

Characteristics:

General description:

The Termination Board (TB) model PBCO-D16-013 is designed to connect the D1000 Series Intrinsically Safe isolation and protection modules, directly to the Tricon TMR9 I/O cards type 3503E and 3505E without the standard Field Termination Assembly normally needed to interface the backplane.

The TB consists of D1000 Series modules mounted on backplane which carry Safe Area signals and supply. The range of modules includes different types to handle the majority of applications.

The TB PBCO-D16-013 connector is pin to pin compatible with the standard system cable, thus avoiding the need of special cable or external wiring.

The 3503E is a 32 channels digital input board.

The 3505E is a 32 channels digital input board.

The TB is provided with two connectors to interface TMR9 I/O card.

The Intrinsic Safety protection and signal isolation is made through the D1000 Series Associated Apparatus. The modules type accepted are:

Digital Input D1032D, D1033D, to interface 3503E or 3505E.

The TB can accept 32 input channels DI, and can only be used for 2 channels modules. The connections to/from the Hazardous Areas are made at the module terminal blocks, thus avoiding the TB Intrinsic Safety certifications, resulting in a quick design and cost effective solution.

The 24 Vdc power supply for the TB is connected to a two dual plug-in terminal blocks, this resulting in a redundant power supply and daisy chain connection also when terminal block is not inserted in the corresponding mating connector.

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

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.

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

Fault detection:

Supply voltage fault detection: ≤ 18 Vdc.

Fault signalling: voltage free NE SPDT relay contact (de-energized in fault condition).

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.

TMR9 I/O card interface:

Connection: two ELCO 56 poles receptacle connector (requires male 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 mounting by four assembly slot for M6 screw.

Shield rail connection: fifteen holes M5x10 to connect cable screen.

Earth connection: M4x10 screw to connect TB to earth rail.

LED indication: green for power on, red for fault detection.

Weight: about 960 g (excluding modules).

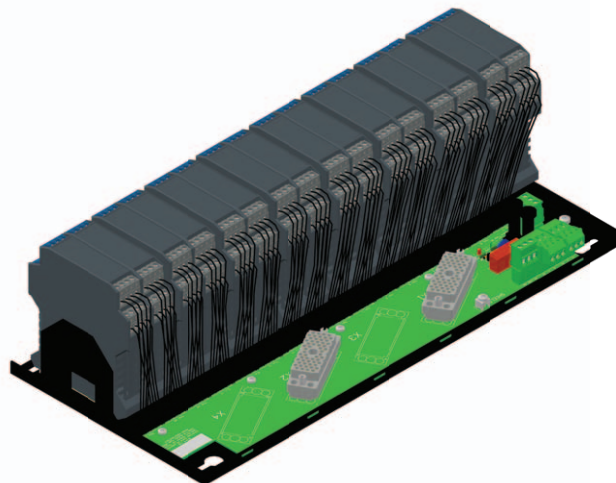
Location: Safe Area/Non Hazardous Locations.

Dimensions: Width 408 mm, Depth 190 mm, Height 122 mm.

Features:

- I/O card type 3503E or 3505E 32 channels digital input board interface.
- 16 positions Termination Board for up to 32 channels.
- Lower cables, installation and maintenance costs.
- One terminal block per input, no external terminal blocks required.
- Rugged carbon steel painted board support for easy installation.
- Shield Rail included.
- Power Supply Fault monitoring.
- Spare Fuse provided.
- Tagging provided on top side.

Image:



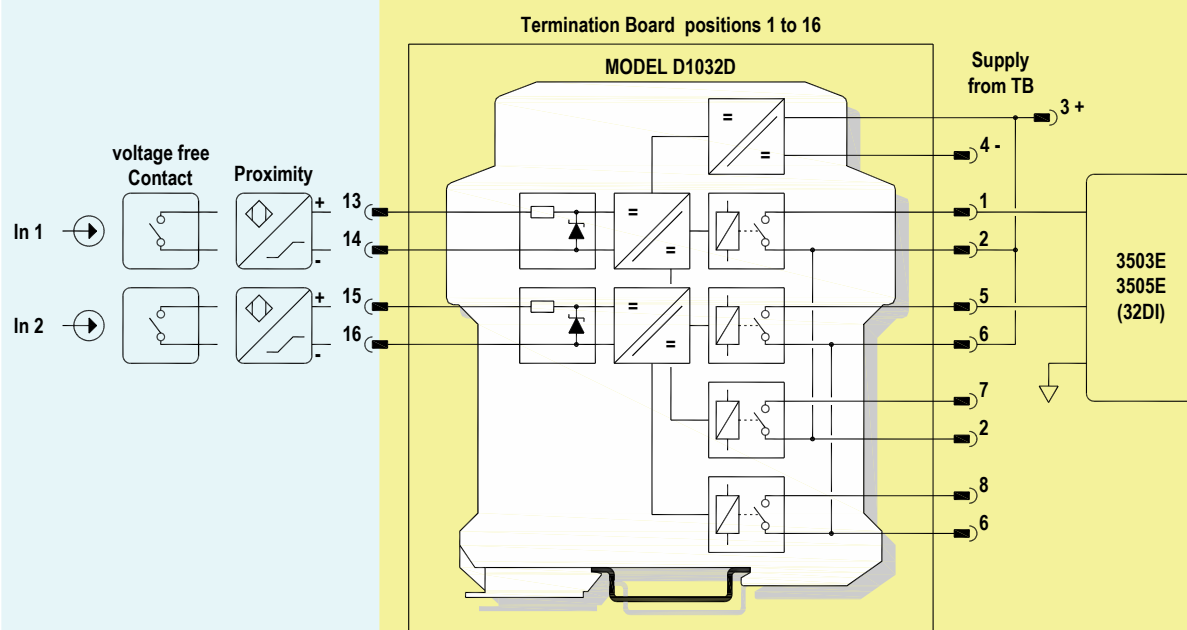
Ordering Information:

Model: PBCO-D16-013

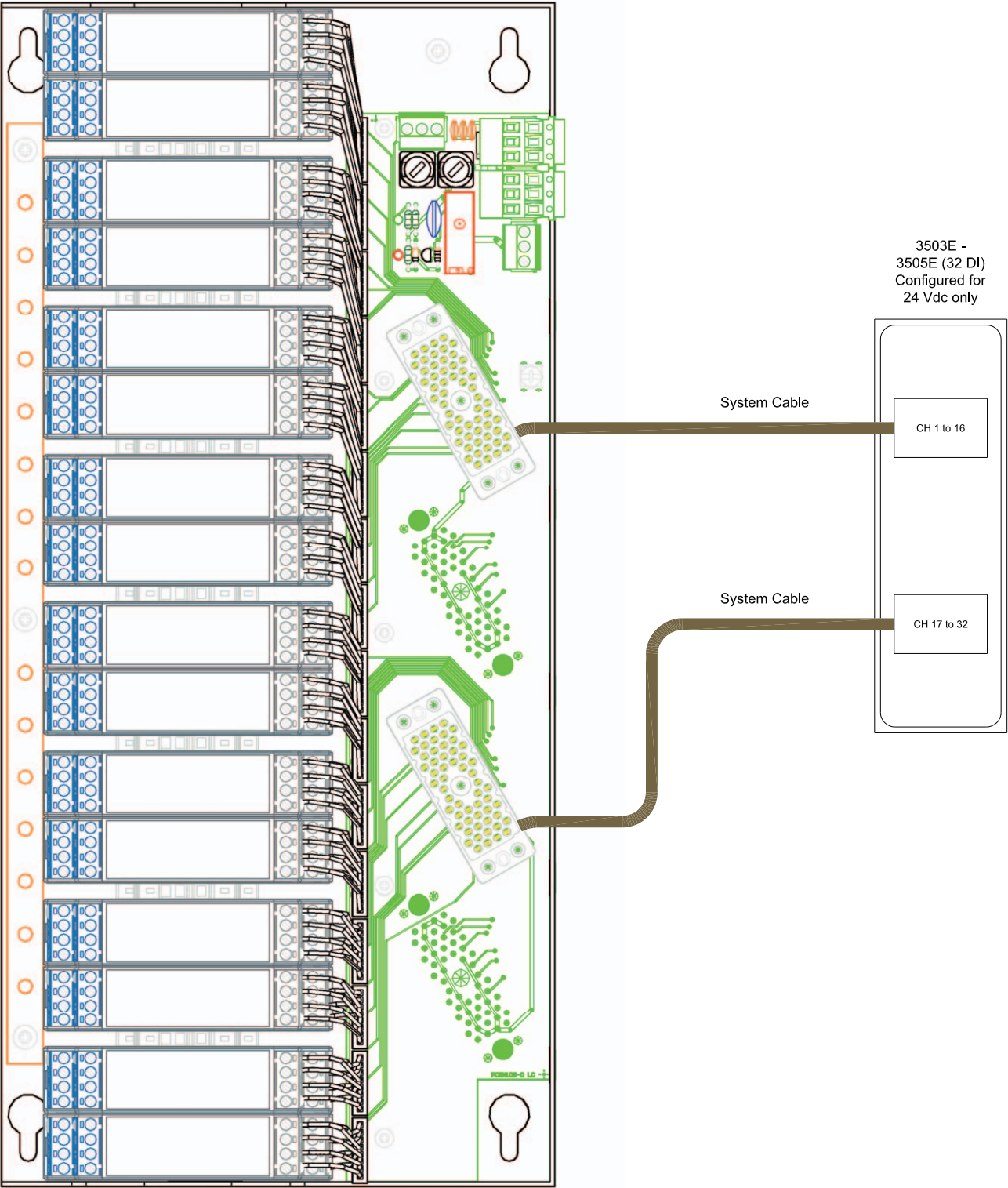
Loop Diagrams for 3503E (32DI) or 3505E (32DI) Interface Card:

HAZARDOUS AREA

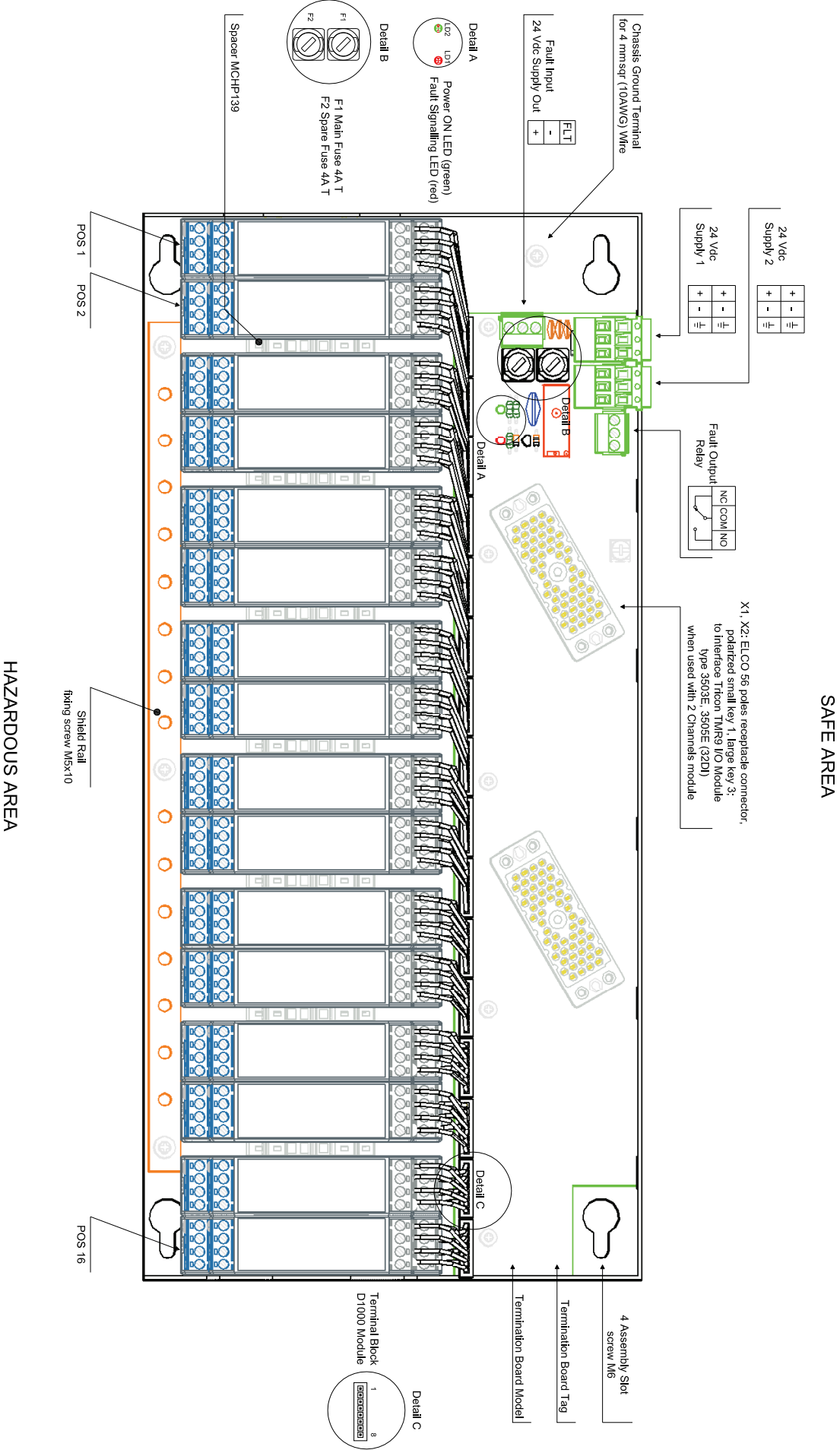
SAFE AREA



Module type:
Positions 1 to 16 are for 2 channels digital input models:
D1032D, D1033D

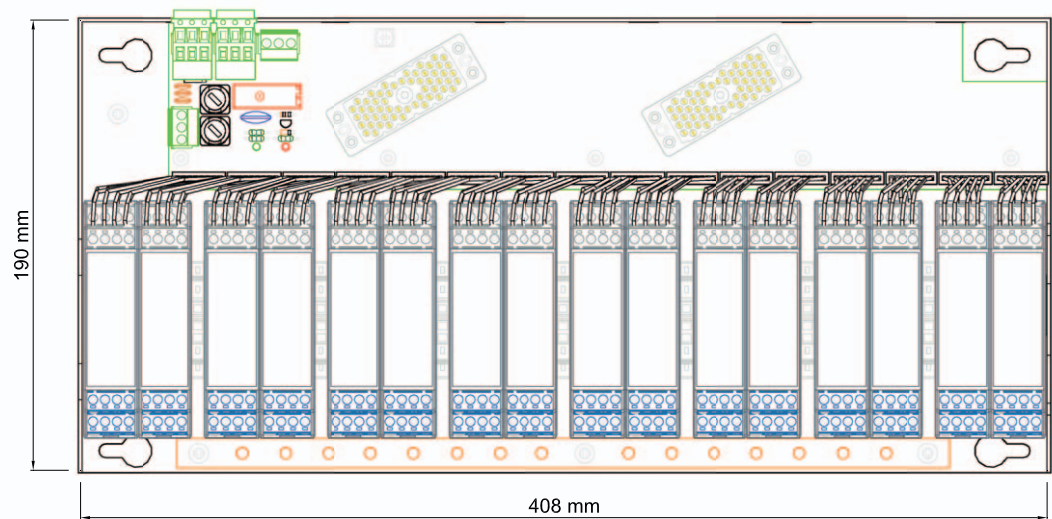


Termination Board Description:

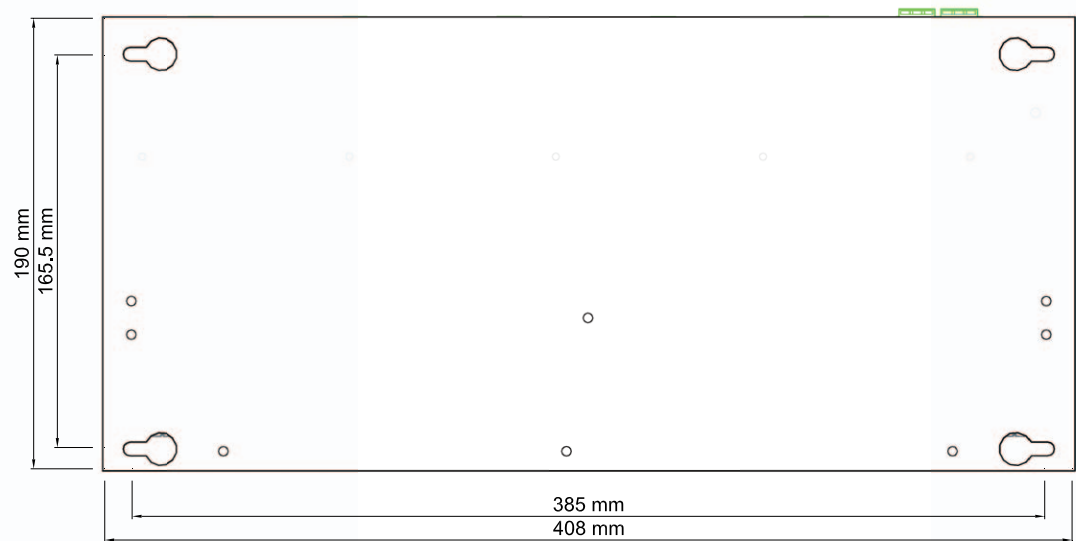


Dimensions:

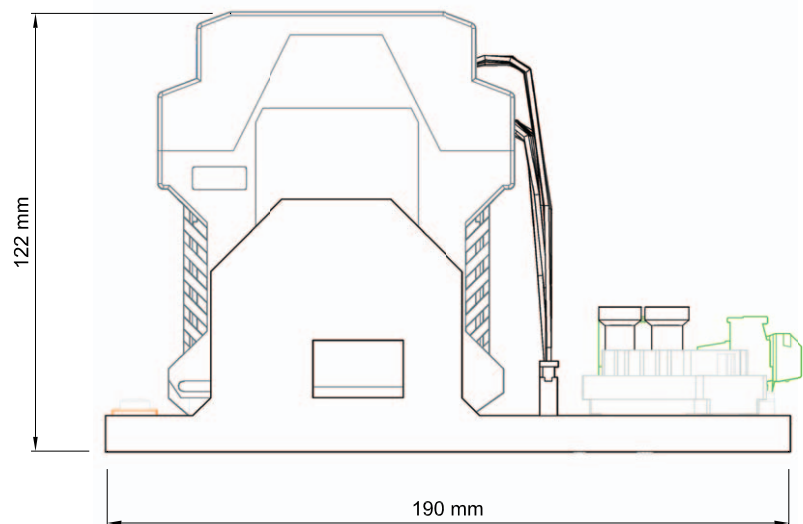
Top-view



Bottom-view



Side-view



Connections table to 3503E (32DI) or 3505E (32DI) Interface Card:

FIELD DEVICE	MODULE TYPE	MODULE TERMINAL BLOCK		TERMINATION BOARD CONNECTOR PIN NUMBER	MODULE FUNCTION	MODULE POSITION	INTERFACE CARD CHANNEL NUMBER	INTERFACE CARD CONNECTOR PIN NAME	INTERFACE CARD REDUNDANT CONNECTOR PIN NAME	NOTE
	D1032D D1033D	1	Ch1+	1	Digital Input	1	1	AA (X1)		
		5	Ch2+	5			2	z (X1)		
								LL-EE (X1) Com.		
		1	Ch1+	1	Digital Input	2	3	p (X1)		
		5	Ch2+	5			4	h (X1)		
								v-l (X1) Com.		
		1	Ch1+	1	Digital Input	3	5	e (X1)		
		5	Ch2+	5			6	W (X1)		
								b-S (X1) Com.		
		1	Ch1+	1	Digital Input	4	7	L (X1)		
		5	Ch2+	5			8	M (X1)		
								F-B (X1) Com.		
		1	Ch1+	1	Digital Input	5	9	BB (X1)		
		5	Ch2+	5			10	CC (X1)		
								MM-HH (X1) Com.		
		1	Ch1+	1	Digital Input	6	11	t (X1)		
		5	Ch2+	5			12	j (X1)		
								x-m (X1) Com.		
		1	Ch1+	1	Digital Input	7	13	f (X1)		
		5	Ch2+	5			14	Z (X1)		
								c-U (X1) Com.		
		1	Ch1+	1	Digital Input	8	15	P (X1)		
		5	Ch2+	5			16	N (X1)		
								J-C (X1) Com.		
		1	Ch1+	1	Digital Input	9	17	AA (X2)		
		5	Ch2+	5			18	z (X2)		
								LL-EE (X2) Com.		
		1	Ch1+	1	Digital Input	10	19	p (X2)		
		5	Ch2+	5			20	h (X2)		
								V-l (X2) Com.		
		1	Ch1+	1	Digital Input	11	21	e (X2)		
		5	Ch2+	5			22	W (X2)		
								b-S (X2) Com.		
		1	Ch1+	1	Digital Input	12	23	L (X2)		
		5	Ch2+	5			24	M (X2)		
								F-B (X2) Com.		
		1	Ch1+	1	Digital Input	13	25	BB (X2)		
		5	Ch2+	5			26	CC (X2)		
								MM-HH (X2) Com.		
		1	Ch1+	1	Digital Input	14	27	t (X2)		
		5	Ch2+	5			28	j (X2)		
								x-m (X2) Com.		
		1	Ch1+	1	Digital Input	15	29	f (X2)		
		5	Ch2+	5			30	Z (X2)		
								c-U (X2) Com.		
		1	Ch1+	1	Digital Input	16	31	P (X2)		
		5	Ch2+	5			32	N (X2)		
								J-C (X2) Com.		
		2		2	+ Supply by TB	From 1 to 16				
		6		6						

- Interface Card Connector X1, X2: ELCO 56 poles receptacle
- Shield terminal block provided on pin number 1