TB-D5008 TRI-001

Termination Board 8 positions for Triconex TMR with Analog Output card 3805E, 3805H

Characteristics:

General description:

This Termination Board (TB) provides direct connection between the I/O Card of the system and D5000 Series modules. The Intrinsically Safe protection and signal isolation between Safe and Hazardous Area, is provided by D5000 Series Associated Apparatus. The 24 Vdc Power Supply of the TB is connected to two plug-in terminal blocks, for a redundant power supply. In addition, each plug-in terminal block is dual to guarantee a daisy chain connection also when the terminal block is not inserted in the corresponding mating socket connector. The power supply for modules is given by TB power bus.

Termination Board general characteristics:

Termination Board Model	*Number of positions*	*Features*
TB-D5008-TRI-001	8	1) Power Supply voltage redundancy; 2) HART multiplexing; 3) Abnormal supply voltage signaling; 4) Cumulative module fault signaling.

Supported Triconex TMR I/O Cards:

I/O Card Model	*I/O Card Type*	*Number of channels per I/O Card*	*Number of I/O Cards per board*	*Number of channels per board*	*Supported GM Modules*
3805E 3805H	Analog Out 1-5 V	8	1	8	D5020S

Technical Data:

Supply:

24 Vdc nom (20 to 30 Vdc) reverse polarity protected, double terminal blocks for redundant power supply, with OR diodes to mix supply voltages.

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm^2.

2 LEDs indication: green color, one for supply 1 and one for supply 2.

Protection fuse: 2 A time lag (spare fuse provided on Termination Board).

Fault detection:

1) Preventive - abnormal supply voltage: supply 1 or supply 2 is < 18 Vdc (Under Voltage, UV) or > 30 Vdc (Over Voltage, OV).

2) Critical - abnormal supply voltages <u>or</u> cumulative fault: both supplies are in under (< 18 Vdc) or over (> 30 Vdc) voltage condition <u>OR</u> cumulative fault indication (about presence of short or open field circuit for any DO channel).

LED fault signaling (for both case 1 and 2): 2 red LEDs (UV and OV of supply 1); 2 red LEDs (UV and OV of supply 2); a cumulative fault red LED.

Relay fault signaling (one for each case 1 or 2): a voltage free NE SPDT - 1 Form C relay contacts (de-energized in fault condition), with the following characteristics:

Contact material: AgCdO.

Contact rating: 2 A 36 Vac 72 VA, 2 A 48 Vdc 80 W (resistive load).

Mechanical / Electrical life: 30 * 10^6 / 1 * 10^5 operation, typical.

Coil status LED indication: yellow color, turn on when coil is energized.

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm^2.

I/O card interface:

Connection:

One ELCO 8016, 56 poles receptacle connector (requires plug mating connector).

HART Multiplexing:

Connection: 34 poles male connector (requires female mating connector).

Environmental conditions:

Operating: temperature limits – 40 to + 70 °C,
relative humidity max 90 % non condensing, up to 35 °C.

Storage: temperature limits – 45 to + 80 °C.

Mounting:

Hardware included for mounting on wall and single DIN rail.

Weight: about 220 g (excluding modules and mounting options).

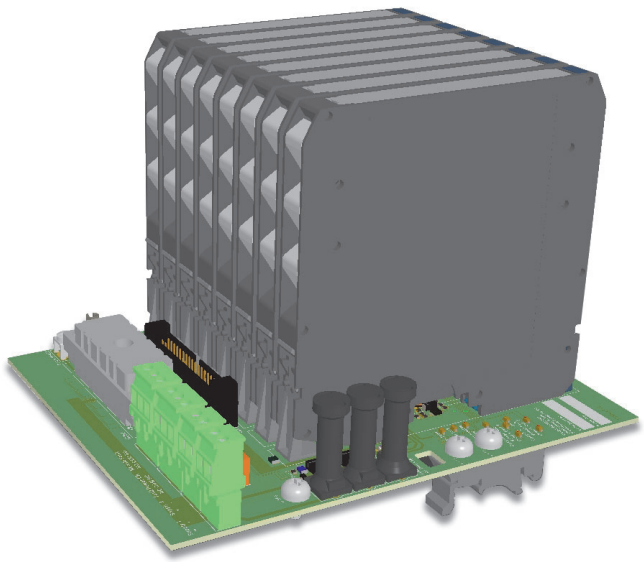
Location: Safe Area / Ordinary locations.

Dimensions: Width 145 mm, Depth 180 mm, Height 125 mm.

Features:

- AO card type 3805E, 3805H, 8 ch. Analog Output board interface.
- Termination Board for voltage signals: 1-5 V.
- 8 positions Termination Board for up to 8 channels.
- Lower cables installation and maintenance costs.
- Power supplies fault monitoring.
- Spare fuse provided.
- Mounting hardware provided for:
  - Wall mounting, M4 thread screw;
  - Wall mounting, M4 self tapping screw;
  - Single Din Rail mounting kit.

Image:

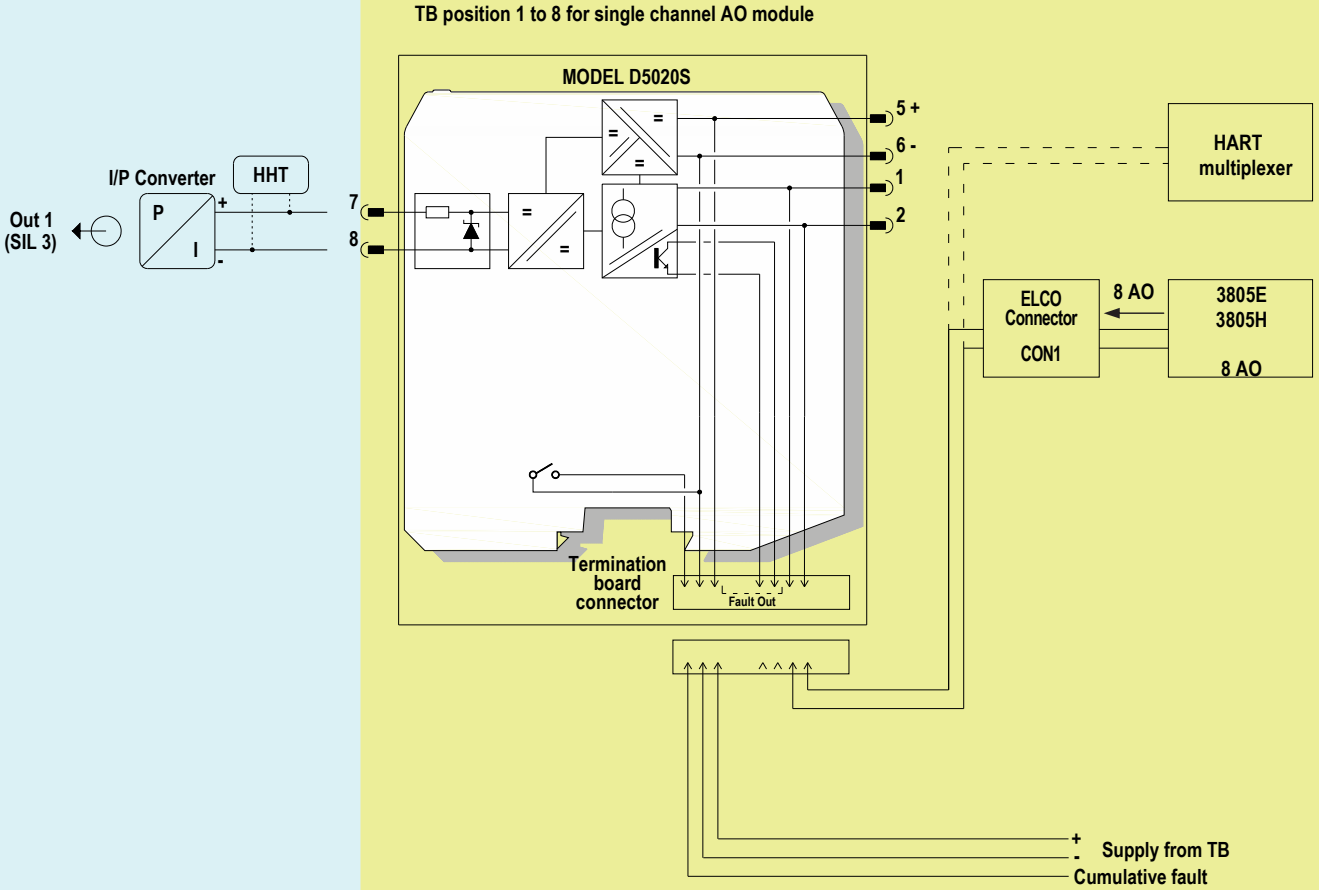


Ordering Information:

Model:	TB-D5008-TRI-001

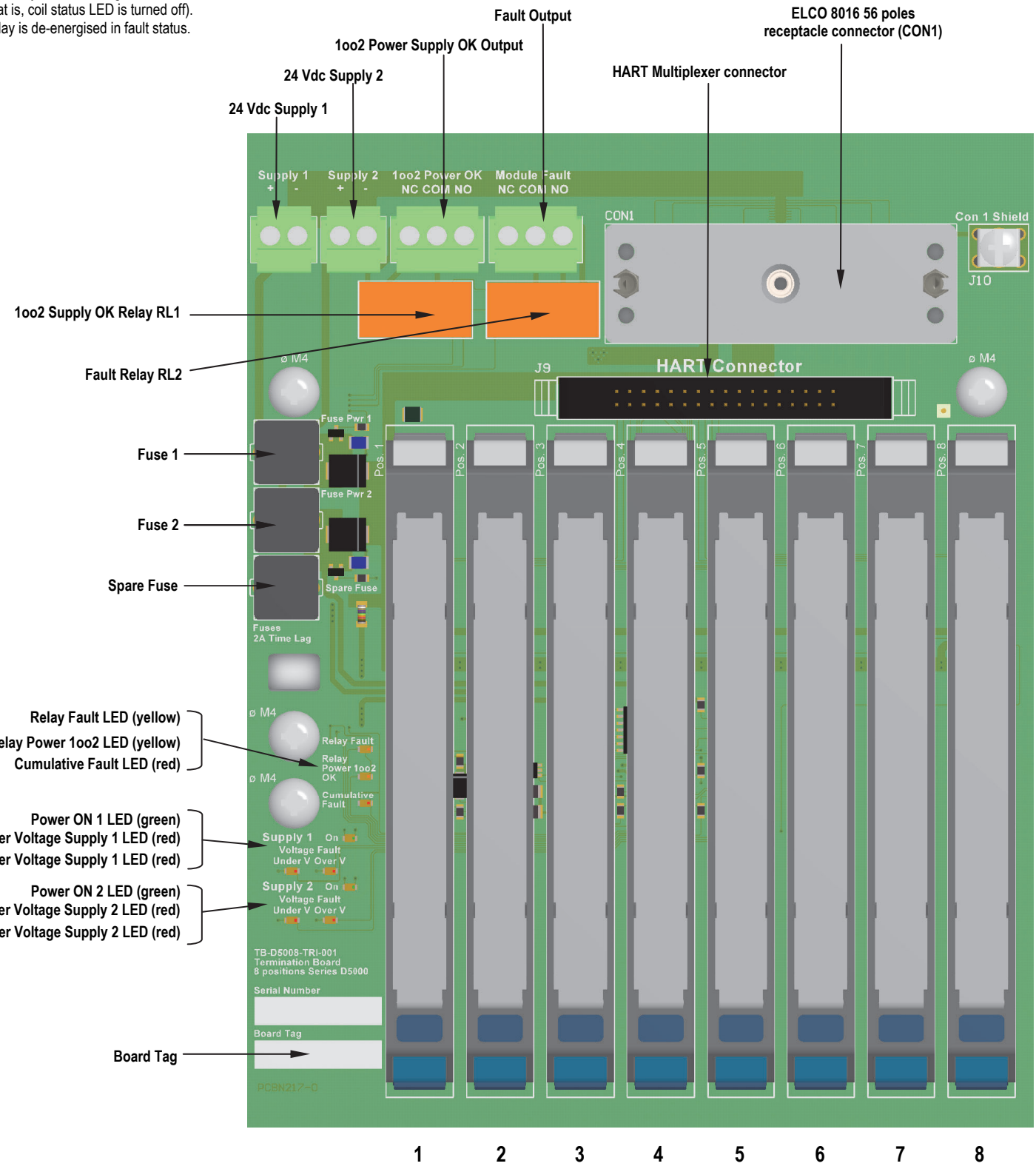
Loop Diagrams for 3805E, 3805H (8 AO) Interface Card:

HAZARDOUS AREA | SAFE AREA



SAFE AREA / ORDINARY LOCATION

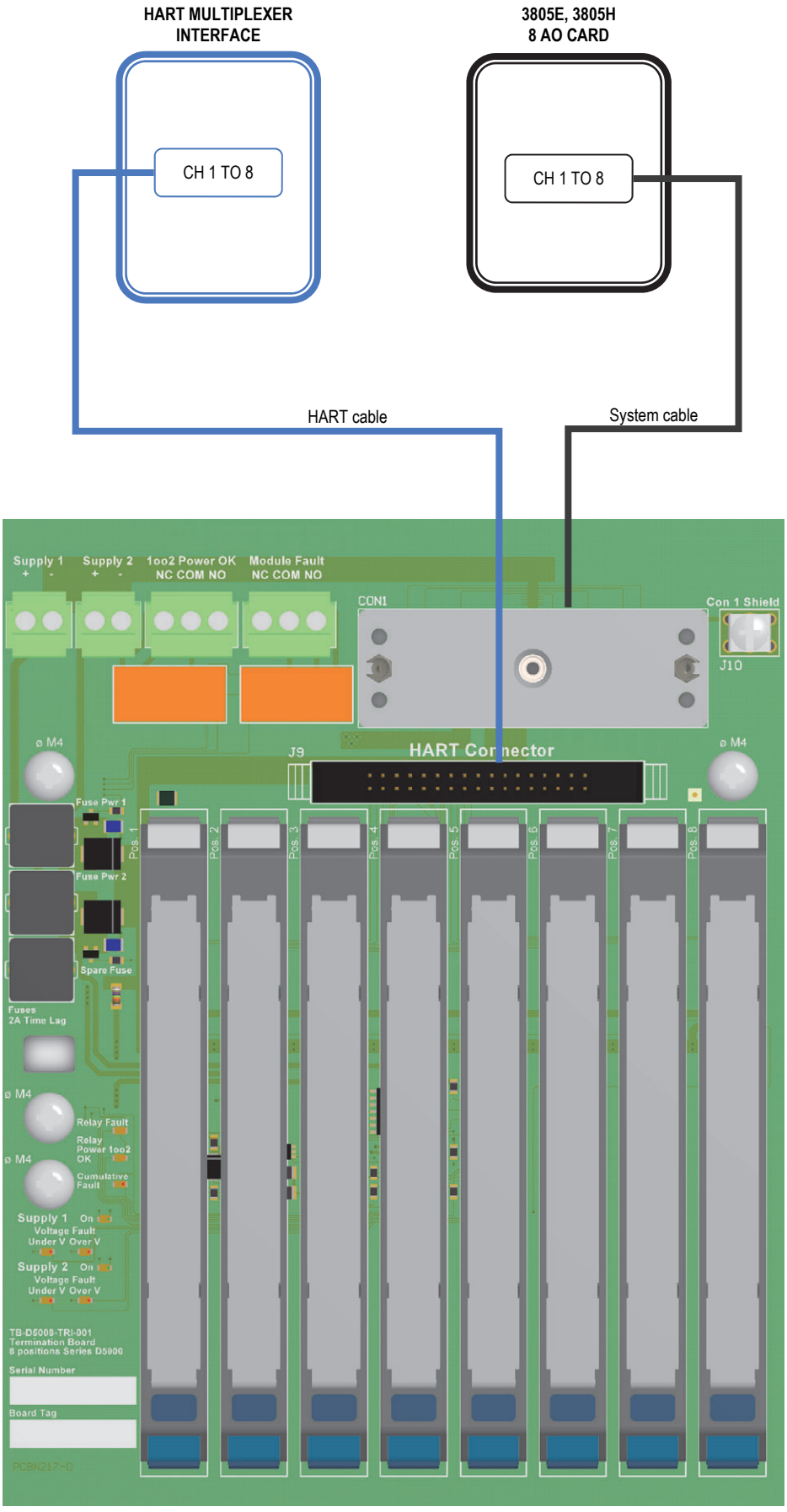
Note:
Relay contact is defined Normally Closed (NC) or Normally Open (NO) when RL1 or RL2 relays are de-energized (that is, coil status LED is turned off). Relay is de-energised in fault status.



HAZARDOUS AREA / LOCATION

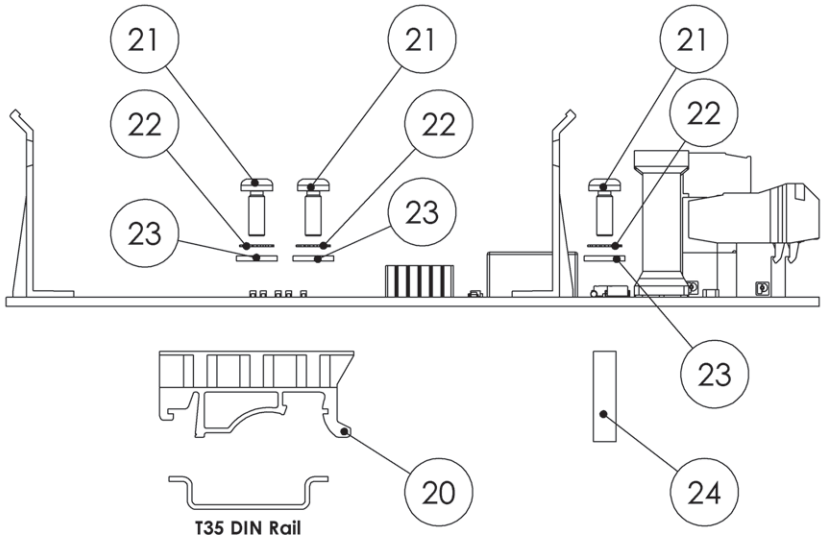
Termination Board Connections:

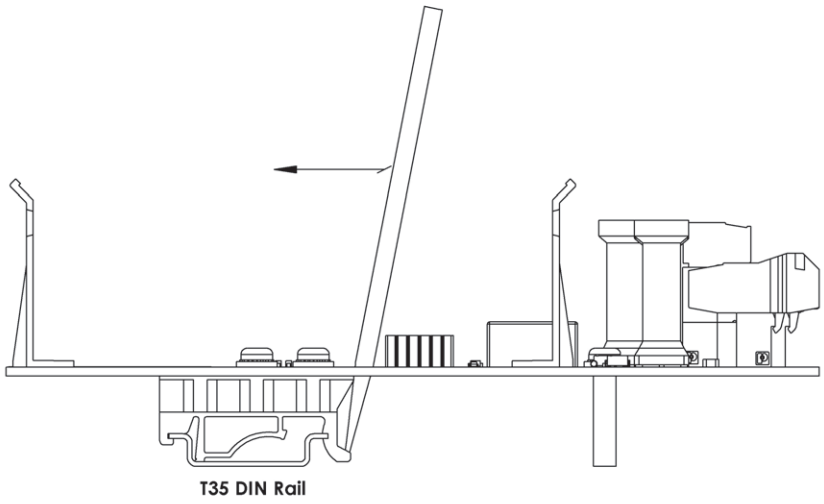
SAFE AREA / ORDINARY LOCATION



HAZARDOUS AREA / LOCATION

8 POSITION TERMINAL BOARD D5000 SERIES MOUNTING FEATURES KIT TB-OPT-001





1. T35 DIN RAIL MOUNTING

Item	Ref.Nr.	Q.ty	Description	Material
1	20	2	T35 Din Rail Adapter	PA
2	21	6	3.5x9.5 Self Tapping Screw	Stainless Steel
3	22	6	M3 External Tooth lock Washer	Stainless Steel
4	23	6	M3 Washer	Stainless Steel
5	24	2	6x20 Spacer	PA

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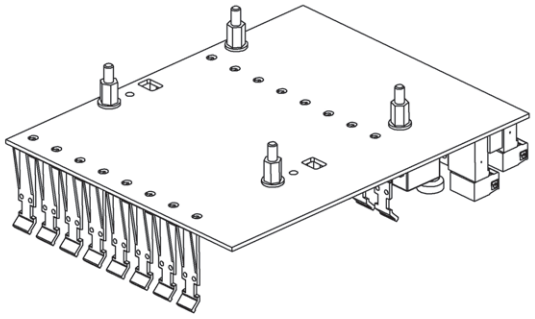

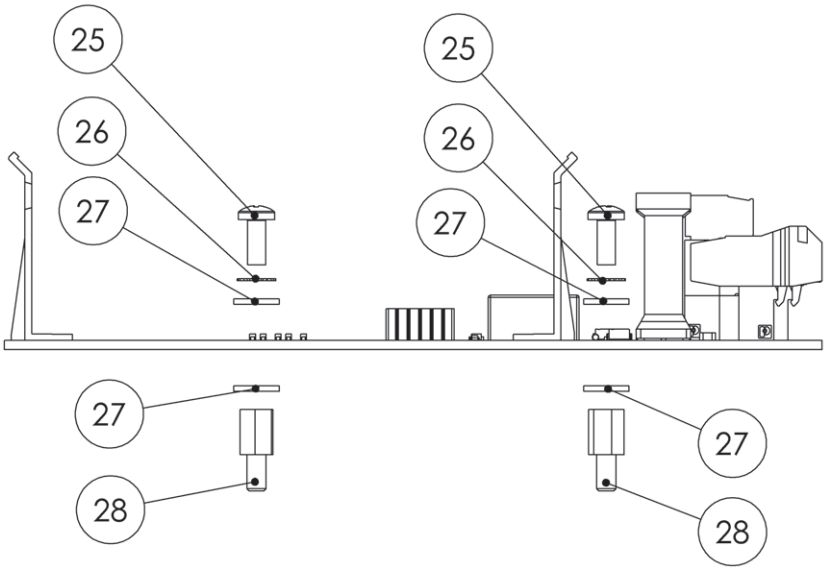

2. WALL MOUNTING WITH SELF TAPPING SCREW

Item	Ref.Nr.	Q.ty	Description	Material
6	25	4	M4x8 Screw	Stainless Steel
7	26	4	M4 External Tooth lock Washer	Stainless Steel
8	27	8	M4 Washer	Stainless Steel
9	28	4	Self Tapping Spacer	Ni-Plated Brass

Wall mounting overall dimensions for M4 thread screw:

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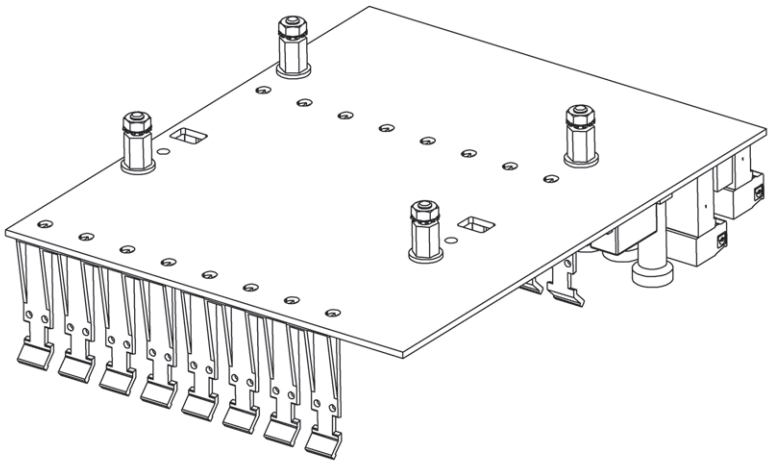

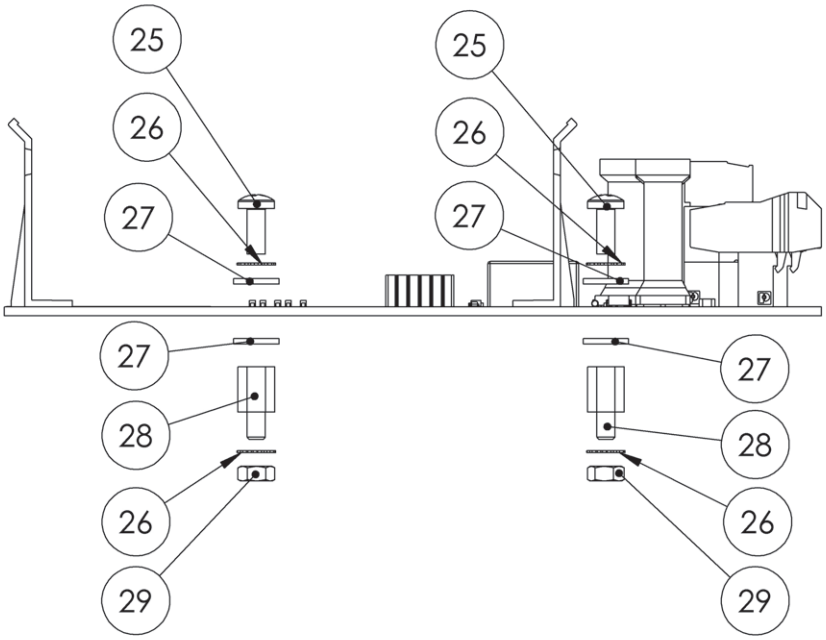

3. WALL MOUNTING WITH M4 SCREWS

Item	Ref.Nr.	Q.ty	Description	Material
10	25	4	M4x8 Screw	Stainless Steel
11	26	8	M4 External Tooth lock Washer	Stainless Steel
12	27	8	M4 Washer	Stainless Steel
13	28	4	Threaded Spacer	Ni-Plated Brass
14	29	4	M4 Nut	Stainless Steel

Connections table to 3805E, 3805H (8 AO) Interface Card:

FIELD DEVICE	MODULE TYPE	MODULE FUNCTION	MODULE POSITION	INTERFACE CARD CHANNEL NUMBER	INTERFACE CARD CONNECTOR PIN NUMBER	HART MULTIPLEXING CONNECTOR PIN NUMBER	NOTE
	D5020S	Analog OUT	1	1	(+) AA	(+) 1	
					(-) LL	(-) 2	
			2	3	(+) z	(+) 3	
					(-) EE	(-) 4	
			3	5	(+) p	(+) 5	
					(-) v	(-) 6	
			4	7	(+) h	(+) 7	
					(-) l	(-) 8	
			5	9	(+) e	(+) 9	
					(-) b	(-) 10	
			6	11	(+) W	(+) 11	
					(-) S	(-) 12	
			7	13	(+) L	(+) 13	
					(-) F	(-) 14	
			8	15	(+) M	(+) 15	
					(-) B	(-) 16	

- Interface Card Connector CN1: ELCO 8016 56 poles receptacle connector .
  Common Ground (GND) provided on pins number: x,m.
  24 Vdc provided on pins number: t, j.
  Chassis Ground provided on pins: T, H, w, FF
- HART Multiplexing Connector J9: 34 poles male.
  Poles 17 to 34 are not connected.
- All channel negative pins connected to GND.