gmi technology for safety

TB-D5008 HON-001

Termination Board 8 positions for Honeywell Safety Manager Analog Output Card SAO-0220m

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.
24 Vdc Supply to the TB can be provided by dedicated system screws or by two plug-in terminal blocks, for a redundant power supply.
The power supply for modules is given by TB power bus.

Termination Board general characteristics:

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

Supported Honeywell Safety Manager 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*
SAO-0220m	Analog Out	2	4	8	D5020S
			8	16	D5020D

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.
Alternatively via dedicated Screws from Honeywell System.
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) Abnormal supply voltage: supply 1 or supply 2 is < 18 Vdc (Under Voltage, UV) or > 30 Vdc (Over Voltage, OV).
2) Cumulative module fault: at least one of the modules reports a field/internal fault
LED fault signaling (for both case 1 and 2): 1 red LED for abnormal supply 1; 1 red LED for abnormal supply 2; a cumulative module 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.
Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm^2.

I/O card interface:

Connection: eight 20 poles male connectors (require female mating connectors).

HART Multiplexing:

Connection: one 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.

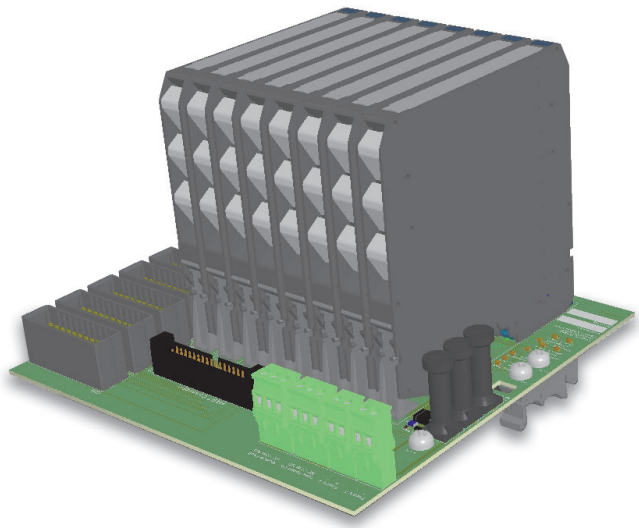
Mounting:

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 195 mm, Depth 175 mm, Height 125 mm.

Features:

- Support for Honeywell Safety Manager SAO-0220m 2 ch. AO Card
- 8 positions Terminal Board for up to 16 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:

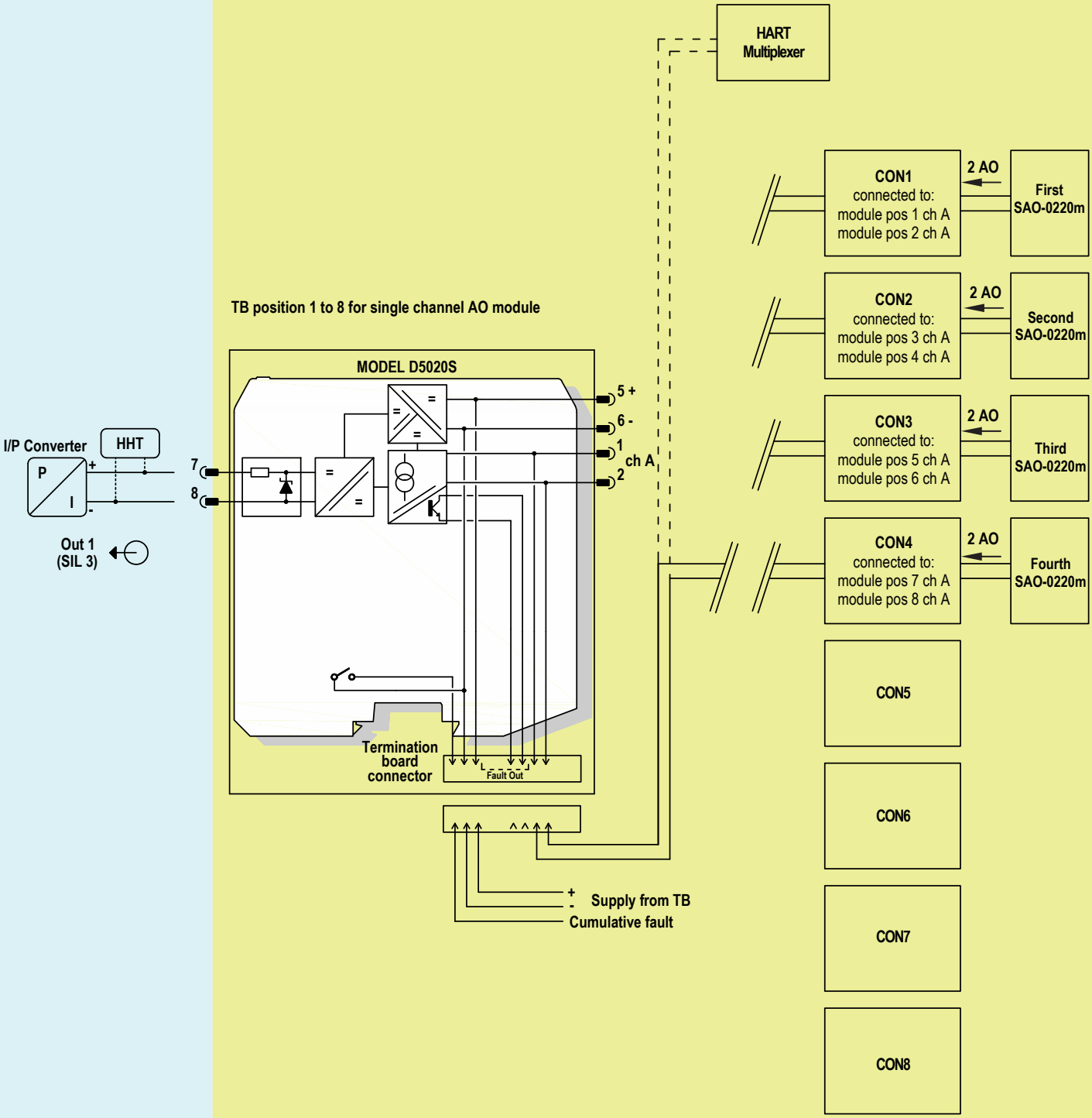


Ordering Information:

Model: TB-D5008-HON-001

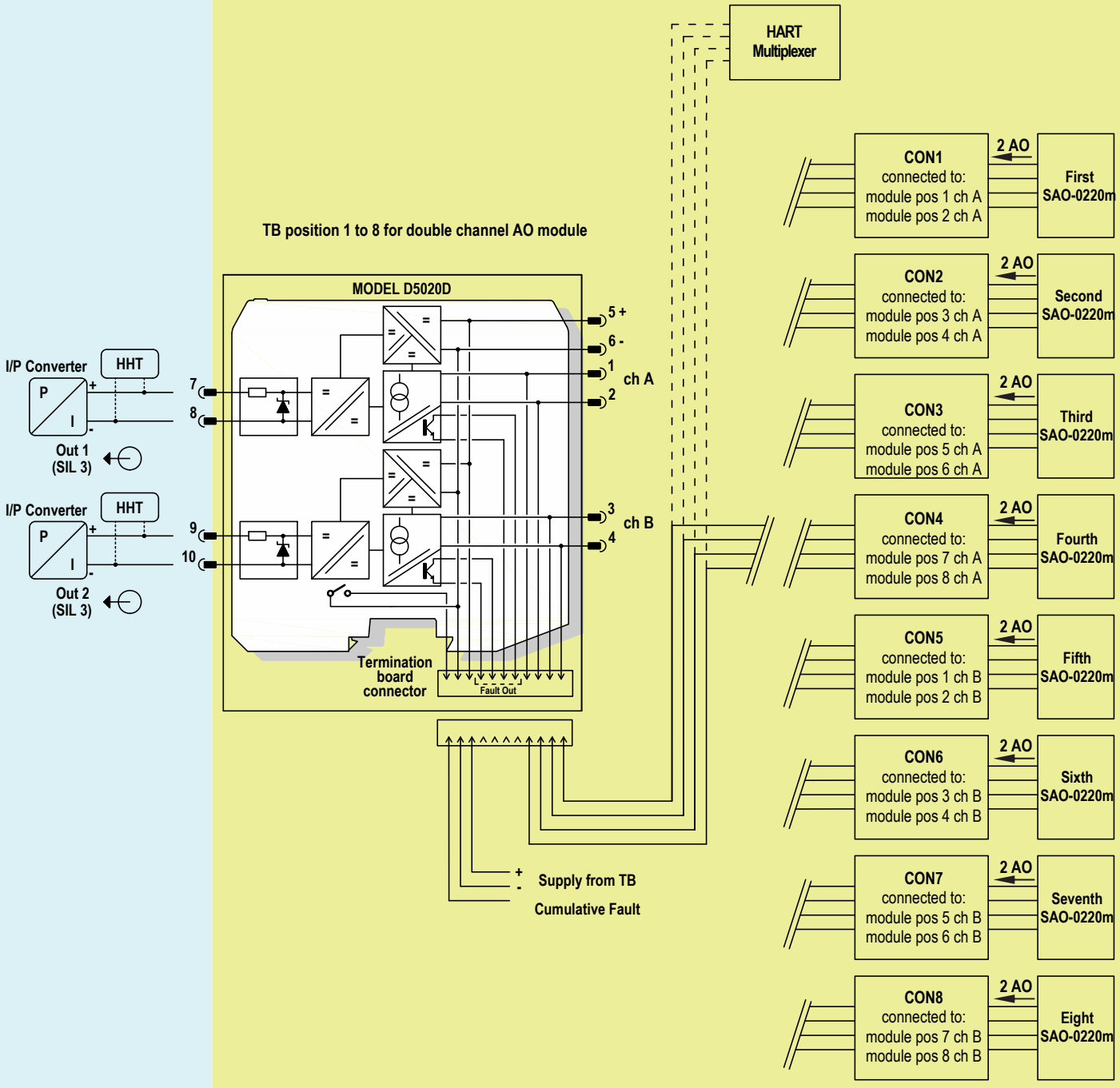
Loop Diagrams for SAO-0220m (2 AO) Interface Card:

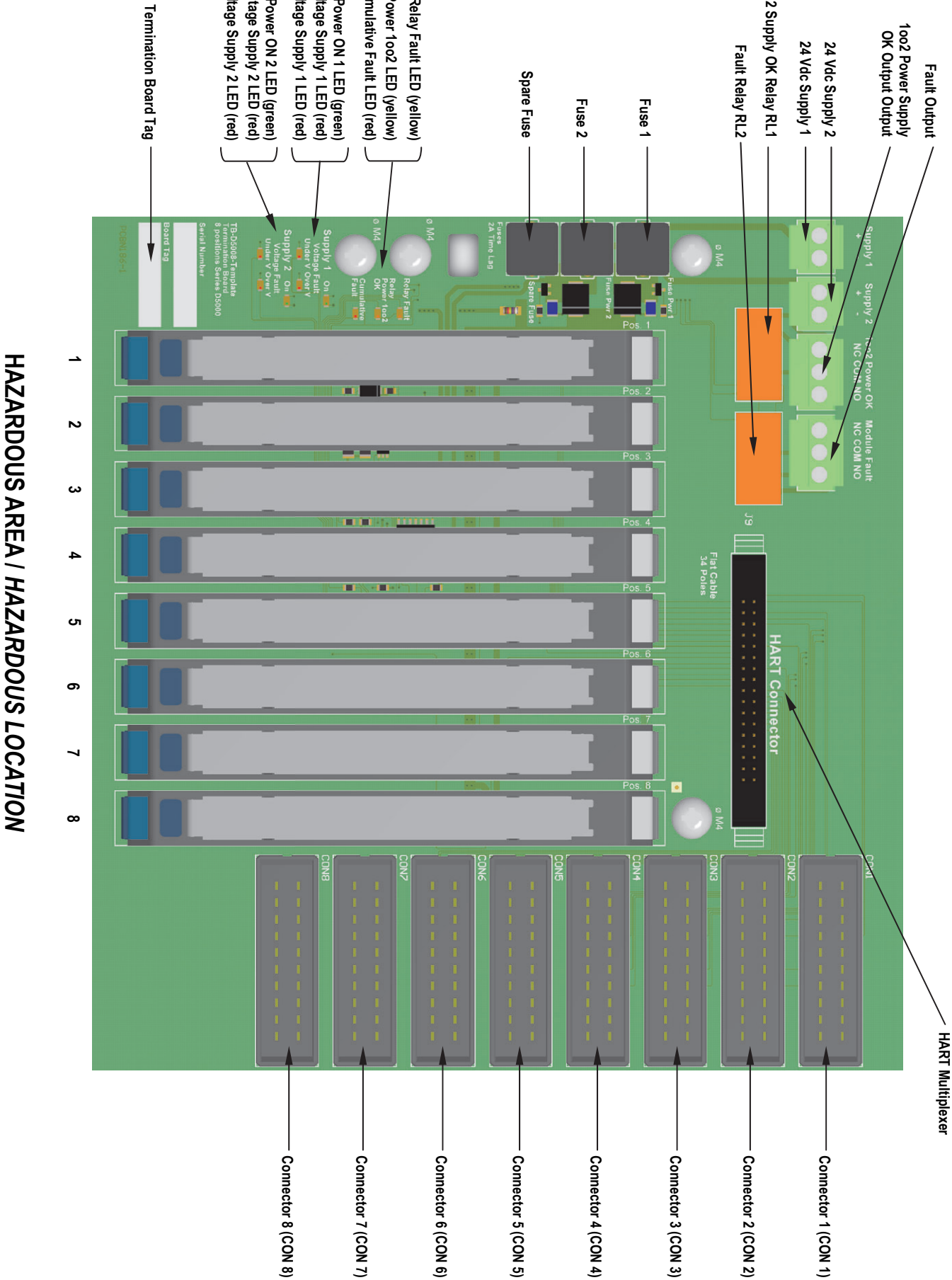
HAZARDOUS AREA | SAFE AREA



Loop Diagrams for SAO-0220m (2 AO) Interface Card:

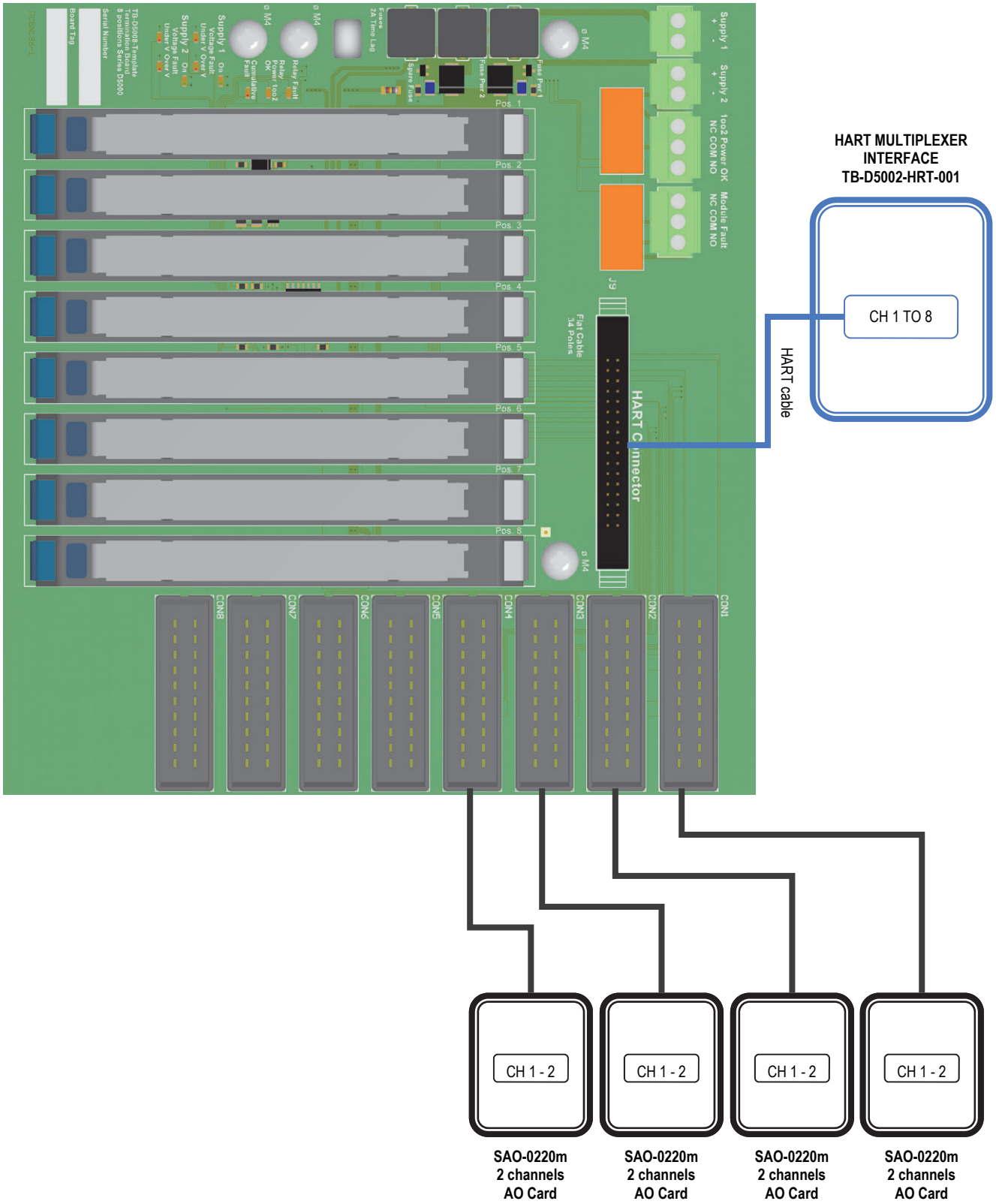
HAZARDOUS AREA | SAFE AREA




SAFE AREA / ORDINARY LOCATION
HAZARDOUS AREA / HAZARDOUS LOCATION
Fault Output
1oo2 Power Supply OK Output Output
24 Vdc Supply 2
24 Vdc Supply 1
1oo2 Supply OK Relay RL1
Fault Relay RL2
Spare Fuse
Fuse 2
Fuse 1
Relay Fault LED (yellow)
Relay Power 1oo2 LED (yellow)
Cumulative Fault LED (red)
Power ON 1 LED (green)
Under Voltage Supply 1 LED (red)
Over Voltage Supply 1 LED (red)
Power ON 2 LED (green)
Under Voltage Supply 2 LED (red)
Over Voltage Supply 2 LED (red)
Termination Board Tag
HART Multiplexer
Connector 1 (CON 1)
Connector 2 (CON 2)
Connector 3 (CON 3)
Connector 4 (CON 4)
Connector 5 (CON 5)
Connector 6 (CON 6)
Connector 7 (CON 7)
Connector 8 (CON 8)
HART Connector
Flat Cable 34 Poles
Pos. 1
Pos. 2
Pos. 3
Pos. 4
Pos. 5
Pos. 6
Pos. 7
Pos. 8
1
2
3
4
5
6
7
8

Termination Board Connections (Single channel modules):

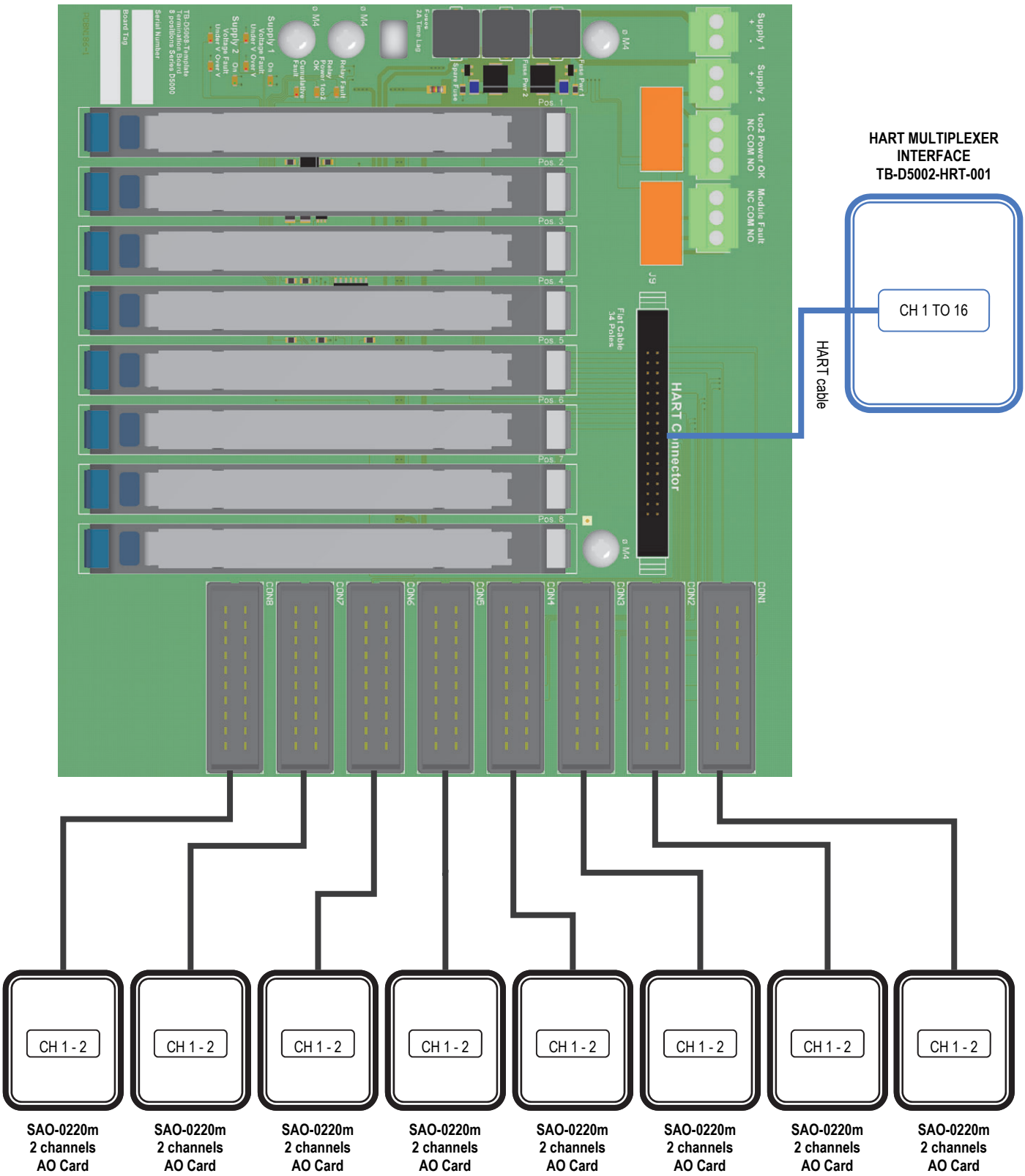
SAFE AREA / *ORDINARY LOCATION*



HAZARDOUS AREA / *HAZARDOUS LOCATION*

Termination Board Connections (Double channel modules):

SAFE AREA / *ORDINARY LOCATION*



HAZARDOUS AREA / *HAZARDOUS LOCATION*

Connections table to SAO-0220m (2 AO) Interface Card:

FIELD DEVICE	MODULE TYPE	MODULE FUNCTION	MODULE POSITION	MODULE CHANNEL NUMBER ("B" is only for Double channel)	INTERFACE CARD CHANNEL NUMBER	INTERFACE CARD CONNECTOR CONN.(20 poles) PIN NUMBER	HART MULTIPLEXING CONN.(34 poles) PIN NUMBER	NOTE
	D5020S D5020D	Analog OUT	1	1A	1 of card 1	(+) A7 (CON1)	(+) 1	Interface Card Connectors D-3100D, 20 poles CON1 to CON8 : All poles except 4, 5, 7, 8 are not connected; HART Multiplexing Connector J9 Poles No. 33 and 34 are not connected.
						(-) A8 (CON1)	(-) 2	
				1B	1 of card 5	(+) A7 (CON5)	(+) 17	
						(-) A8 (CON5)	(-) 18	
			2	2A	2 of card 1	(+) A4 (CON1)	(+) 3	
						(-) A5 (CON1)	(-) 4	
				2B	2 of card 5	(+) A4 (CON5)	(+) 19	
						(-) A5 (CON5)	(-) 20	
			3	3A	1 of card 2	(+) A7 (CON2)	(+) 5	
						(-) A8 (CON2)	(-) 6	
				3B	1 of card 6	(+) A7 (CON6)	(+) 21	
						(-) A8 (CON6)	(-) 22	
			4	4A	2 of card 2	(+) A4 (CON2)	(+) 7	
						(-) A5 (CON2)	(-) 8	
				4B	2 of card 6	(+) A4 (CON6)	(+) 23	
						(-) A5 (CON6)	(-) 24	
			5	5A	1 of card 3	(+) A7 (CON3)	(+) 9	
						(-) A8 (CON3)	(-) 10	
				5B	1 of card 7	(+) A7 (CON7)	(+) 25	
						(-) A8 (CON7)	(-) 26	
			6	6A	2 of card 3	(+) A4 (CON3)	(+) 11	
						(-) A5 (CON3)	(-) 12	
				6B	2 of card 7	(+) A4 (CON7)	(+) 27	
						(-) A5 (CON7)	(-) 28	
			7	7A	1 of card 4	(+) A7 (CON4)	(+) 13	
						(-) A8 (CON4)	(-) 14	
				7B	1 of card 8	(+) A7 (CON8)	(+) 29	
						(-) A8 (CON8)	(-) 30	
			8	8A	2 of card 4	(+) A4 (CON4)	(+) 15	
						(-) A5 (CON4)	(-) 16	
				8B	2 of card 8	(+) A4 (CON8)	(+) 31	
						(-) A5 (CON5)	(-) 32	

Termination Board Supply: