**Warning**

D5072 series are isolated Intrinsically Safe Associated Apparatus located in Non Hazardous Locations or Class I, Division 2, Groups A, B, C, D, Temperature Code T4 and Class I, Zone 2, Group IC, IIB, IIA Temperature Code T4 Hazardous Locations within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for power supply Um of 250 Vrms or Vdc. The module must be installed in a controlled pollution degree 2 (as defined in IEC 60606-1), and when installed in Class I, Division 2 or Class I, Zone 2 Hazardous Locations, the module must be mounted in supplemental AEx or Ex enclosure providing at least IP54 degree protection in accordance with UL/CSA 60079-15, 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. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5072 series 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. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

**Safety Description**


**NOTES:**

- Connect only one individual conductor per each clamping point, use conductors up to 2.5 m² and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. This associated apparatus may also be connected to simple apparatus as defined in Article 504.2 and installed and temperature classified in accordance with article 504.10(B) of the National Electrical Code (ANSI/NFPA 70), or other local codes, as applicable.
- Where multiple circuits extend from the same piece of associated apparatus, they must be installed in separate cables or in one cable having suitable insulation. Refer to Article 504.30(B) of the National Electrical Code (ANSI/ NFPA 70) and Instrument Society of America recommended Practice ISA RP12.6 for installing intrinsically safe equipment.
- This associated apparatus has not been evaluated for use in combination with another associated apparatus. Isolation in accordance with UL/CSA 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.
D5072, D5072D-099

Hazardous Area/ Hazardous Locations

Device Parameters

Ch1

Ch2

Uo / Voc = 7.2 V

Io / Isc = 16 mA

Po / Po = 27 mW

Ch1

Ch2

Ul / Vmax = 12.8 V

Uo / Voc

Io / Isc

Po / Po

NOTE: for installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1 % of the Co/Ca and Lo/La parameters of the Associated Apparatus (excluding the cable), then 50 % of Co/Ca and Lo/La parameters are applicable and shall not be exceeded (50 % of the Co/Ca and Lo/La become the limits which must include the cable such that Ci device + C cable ≤ 50 % of Co/Ca and Li device + L cable ≤ 50 % of Lo/La). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups C, D / IIA, IIB and 600 nF for Group A, B / IIC. Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in the entity parameters table. If the cable parameters are unknown, the following may be used: capacitance 60 pF per foot (200 pF per meter), inductance 0.20 µH per foot (1 µH per meter).

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D5072S-087

Hazardous (Classified) Locations
Class I, Division 1, Groups A, B, C, D
Class II, Division 1, Groups E, F, G
Class III, Division 1
Class I, Zone 0, Groups IIC, IIB, IIA
Zone 20, Groups IIC, IIB, IIA

Unclassified Locations

Must not use or generate more than 250 Vrms or Vdc

NOTE: for installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1 % of the Co/Ca and Lo/La parameters of the Associated Apparatus (excluding the cable), then 50 % of Co/Ca and Lo/La parameters are applicable and shall not be exceeded (50 % of the Co/Ca and Lo/La become the limits which must include the cable such that Ci device + C cable ≤ 50 % of Co/Ca and Li device + L cable ≤ 50 % of Lo/La). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups C, D / IIA, IIB and 600 nF for Group A, B / IIC. Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in the entity parameters table. If the cable parameters are unknown, the following may be used: capacitance 60 pF per foot (200 pF per meter), inductance 0.20 µH per foot (1 µH per meter).

NOTE: 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.

This associated apparatus may also be connected to simple apparatus as defined in Article 504.2 and installed and temperature classified in accordance with article 504.10(B) of the National Electrical Code (ANSI/NFPA 70), or other local codes, as applicable.

Where multiple circuits extend from the same piece of associated apparatus, they must be installed in separate cables or in one cable having suitable insulation. Refer to Article 504.30(B) of the National Electrical Code (ANSI/NFPA 70) and Instrument Society of America Recommended Practice ISA RP12.6 for installing intrinsically safe equipment.

This associated apparatus has not been evaluated for use in combination with another associated apparatus. Isolation in accordance with UL/CSA 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

G.M. International ISM0282-0
D5072S - Temperature signal converter
### Hazardous Area/ Hazardous Locations Device Parameters

<table>
<thead>
<tr>
<th>Ch1</th>
<th>7-8-9</th>
<th>Uo / Voc = 7.2 V</th>
<th>≤</th>
<th>Ui / Vmax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch2</td>
<td>10-11-12</td>
<td>Io / Isc = 16 mA</td>
<td>≤</td>
<td>11 Ii max</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Po / P0 = 27 mW</td>
<td>≤</td>
<td>Pi / Pi</td>
</tr>
</tbody>
</table>

### Hazardous Area/ Hazardous Locations Device + Cable Parameters

<table>
<thead>
<tr>
<th>Ch1</th>
<th>7-8-9</th>
<th>Co / Ca = 13.5 µF</th>
<th>≥</th>
<th>Ci / Ci device + C cable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10-11-12</td>
<td>Lo / La = 155.4 mH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
</tbody>
</table>

### Hazardous Area/ Hazardous Locations Device Parameters

<table>
<thead>
<tr>
<th>Ch1</th>
<th>7-8-9</th>
<th>Uo / Voc = 12.8 V</th>
<th>≥</th>
<th>Uo / Voc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch2</td>
<td>10-11-12</td>
<td>Ci = 0 nF, Li = 0 nH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
- 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.
- This associated apparatus may also be connected to simple apparatus as defined in Article 504.2 and installed and temperature classified in accordance with article 504.10(B) of the National Electrical Code (ANSI/NFPA 70), or other local codes, as applicable.
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- This associated apparatus has not been evaluated for use in combination with another associated apparatus. Isolation in accordance with UL/CSA 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.
### D5072S-096

#### Hazardous (Classified) Locations
- Class I, Division 1, Groups A, B, C, D
- Class II, Division 1, Groups E, F, G
- Class III, Division 1
- Class I, Zone 0, Groups IIC, IIB, IIA
- Zone 20, Groups IIC, IIB, IIA

#### Unclassified Locations or Hazardous (Classified) Locations
- Class I, Division 2, Groups A, B, C, D
- T-Code T4
- Class I, Zone 2, Groups IIC, IIB, IIA
- T-Code T4

#### Unclassified Locations
- Must not use or generate more than 250 Vrms or Vdc

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**Terminals**

**Parameter chart**

<table>
<thead>
<tr>
<th>Ch1</th>
<th>7-8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ui / Vmax</strong></td>
<td>7.2 V</td>
</tr>
<tr>
<td><strong>Io / Isc</strong></td>
<td>23 mA</td>
</tr>
<tr>
<td><strong>Po / Po</strong></td>
<td>40 mW</td>
</tr>
</tbody>
</table>

**Parameter chart**

<table>
<thead>
<tr>
<th>Ch1</th>
<th>7-8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ui / Vmax</strong></td>
<td>12.8 V</td>
</tr>
<tr>
<td><strong>Ci / Ci device + C cable</strong></td>
<td>0 nF</td>
</tr>
</tbody>
</table>

**Parameter chart**

<table>
<thead>
<tr>
<th>Ch1</th>
<th>7-8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Co / Ca</strong></td>
<td>13.5 µF</td>
</tr>
<tr>
<td><strong>Co / Ca</strong></td>
<td>240 µF</td>
</tr>
<tr>
<td><strong>Co / Ca</strong></td>
<td>1000 µF</td>
</tr>
<tr>
<td><strong>Co / Ca</strong></td>
<td>240 µF</td>
</tr>
<tr>
<td><strong>Lo / La</strong></td>
<td>71.3 mH</td>
</tr>
<tr>
<td><strong>Lo / La</strong></td>
<td>285.3 mH</td>
</tr>
<tr>
<td><strong>Lo / La</strong></td>
<td>570.6 mH</td>
</tr>
<tr>
<td><strong>Lo / La</strong></td>
<td>285.3 mH</td>
</tr>
<tr>
<td><strong>Lo / Ro</strong></td>
<td>893 µH/Ω</td>
</tr>
<tr>
<td><strong>Lo / Ro</strong></td>
<td>3573 µH/Ω</td>
</tr>
<tr>
<td><strong>Lo / Ro</strong></td>
<td>7747 µH/Ω</td>
</tr>
<tr>
<td><strong>Lo / Ro</strong></td>
<td>11726 µH/Ω</td>
</tr>
</tbody>
</table>

**NOTE:**

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Hazardous (Classified) Locations
Class I, Division 1, Groups A, B, C, D
Class II, Division 1, Groups E, F, G
Class III, Division 1
Class I, Zone 0, Groups IIC, IIB, II(A)
Zone 20, Groups IIC, IIB, II(A)

Unclassified Locations or
Hazardous (Classified) Locations
Class I, Division 2, Groups A, B, C, D, T-Code T4
Class I, Zone 2, Groups IIC, IIB, II(A), T-Code T4

Unclassified Locations
Must not use or generate
more than 250 Vrms or Vdc

The output current of this associated apparatus is limited by a resistor such that the output voltage-current plot is straight line drawn between open-circuit voltage and short-circuit current.

Ch1
7-8

Ch2
11-12

Uo / Voc = 7.2 V ≤ Ui / Vmax
Io / Isc = 16 mA ≤ Ii / Imax
Po / Po = 27 mW ≤ Pi / Pi

Ch1
7-8

Ch2
11-12

ui / Vmax = 12.8 V ≥ Uo / Voc
Ci = 0 nF, Li= 0 nH

NOTE: for installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1 % of the Co/Ca and Lo/La parameters of the Associated Apparatus (excluding the cable), then 50 % of Co/Ca and Lo/La parameters are applicable and shall not be exceeded (50 % of the Co/Ca and Lo/La become the limits which must include the cable such that Ci device + C cable ≤ 50 % of Co/Ca and Li device + L cable ≤ 50 % of Lo/La).

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Hazardous Area/ Hazardous Locations
Device Parameters

Ch1
7-8

Ch2
11-12

Co / Ca = 13.5 µF
Co / Ca = 240 µF
Co / Ca = 2400 µF
Co / Ca = 24000 µF

Lo / La = 1554.4 mH
Lo / La = 6217.7 mH
Lo / La = 1243.5 mH
Lo / La = 6217.7 mH

IIC (A, B)
IIB (C)
IIA (D)
IIC (E, F, G)

≥
Ci / Ci device + C cable

≥
Li / Li device + L cable

≥
Li / R device and L cable / R cable

UL or third party approved intrinsically safe equipment evaluated under entity concept