

Characteristics:

General description:

The Universal Termination Board model TB-D5008-GMI-001 is designed to connect the D5000 Series Intrinsically Safe Isolation and protection modules, directly to any system via SUB D 37 connector.

The TB consists of eight D5000 Series single or double modules mounted on a Board which carries Safe Area signals and one, or two, 24 Vdc supply lines.

The range of modules includes single and double channel AI-AO-DI-DO and Temperature Converter for the majority of applications. The TB-D5008-GMI-001 connector carries all signals to a standard cable, thus avoiding the need of external wiring.

Termination Board accepts single channel modules for up to 8 channels, or double channel modules, for up to 16 channels on the same cable.

The Intrinsically Safe protection, and signal isolation, is made through the D5000 Series Associated Apparatus.

Module type accepted for Analog Input signals are:

D5011S, D5011D, D5014S, D5014D, D5020S, D5020D, D5031S, D5031D, D5032S, D5032D, D5034S, D5034D, D5048S, D5049S, D5072S and D5072D.

Connections from the Hazardous Areas are made at the module terminal blocks, thus avoiding the TB Intrinsically Safe certifications, resulting in a quick design and cost effective solution.

Temperature Inputs on D5072D module do not required external cold junction temperature compensators. Compensation is built in the module close to input terminal blocks.

The 24 Vdc Power Supply for the TB is connected to 2 dual plug-in termination blocks, for a redundant power supply and daisy chain connection when terminal blocks are not inserted for board replacement.

The power supply is then bussed to the isolator modules by the TB.

Two fault terminal blocks, for SPDT relay contacts, are also available, as well as two fuses and a spare one.

Technical Data:

Supply:

24 Vdc nom (20 to 30 Vdc) reverse polarity protected, redundant terminal blocks, OR diodes to select higher supply source.

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm².

2 LEDs indication: green.

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

Fault detection:

Supply voltage fault detection: ≤ 18 Vdc.

Fault signaling: voltage free NE SPDT relay contacts (de-energized in fault condition); two red LEDs.

Contact material: AgCdO.

Contact rating: 2 A 250 Vac 500 VA, 2 A 250 Vdc 80 W (resistive load).

Mechanical / Electrical life: 30 * 10⁶ / 1 * 10⁵ operation, typical.

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm².

I/O card interface:

Connection: SUB D 37 poles male connector (requires female mating connector).

Environmental conditions:

Operating: temperature limits – 20 to + 60 °C,
relative humidity max 90 % non condensing, up to 35 °C.

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

Mounting:

Surface (Wall) or DIN Rail mounting: TB-OPT-001 is a Kit including hardware for mounting on wall and DIN rail.

Weight: about 200 g (excluding modules and mounting options).

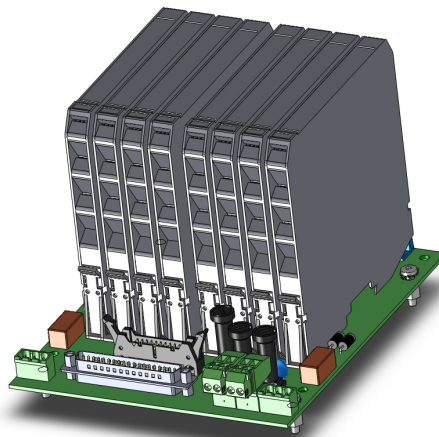
Location: Safe Area / Ordinary locations.

Dimensions: Width 152 mm, Depth 180 mm, Height 125 mm.

Features:

- Universal I/O card interface.
- 8 positions Terminal Board for up to 16 channels.
- Lower cables installation and maintenance costs.
- One terminal block per input, no external terminal blocks required.
- Power supplies fault monitoring.
- Spare fuse provided.
- Includes hardware for Easy installation in three modes:
 - Wall mounting, M4 Threads,
 - Wall mounting, Self Threading,
 - Din Rail mounting.

Image:



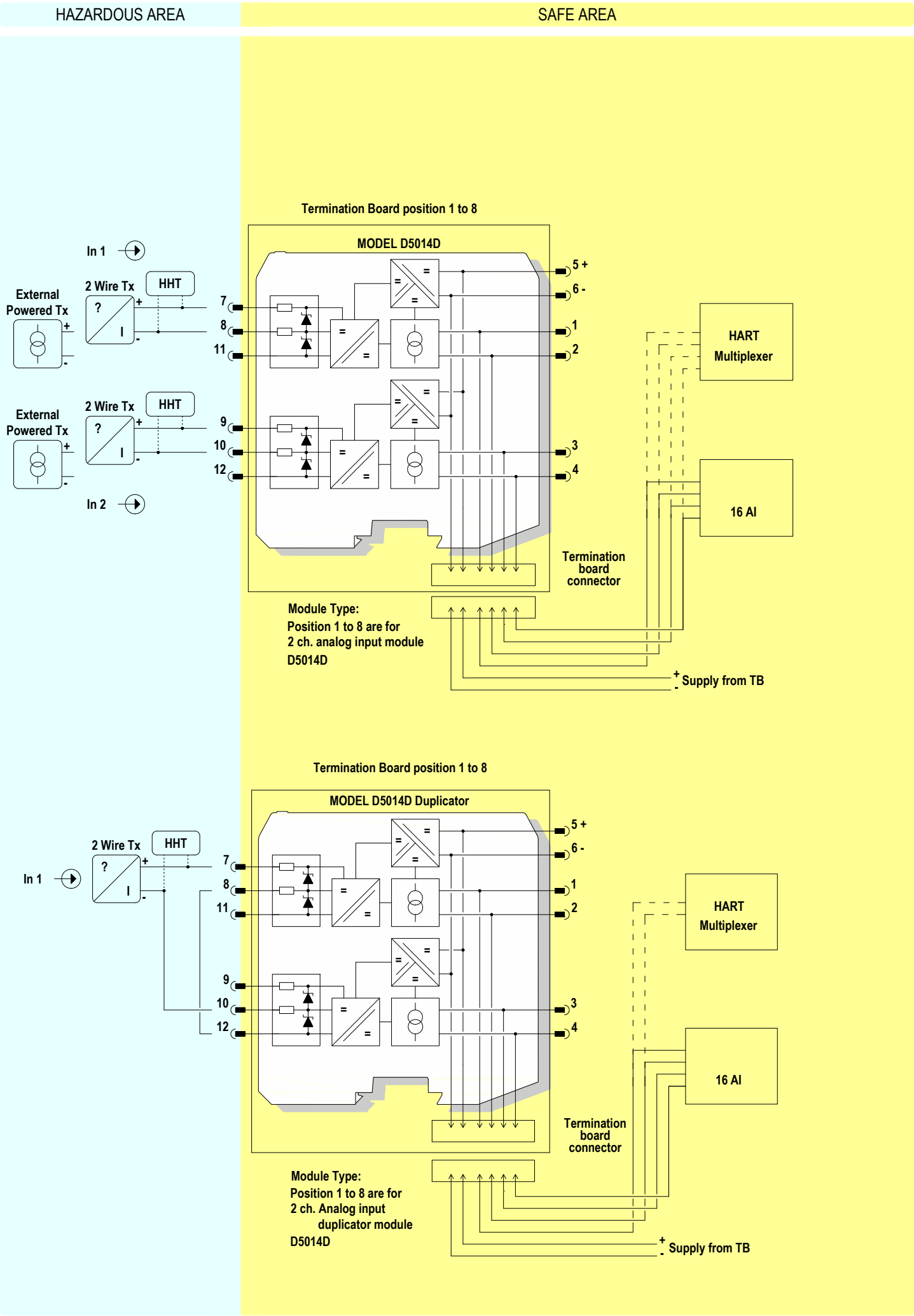
Ordering Information:

Model: TB-D5008-GMI-001

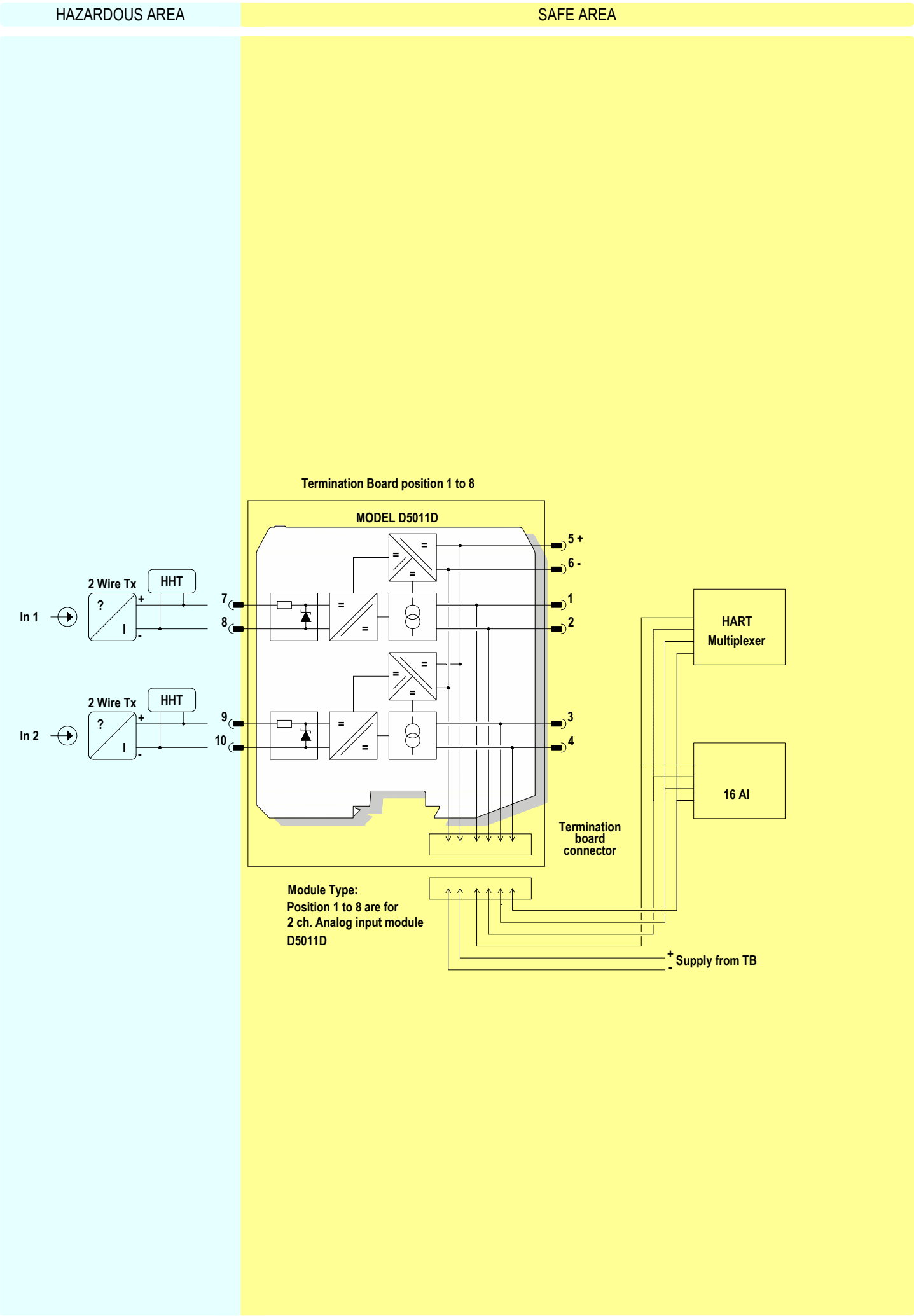
Available options:

TB-OPT-001 Universal Board mounting kit

Loop Diagrams for 16 AI Interface Card:



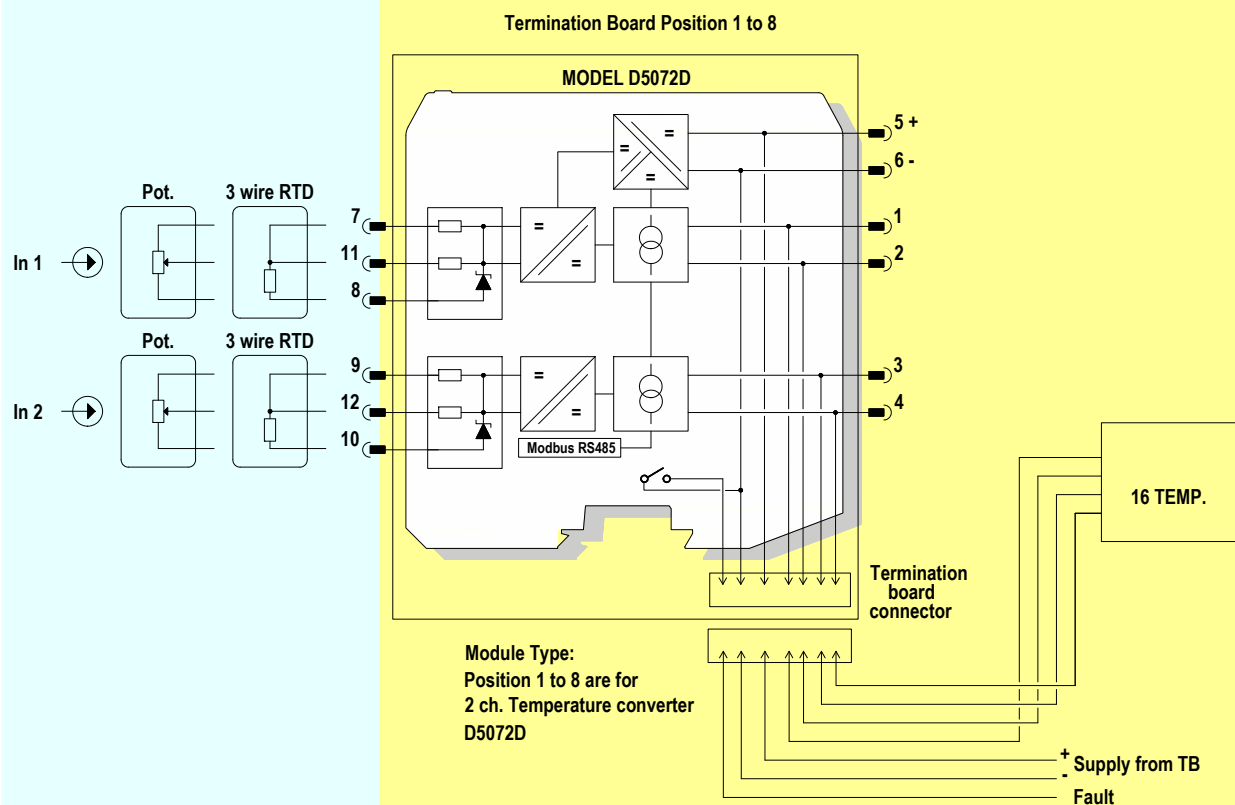
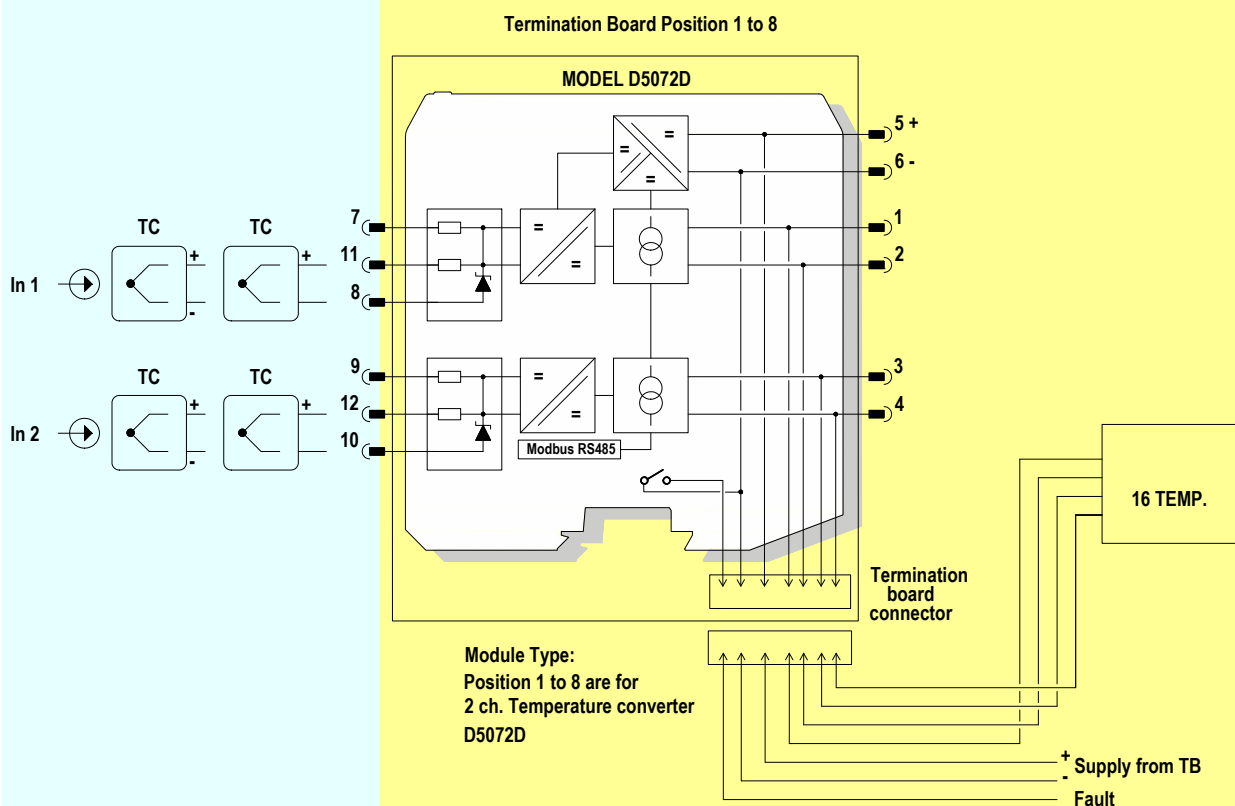
Loop Diagram for 16 AI Interface Card:



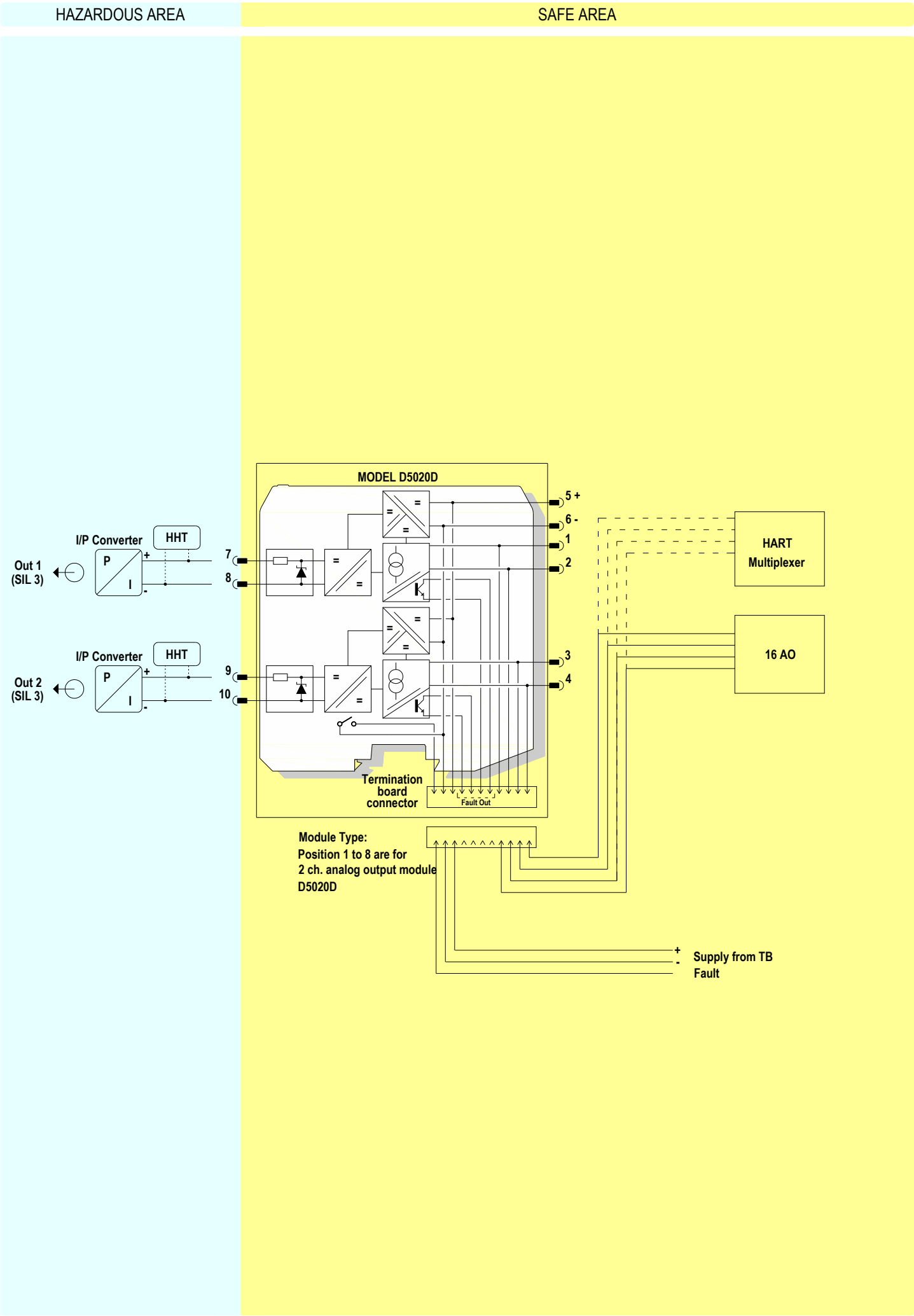
Loop Diagram for 16 AI - Temperature Interface Card:

HAZARDOUS AREA

SAFE AREA



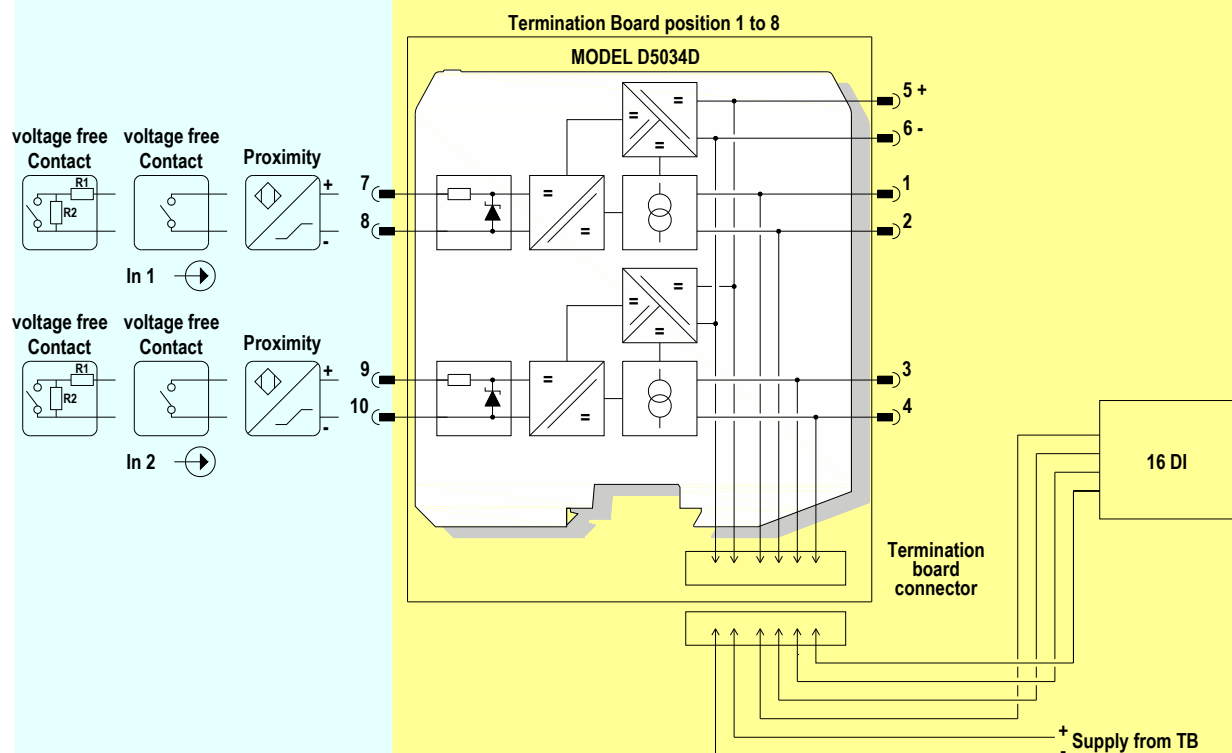
Loop Diagram for 16 AO Interface Card:



Loop Diagram for 16 DI Interface Card:

HAZARDOUS AREA

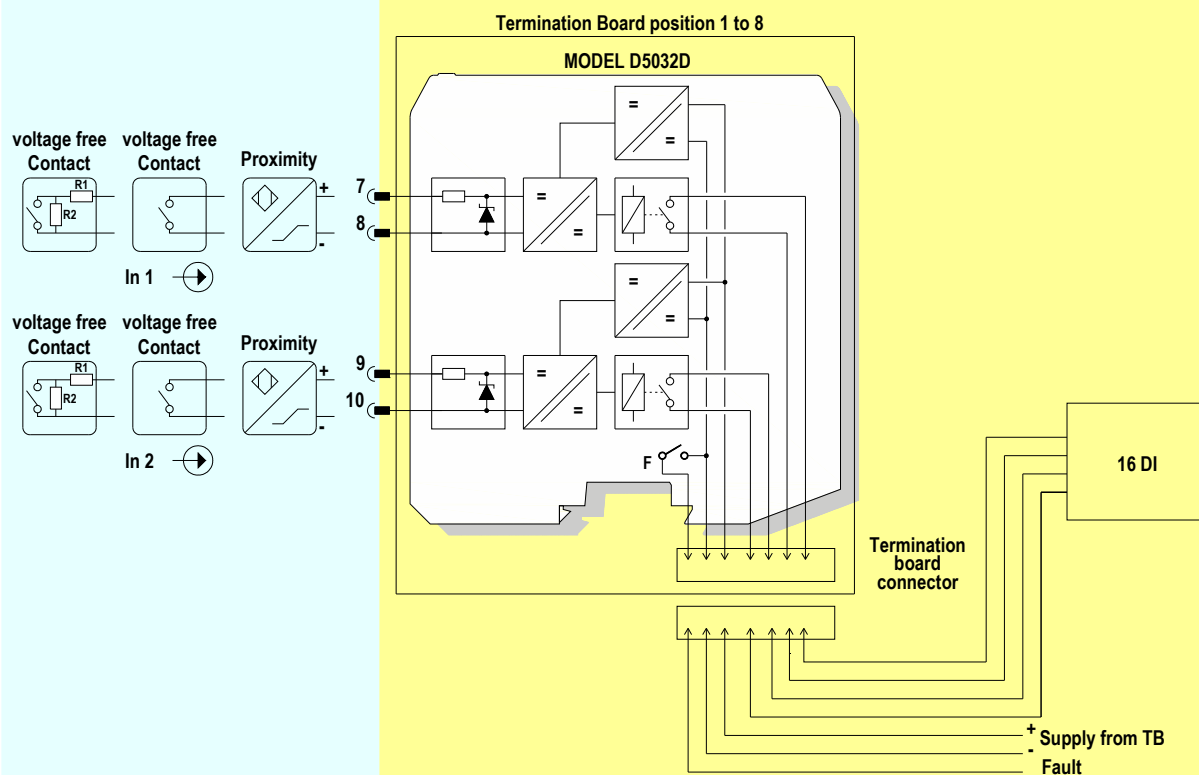
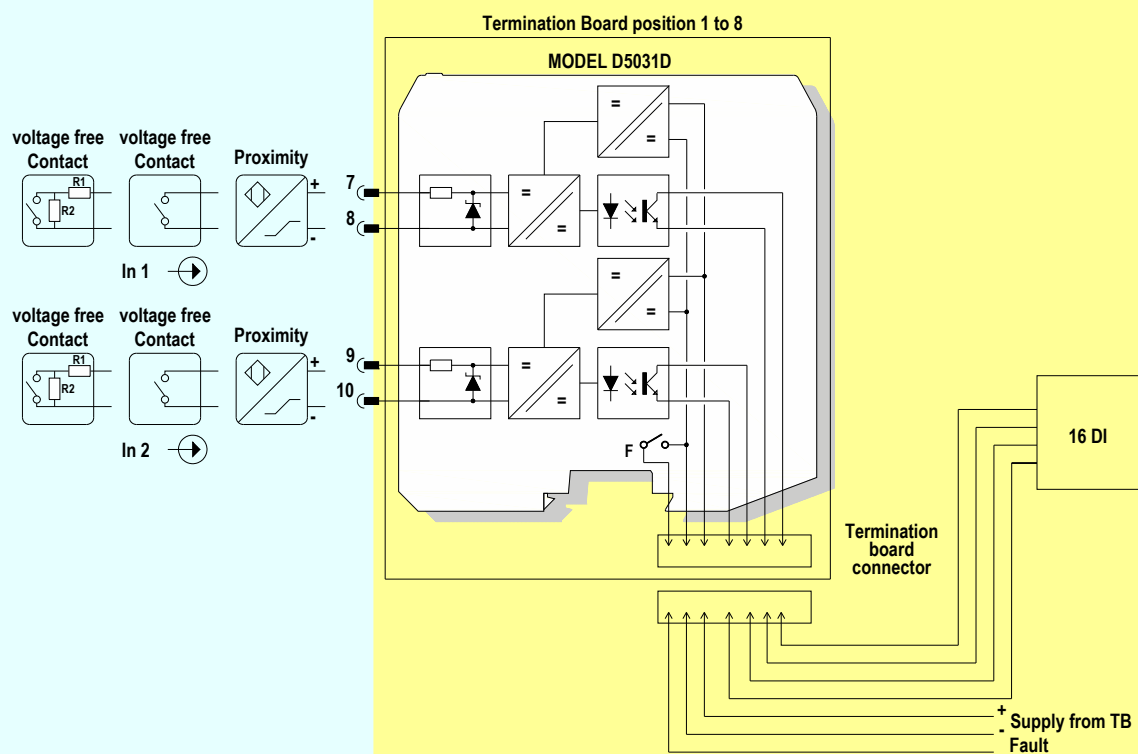
SAFE AREA



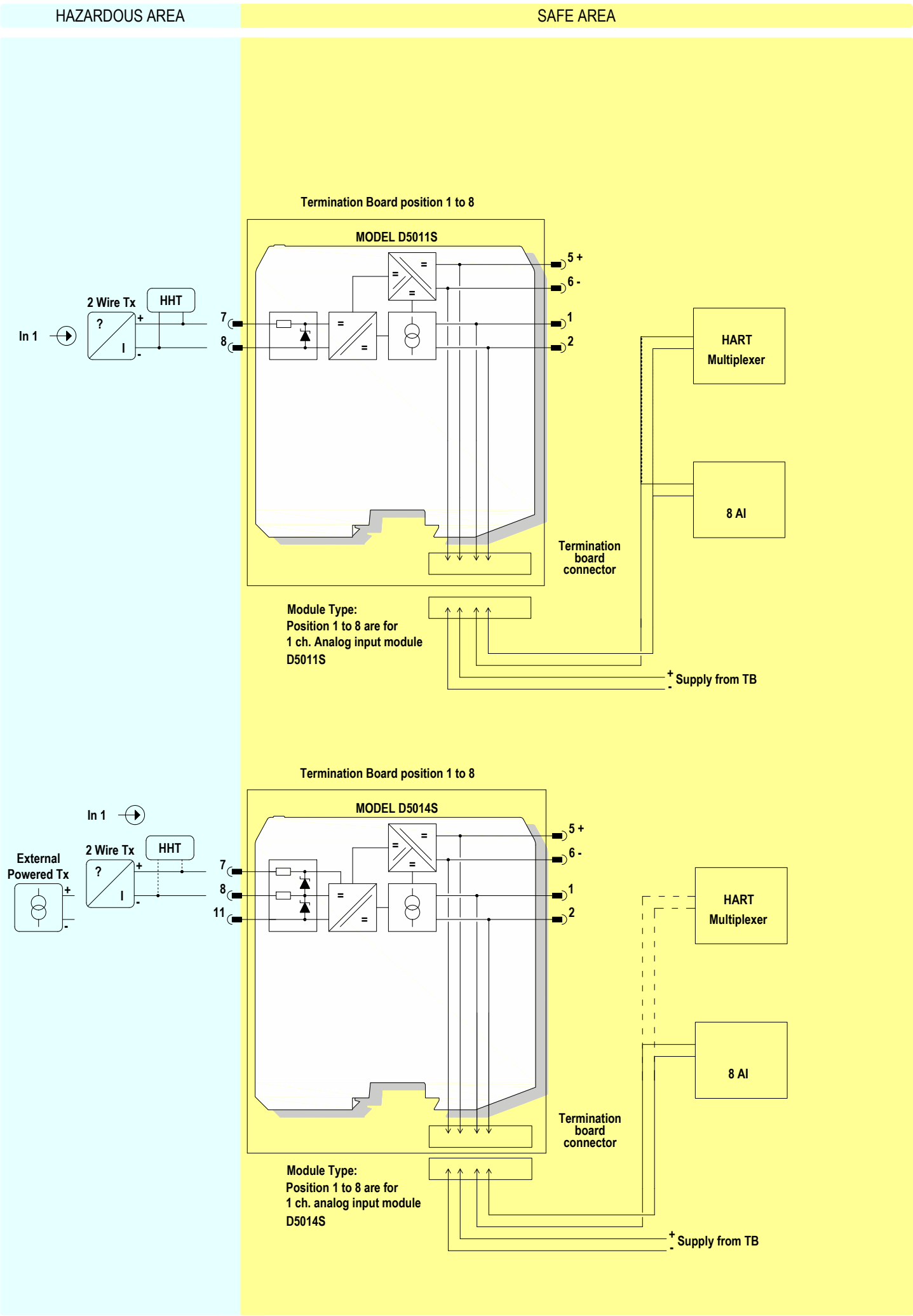
Loop Diagram for 16 DI Interface Card:

HAZARDOUS AREA

SAFE AREA



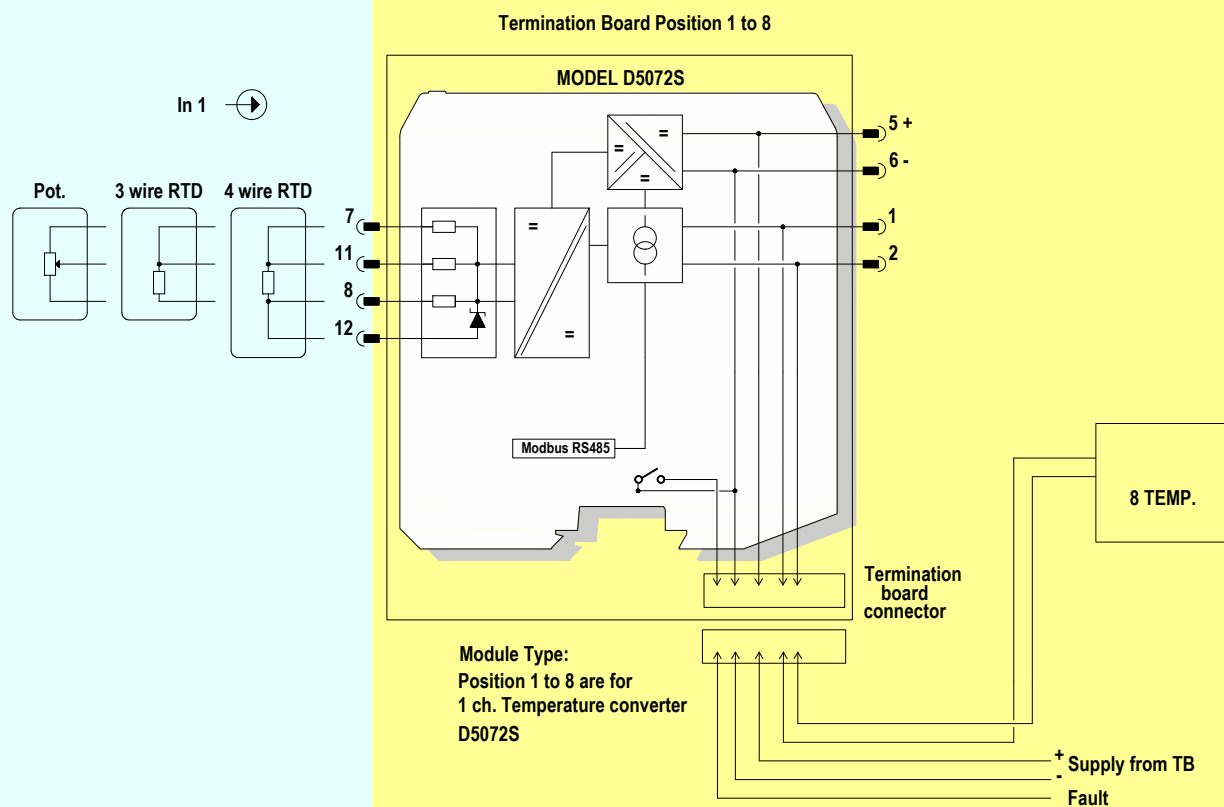
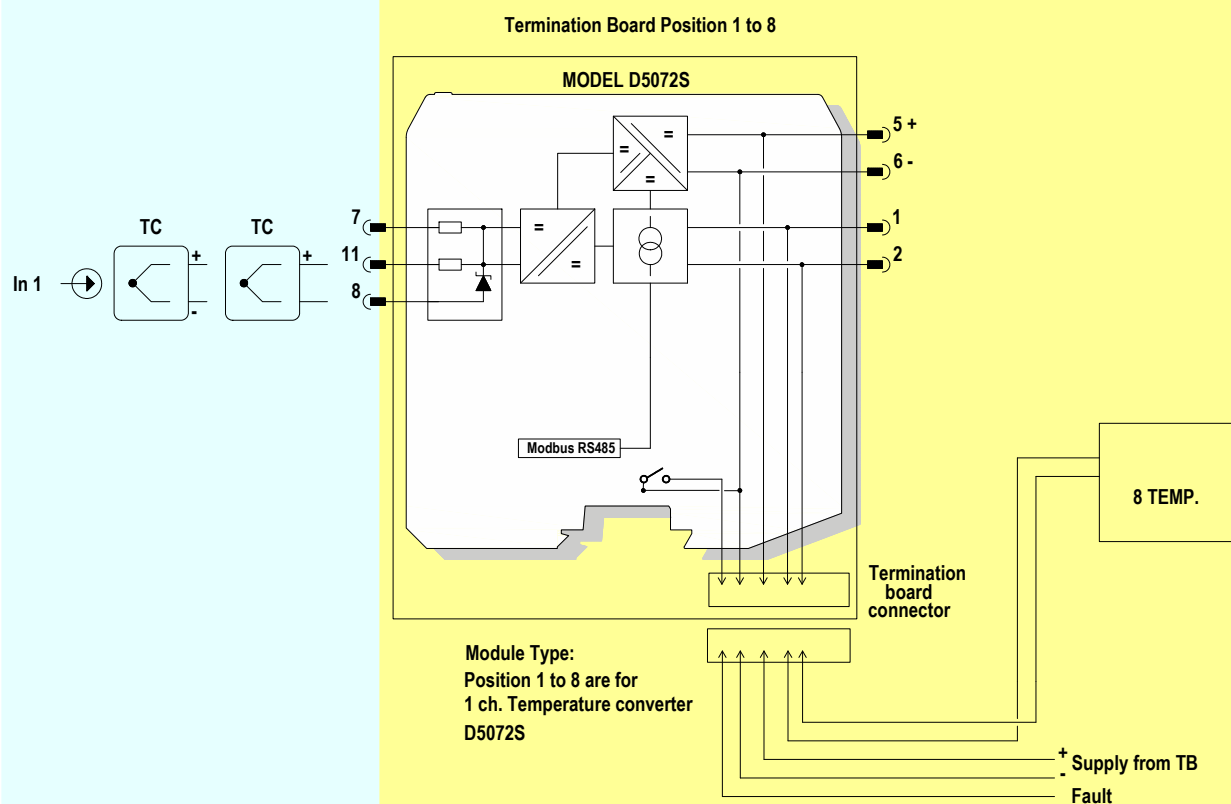
Loop Diagram for 8 AI - Temperature Interface Card:



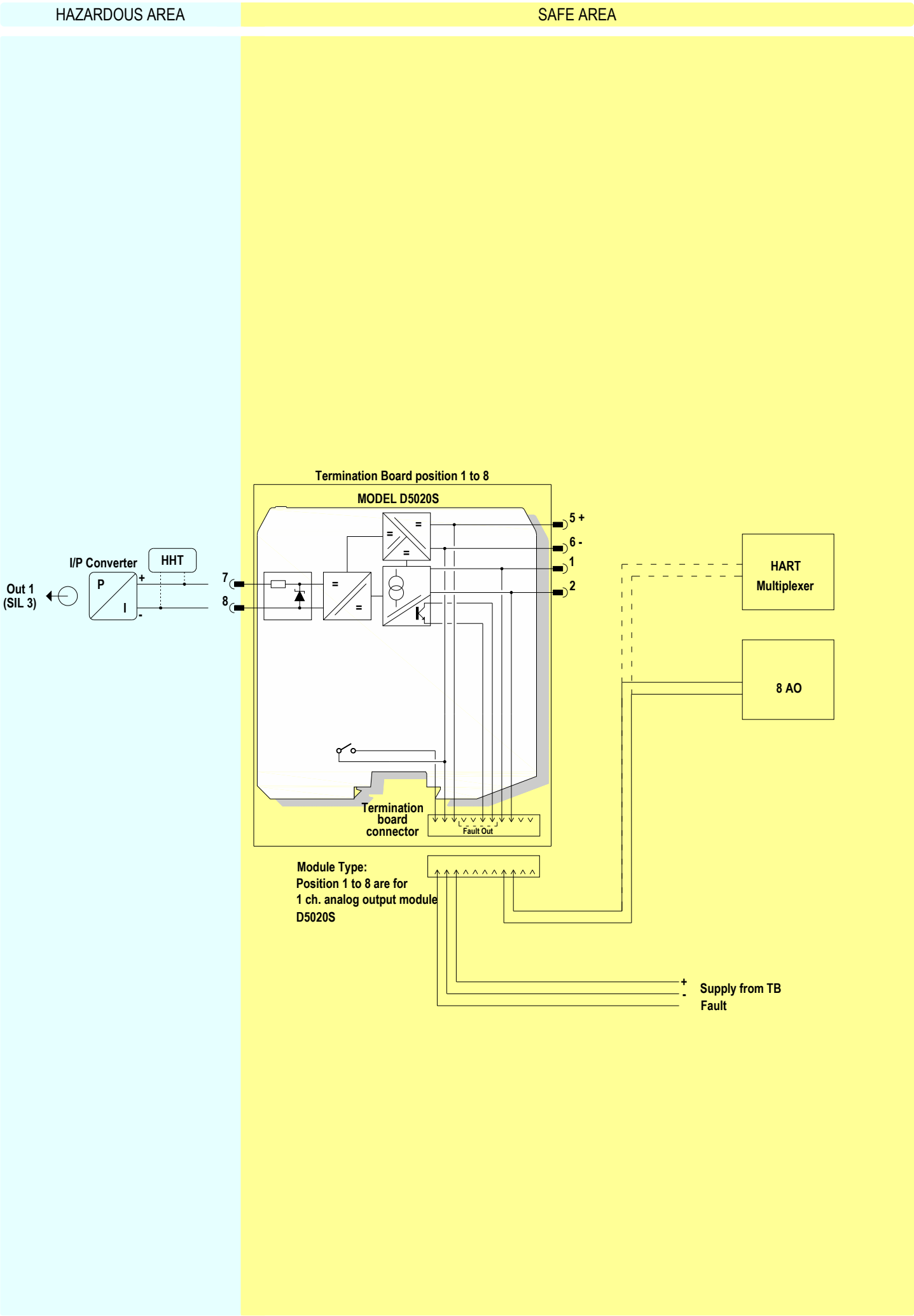
Loop Diagram for 8 AI - Temperature Interface Card:

HAZARDOUS AREA

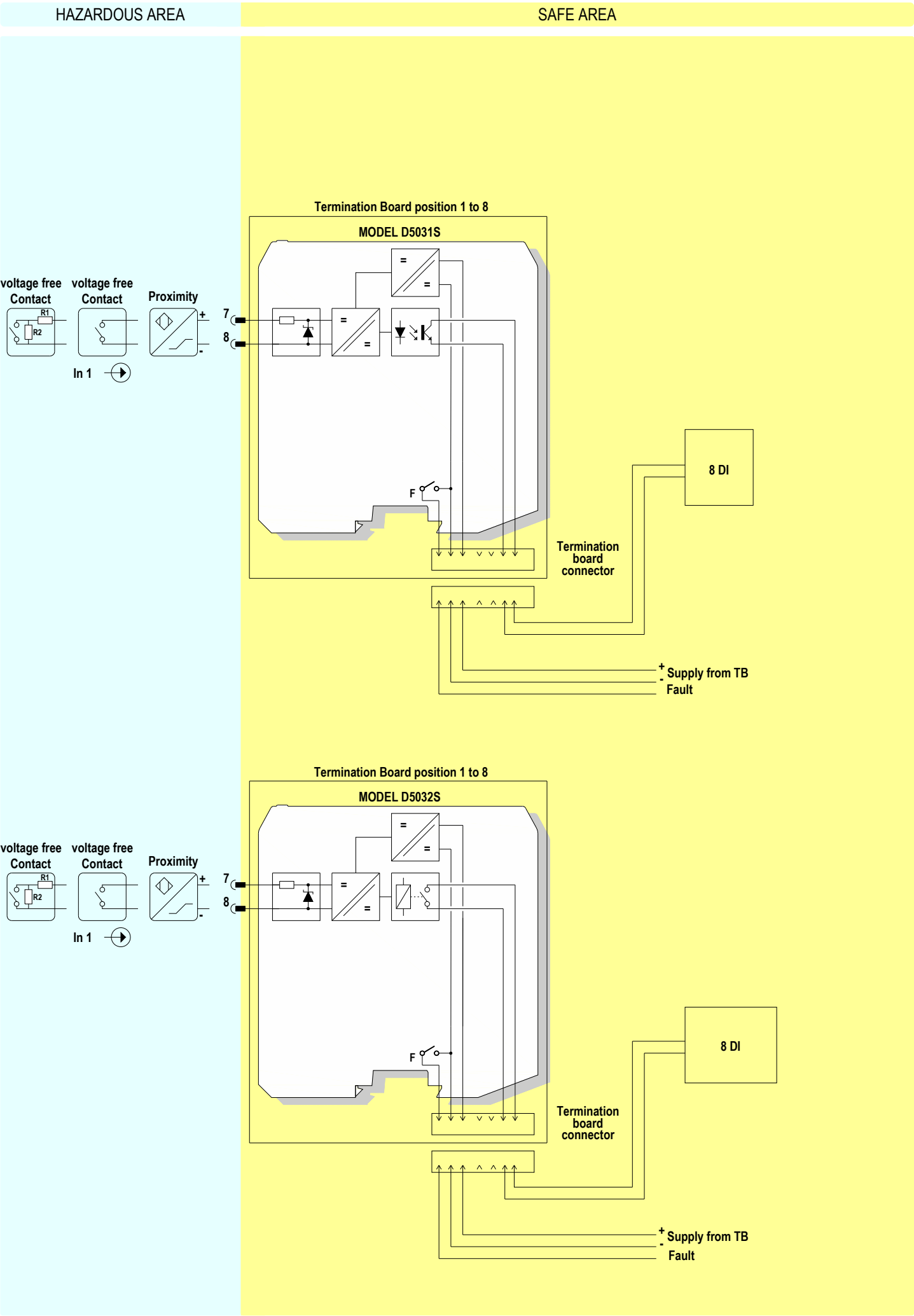
SAFE AREA



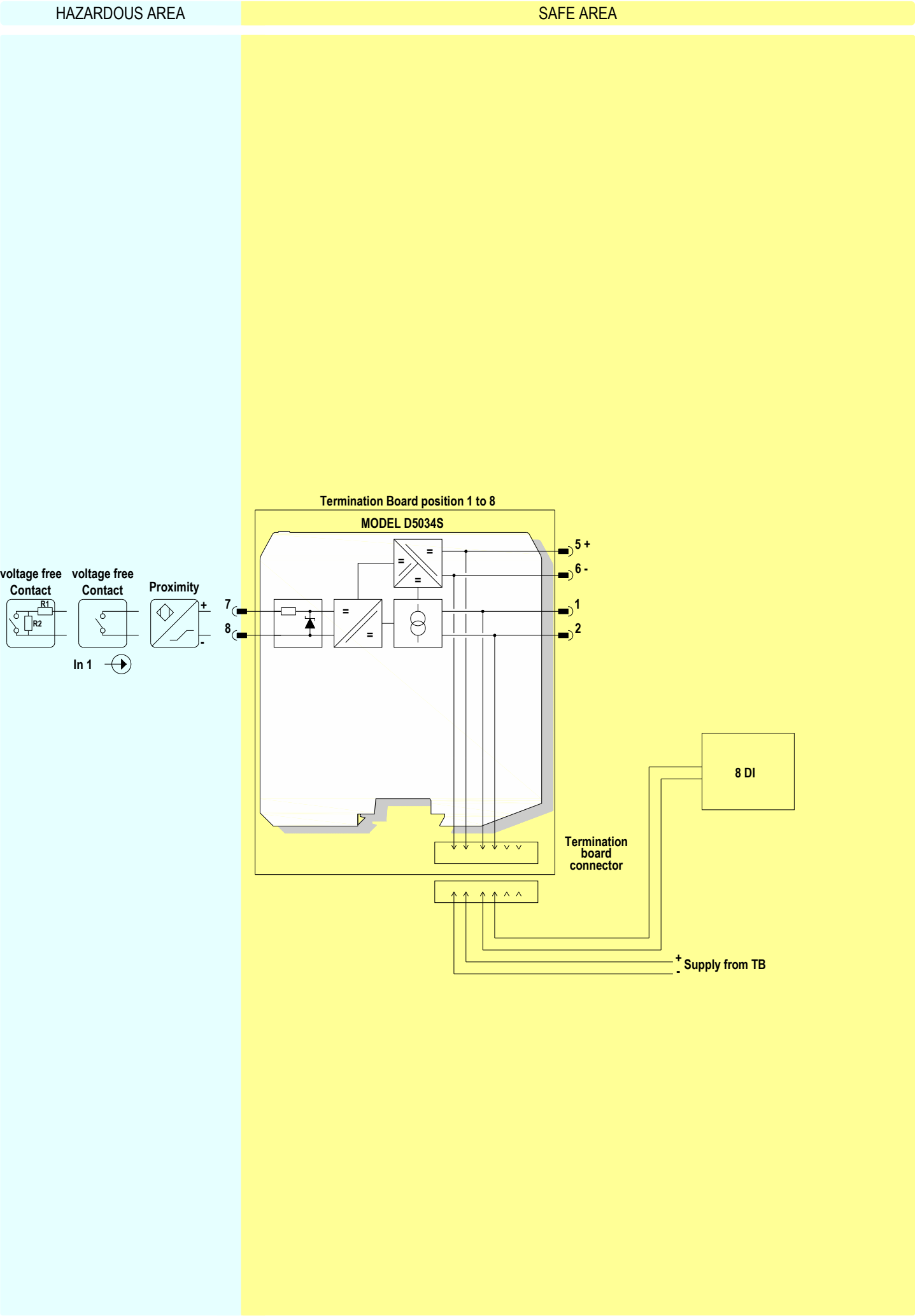
Loop Diagram for 8 AO Interface Card:



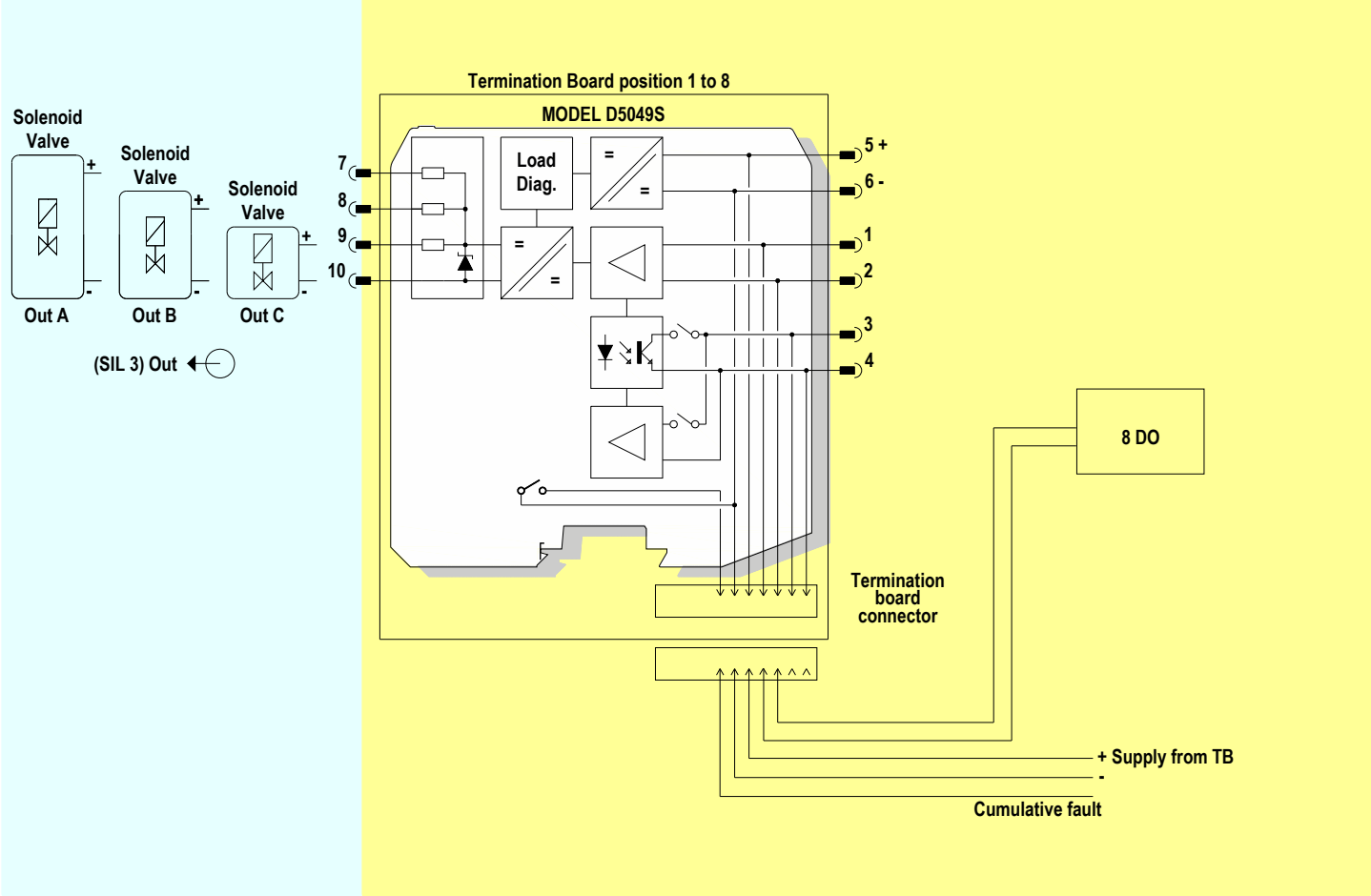
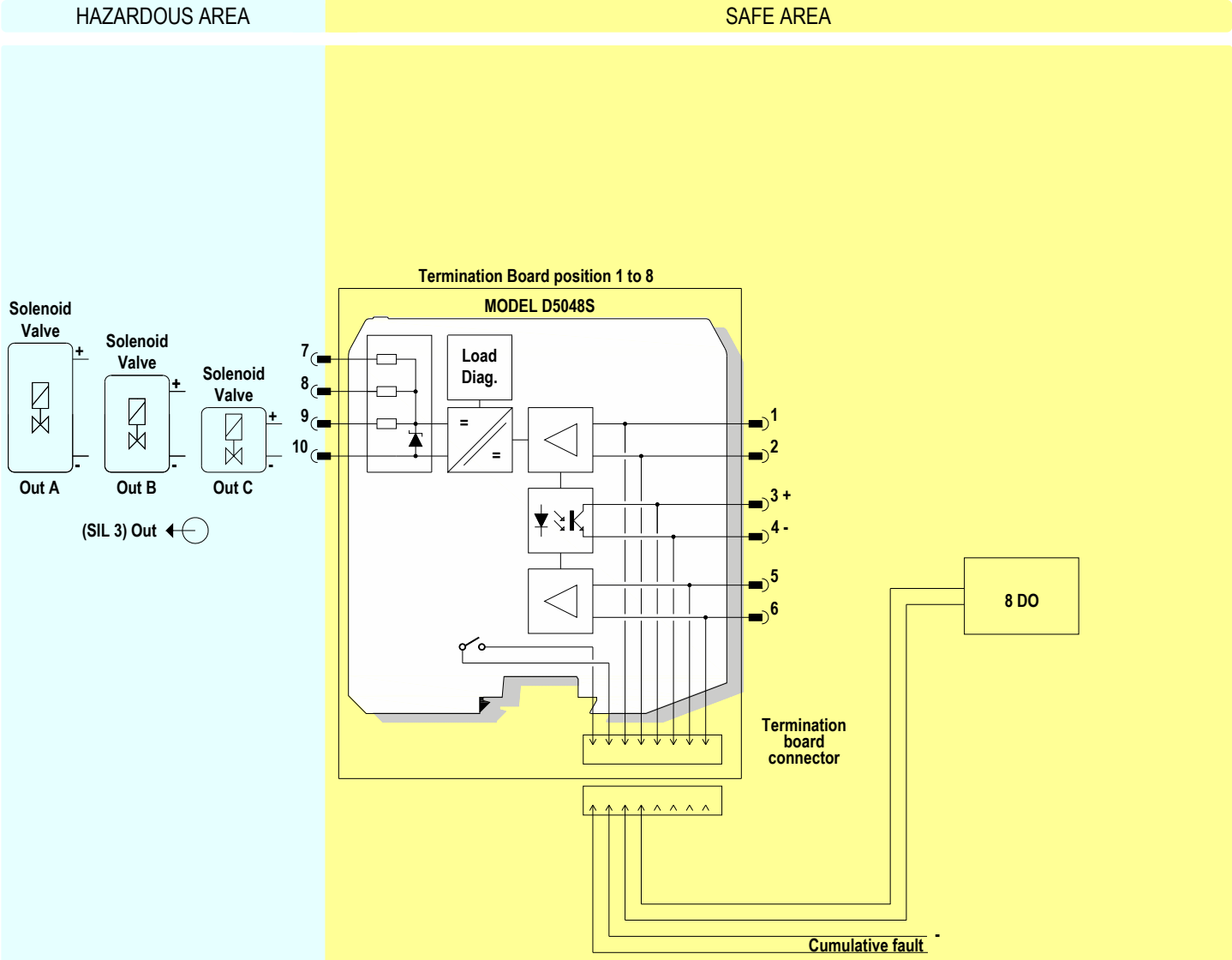
Loop Diagram for 8 DI Interface Card:



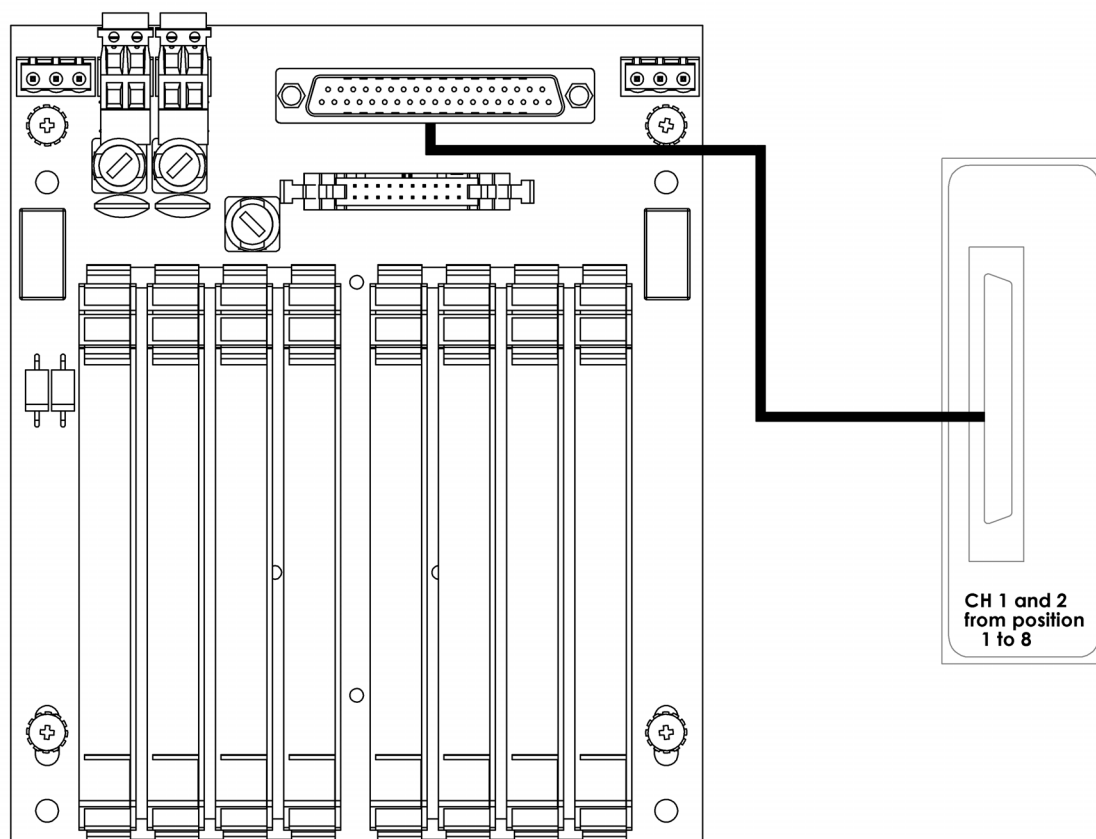
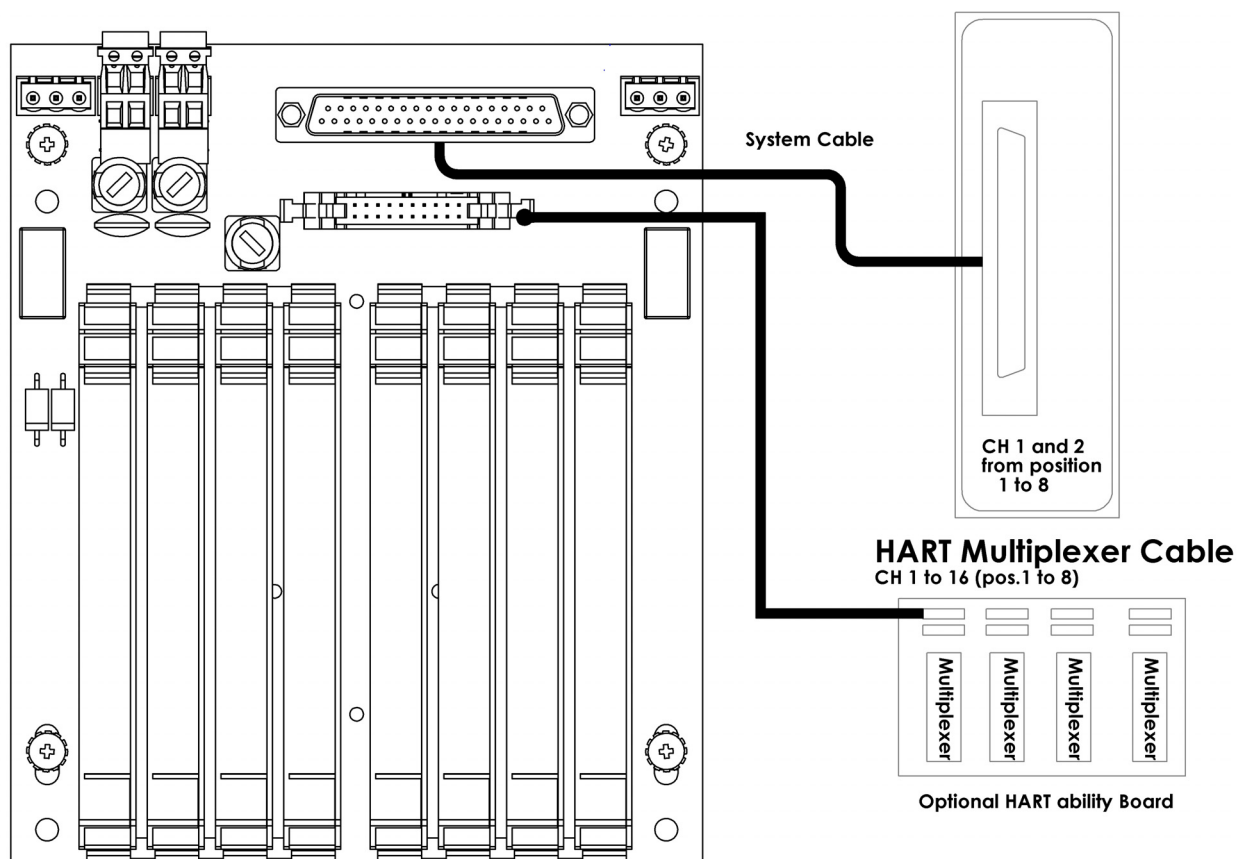
Loop Diagram for 8 DI Interface Card:



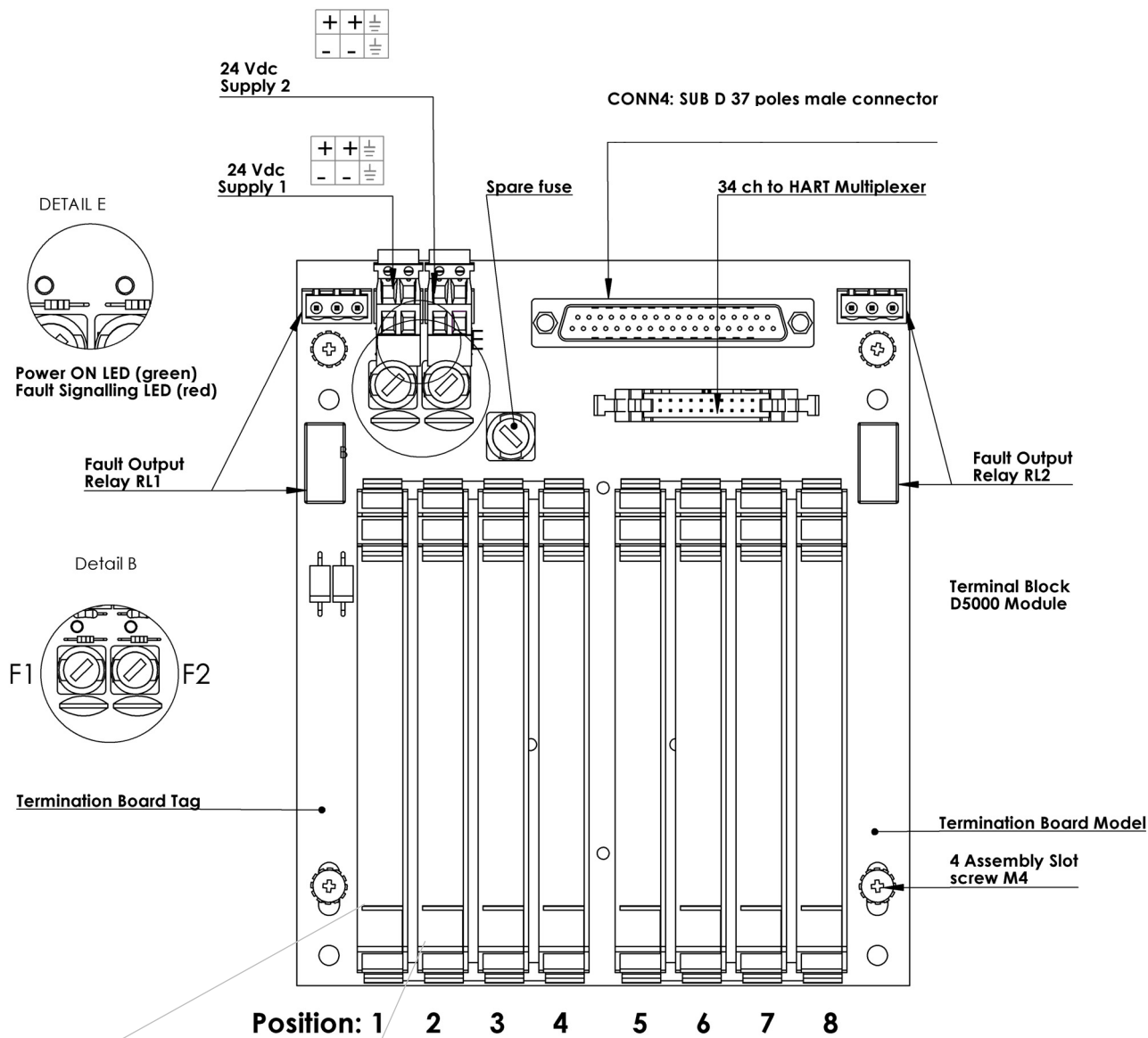
Loop Diagram for 8 DO Interface Card:



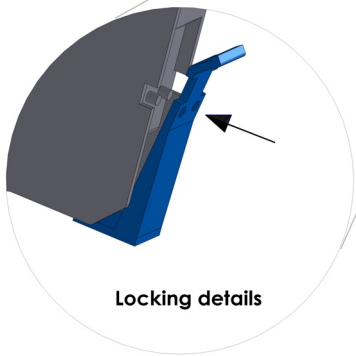
Termination Board Connection Diagrams Interface Card:

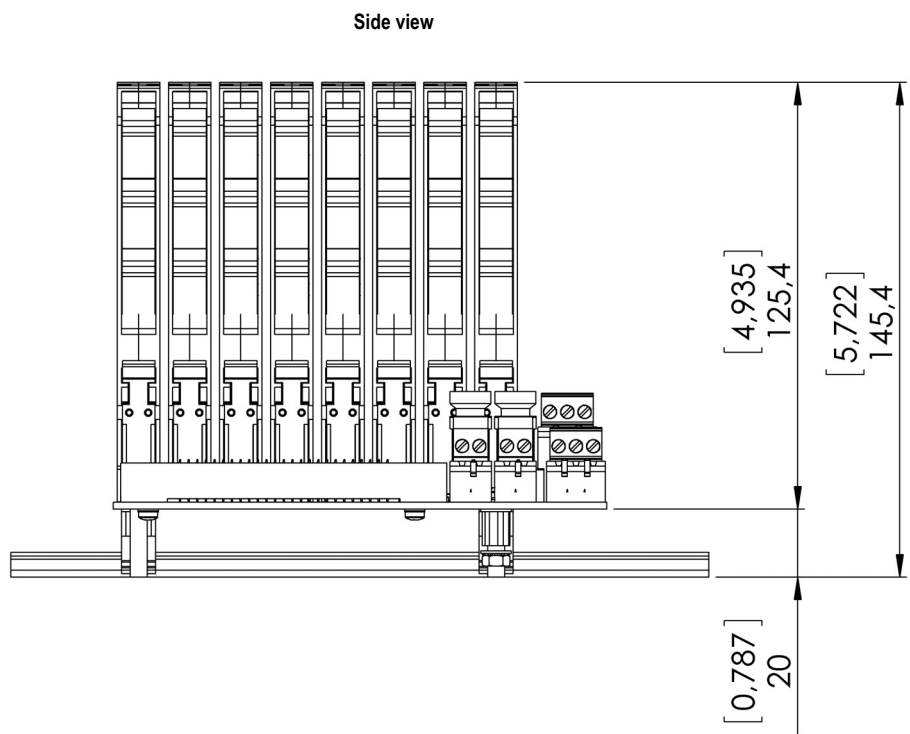
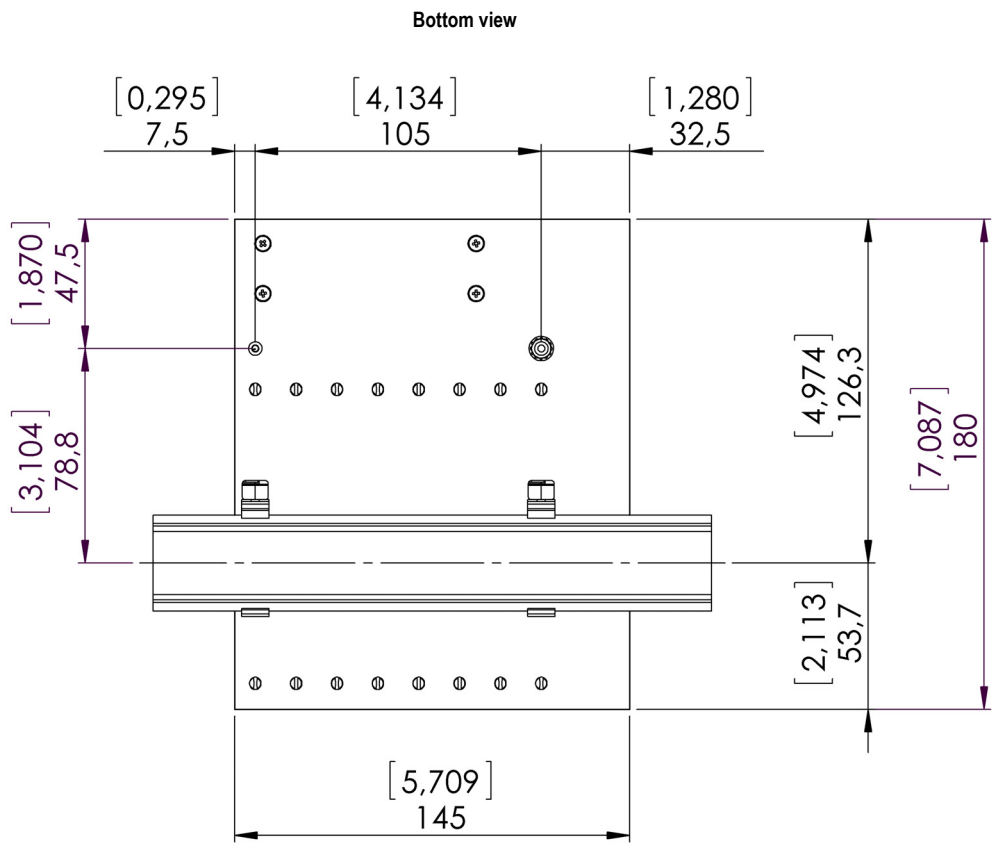


SAFE AREA/ORDINARY LOCATION



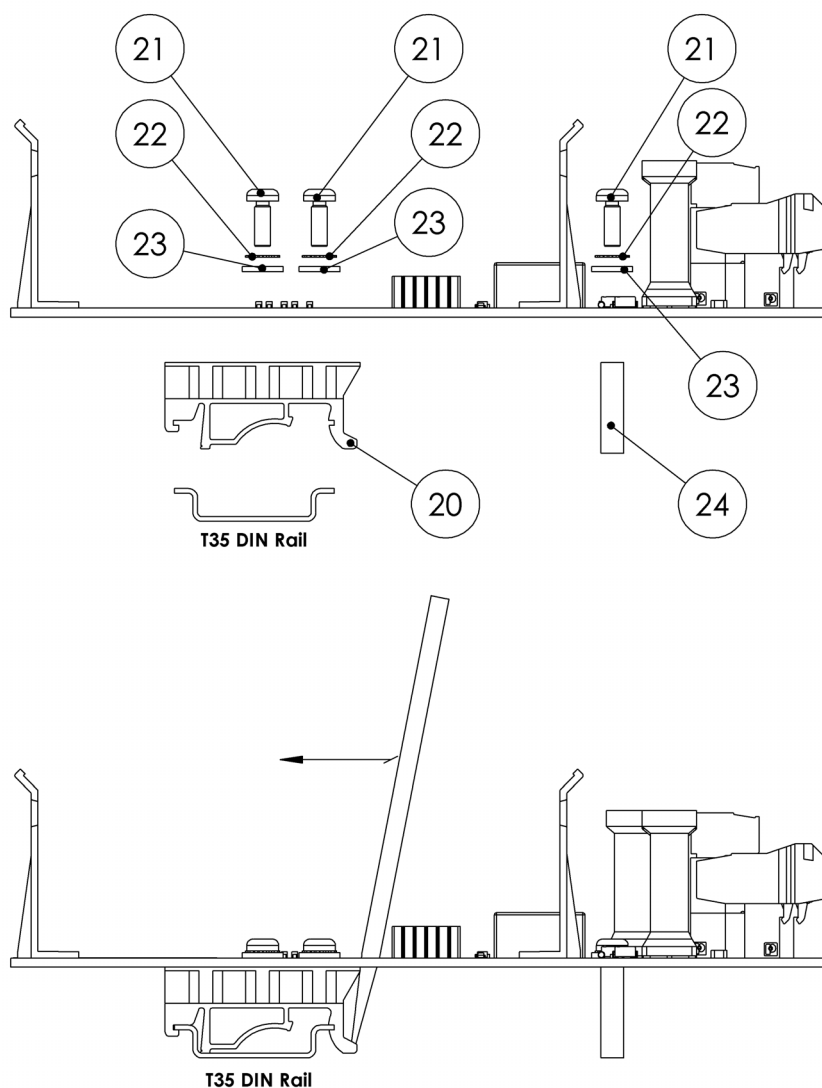
HAZARDOUS AREAS/LOCATION





All dimensions are expressed in millimeters [inches]

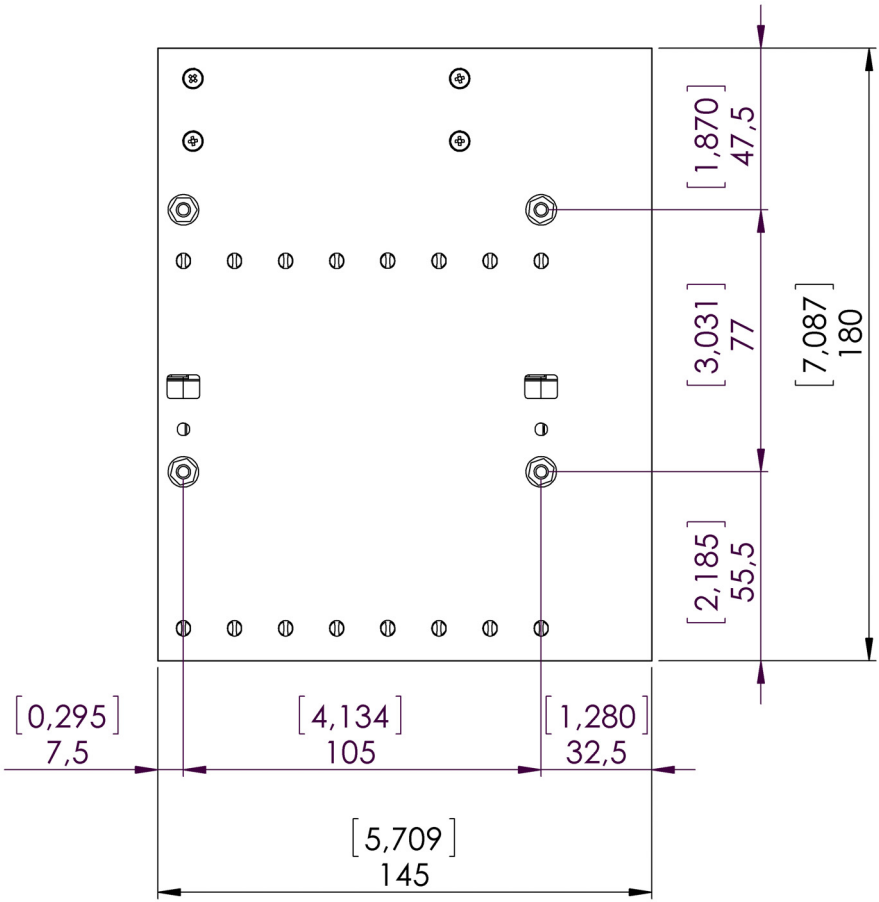
8 POSITION TERMINAL BOARD D5000 SERIES MOUNTING FEATURES KIT TB-OPT-001



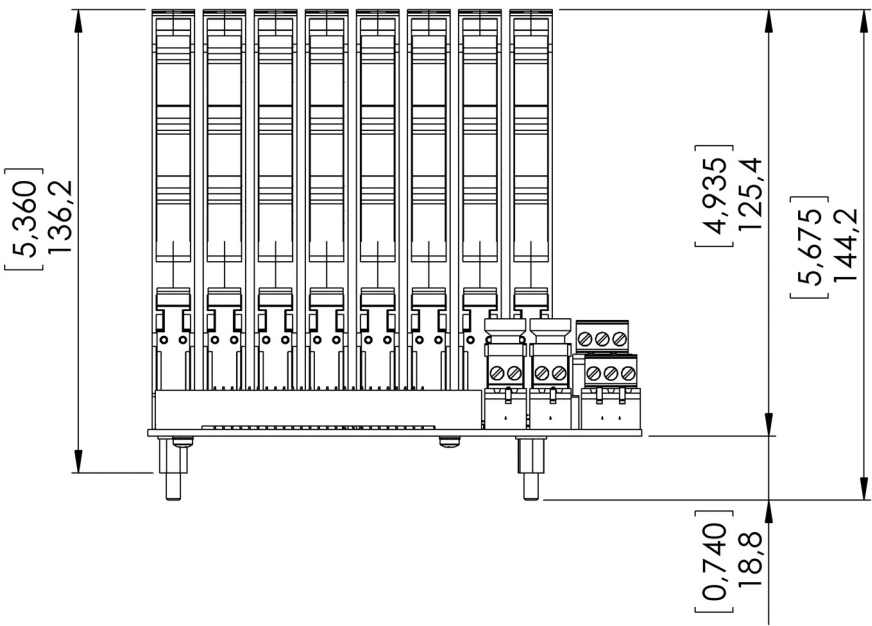
1. T35 DIN RAIL MOUNTING

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

Bottom view

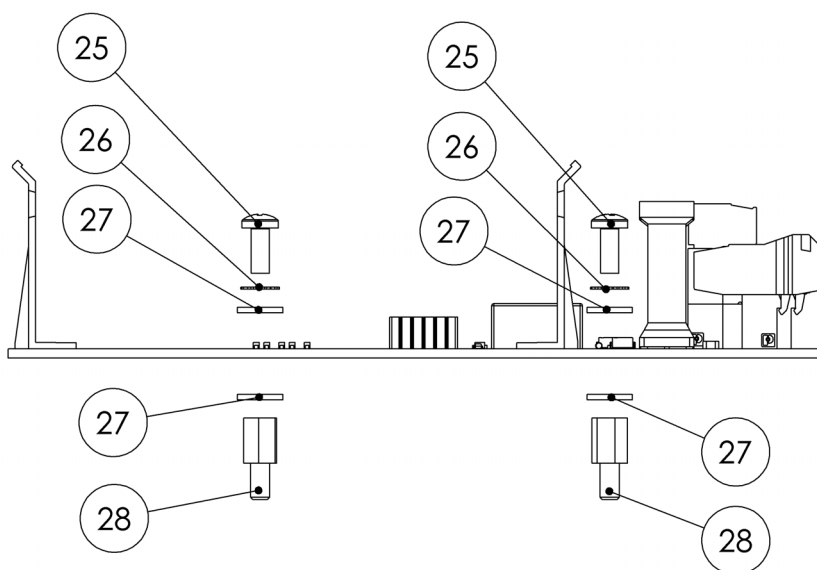
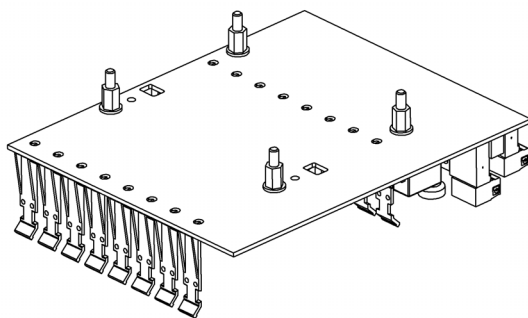


Side view



All dimensions are expressed in millimeters [inches]

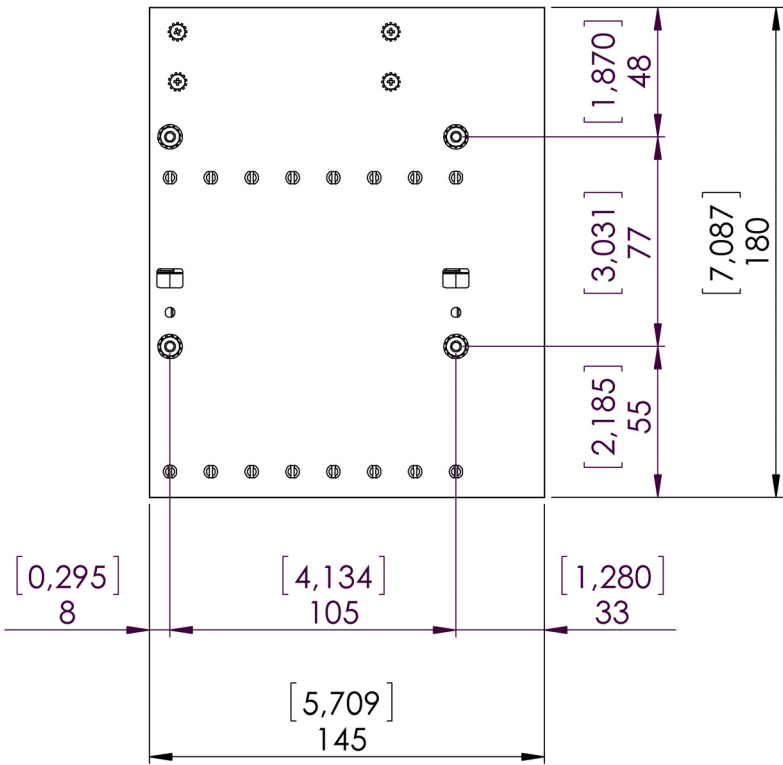
8 POSITION TERMINAL BOARD D5000 SERIES MOUNTING FEATURES KIT TB-OPT-001



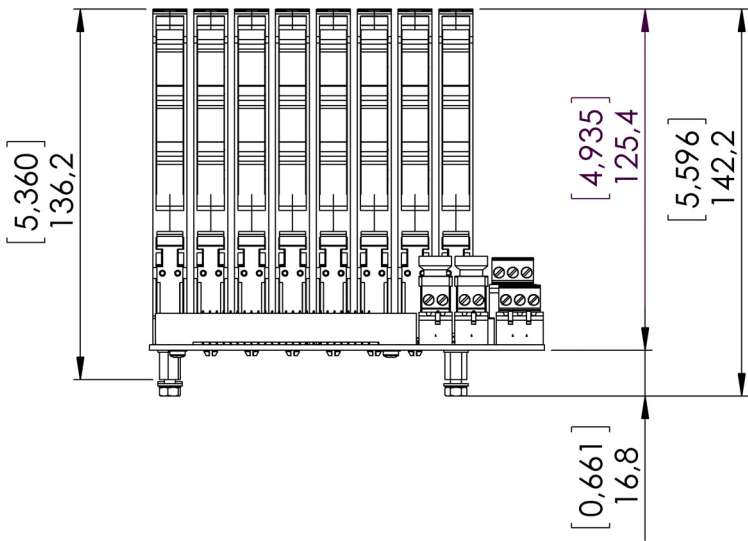
2. WALL MOUNTING WITH SELF TAPPING SCREW

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

Bottom view

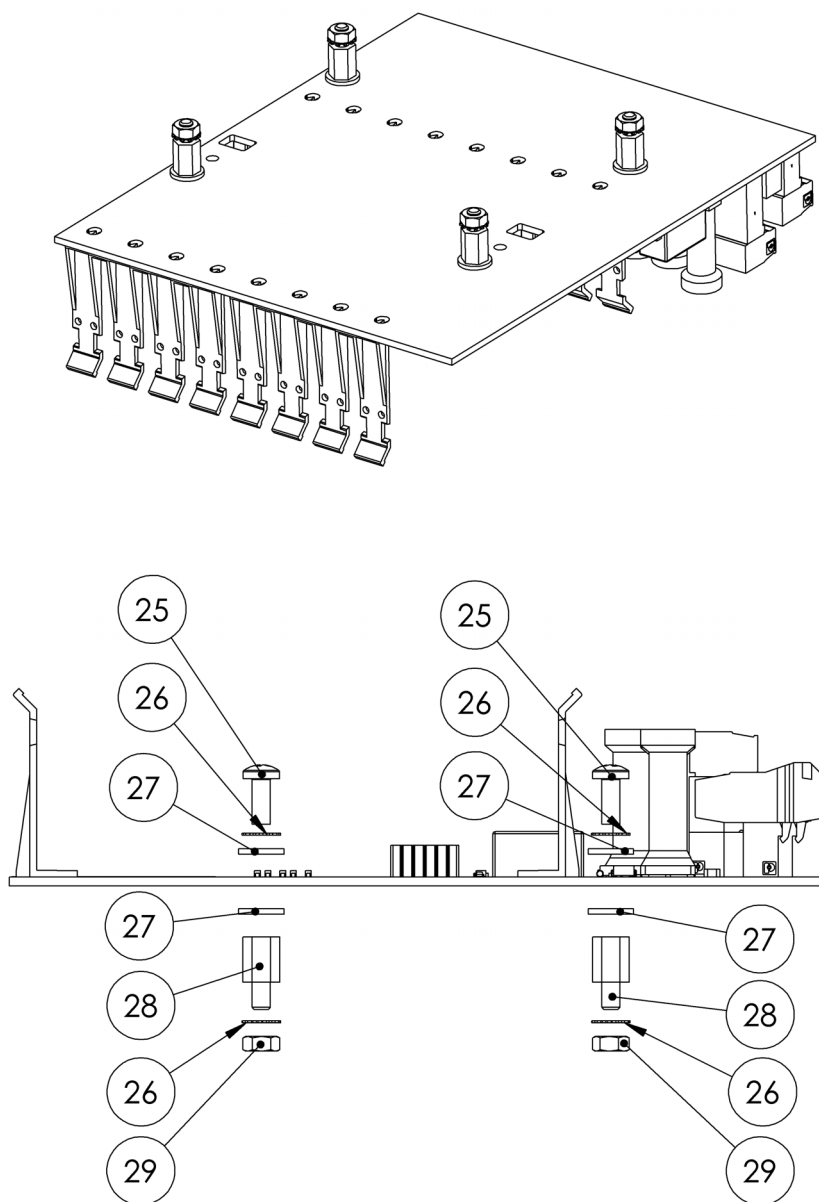


Side view



All dimensions are expressed in millimeters [inches]

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



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 (16 / 8 AI - Temperature) Interface Card:

FIELD DEVICE	MODULE TYPE	MODULE POSITION	MODULE TERMINAL BLOCK	INTERFACE CARD CHANNEL NUMBER	INTERFACE CARD CONNECTOR PIN NUMBER	NOTE	
	DOUBLE CHANNEL	1	1-2	1	37		
			3-4	2	19		
		2	1-2	3	36		
			3-4	4	18		
		3	1-2	5	35		
			3-4	6	17		
		4	1-2	7	34		
			3-4	8	16		
		5	1-2	9	33		
			3-4	10	15		
		6	1-2	11	32		
			3-4	12	14		
		7	1-2	13	31		
			3-4	14	13		
		8	1-2	15	30		
			3-4	16	12		
	SINGLE CHANNEL	1	1-2	1	29		
					11		
		2	1-2	2	28		
					10		
		3	1-2	3	27		
					9		
		4	1-2	4	26		
					8		
		5	1-2	5	25		
					7		
		6	1-2	6	24		
					6		
		7	1-2	7	23		
					5		
		8	1-2	8	22		
					4		
	Additional pins	Shield			37		
		0 V GND			19		
		+ 24 Vdc					
		Not used					
		Not used					
		Not used					

- Interface Card Connector CON4: SUB D 37 poles male
- Shield terminal block provided on pin number 21
- Hart ability when used with D5011 or D5014 or D5020 or D5072 modules

