

**Characteristics:**
**General description:**

This Termination Board (TB) provides direct connection between the I/O Card of the system and D5000 / D6000 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.  
The power supply for modules is given by TB power bus.

**Termination Board general characteristics:**

Number of positions	Features
16	1) Power Supply voltage redundancy; 2) HART multiplexing; 3) Abnormal supply voltage signaling; 4) Cumulative module fault signaling.

**Supported Honeywell C300 I/O Cards:**

I/O Card Model (IOTA)	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 (**)
CC-PAIH01 CC-PAIX01 CC-PAIX02 (CC-TAIX01/11)	Analog In	16	1	16	D5014S D5072S-099
			2	32	D5014D D5072D-099
CC-PAOH01 CC-PAOX01 (CC-TAOX01/11)	Analog Out	16	1	16	D5020S
			2	32	D5020D
CC-PDIL01 (CC-TDIL01/11)	Digital In	32	½(*)	16	D5031S D5032S D5093S
			1	32	D5031D D5032D D5093D
CC-PDOB01 (CC-TDOB01/11)	Digital Out	32	½(*)	16	D5048S D5049S D5090S D5091S
			1	32	D5040D

**Supported Honeywell RUSIO I/O Cards:**

I/O Card Model (IOTA)	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 (**)
RUSIO-3224 (FC-IOTAR24)	Universal	32	½(*)	16	D5014S, D5020S, D5031S, D5032S, D5037S, D5040S, D5048S, D5049S, D5072S- 099, D5090S, D5091S, D5093S, D5094S, D5095S, D5096S, D5097S, D5098S
			1	32	D5014D, D5020D, D5031D, D5032D, D5037D, D5040D, D5072D-099, D5098D

(\*) Two TB-D5016-HON-003 boards are necessary to provide 32 channels to I/O card.  
(\*\*) D6000 modules are also supported, do not mix them with D5000 I.S. barriers or D5000 Relay modules.

**Features:**

- Support for Honeywell Experion C300, HPM and RUSIO systems.
- 16 positions Terminal Board for up to 32 channels.
- 125mm width allows mounting close to I/O cards, without the need for dedicated cabinets.
- 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.

**Ordering Information:**

Model: TB-D5016-HON-003

**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<sup>2</sup>.  
**2 LEDs indication:** green color, one for supply 1 and one for supply 2.  
**Protection fuse:** 4 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<sup>6</sup> / 1 \* 10<sup>5</sup> operation, typical.  
**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup>.

**I/O card interface:**

**Connection:** two SUB D37 poles male connector (requires female mating connector).

**HART Multiplexing:**

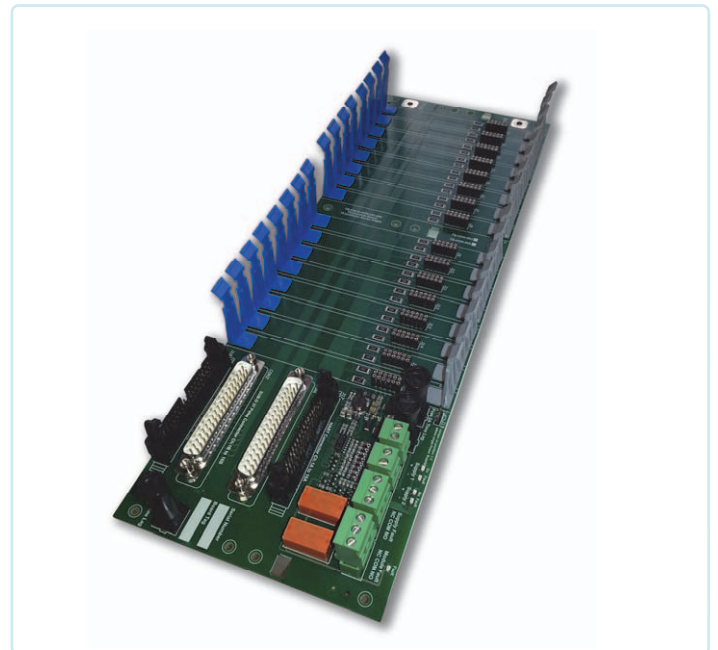
**Connection:** two 34 poles male connector (requires female mating connector).

**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 400 g (excluding modules and mounting options).  
**Location:** Safe Area / Ordinary locations.  
**Dimensions:** Width 368 mm, Depth 125 mm, Height 125 mm.

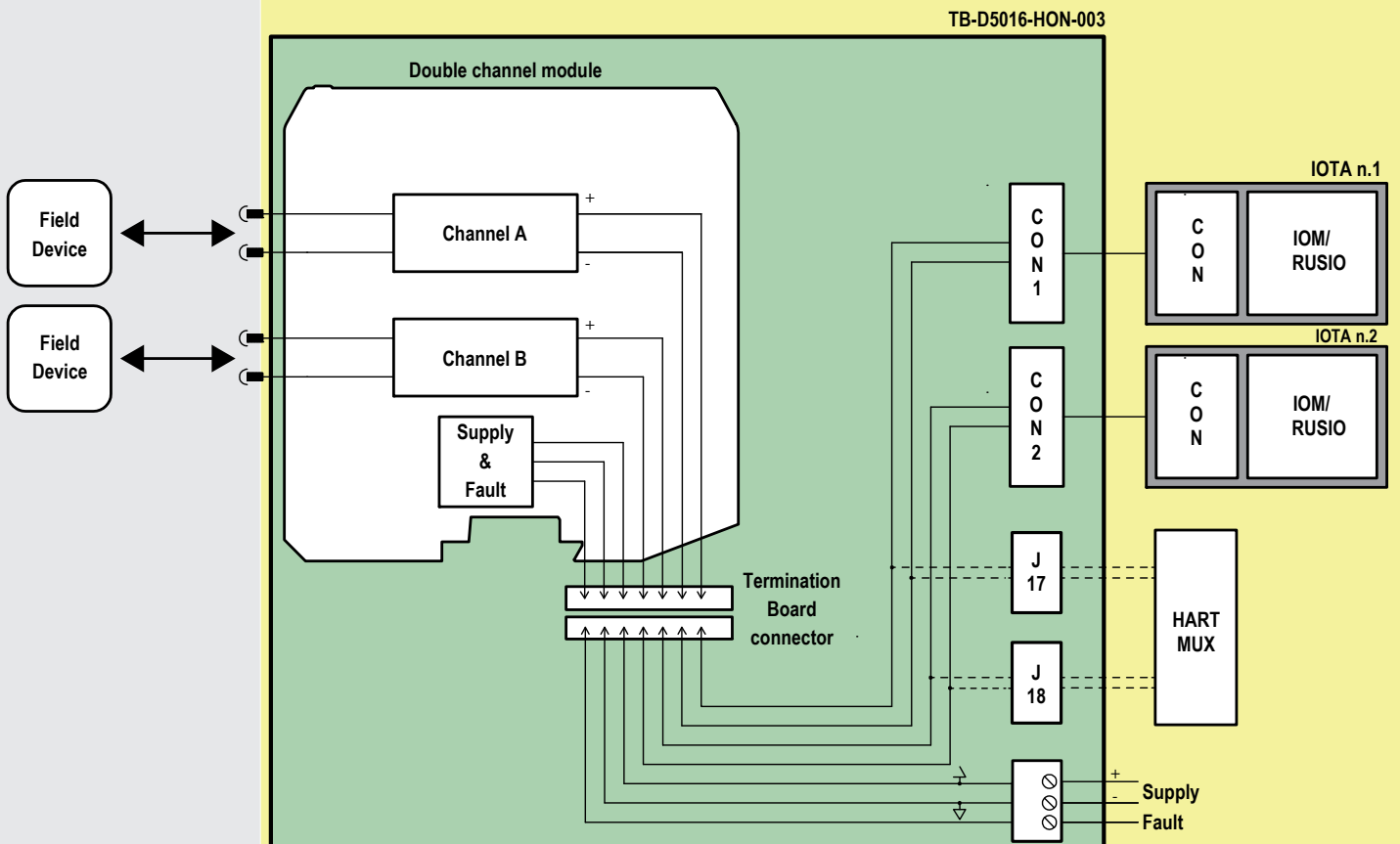
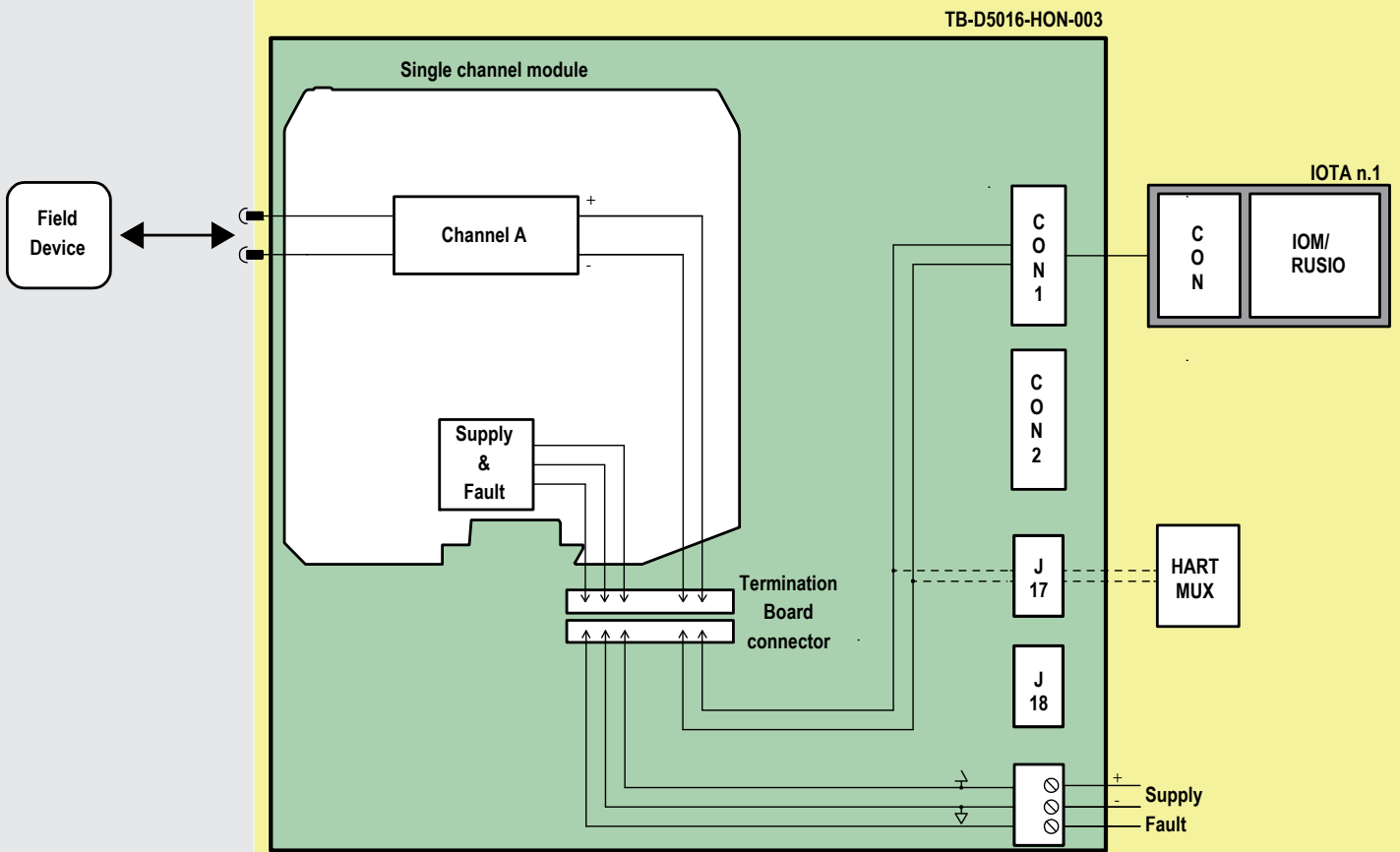
**Image:**


# Loop Diagrams:

FIELD

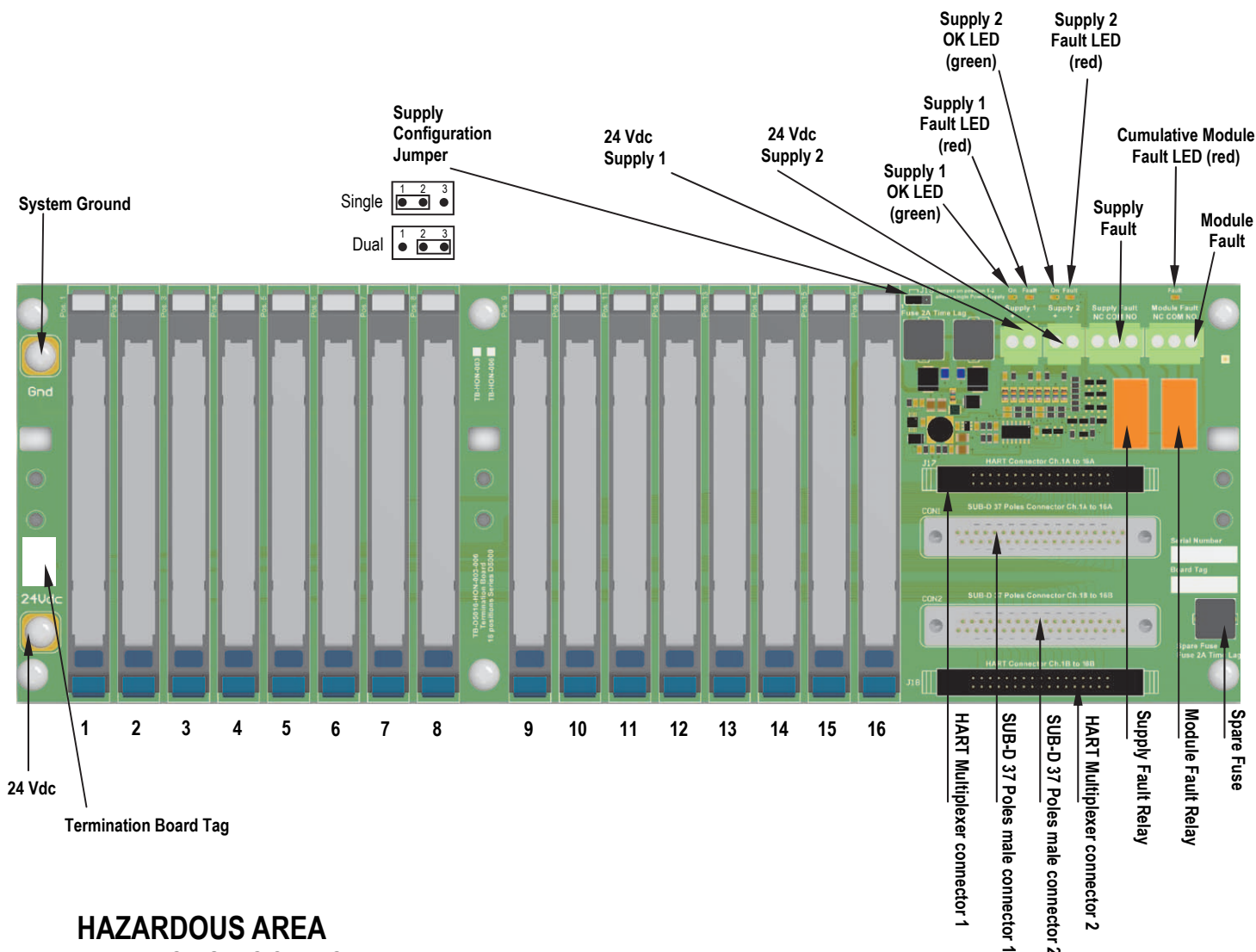
SAFE AREA

Note : Do not mix D5000 Intrinsically Safe barriers with D5000 Relay modules or D6000 isolators on same termination board.



# SAFE AREA ORDINARY LOCATION

**Note:**  
Relay contact is defined Normally Closed (NC) or Normally Open (NO) when RL1 or RL2 relays are de-energized.



# HAZARDOUS AREA HAZARDOUS LOCATION

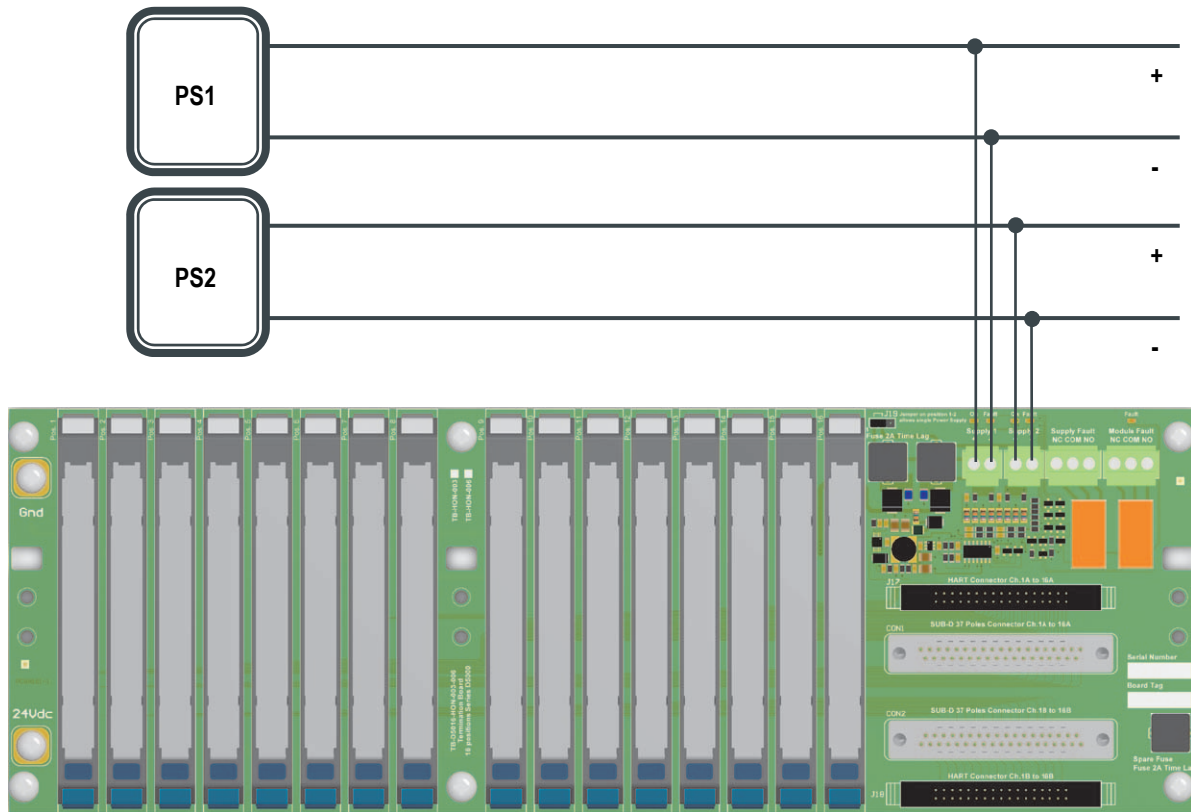
	Supply 1	Supply 2	Module	LED					Supply Fault Relay		Module Fault Relay	
				Supply 1 OK	Supply 1 Fault	Supply 2 OK	Supply 2 Fault	Mod. Fault	NO	NC	NO	NC
Dual Supply Config.	OK	OK	OK	Green	Off	Green	Off	Off	Closed	Open	Closed	Open
	KO	OK	OK	Off	Red	Green	Off	Off	Open	Closed	Closed	Open
	OK	KO	OK	Green	Off	Off	Red	Off	Open	Closed	Closed	Open
	OK	OK	KO	Green	Off	Green	Off	Red	Closed	Open	Open	Closed
	KO	KO	OK	Off	Red	Off	Red	Off	Open	Closed	Closed	Open
	OK	KO	KO	Green	Off	Off	Red	Red	Open	Closed	Open	Closed
	KO	OK	KO	Off	Red	Green	Off	Red	Open	Closed	Open	Closed
	KO	KO	KO	Off	Red	Off	Red	Red	Open	Closed	Open	Closed
Single Supply Config.	OK	-	OK	Green	Off	Green	Off	Off	Closed	Open	Closed	Open
	KO	-	OK	Off	Red	Off	Red	Off	Open	Closed	Closed	Open
	OK	-	KO	Green	Off	Green	Off	Red	Closed	Open	Open	Closed
	KO	-	KO	Off	Red	Off	Red	Red	Open	Closed	Open	Closed

**Connections table for all Interface Card:**

MODULE POSITION	MODULE CHANNEL NUMBER	INTERFACE CARD(S) CHANNEL NUMBER	MODULE CHANNEL POSITIVE (+) CONNECTION	MODULE CHANNEL NEGATIVE (-) CONNECTION	HART MULTIPLEXING CONNECTOR POSITIVE (+) PIN NUMBER	HART MULTIPLEXING CONNECTOR NEGATIVE (-) PIN NUMBER	NOTES
1	1A	1 of card 1	37 (CON1)	19 (CON1)	1 (J17)	2 (J17)	CON1, CON2: • Poles 1, 2, 3, 20, 21 are not connected.  J17, J18: • Poles 33, 34 are not connected.
	1B	1 of card 2	37 (CON2)	19 (CON2)	1 (J18)	2 (J18)	
2	2A	2 of card 1	36 (CON1)	18 (CON1)	3 (J17)	4 (J17)	
	2B	2 of card 2	36 (CON2)	18 (CON2)	3 (J18)	4 (J18)	
3	3A	3 of card 1	35 (CON1)	17 (CON1)	5 (J17)	6 (J17)	
	3B	3 of card 2	35 (CON2)	17 (CON2)	5 (J18)	6 (J18)	
4	4A	4 of card 1	34 (CON1)	16 (CON1)	7 (J17)	8 (J17)	
	4B	4 of card 2	34 (CON2)	16 (CON2)	7 (J18)	8 (J18)	
5	5A	5 of card 1	33 (CON1)	15 (CON1)	9 (J17)	10 (J17)	
	5B	5 of card 2	33 (CON2)	15 (CON2)	9 (J18)	10 (J18)	
6	6A	6 of card 1	32 (CON1)	14 (CON1)	11 (J17)	12 (J17)	
	6B	6 of card 2	32 (CON2)	14 (CON2)	11 (J18)	12 (J18)	
7	7A	7 of card 1	31 (CON1)	13 (CON1)	13 (J17)	14 (J17)	
	7B	7 of card 2	31 (CON2)	13 (CON2)	13 (J18)	14 (J18)	
8	8A	8 of card 1	30 (CON1)	12 (CON1)	15 (J17)	16 (J17)	
	8B	8 of card 2	30 (CON2)	12 (CON2)	15 (J18)	16 (J18)	
9	9A	9 of card 1	29 (CON1)	11 (CON1)	17 (J17)	18 (J17)	
	9B	9 of card 2	29 (CON2)	11 (CON2)	17 (J18)	18 (J18)	
10	10A	10 of card 1	28 (CON1)	10 (CON1)	19 (J17)	20 (J17)	
	10B	10 of card 2	28 (CON2)	10 (CON2)	19 (J18)	20 (J18)	
11	11A	11 of card 1	27 (CON1)	9 (CON1)	21 (J17)	22 (J17)	
	11B	11 of card 2	27 (CON2)	9 (CON2)	21 (J18)	22 (J18)	
12	12A	12 of card 1	26 (CON1)	8 (CON1)	23 (J17)	24 (J17)	
	12B	12 of card 2	26 (CON2)	8 (CON2)	23 (J18)	24 (J18)	
13	13A	13 of card 1	25 (CON1)	7 (CON1)	25 (J17)	26 (J17)	
	13B	13 of card 2	25 (CON2)	7 (CON2)	25 (J18)	26 (J18)	
14	14A	14 of card 1	24 (CON1)	6 (CON1)	27 (J17)	28 (J17)	
	14B	14 of card 2	24 (CON2)	6 (CON2)	27 (J18)	28 (J18)	
15	15A	15 of card 1	23 (CON1)	5 (CON1)	29 (J17)	30 (J17)	
	15B	15 of card 2	23 (CON2)	5 (CON2)	29 (J18)	30 (J18)	
16	16A	16 of card 1	22 (CON1)	4 (CON1)	31 (J17)	32 (J17)	
	16B	16 of card 2	22 (CON2)	4 (CON2)	31 (J18)	32 (J18)	

# Termination Board Supply:

Board Supply solution 1:



Board Supply solution 2:

