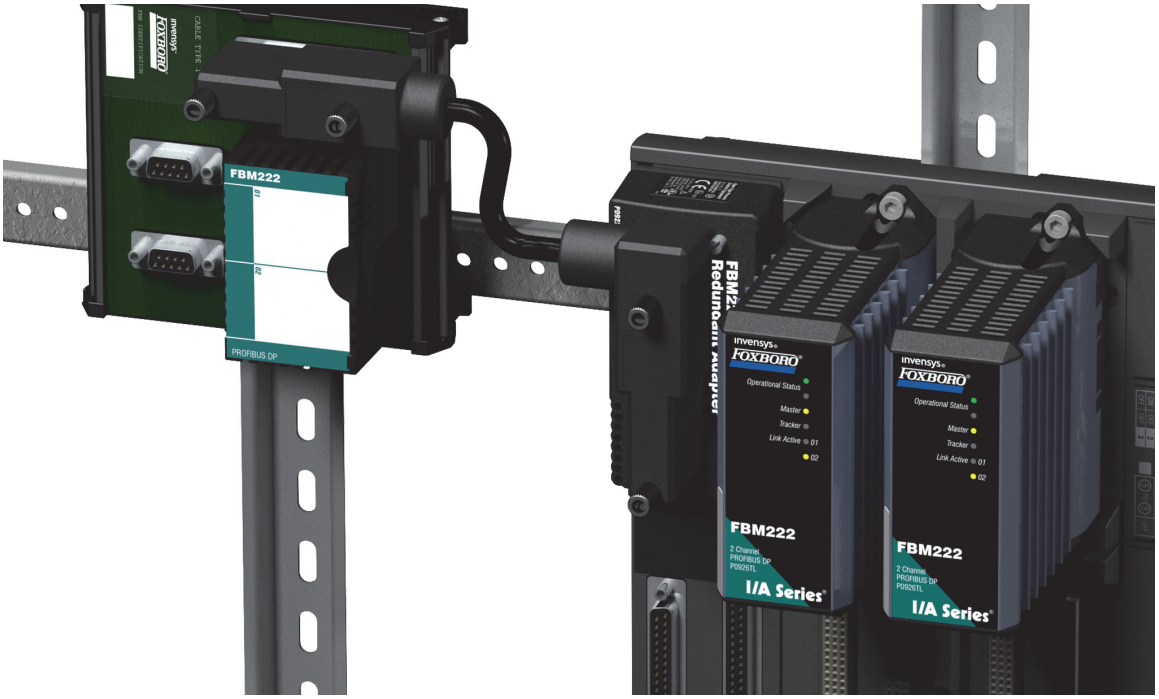
I/A Series® HARDWARE
Product Specifications

invensys
Foxboro®

PSS 21H-2Z22 B4

FBM222, Redundant PROFIBUS Communication Interface Module



The FBM222 Redundant PROFIBUS Communication Interface Module provides a reliable, high-capacity interface between PROFIBUS-DP slave devices and the I/A Series® system.

FEATURES

Key features of the FBM222 are:

- Integrates PROFIBUS-DP/PA slave devices into the I/A Series control system
- Conforms to the PROFIBUS-DP Specification IEC61158 Part 3
- Supports up to 125 slave devices per port with full 244 byte data transfer
- Maximizes uptime by providing redundant TAs, hot-swappable redundant FBM modules, and fully redundant communication between the FBM222 and fault-tolerant control processors
- Enables addition, modification and removal of devices without impacting on-going operations
- Propagates the PROFIBUS-PA device values and status to I/A Series control blocks
- Provides a user-selectable status parameter for input data as well as read-back values for output data
- Supports PROFIBUS-DP Class 1 and Class 2 Masters along with multi-master configurations
- Provides two galvanically isolated PROFIBUS channels

- Suitable for installation in Class 1, Division 2 and Zone 2 locations
- Supports the FBM223 Termination Assembly allowing a simple upgrade from an FBM223 while maintaining existing wiring and cable.

OVERVIEW

The Redundant PROFIBUS Communication Interface Module (FBM222) provides an interface between the I/A Series system and PROFIBUS-DP/PA slave devices, including motor drives, I/O modules, and field I/O devices. The FBM222, which can be used in a single or redundant configuration, supports two PROFIBUS links with a maximum of 125 slave devices per port when repeaters are utilized. The FBM222 connects the slave devices to the versatile and robust I/A Series control system via Distributed Control Interface (DCI) blocks. Physical PROFIBUS-DP wiring is in accordance with Electronic Industrial Association (EIA) standard RS-485.

There are multiple ways to connect FBM222s installed as a redundant pair to a PROFIBUS-DP network. When the PROFIBUS segments are single networks as shown in Figure 1, an FBM228/FBM222 Redundant Adapter (P0922RK) connects a single termination cable to the redundant pair. The other end of the cable is plugged into a termination assembly (TA), which provides connections for the two network segments (Figure 1).

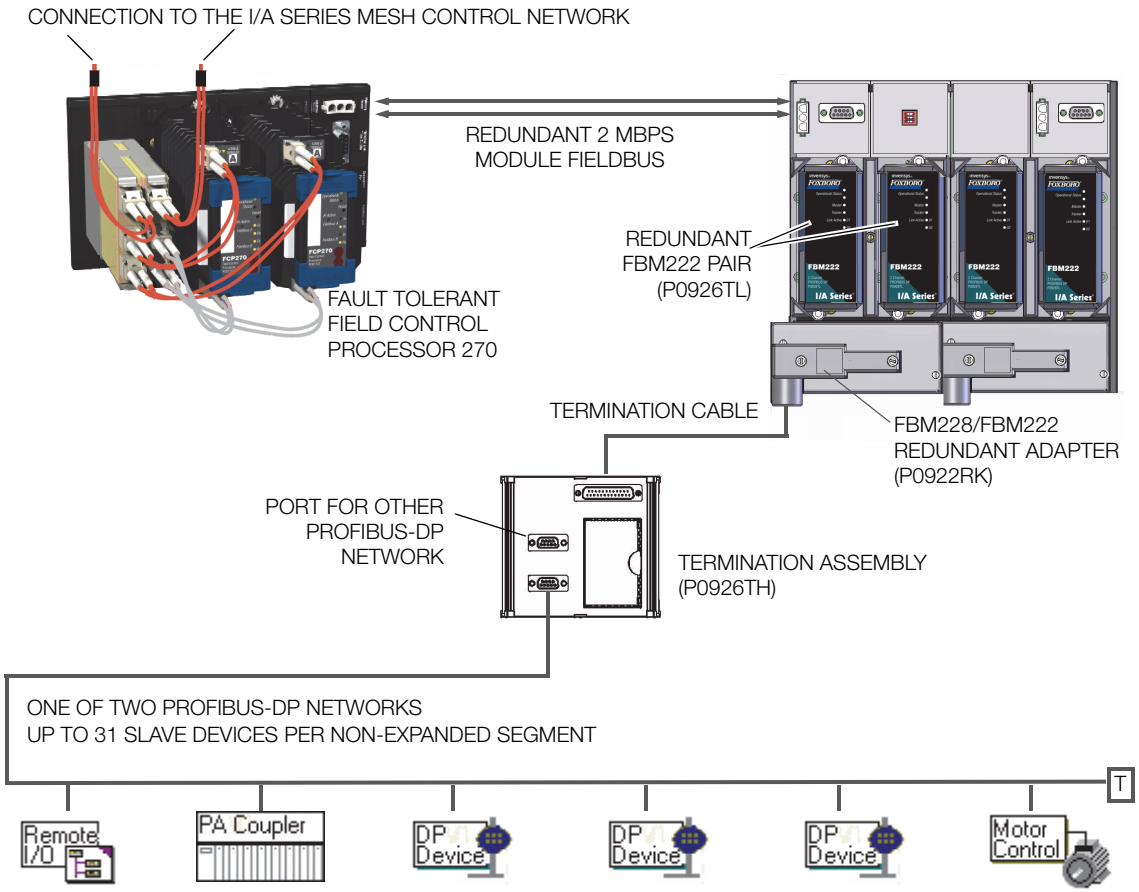


Figure 1. Redundant FBM222 with Single PROFIBUS-DP Network

When the segments contain redundant media, two TAs are connected via termination cables and the FBM222 Redundant Adapter - Dual Network (P0926XM). The TAs in turn are connected to each network by third-party redundant link modules, such as the ABB™ Redundant Link Module (RLM01) or the Siemens™ Optical Link Module (OLM) (Figure 2).

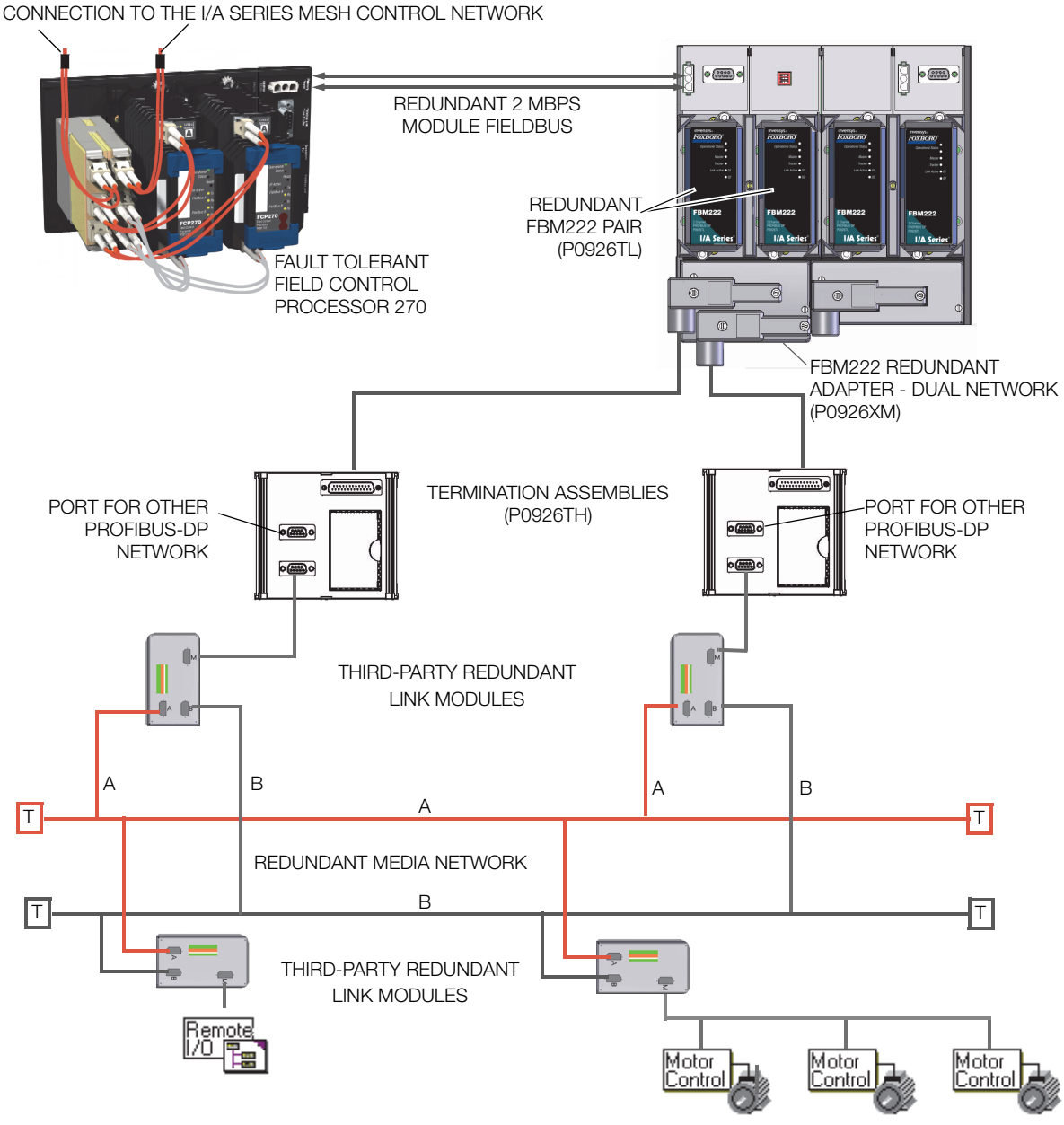


Figure 2. Redundant FBM222s with Redundant Media PROFIBUS-DP Network

The TA and its associated termination cable provide feed-through connection between PROFIBUS-DP compliant field devices and the FBM222.

The DIN rail mounted TA connects to the Modular Baseplate by means of a removable termination cable. The cable is available in a variety of lengths, up to 30 meters (98 feet), allowing the TA to be mounted either in the enclosure or in an adjacent enclosure. The TA-to-FBM cable length is not included in determining the maximum network cable length.

Termination cables are available in the following materials:

- Polyurethane
- Low Smoke Zero Halogen (LSZH).

Refer to Table 2.

The FBM222 also supports the FBM223 Passive Termination Assembly (P0917SY), enabling owners to upgrade to the redundant PROFIBUS communication interface without replacing the TAs and associated field wiring. However, with this TA, the length of the TA-to-FBM cable is included when calculating the maximum network cable length.

Table 2. Termination Cable Types and Part Numbers

Cable Length m (ft)	Type 1 P/PVC[a]	Type 1 LSZH [b]	Type 1 H/XLPE[c]
0.5 (1.6)	P0916DA	P0928AA	P0916VA
1.0 (3.2)	P0916DB	P0928AB	P0916VB
2.0 (6.6)	P0931RM	P0928AC	P0931RR
3.0 (9.8)	P0916DC	P0928AD	P0916VC
5.0 (16.4)	P0916DD	P0928AE	P0916VD
10.0 (32.8)	P0916DE	P0928AF	P0916VE
15.0 (49.2)	P0916DF	P0928AG	P0916VF
20.0 (65.6)	P0916DG	P0928AH	P0916VG
25.0 (82.0)	P0916DH	P0928AJ	P0916VH
30.0 (98.4)	P0916DJ	P0928AK	P0916VJ

(a) P/PVC is polyurethane outer jacket and semi-rigid PVC primary conductor insulation. Temperature range; -20 to +80°C (-4 to +176°F).

(b) Low smoke zero halogen or low smoke free of halogen (LSZH) is a material classification used for cable jacketing. LSZH is composed of thermoplastic or thermoset compounds that emit limited smoke and no halogen when exposed to high sources of heat. Temperature range: -40 to +105°C (-40 to +221°F)

(c) H/XLPE is Hypalon outer jacket and XLPE (cross-linked polyethylene) primary conductor insulation. Temperature range: -40 to +90°C (-40 to +194°F). Hypalon cables are no longer available for purchase.