FOXBORO®

PSS 21H-6C4 B4

I/A Series® Hardware
Field Automation Subsystem
Micro-I/A™ Station PROFIBUS-DP™ Interface

DESCRIPTION

The Micro-I/A station PROFIBUS-DP Interface connects PROFIBUS-DP modules directly to a Micro-I/A station. Up to three interface cards are supported in a Type 1 unit. Each interface card can control up to 31 modules in a segment. A single card allows further expansion of up to 125 modules in a string utilizing bus repeaters between segments.

Recognized as the leading open fieldbus in Europe, PROFIBUS is defined by the PROFIBUS Users Organization and its published standard, EN 50 170. The PROFIBUS-DP version of the standard is optimized for high speed and low cost connectivity.

PACKAGING

The design of the interface card is based on Personal Computer Memory Card Industry Association (PCMCIA) technology (sometimes referred to as PC card technology) and is characterized by:

- Small size
- Minimal power consumption
- Easy installation and removal.

COMMUNICATION

This interface card is the link between a Micro-I/A station and a string of PROFIBUS-DP modules. The PROFIBUS protocol defines the Micro-I/A station as a Master Class 1 and is designated as an active station.

Field communications are implemented by RS-485 transmission technology.

The PROFIBUS User Organization lists a large number of module vendors and over 200 certified module types. Information concerning protocol architecture, communications details and potential vendors is available on the Internet at www.profibus.com.

CONFIGURATION

An Intelligent PROFIBUS-DP network configuration software module is optionally available to minimize the effort to configure the PROFIBUS-DP network. This software module interfaces to the Integrated Control Configurator.

CARD CONSTRUCTION

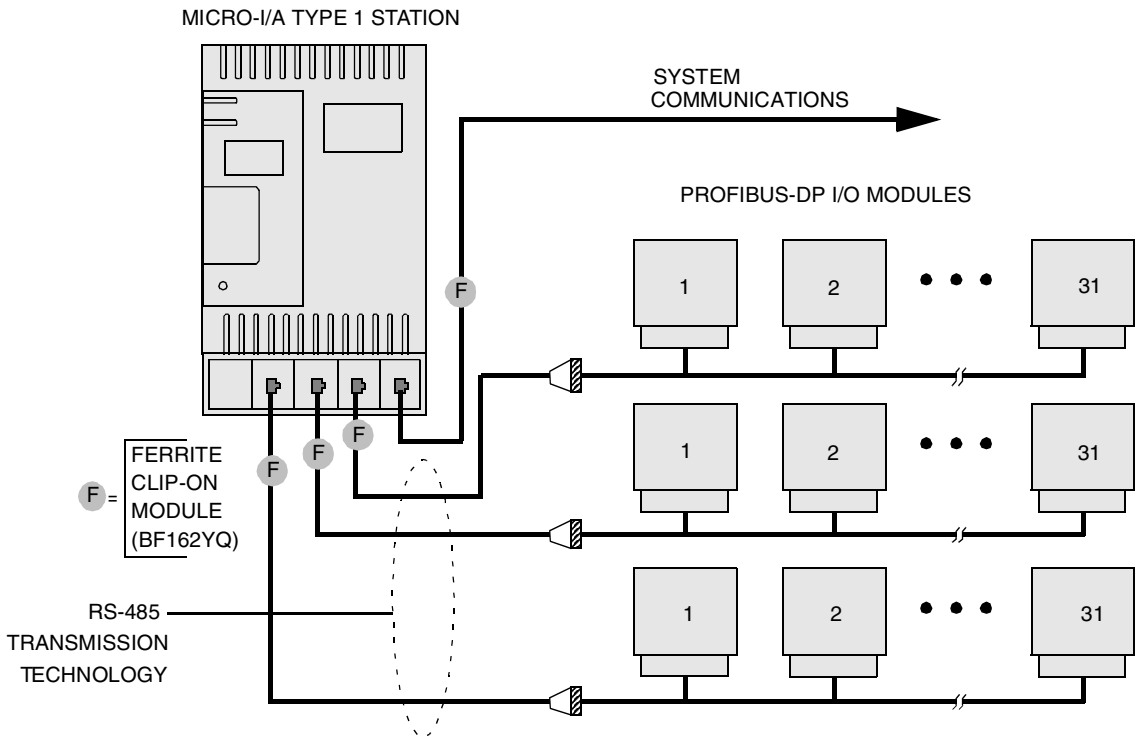
The interface card is a sealed unit; in the event of a card failure, it is easily replaced with a new one.

CARD INSTALLATION/REPLACEMENT

Installation of the PROFIBUS-DP Interface card involves removing the front cover on the Micro-I/A station, seating the card into an empty slot in the station, routing the card's connecting cable through the station, and plugging the cable connector into the base of the station.

Removal and replacement of the interface card can be performed without disturbing external user terminations.

If a Micro-I/A PROFIBUS-DP Interface card is removed and later re-installed or replaced (for example, when you replace a defective card), the card is automatically initialized. The unit must be powered off.



NOTES

1. MAXIMUM NUMBER OF MODULES PER SEGMENT IS 31 (WITHOUT REPEATERS ON THE BUS).
2. MAXIMUM NUMBER OF MODULES IN MULTI-SEGMENT STRING IS 126 (UTILIZING REPEATERS ON THE BUS).
3. SEE Micro-I/A STATION USER'S GUIDE (B0193VJ) FOR EARTH GROUNDING AND TERMINATION REQUIREMENTS.
4. USE FERRITE CLIP-ON MODULE (BF162YQ) ON ALL SYSTEM COMMUNICATIONS AND FIELD COMMUNICATIONS CABLES.

Figure 1. Typical Configuration for Micro-I/A Type 1 Station and PROFIBUS-DP Modules

MULTIPLE PLATFORM SUPPORT

One Micro-I/A station can be configured to service a combination of I/O families simultaneously. This feature is a function of the number of available PCMCIA slots and available serial I/O ports in the station.

In conjunction with the PROFIBUS-DP platform, one or more of the following I/O families can be supported concurrently:

- I/A Series IEEE 1118 Fieldbus
- Allen-Bradley™ Remote I/O
- GE™ Fanuc™ Direct Connect I/O
- Modbus™ I/O
- Allen-Bradley PLC5/E™ Ethernet I/O.

FUNCTIONAL SPECIFICATIONS

Electromagnetic Compatibility

EUROPEAN COMPLIANCE
Complies with Council Directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC

RADIO FREQUENCY EMISSIONS
EN 55011 Class A, CISPR 11 Class A

ELECTROSTATIC DISCHARGE
EN 61000-4-2, IEC 61000-4-2, 4 kV/8 kV contact/air

RF RADIATED FIELD
EN 61000-4-3, IEC 61000-4-3, 10 V/m

ac POWER

Burst
EN 61000-4-4, IEC 61000-4-4, 2 kV

Surge
EN 61000-4-5, IEC 61000-4-5, 1 kV/2 kV

Conducted RF
EN 61000-4-6, IEC 61000-4-6, 3 V

I/O SIGNAL/CONTROL

Burst
EN 61000-4-4, IEC 61000-4-4, 1 kV

Surge
EN 61000-4-5, IEC 61000-4-5, 1 kV

Conducted RF
EN 61000-4-6, IEC 61000-4-6, 3 V

Power

INPUT VOLTAGE
5 V dc

INPUT CURRENT
250 mA

POWER CONSUMPTION
1.25 W (maximum)

Bus for Master (Class 1) Interface

MAXIMUM I/O MODULES PER BUS
31 (without repeater)
126 (with repeaters)

NUMBER OF BUSES PER CARD
One

NUMBER OF CARDS PER TYPE 1 STATION
Three

BUS SPEED WITH MAXIMUM LENGTH

9.6 KBaud
1,200 m (3,900 ft)

19.2 KBaud
1,200 m (3,900 ft)

93.75 KBaud
1,200 m (3,900 ft)

187.5 KBaud
1,000 m (3,200 ft)

500 KBaud
400 m (1,300 ft)

1.5 MBaud
200 m (650 ft)

12.0 MBaud
100 m (325 ft)

ENVIRONMENTAL SPECIFICATIONS

Ambient Temperature

OPERATING
0 to 50°C (32 to 122°F)

STORAGE
-20 to +65°C (-4 to +149°F)

Relative Humidity

OPERATING
5 to 95% (noncondensing)

STORAGE
5 to 95% (noncondensing)

Mechanical

VIBRATION (OPERATING)
0.75 g (5 to 200 Hz)

Chemical

CORROSION AND CONTAMINATION
Per ISA Standard S71.04, Class G1

Circuit Board Flammability Effects
94V1

Transportation
ASTM D 999-75

PHYSICAL SPECIFICATIONS

Card Width
54 mm (2.126 in)

Card Length
85.6 mm (3.370 in)

Card Depth
5.0 mm (0.196 in)

Card Mass
40 grams (0.09 lb)

Card Type
Type II. Card is made to PCMCIA specifications.

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Outside U.S.: Contact your local Foxboro representative.