SCC Inc.

TS Series

TS… Protocol Converter Profinet or Profibus
For use with LMV3..., LMV5..., RWF…, and TS… Series Controls

Description

A TS… series protocol converter provides a flexible communication interface to the building management system (BMS) for streamlined data collection and monitoring.

Features

- Converts native Modbus/RTU to Profinet or Profibus
  - Data points for LMV3...
  - Data points for LMV5...
  - Data points for RWF...
  - Data points for TS Series Touchscreen Kit
  - Data points for TS Series Lead/Lag Master
  - Data points for TS Series Lead/Lag Master (from each boiler)
  - Data points for TS Series Deaerator/Surge Tank Master
- Allows simultaneous connection of up to 6 devices via serial connections and up to 12 devices via Ethernet Modbus TCP/IP connections

Application

TS... protocol converter kits are suited for applications with Profinet or Profibus BMS communication. All SCC products that communicate using Modbus/RTU are compatible.

Components

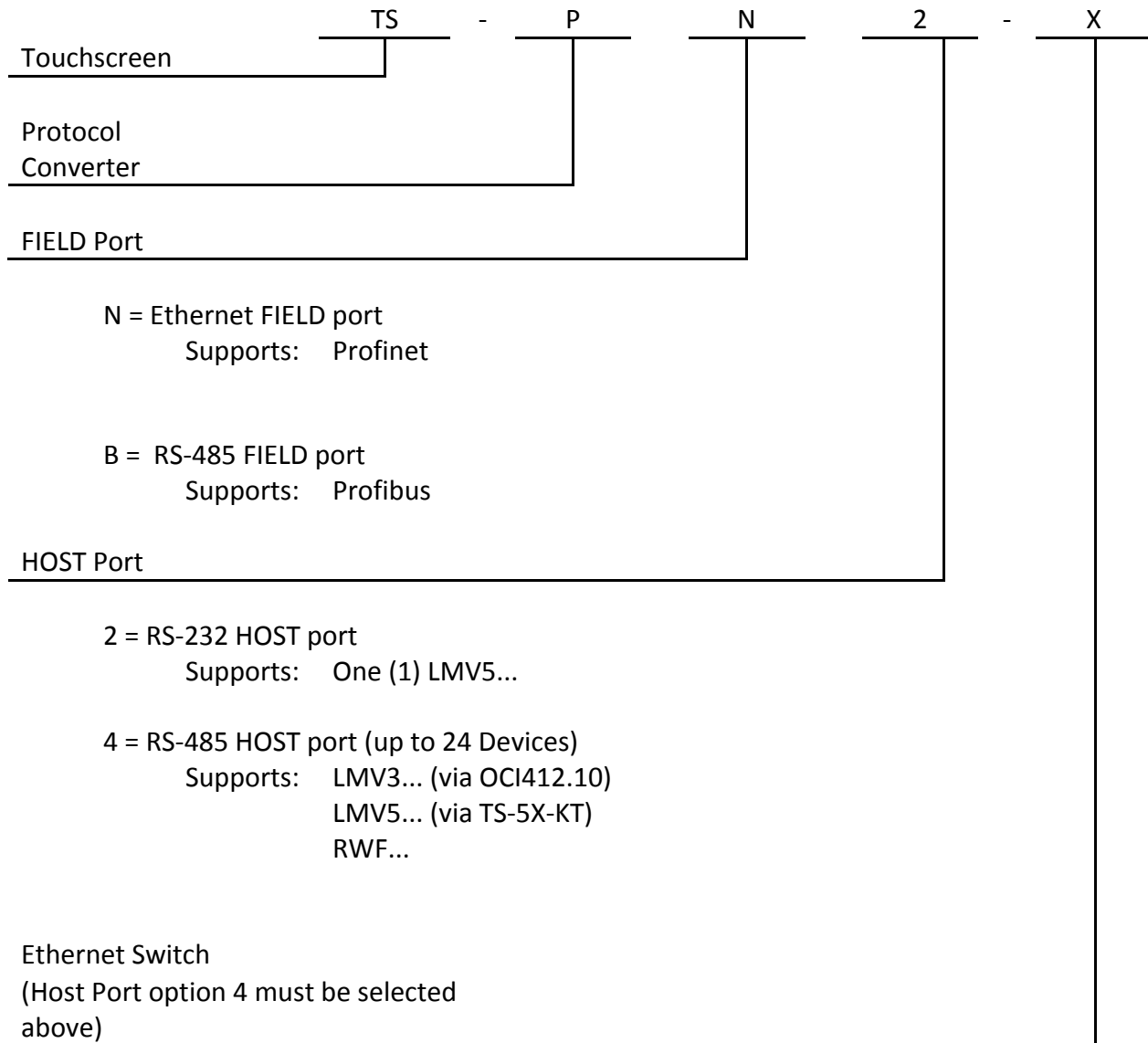All TS... protocol converter kits include the following components:
- Protocol converter module
- Plate kit including power supply and branch circuit protection
- Interconnect terminals for field wiring
- Field port for various protocols

The following options are also available:
- Host port for Modbus RTU RS-232
- Host port for Modbus RTU RS-485
- Ethernet switch to support up to 12 TS... series TCP/IP devices via Ethernet to BMS

Product Part Numbers

See Table 1 with available kits for protocol converter part number identification:

```
        TS  -  P    N    2   -   X
Touchscreen ─────────┘    │    │   │       │
                          │    │   │       │
Protocol                  │    │   │       │
Converter ────────────────┘    │   │       │
                               │   │       │
FIELD Port ────────────────────┘   │       │
```

    N = Ethernet FIELD port
            Supports: Profinet

    B = RS-485 FIELD port
            Supports: Profibus

HOST Port

    2 = RS-232 HOST port
            Supports: One (1) LMV5...

    4 = RS-485 HOST port (up to 24 Devices)
            Supports: LMV3... (via OCI412.10)
                         LMV5... (via TS-5X-KT)
                         RWF...

Ethernet Switch
(Host Port option 4 must be selected
above)

Supports all TS... series Lead/Lag Master Panels, Touchscreen Kits, Combustion Enclosures, and Deaerator/Surge Panels.
        X = None included
        3 = 5-port switch (up to 3 TS... series devices)
        6 = 8-port switch (up to 6 TS... series devices)
        9 = 13-port switch (up to 9 TS... series devices)
        12 = 16-port switch (up to 12 TS... series devices)

Product Part Numbers (continued)

Table 1: TS… Protocol Converter Part Numbers

Part Number	FIELD Port		HOST Port		Ethernet Switch				
	Profinet	Profibus	RS-232	RS-485	None	5-port	8-port	13-port	16-port
TS-PN2-X	x		x		x				
TS-PN4-X	x			x	x				
TS-PN4-3	x			x		x			
TS-PN4-6	x			x			x		
TS-PN4-9	x			x				x	
TS-PN4-12	x			x					x
TS-PB2-X		x	x		x				
TS-PB4-X		x		x	x				
TS-PB4-3		x		x		x			
TS-PB4-6		x		x			x		
TS-PB4-9		x		x				x	
TS-PB4-12		x		x					x

Specifications

Physical characteristics		
	Operating voltage	110-120 VAC
	Operating frequency	50-60 Hz
	Protocessor power	24 VDC
	Power consumption	24 VA
Operating environment	Operating temperature	32 to 131 °F [0 to 55 °C]
	Humidity	Max. 85% with no condensation

Dimensions

TS-PN2-X

LMV5 Modbus RTU to: Profinet

TS-PB2-X

LMV5 Modbus RTU to: Profibus

TS-PN4-X

LMV3, LMV5, and/or RWF55 to: Profinet

TS-PB4-X

LMV3, LMV5, and/or RWF55 to: Profibus
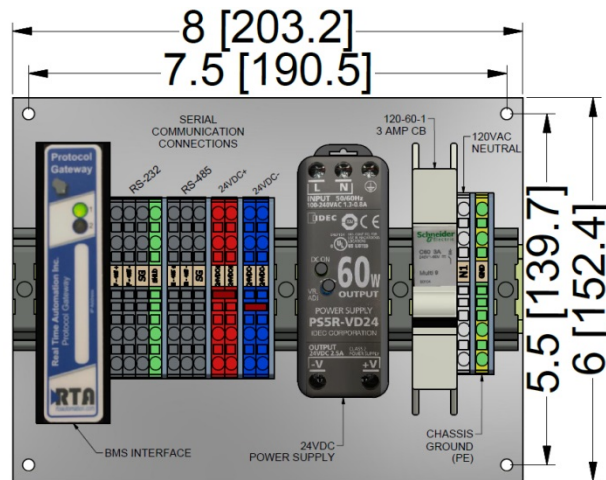
Dimensions (continued)

TS-PN4-3

Up to 3 TS…Series Modbus TCP/IP to: Profinet

TS-PB4-3

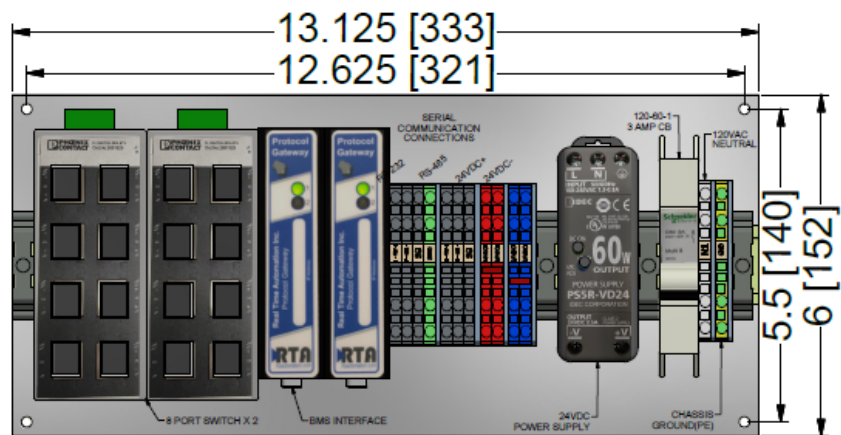Up to 4 TS…Series Modbus TCP/IP to: Profibus
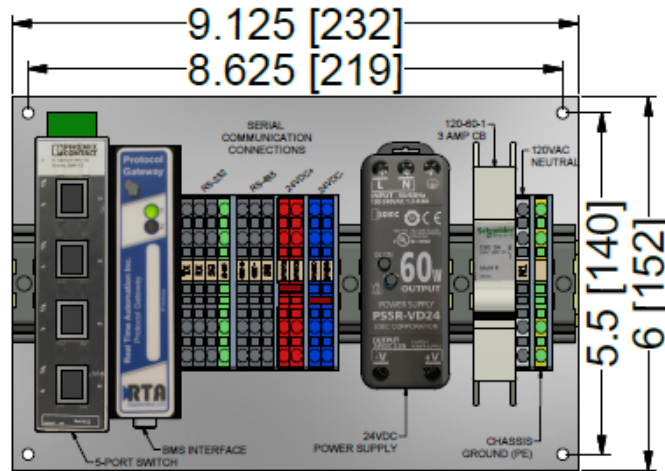
TS-PN4-6

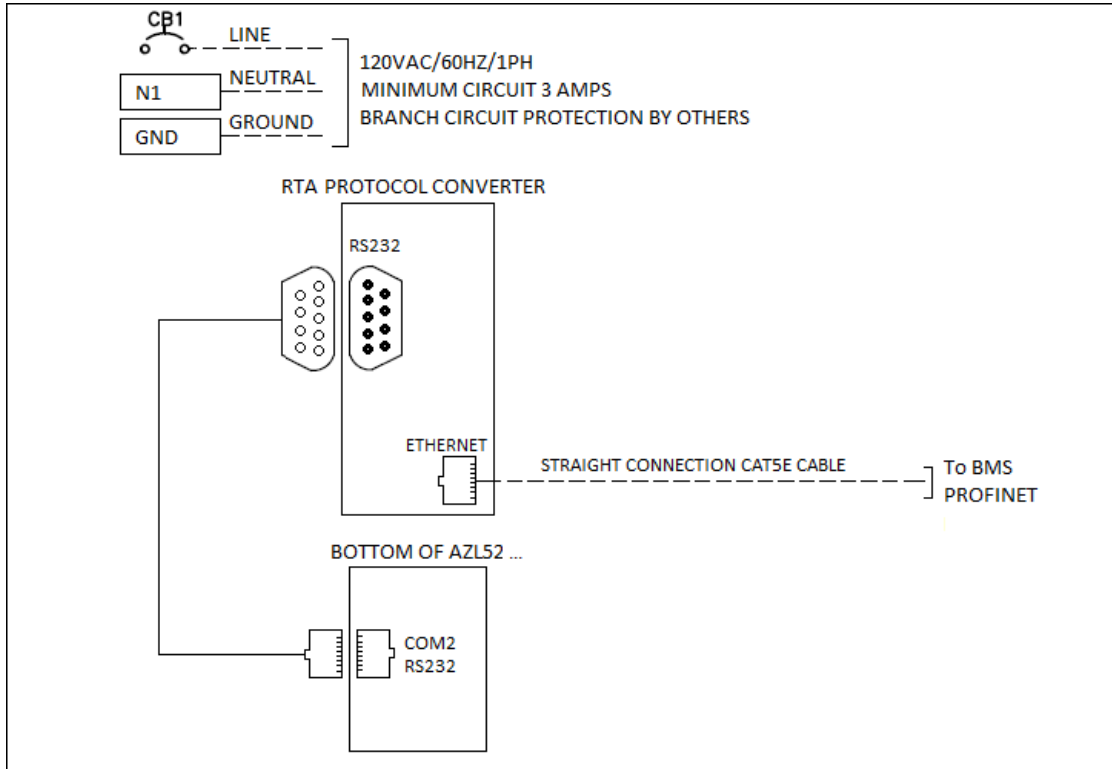Up to 6 TS… Series Modbus TCP/IP to: Profinet

TS-PB4-7

Up to 6 TS… Series Modbus TCP/IP to: Profibus
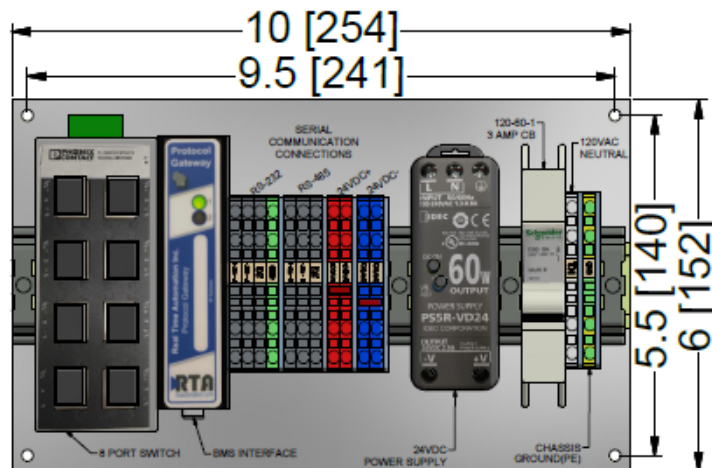
Dimensions (continued)

TS-PN4-9

Up to 9 TS… Series Modbus TCP/IP to: Profinet

TS-PB4-10

Up to 9 TS… Series Modbus TCP/IP to: Profibus
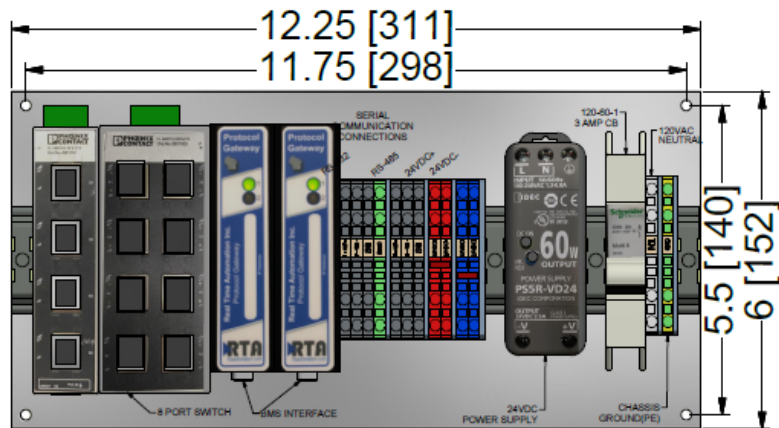
TS-PN4-12

Up to 12 TS… Series Modbus TCP/IP to: Profinet

TS-PB4-13

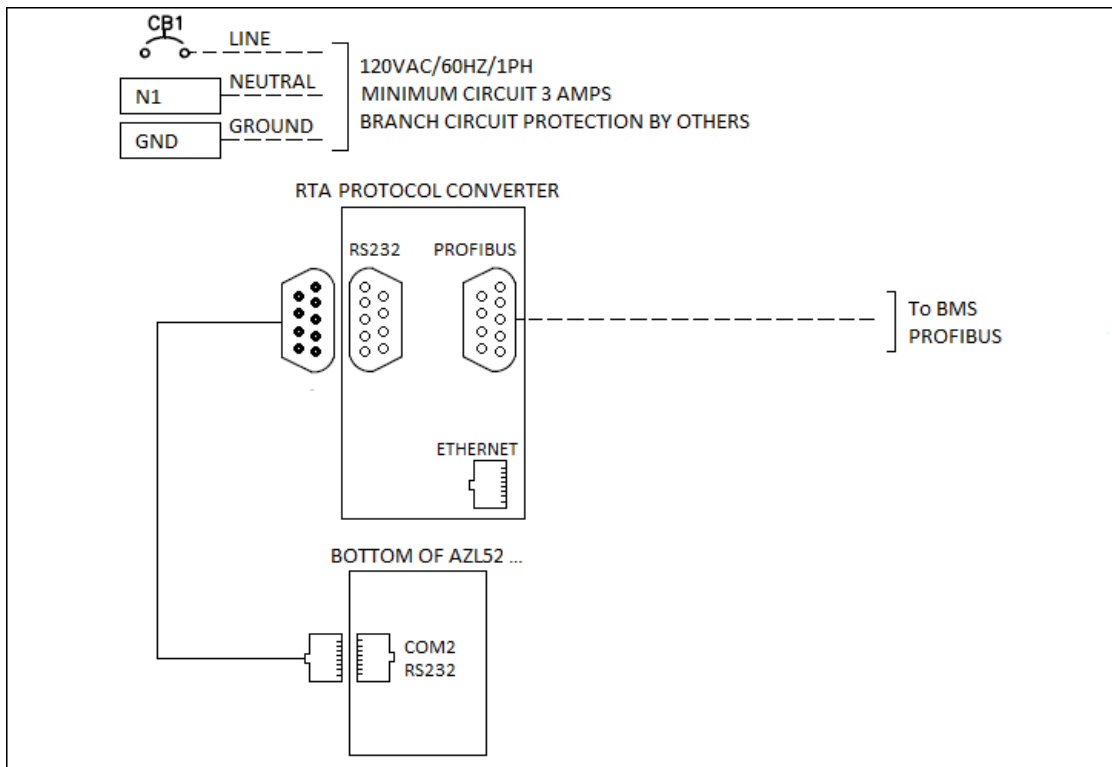Up to 12 TS… Series Modbus TCP/IP to: Profibus

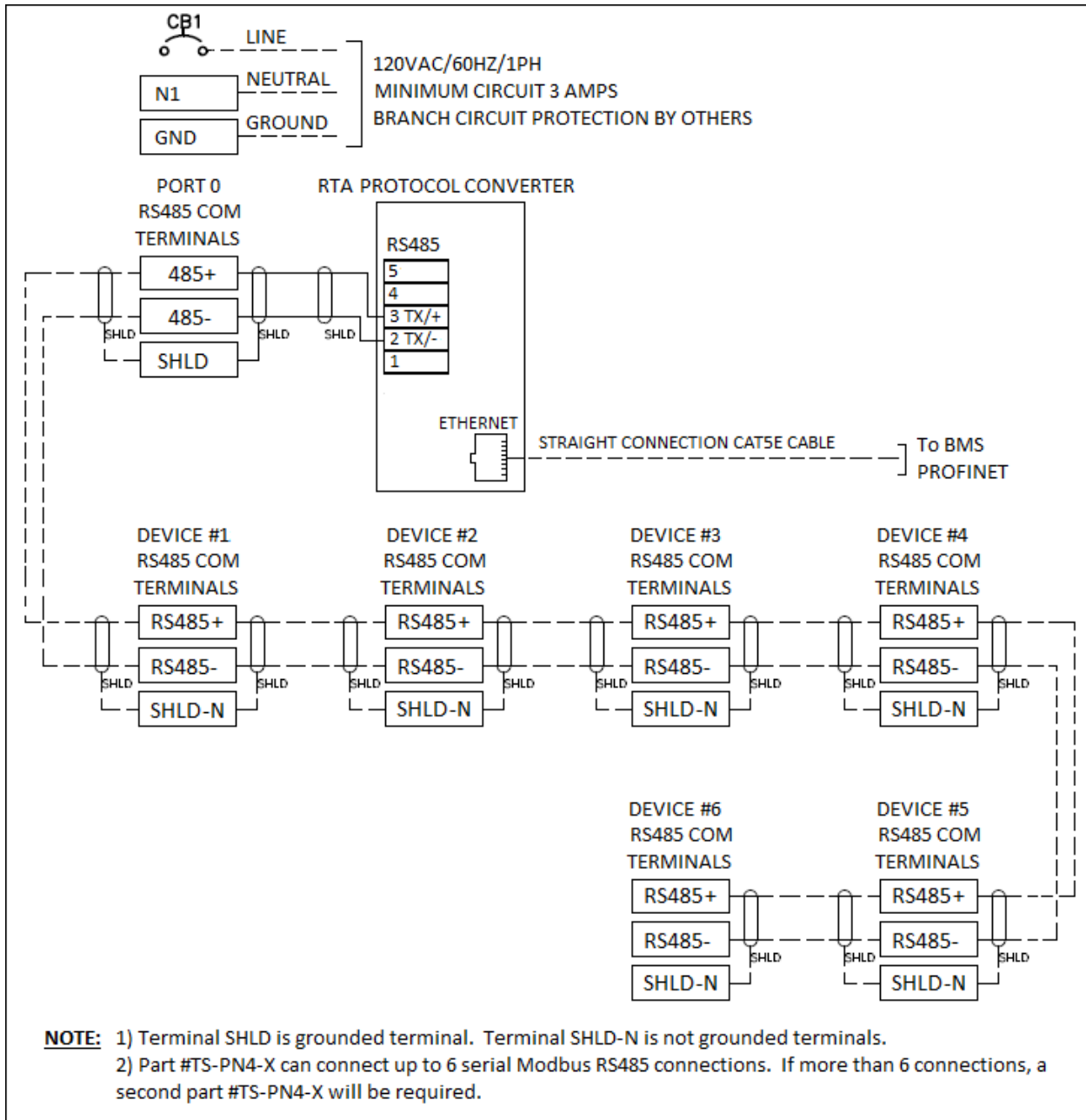# Connections

TS-PN2-X (AZL RS-232 to PROFINET)
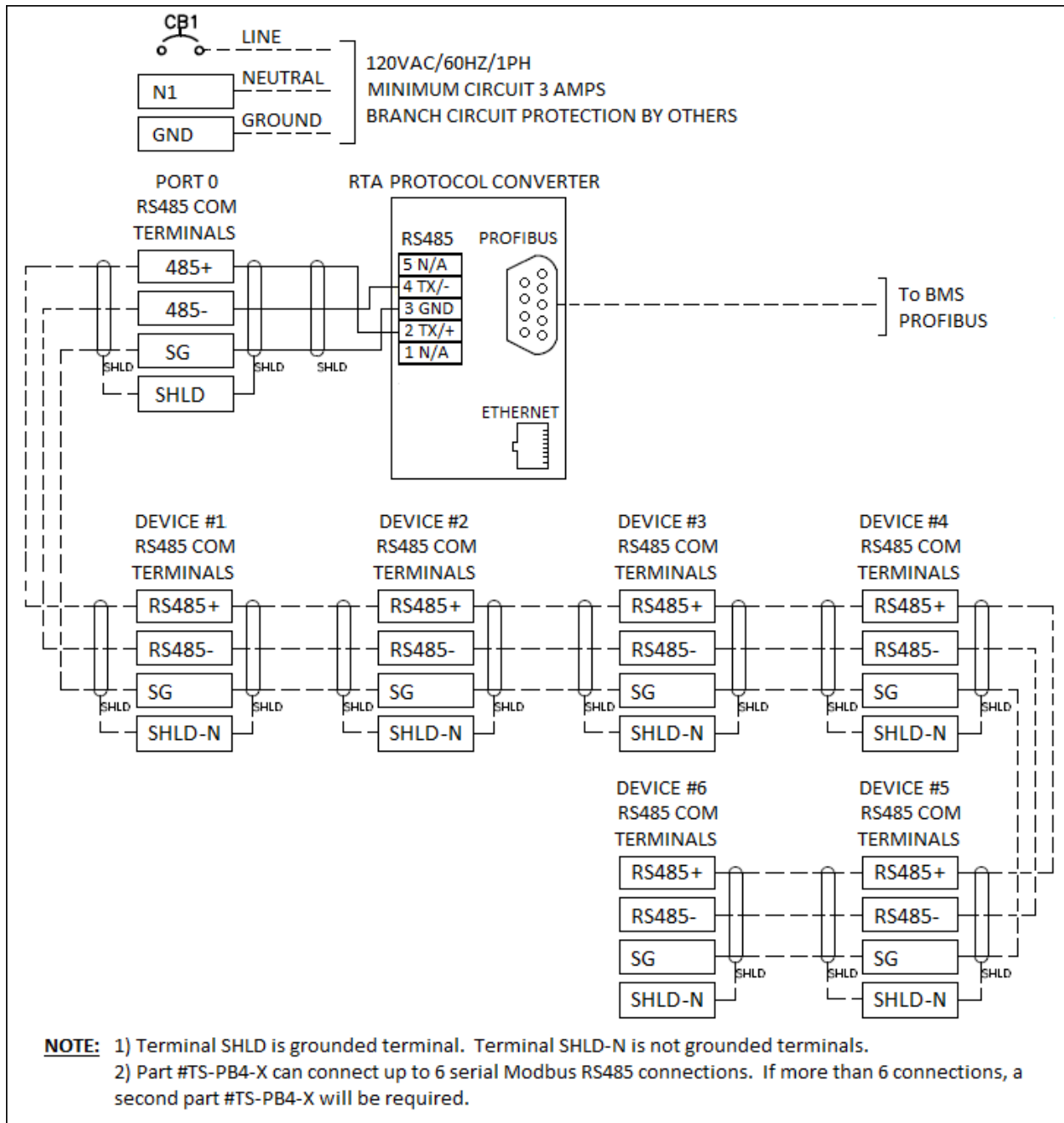

TS-PB2-X (AZL RS-232 to PROFIBUS)

Connections (continued)
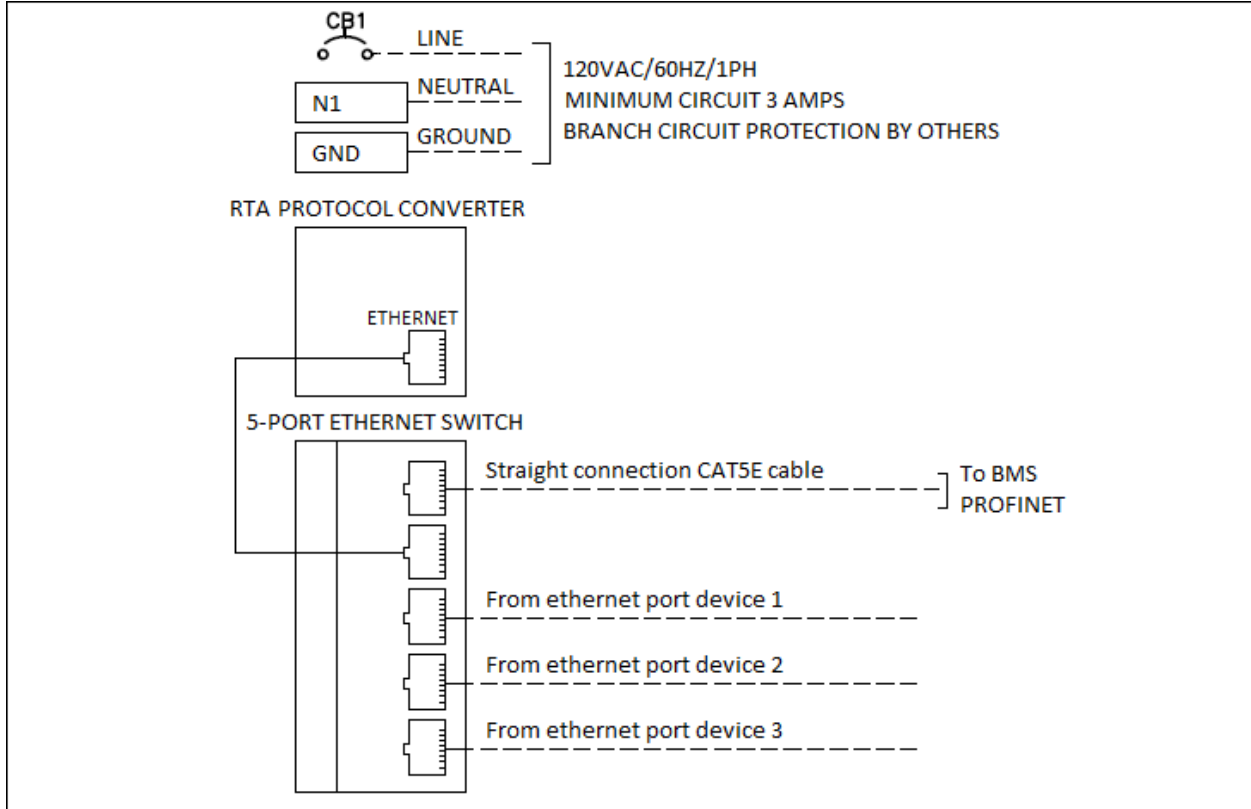
TS-PN4-X (Serial Modbus RS-485 to PROFINET)

NOTE: 1) Terminal SHLD is grounded terminal. Terminal SHLD-N is not grounded terminals.
2) Part #TS-PN4-X can connect up to 6 serial Modbus RS485 connections. If more than 6 connections, a second part #TS-PN4-X will be required.

Connections (continued)

TS-PB4-X (Serial Modbus RS-485 to PROFIBUS)

NOTE: 1) Terminal SHLD is grounded terminal. Terminal SHLD-N is not grounded terminals.
2) Part #TS-PB4-X can connect up to 6 serial Modbus RS485 connections. If more than 6 connections, a second part #TS-PB4-X will be required.
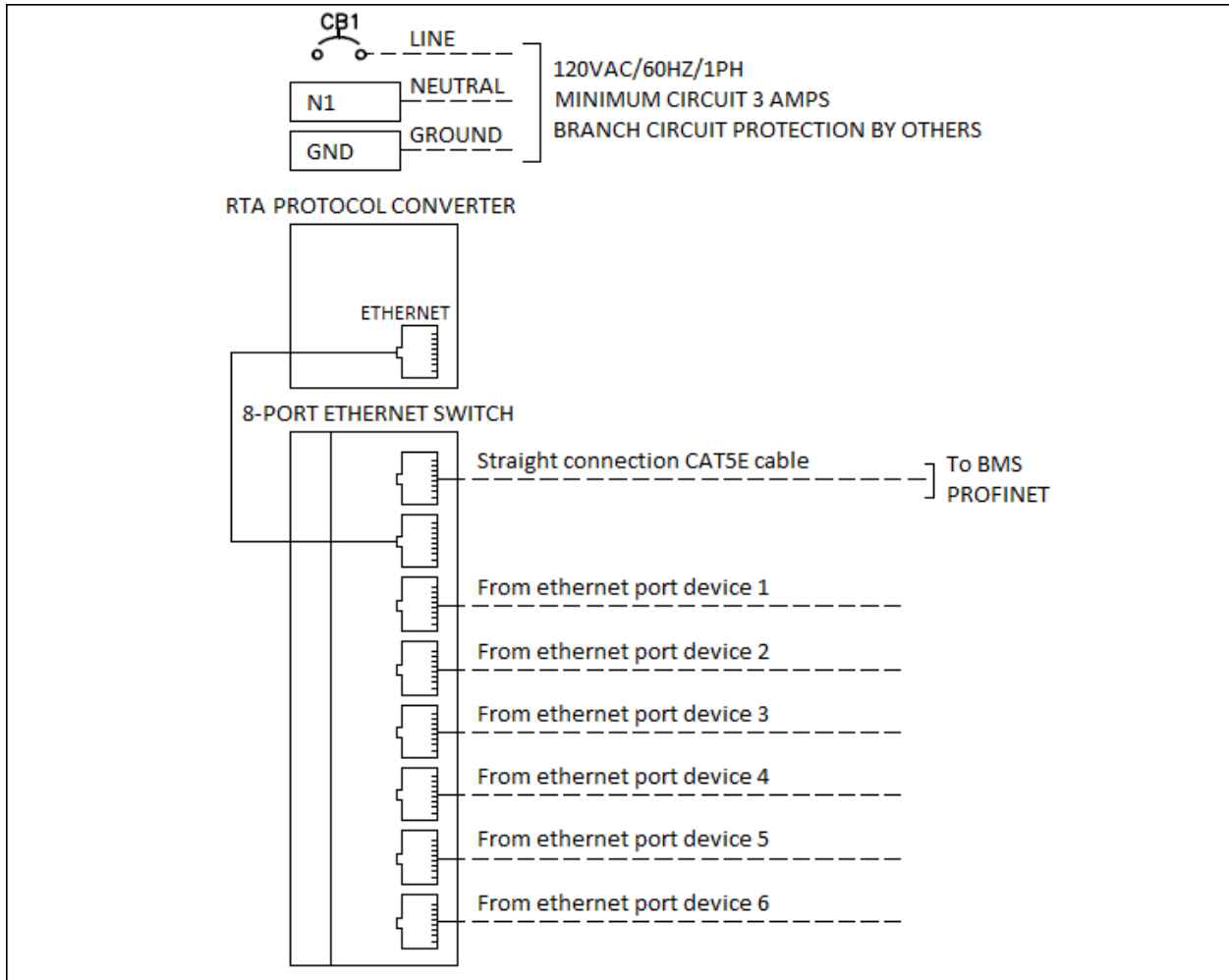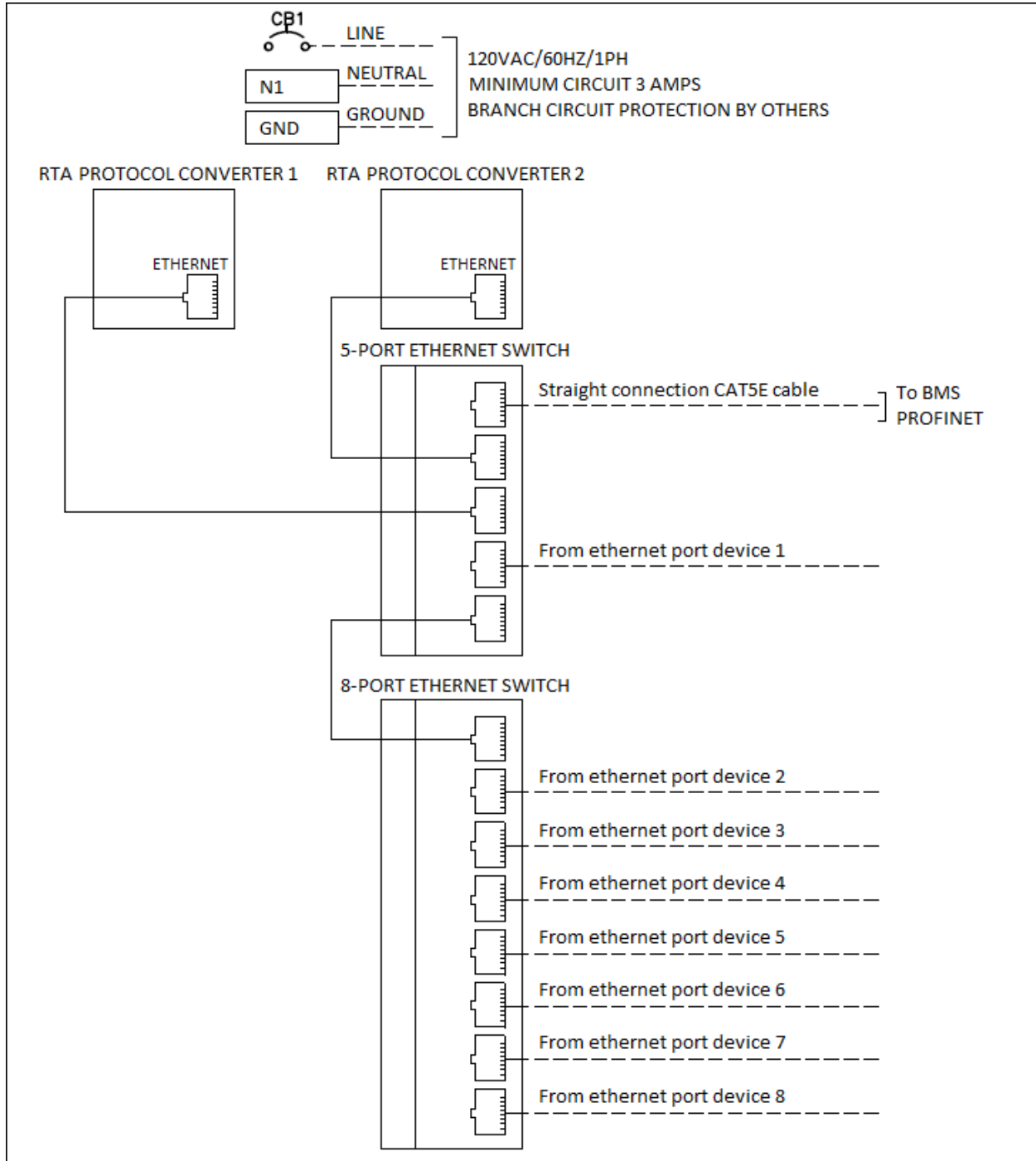
Connections (continued)

TS-PNx-3, 5 Port Ethernet Switch (PROFINET)

Connections (continued)
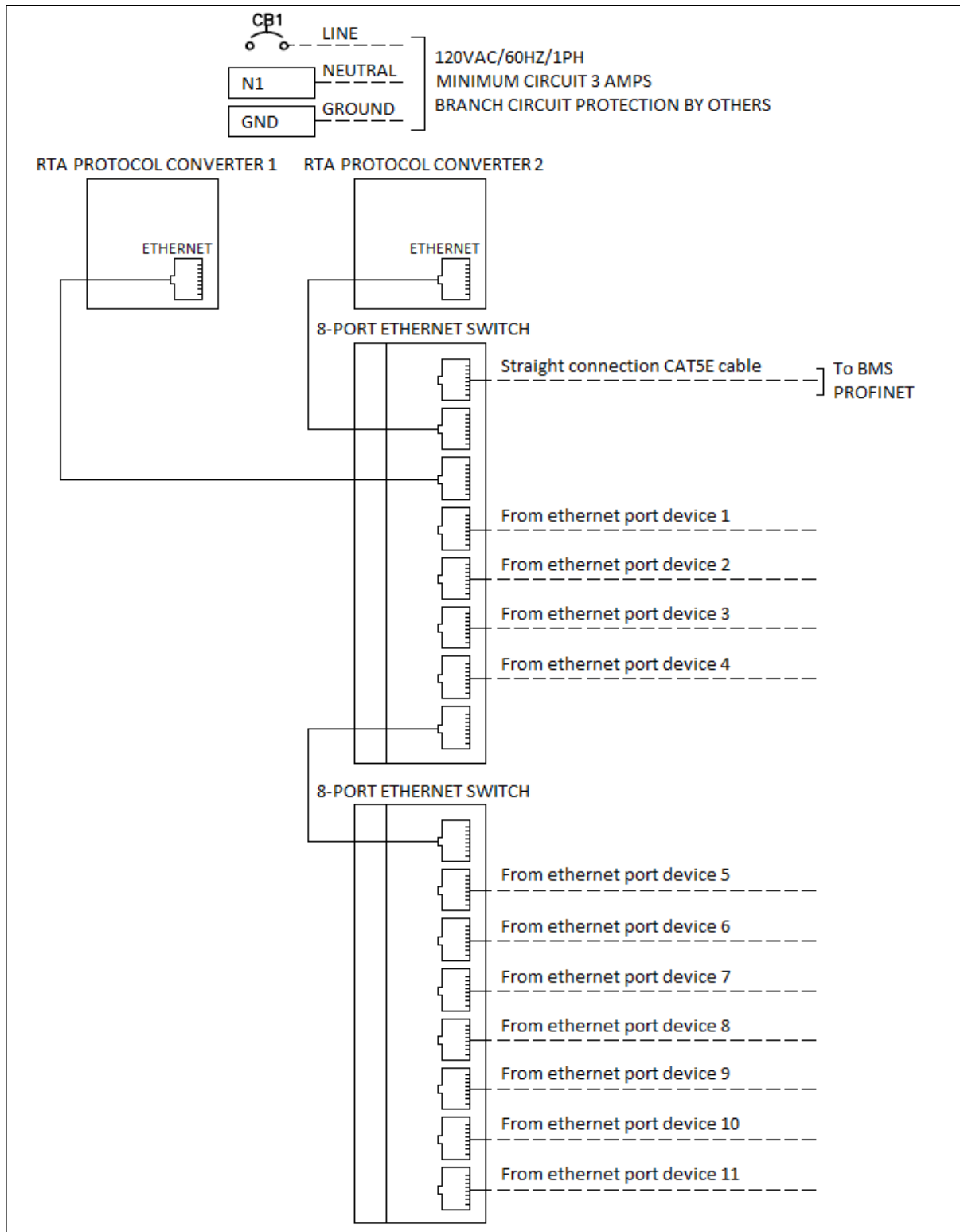
TS-PNx-6, 8 Port Ethernet Switch (PROFINET)

Connections (continued)
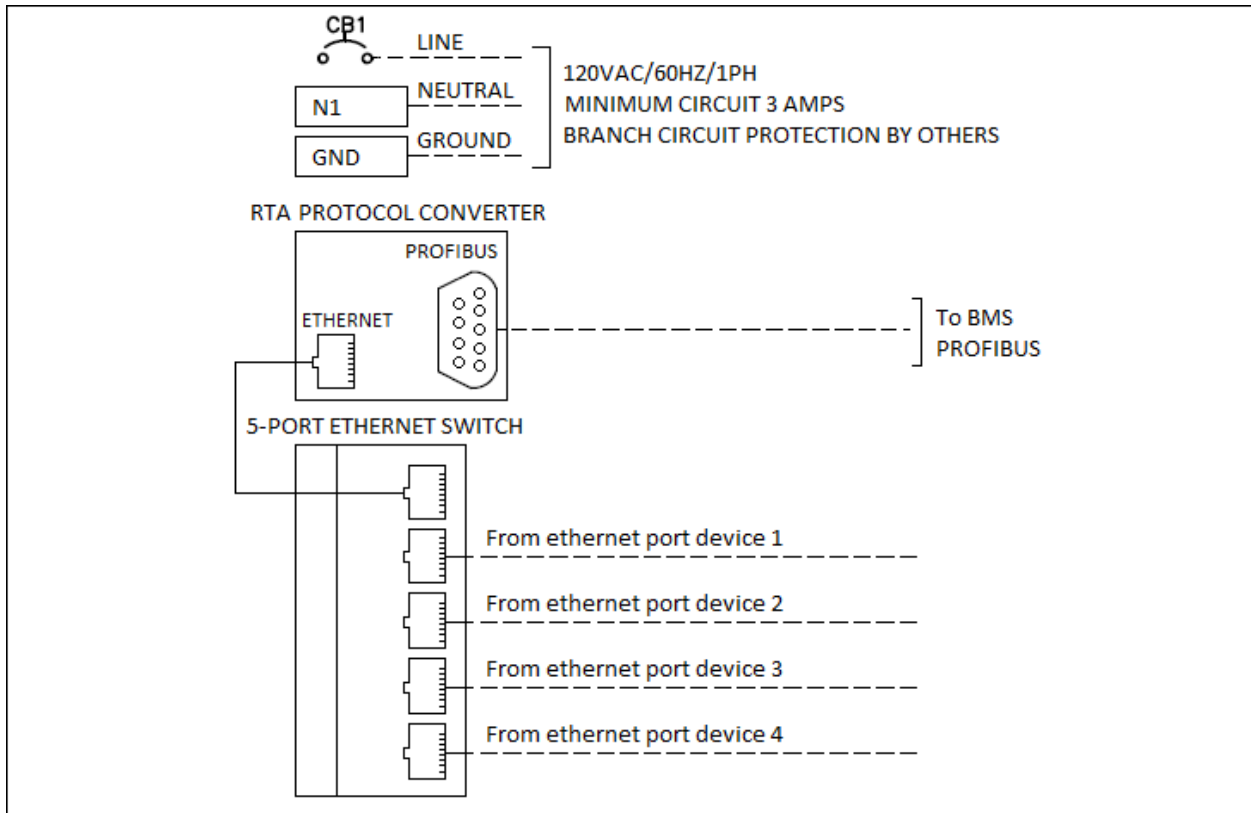
TS-PNx-8, 13 Port Ethernet Switch (PROFINET)

Connections (continued)
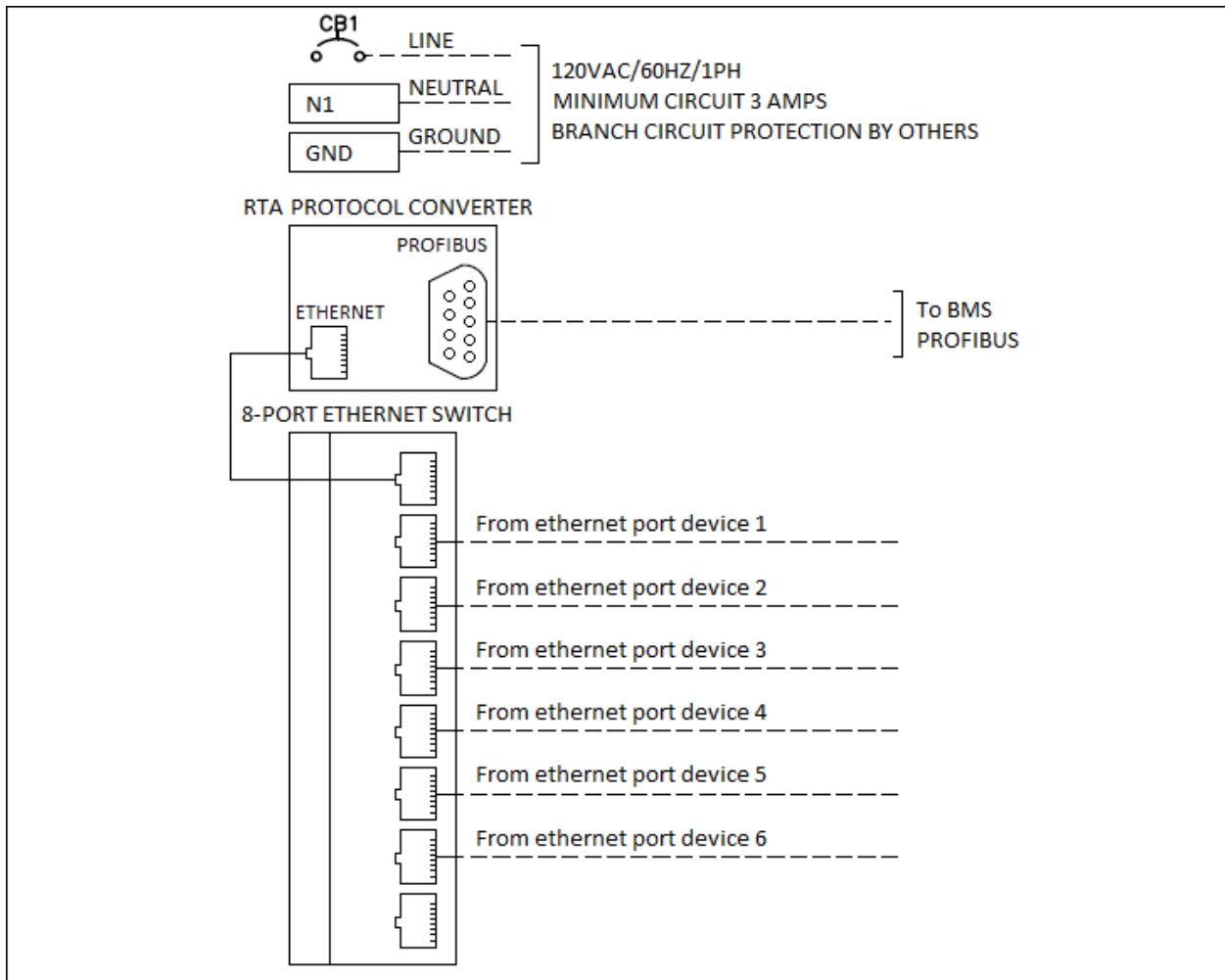
TS-PNx-11, 16 Port Ethernet Switch (PROFINET)

Connections (continued)
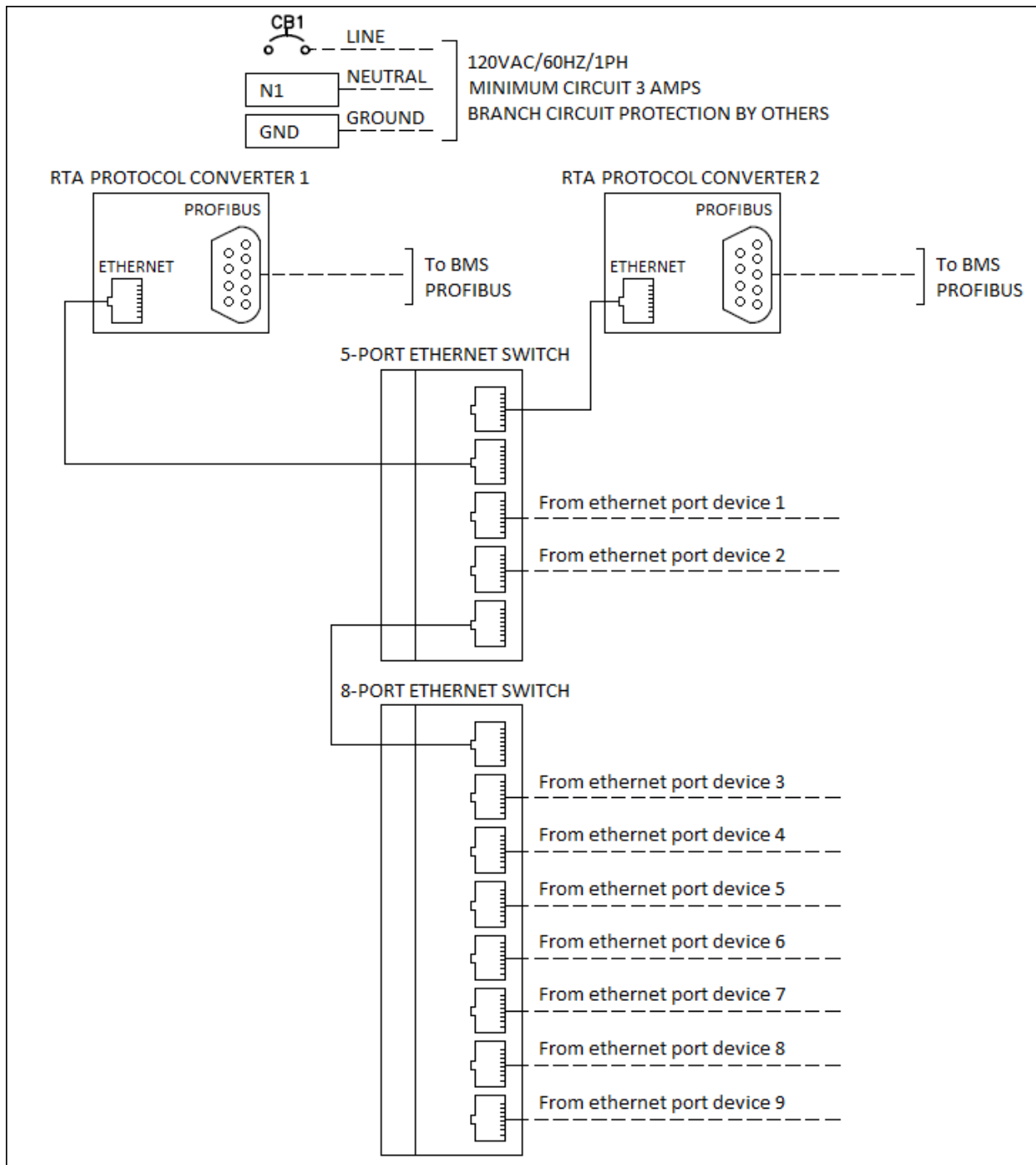
TS-PBx-4, 5 Port Ethernet Switch (PROFIBUS)

Connections (continued)

TS-PBx-6, 8 Port Ethernet Switch (PROFIBUS)
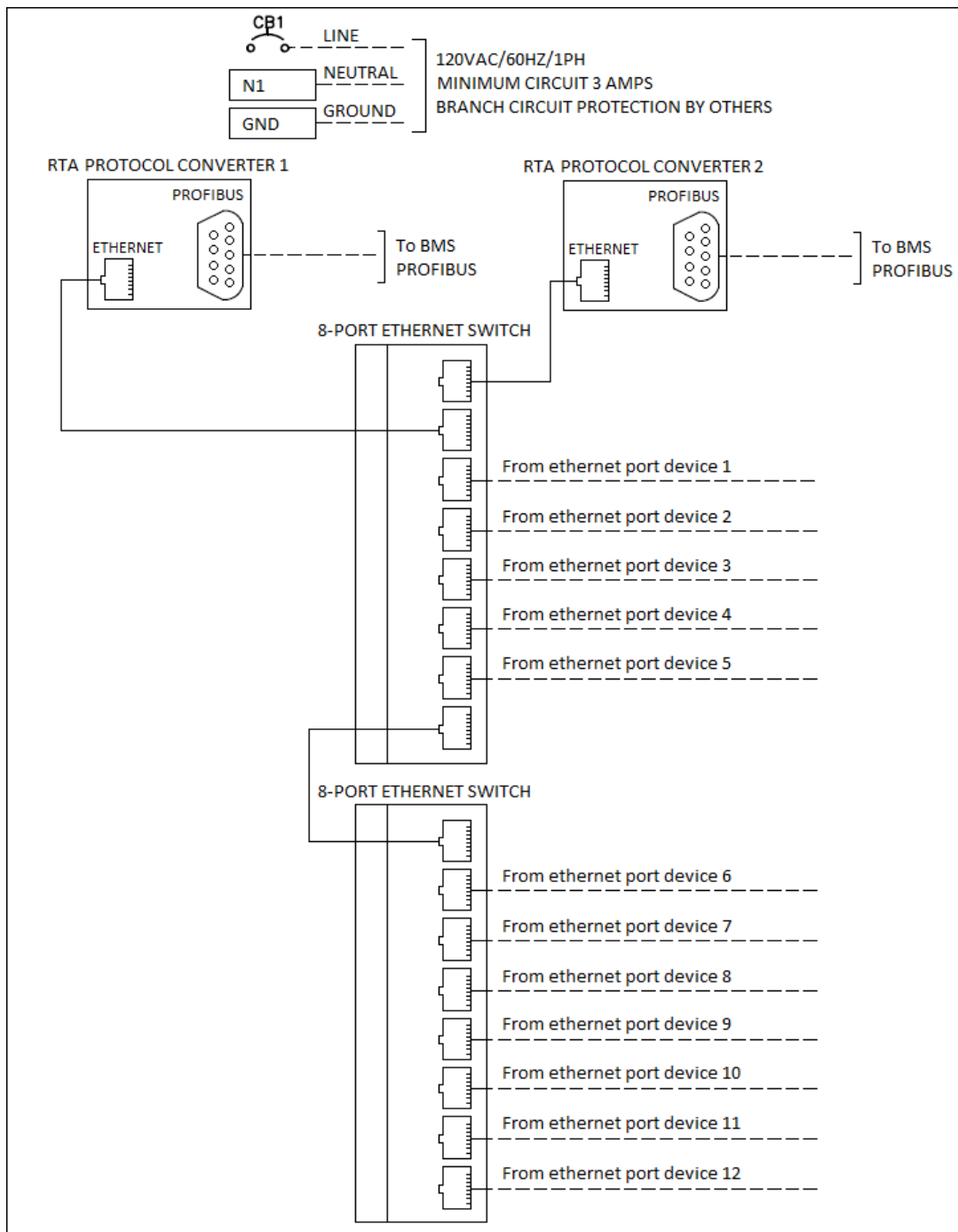
Connections (continued)

TS-PBx-9, 13 Port Ethernet Switch (PROFIBUS)

Connections (continued)

TS-PBx-12, 16 Port Ethernet Switch (PROFIBUS)

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Page **19**