agents or otherwise) which arise out of or in connection with the supply of the Instruments or their use or resale by G.M. International.

If requested, an estimate of repair charges will be supplied which are not covered under the terms of this certificate.