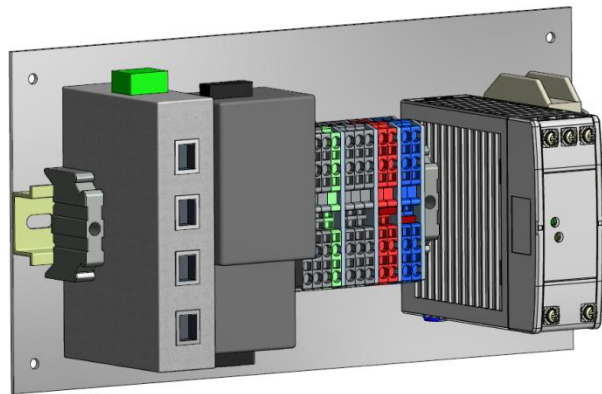


## TS Series

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### TS... Protocol Converter

for use with LMV3..., LMV5.., RWF... and TS... Series Controls



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### Description

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

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## Features

- Converts native Modbus/RTU to BACnet/IP, BACnet MS/TP, Metasys N2, Modbus TCP/IP or LonWorks
- Allows simultaneous connection of up to 64 devices via serial connections and up to 12 devices via Ethernet Modbus TCP/IP connections
- Easily configured using web browser
- 61 data points per LMV3...
- 153 data points per LMV5...
- 13 data points per RWF10
- 57 data points per RWF40
- 73 data points per RWF55
- 364 data points per TS Series Touchscreen Kit
- 23 data points per TS Series Lead/Lag Master
- 85 data points per TS Series Lead/Lag Master (each boiler)
- 52 data points per TS Series Deaerator/Surge Tank Master

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## Application

TS... protocol converter kits are suited for applications when a BMS protocol other than Modbus TCP/IP or RTU is required. All SCC products that natively communicate using Modbus/RTU are compatible.

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## Components

All TS... protocol converter kits include the following components:

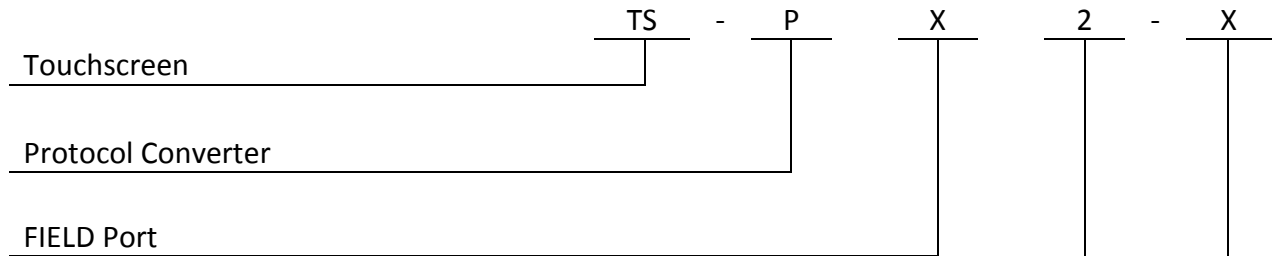
- Protocol converter module
- Plate kit including power supply and branch circuit protection
- Interconnect terminals for field wiring
- Field port for various protocols

The following options are available:

- Host Port for Modbus RTU RS232
- Host port for Modbus RTU RS485
- Ethernet switch to support up to 12 TS... series devices via Ethernet TCP/IP to BMS

## Product Part Numbers

See Table 1 for available kits for protocol converter part number identification. .



X = RS-485 FIELD port.  
 Supports: BACnet/IP  
 BACnet MS/TP  
 Metasys N2  
 Modbus TCP/IP

L = LonWorks FIELD port.  
 Supports: LonWorks

HOST Port

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

4 = RS-485 HOST port. (for up to 64 Devices)  
 Supports: LMV3... (via OCI412.10)  
 LMV5... (via TS-5X-KT)  
 RWF10, RWF55, RWF40

Ethernet Switch  
 (Host Port option 4 above must selected)

Supports all TS series...Lead Lag Master Panel, Touchscreen Kits, Combustion Enclosures, and Deaerator/Surge Panels.

X = None included  
 3 = 5-port switch (For up 3 TS series devices)  
 6 = 8-port switch (For up to 6 TS series devices)  
 9 = 13-port switch (For up 9 TS series devices)  
 12 = 16-port switch (For up 12 TS series devices)

## Product Part Numbers (continued)

Table 1: TS... Protocol Converter Part Numbers

Part Number	FIELD Port		HOST Port		Ethernet Switch				
	RS-485	LonWorks	RS-232	RS-485	None	5-port	8-port	13-port	16-port
TS-PX2-X	x		x		x				
TS-PX4-X	x			x	x				
TS-PX4-3	x			x		x			
TS-PX4-6	x			x			x		
TS-PX4-9	x			x				x	
TS-PX4-12	x			x					x
TS-PL2-X		x	x		x				
TS-PL4-X		x		x	x				
TS-PL4-3		x		x		x			
TS-PL4-6		x		x			x		
TS-PL4-9		x		x				x	
TS-PL4-12		x		x					x

**Specifications**

Physical characteristics	Operating Voltage	110-120 VAC
	Operating Frequency	50-60 HZ
	Processor 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

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## Dimensions

### TS-PX2-X

LMV5 Modbus RTU to: BACnet/IP, BACnet MS/TP, Metasys N2, or Modbus TCP/IP

### TS-PL2-X

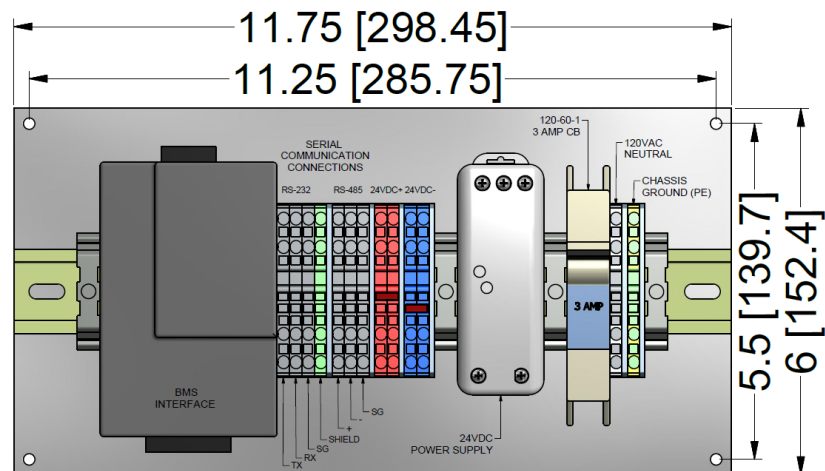
LMV5 Modbus RTU to: LonWorks

### TS-PX4-X

LMV3, LMV5, RWF10, RWF40, and/or RWF55 to:  
BACnet/IP, or BACnet MS/TP, or Metasys N2, or Modbus TCP/IP

### TS-PL4-X

LMV3, LMV5, RWF10, RWF40, and/or RWF55 to: LonWorks



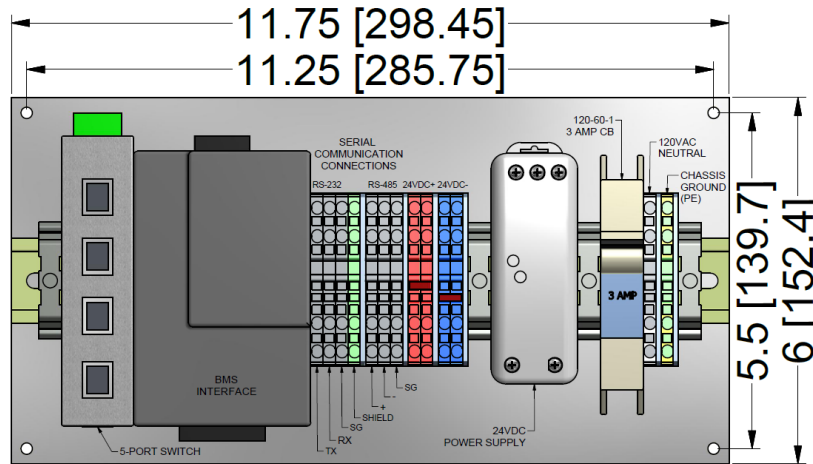
## Dimensions (continued)

### TS-PX4-3

Up to 3 TS...Series Modbus TCP/IP to: BACnet/IP, or BACnet MS/TP, or Metasys N2

### TS-PL4-3

Up to 4 TS...Series Modbus TCP/IP to: LonWorks

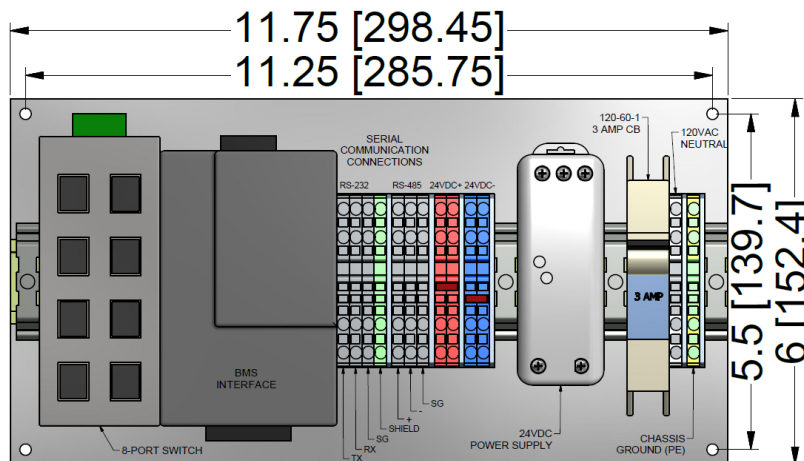


### TS-PX4-6

Up to 6 TS... Series Modbus TCP/IP to: BACnet/IP, or BACnet MS/TP, or Metasys N2

### TS-PL4-7

Up to 6 TS... Series Modbus TCP/IP to: LonWorks



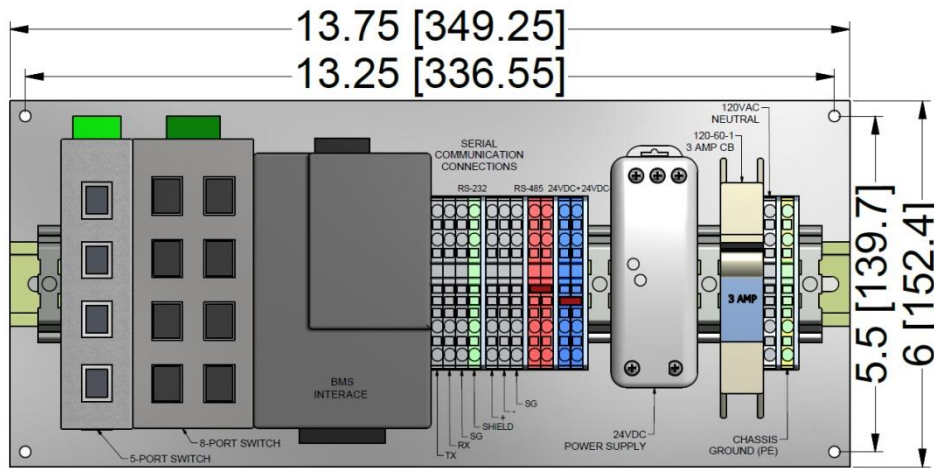
## Dimensions (continued)

### TS-PX4-9

Up to 9 TS... Series Modbus TCP/IP to: BACnet/IP, or BACnet MS/TP, or Metasys N2

### TS-PL4-10

Up to 9 TS... Series Modbus TCP/IP to: LonWorks

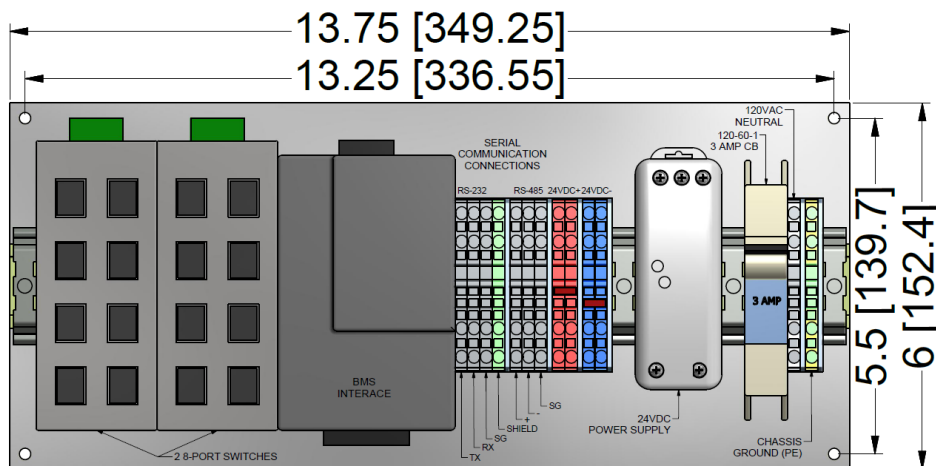


### TS-PX4-12

Up to 12 TS... Series Modbus TCP/IP to: BACnet/IP, or BACnet MS/TP, or Metasys N2

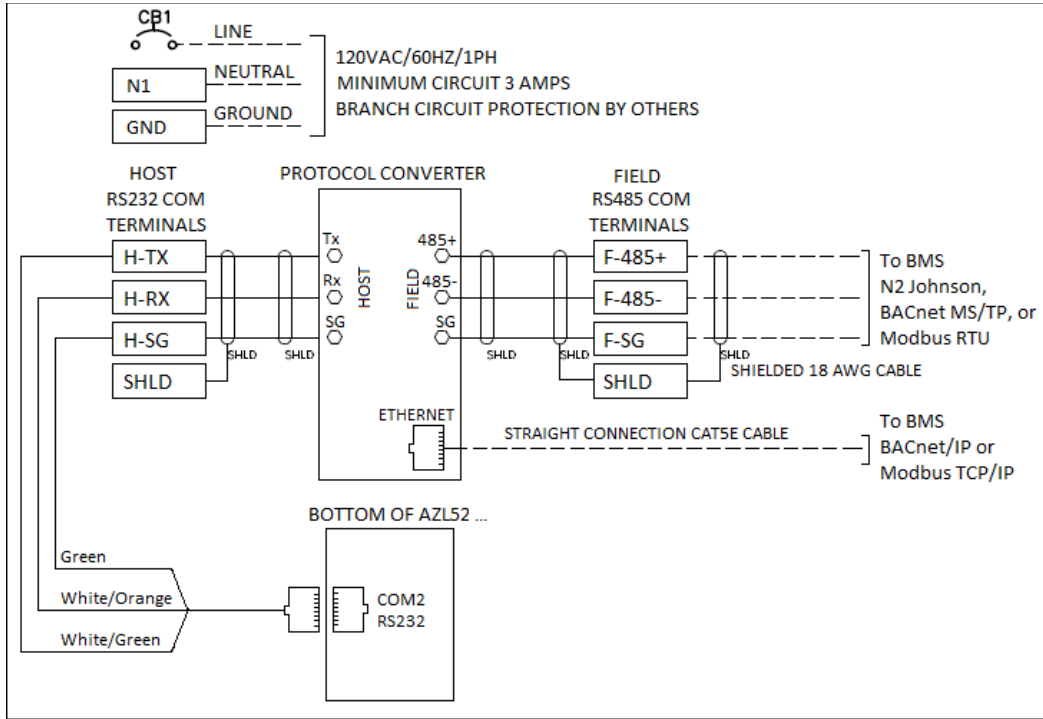
### TS-PL4-13

Up to 12 TS... Series Modbus TCP/IP to: LonWorks

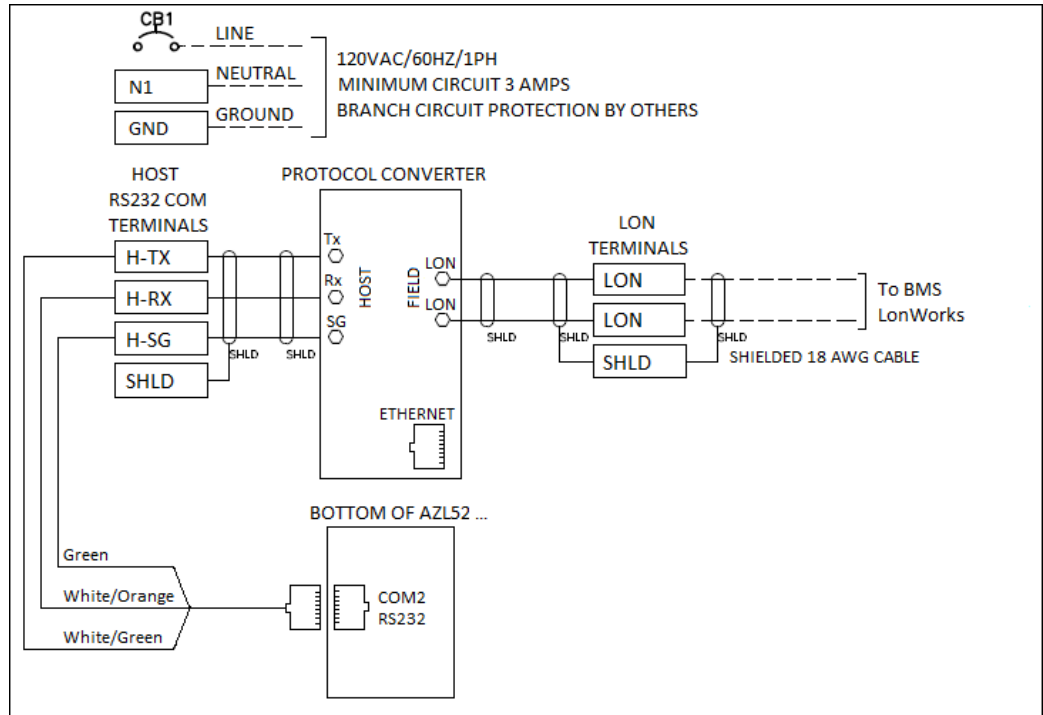


## Connections

### TS-PX2-X (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)

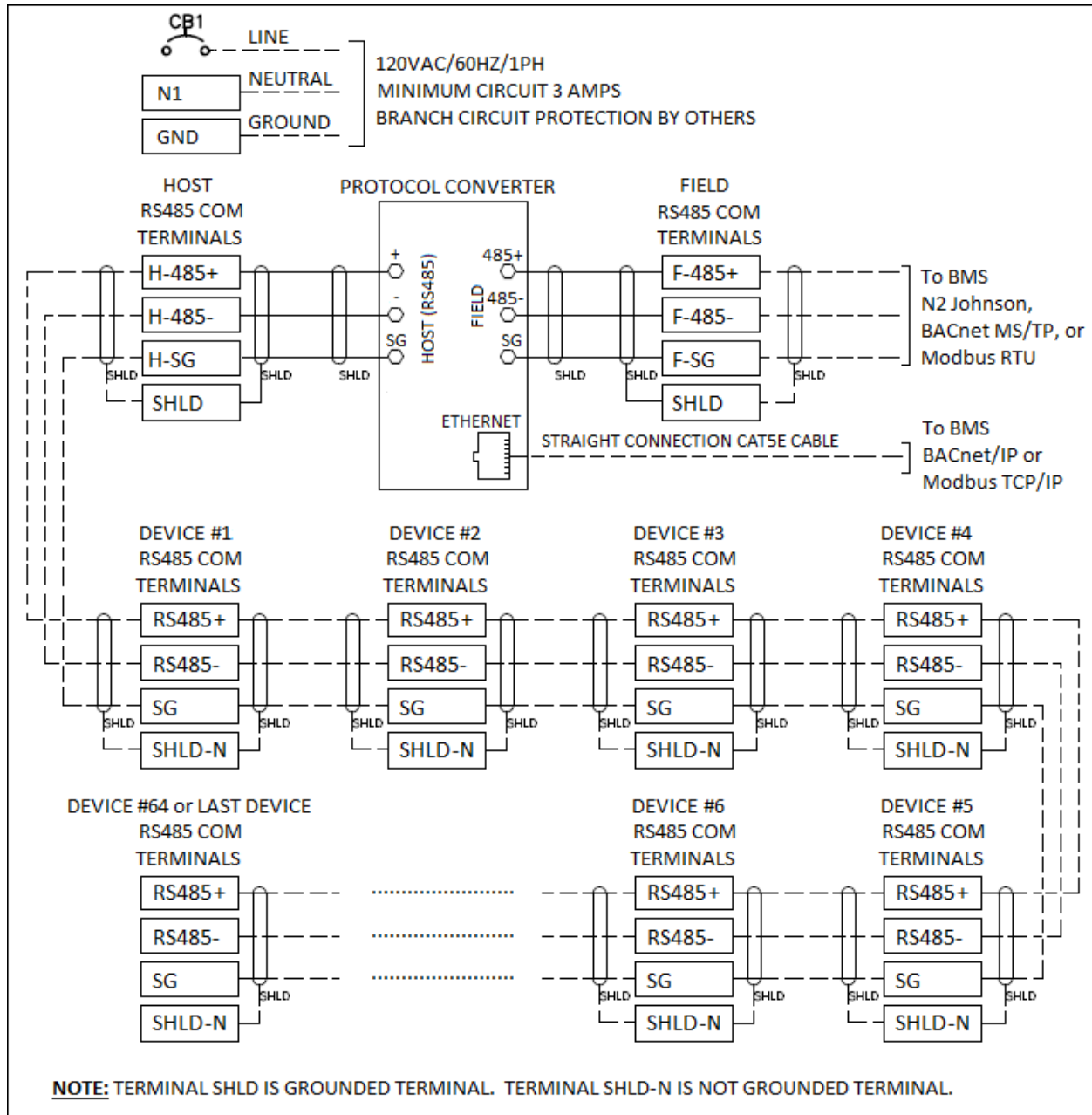


### TS-PL2-X (LonWorks)



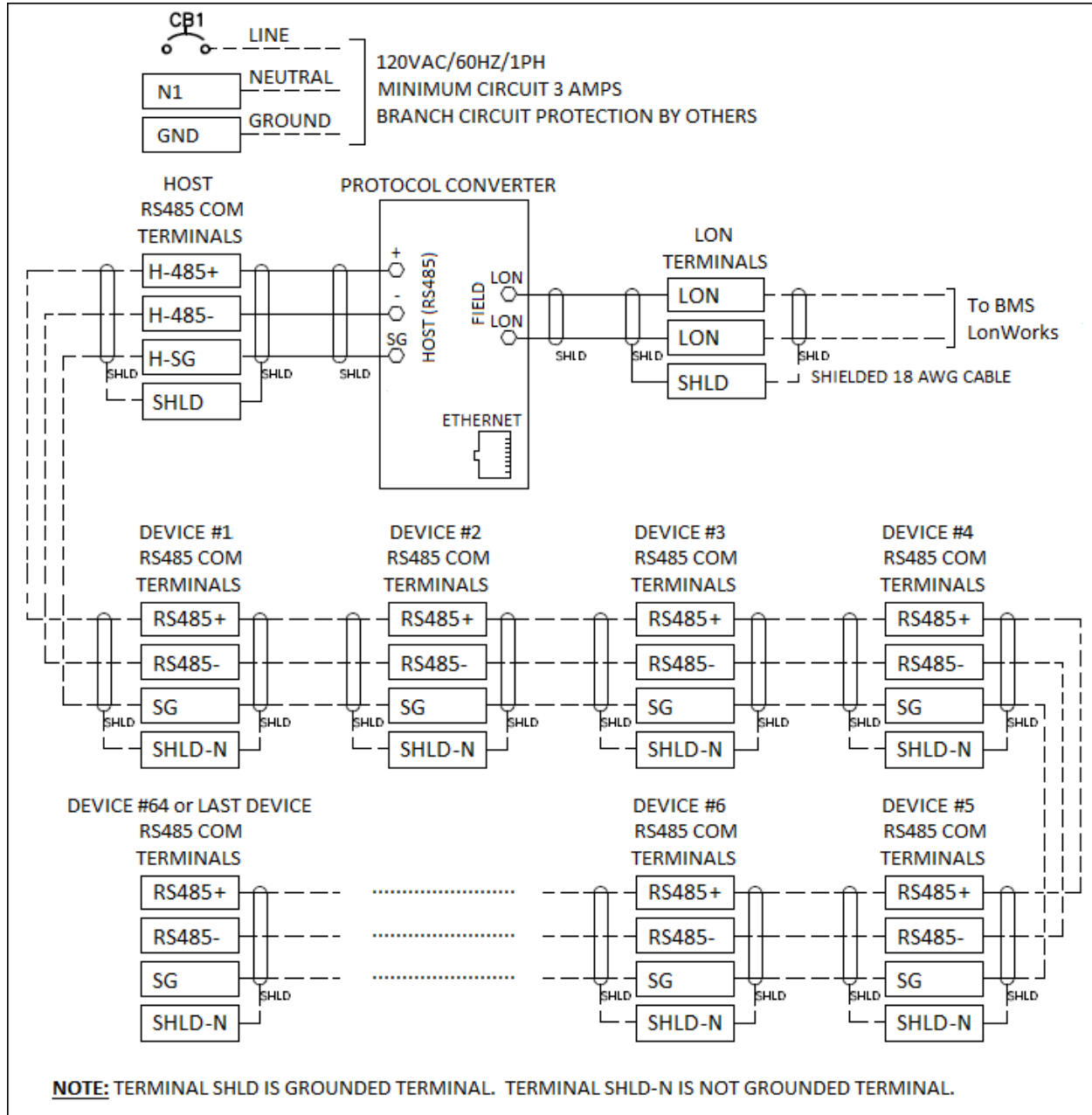
## Connections (Continued)

### TS-PX4-X (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



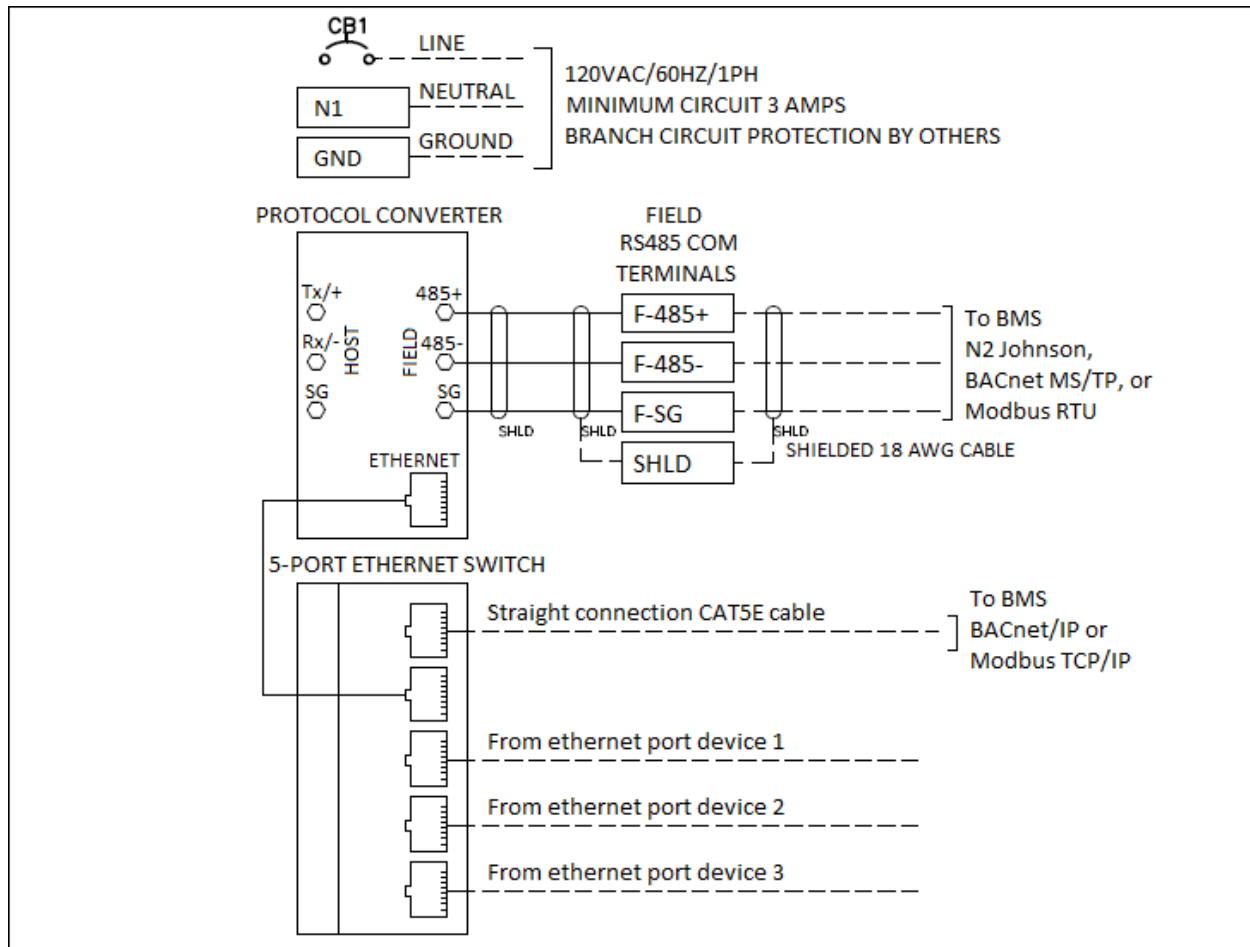
## Connections (Continued)

### TS-PL4-X (LonWorks)



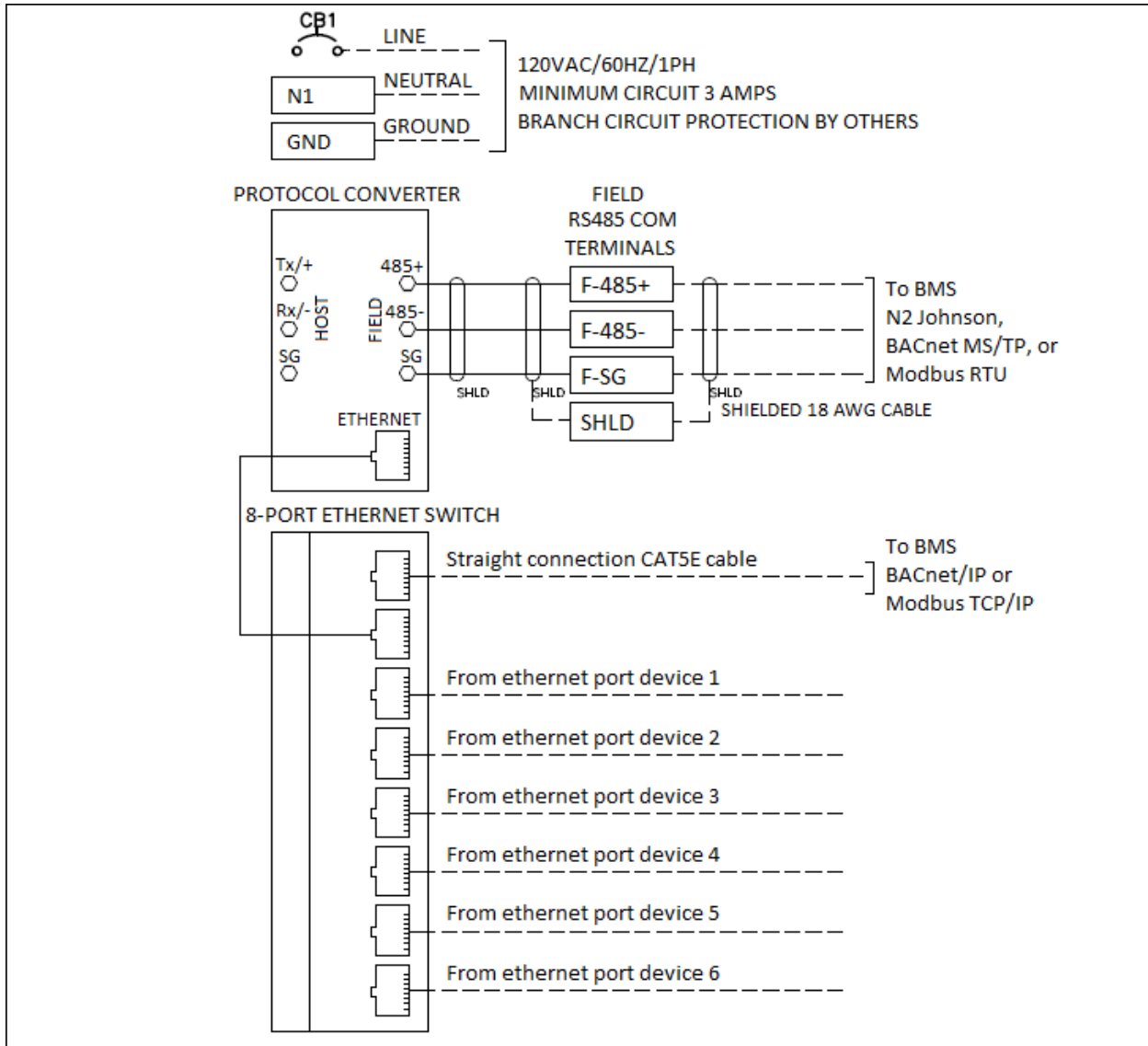
## Connections (Continued)

### TS-PXx-3- 5 Port Ethernet Switch (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



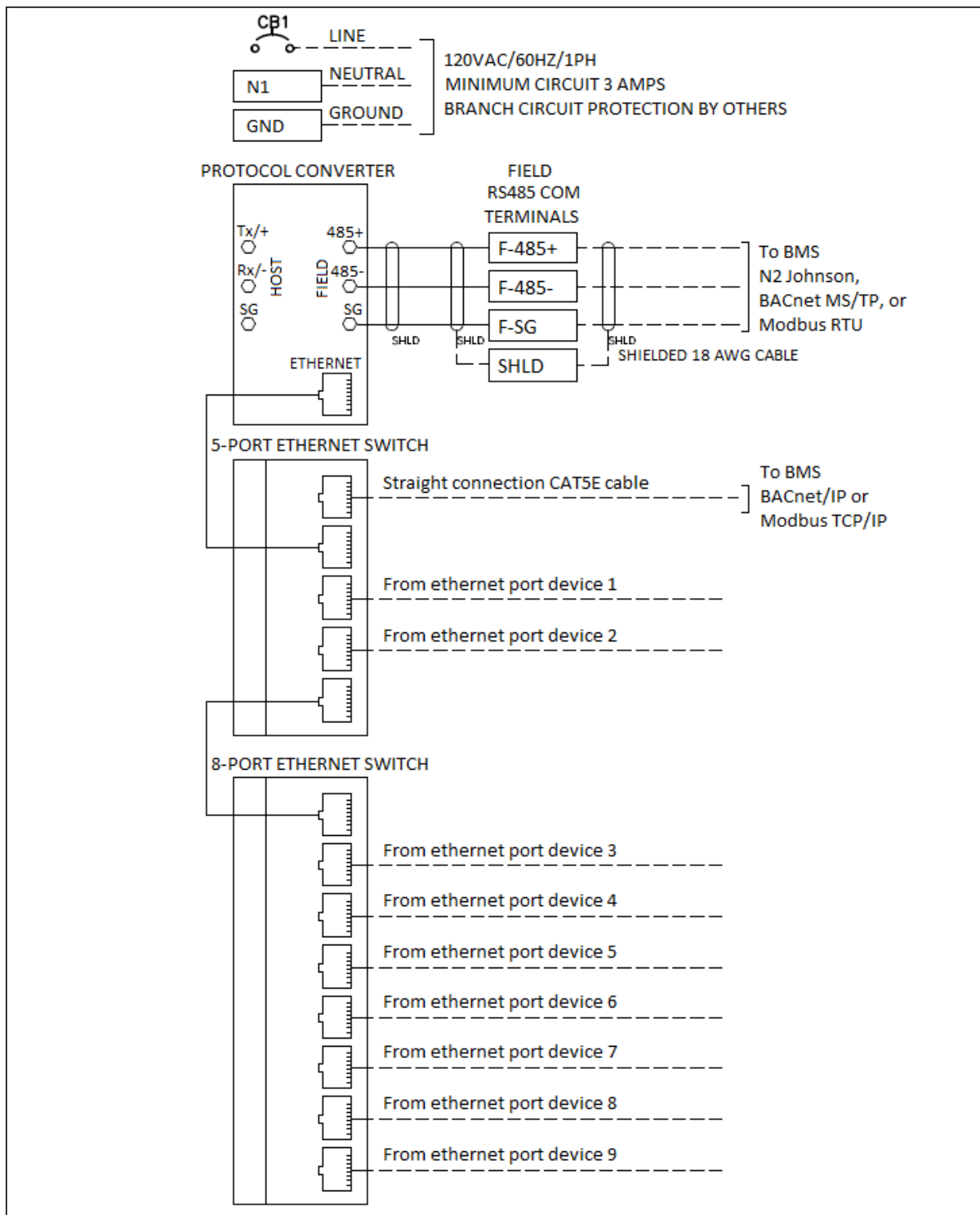
## Connections (Continued)

### TS-PXx-6 – 8 Port Ethernet Switch (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



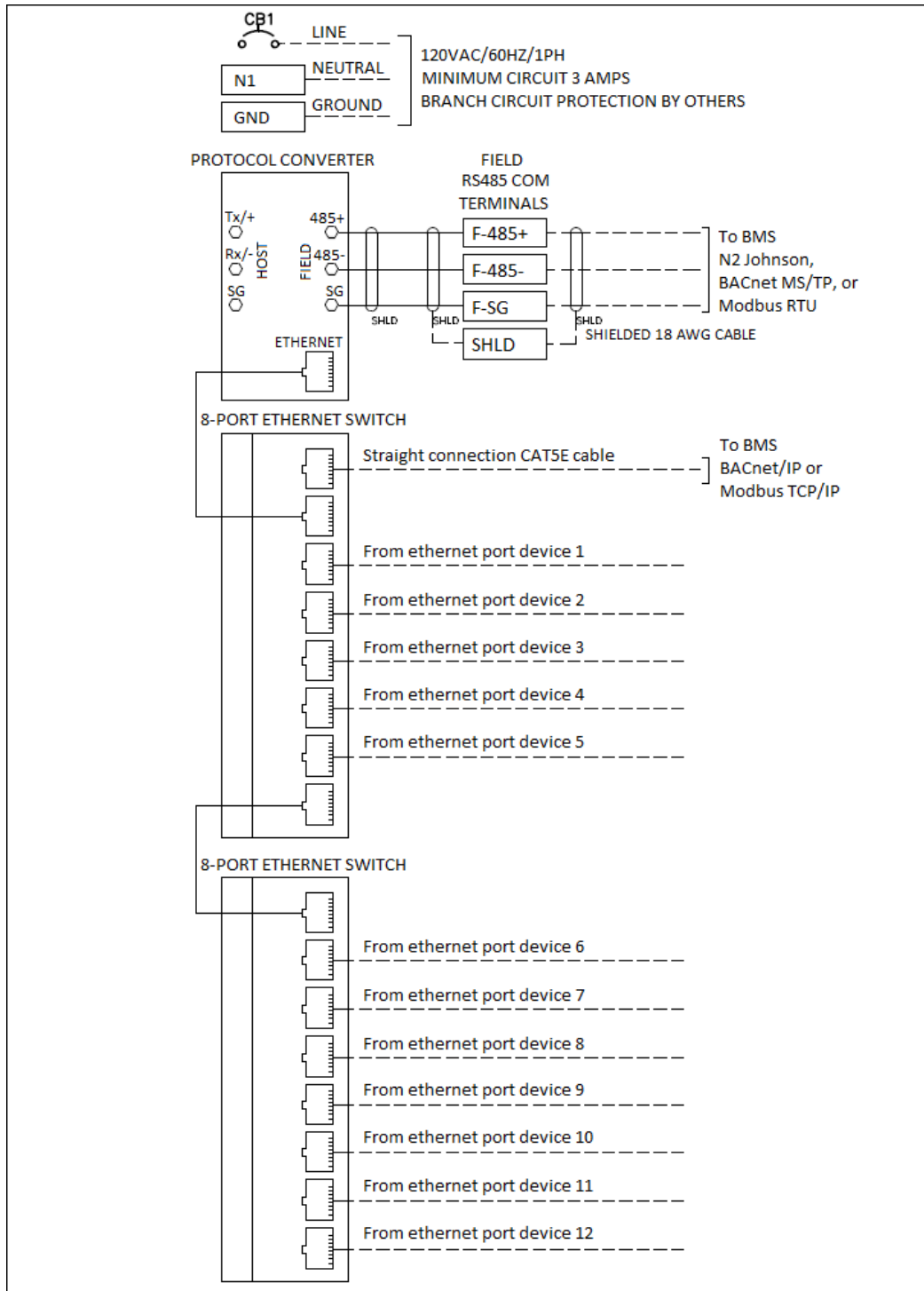
## Connections (Continued)

### TS-PXx-9- 13 Port Ethernet Switch (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



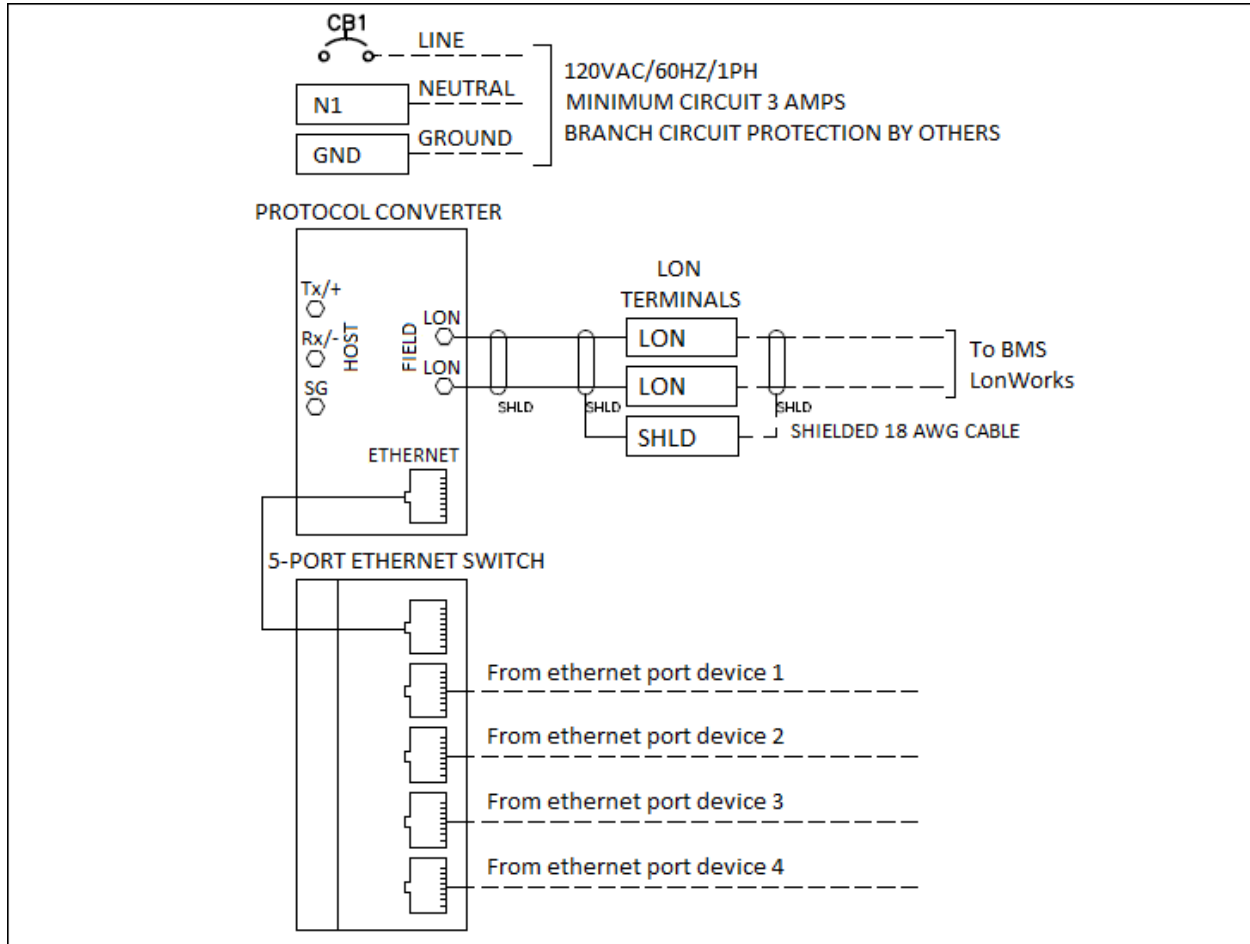
## Connections (Continued)

### TS-PXx-12- 16 Port Ethernet Switch (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



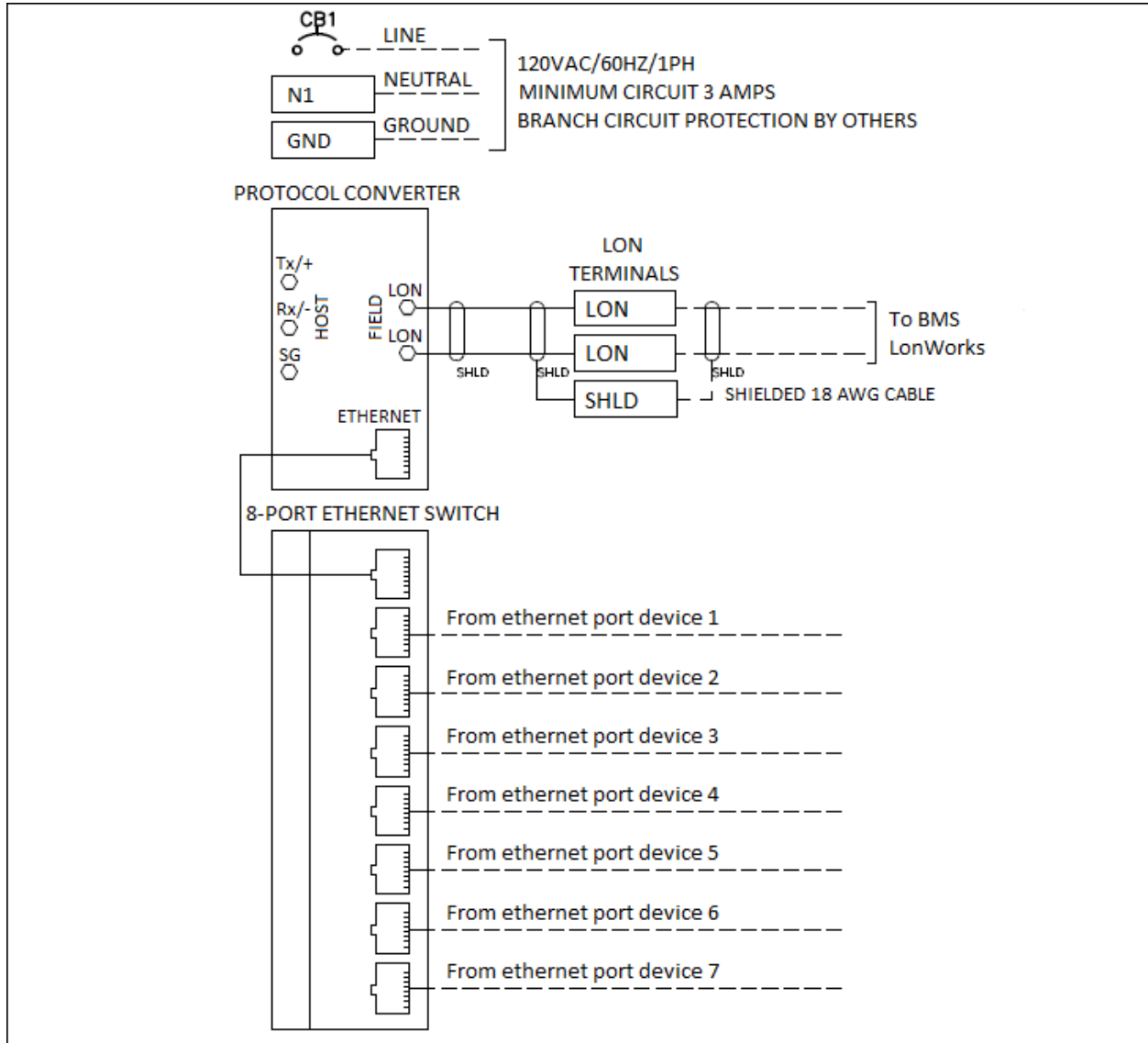
## Connections (Continued)

### TS-PLx-3- 5 Port Ethernet Switch (LonWorks)



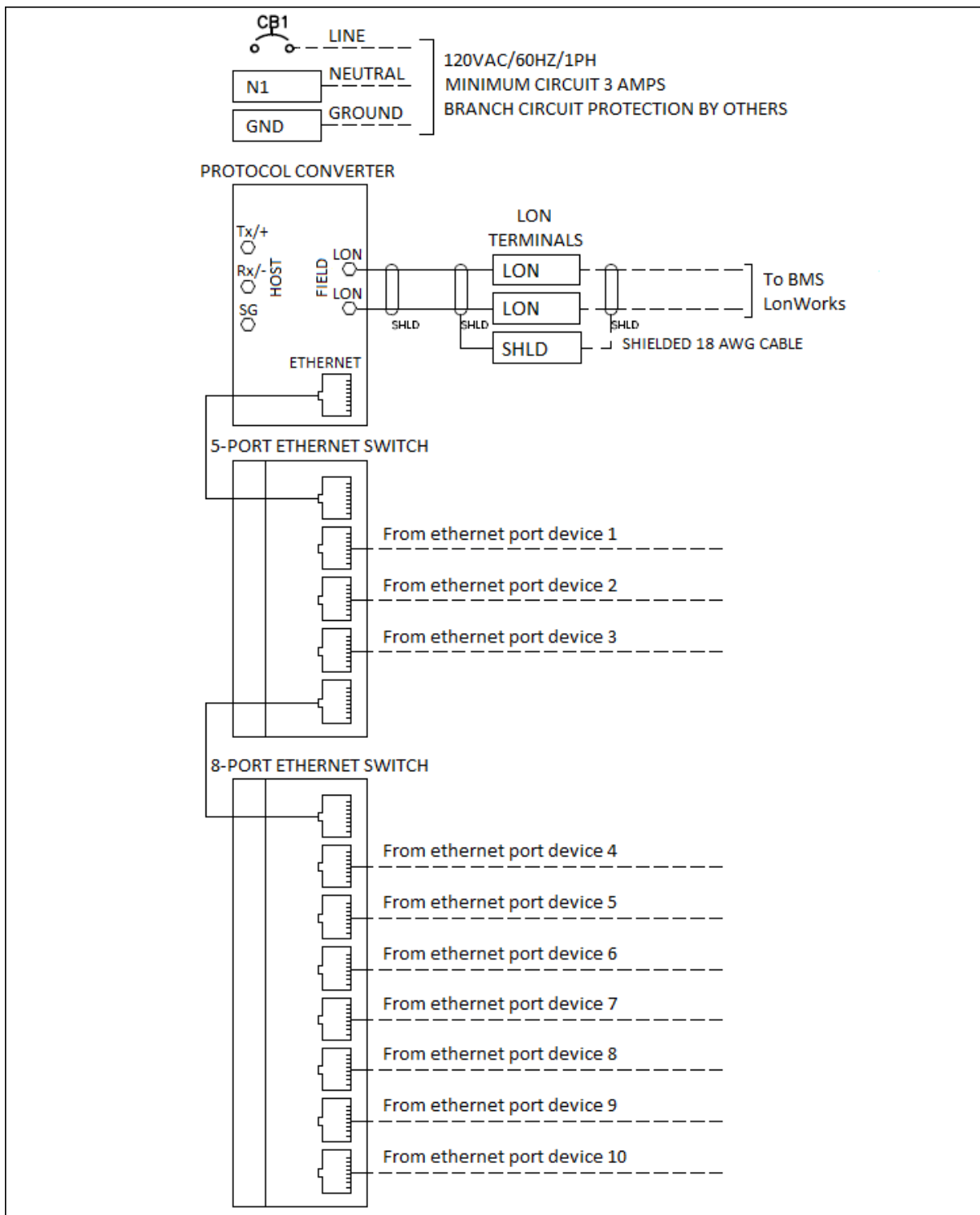
## Connections (Continued)

### TS-PLx-6 - 8-Port Ethernet Switch (LonWorks)



## Connections (Continued)

### TS-PLx-9 – 13 Port Ethernet Switch (LonWorks)

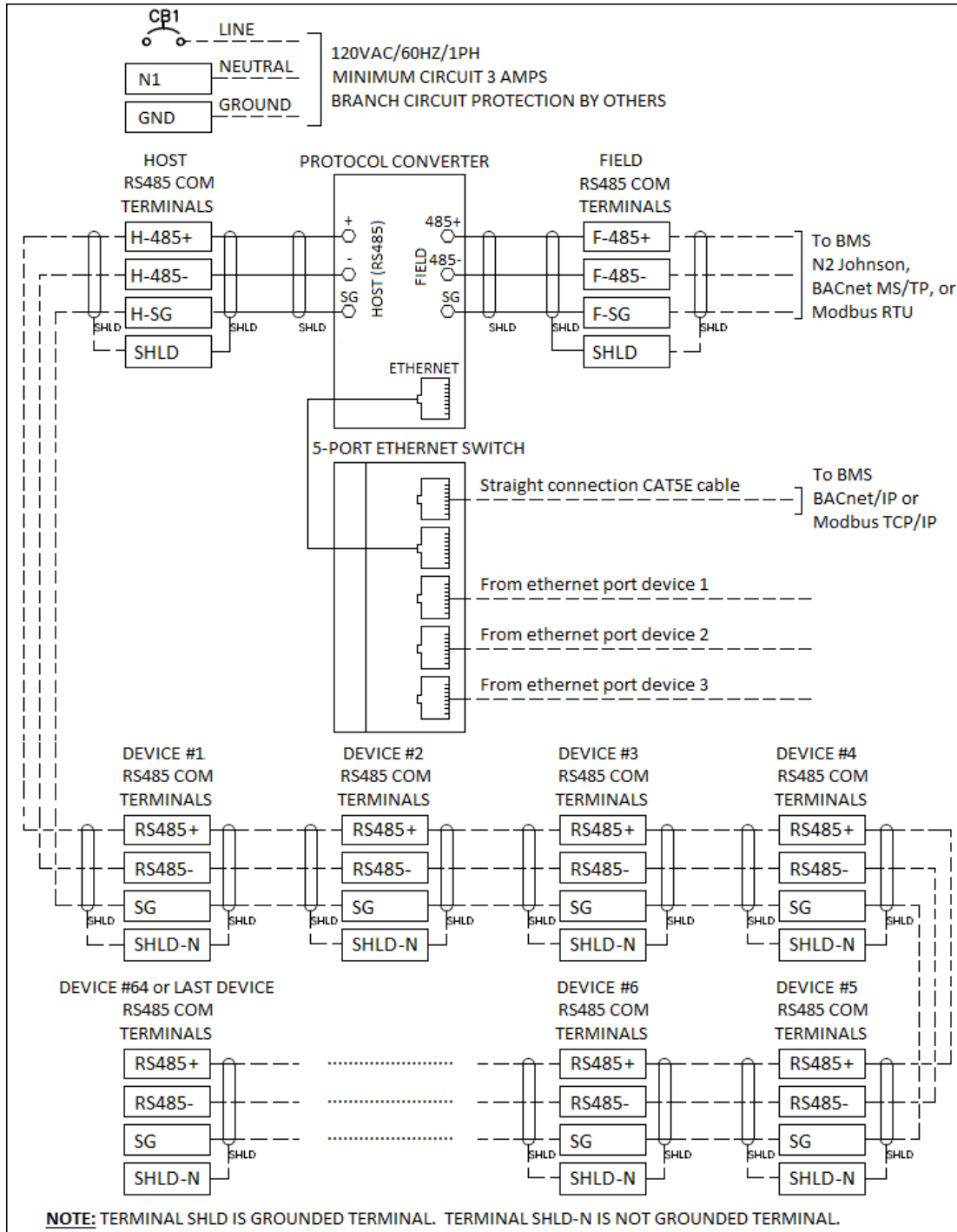




## Connections (Continued)

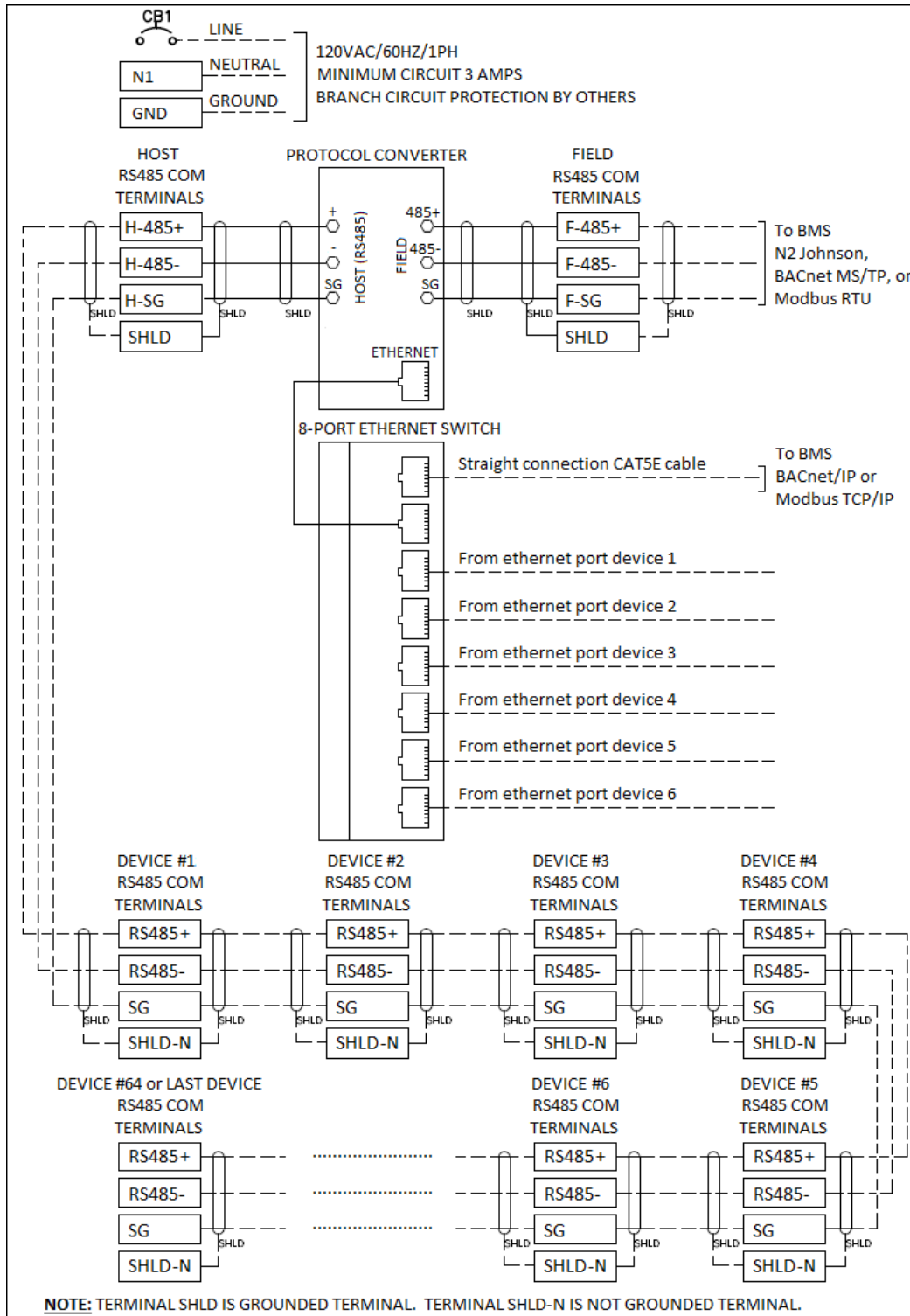
(Host: Ethernet and Serial)

### TS-PX4-3- 5 Port Ethernet Switch (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



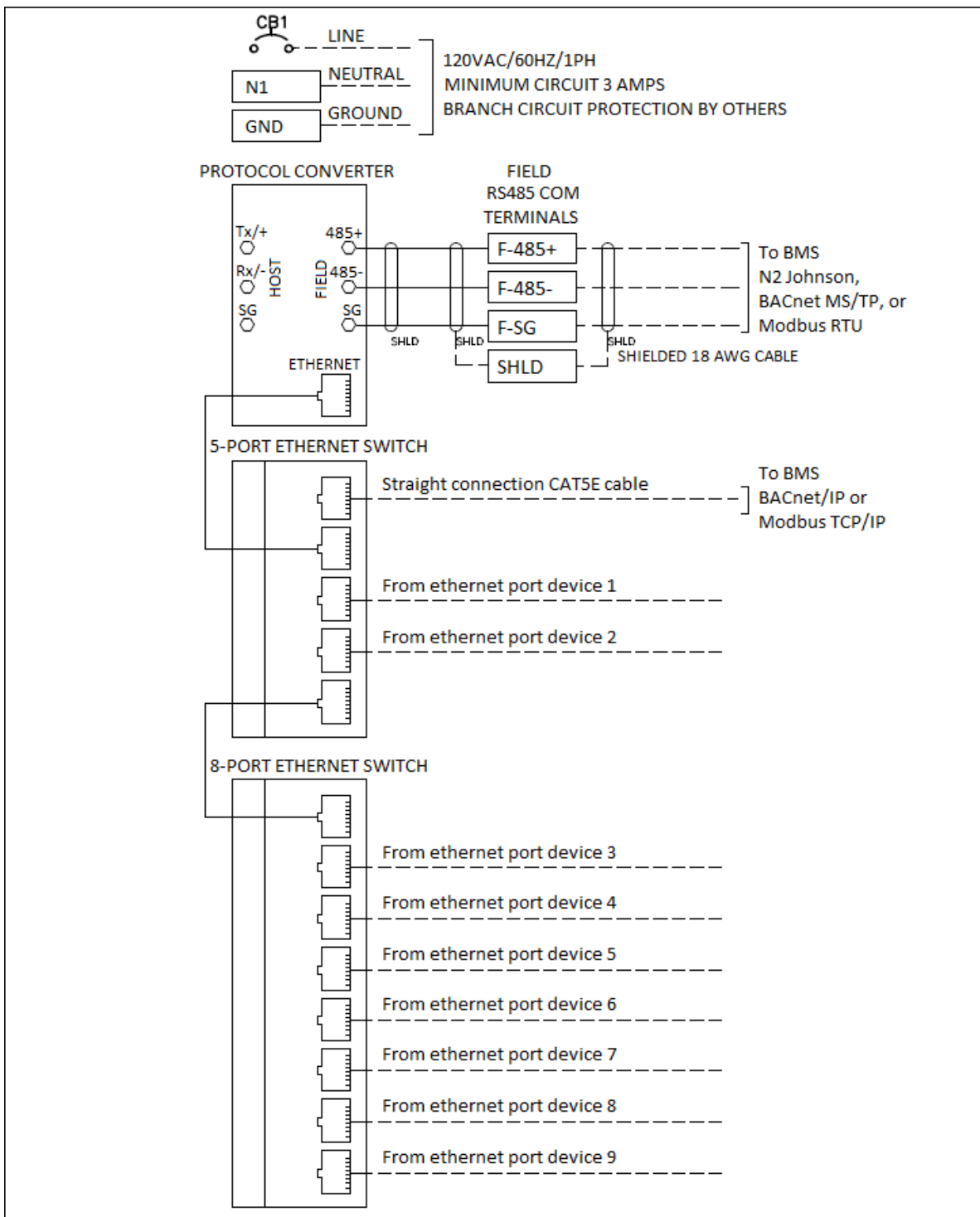
## Connections (Continued)

### TS-PX4-6 – 8 Port Ethernet Switch (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



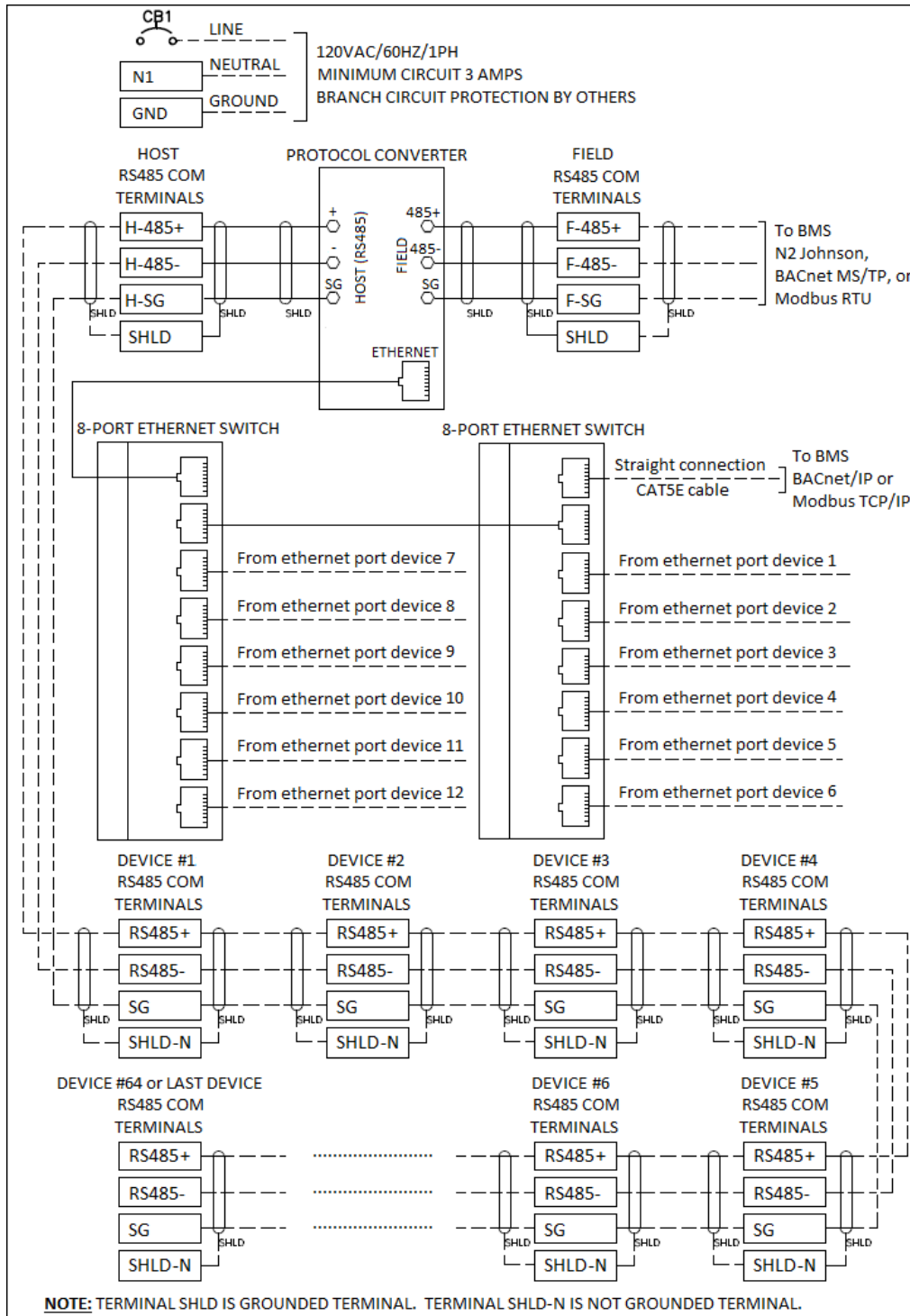
## Connections (Continued)

### TS-PX4-9- 13 Port Ethernet Switch (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



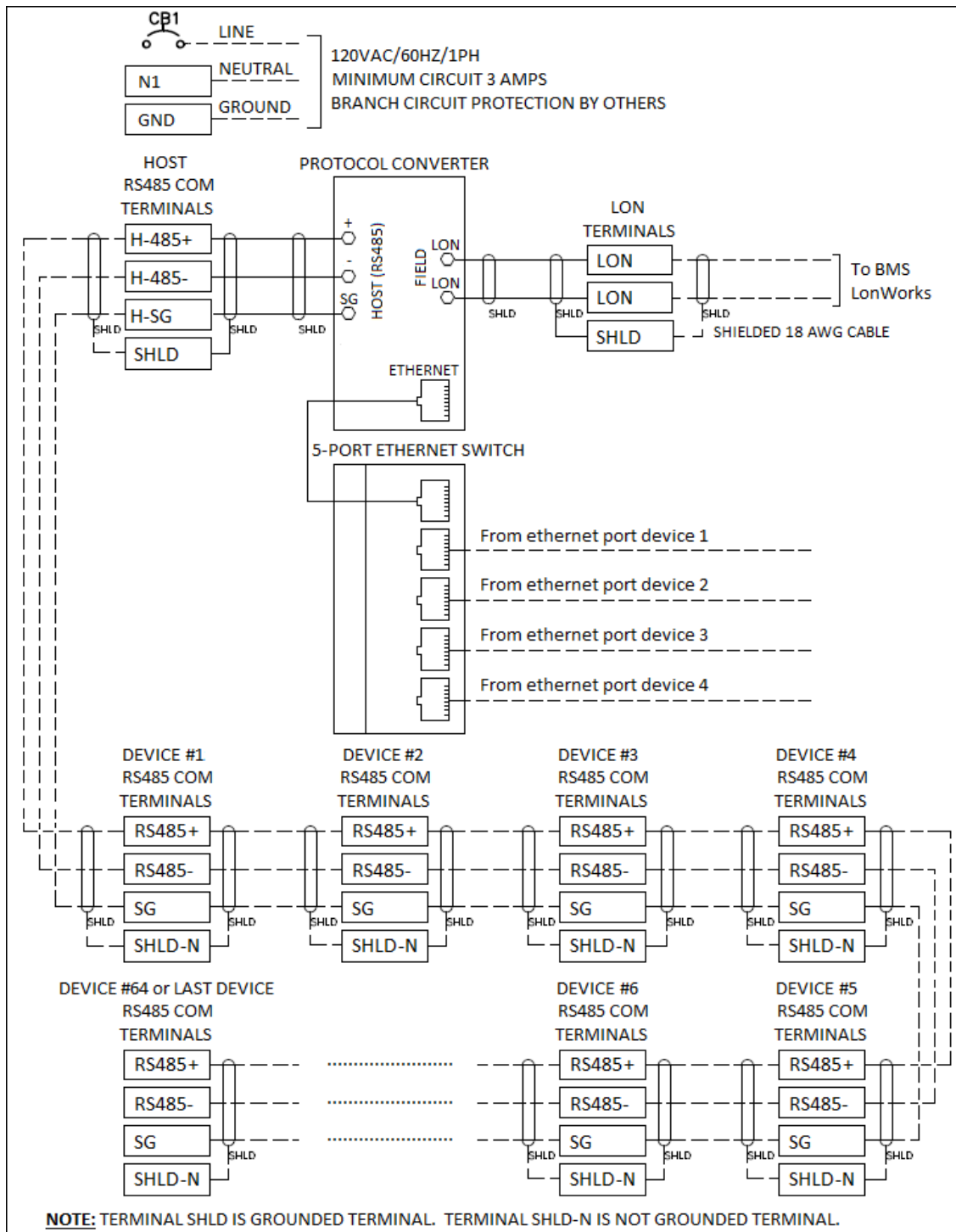
## Connections (Continued)

### TS-PX4-12- 16 Port Ethernet Switch (BACnet/IP, BACnet MS/TP, N2 Johnson or Modbus RTU)



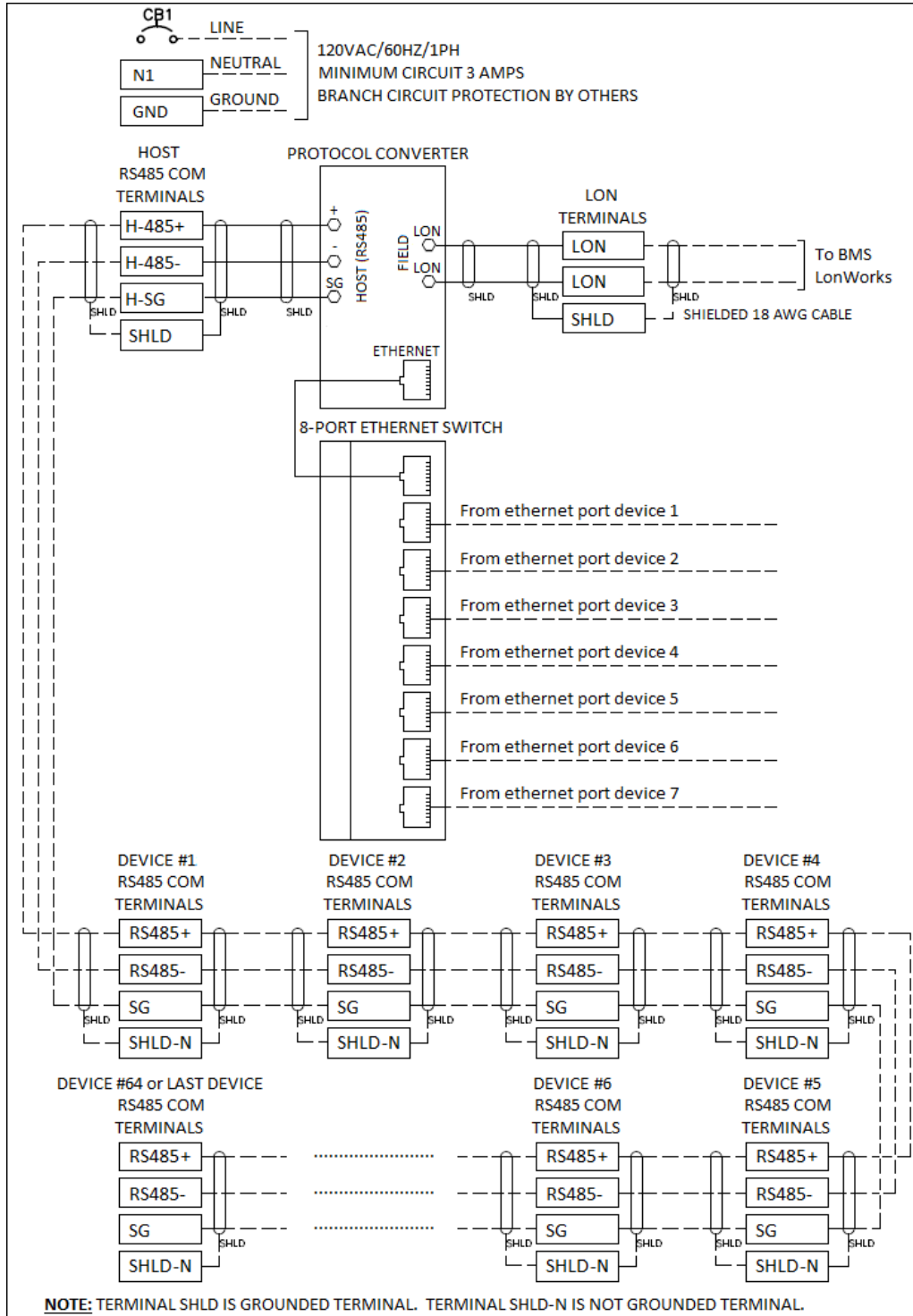
## Connections (Continued)

### TS-PL4-3- 5 Port Ethernet Switch (LonWorks)



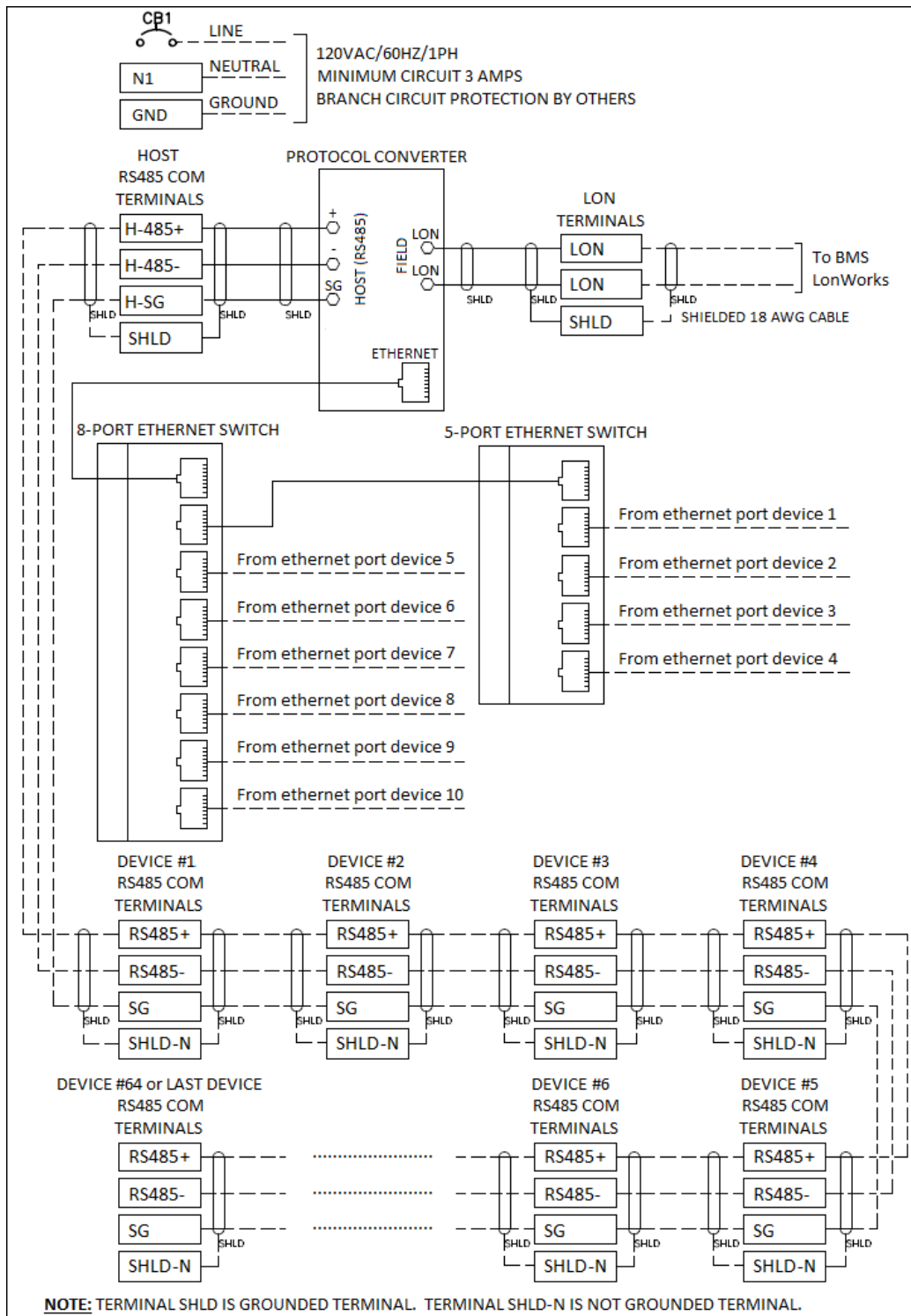
## Connections (Continued)

### TS-PL4-6- 8 Port Ethernet Switch (LonWorks)



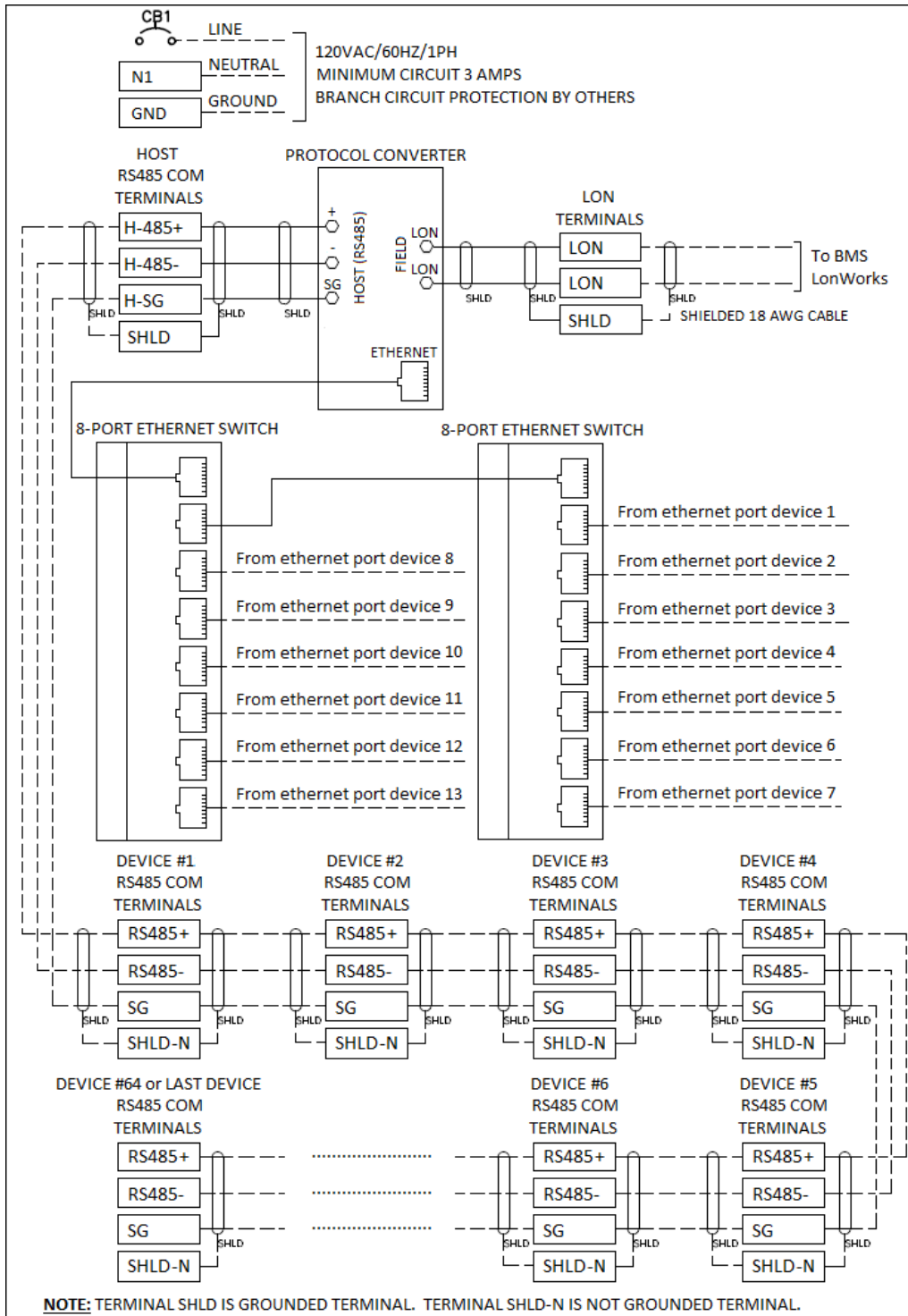
## Connections (Continued)

### TS-PL4-9- 13 Port Ethernet Switch (LonWorks)



## Connections (Continued)

### TS-PL4-12 – 16 Port Ethernet Switch (LonWorks)



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