I/A Series® Hardware
Field Automation Subsystem
Micro-I/A™ Station Allen-Bradley™ PLC5/E™ Ethernet Interface

DESCRIPTION

The Micro-I/A station Allen-Bradley PLC5/E (A-B™ PLC5/E) Ethernet Interface connects one A-B PLC5/E module directly to a Micro-I/A station. One interface card is supported in a Type 1 unit. This card can control one programmable logic controller (PLC™) module utilizing an appropriate Ethernet hub.

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 an A-B PLC5/E module.

Field communications are implemented by TCP/IP version 4 with Ethernet transmission technology. The Type 1 station supports a sockets-based protocol with direct logical addressing.

The Allen-Bradley Programmable Logic Controller PLC5/E family is supported.

VISUAL INDICATOR

A green light-emitting diode (LED) located on the front of the connector assembly is used to indicate the status of the interface.

CARD CONSTRUCTION

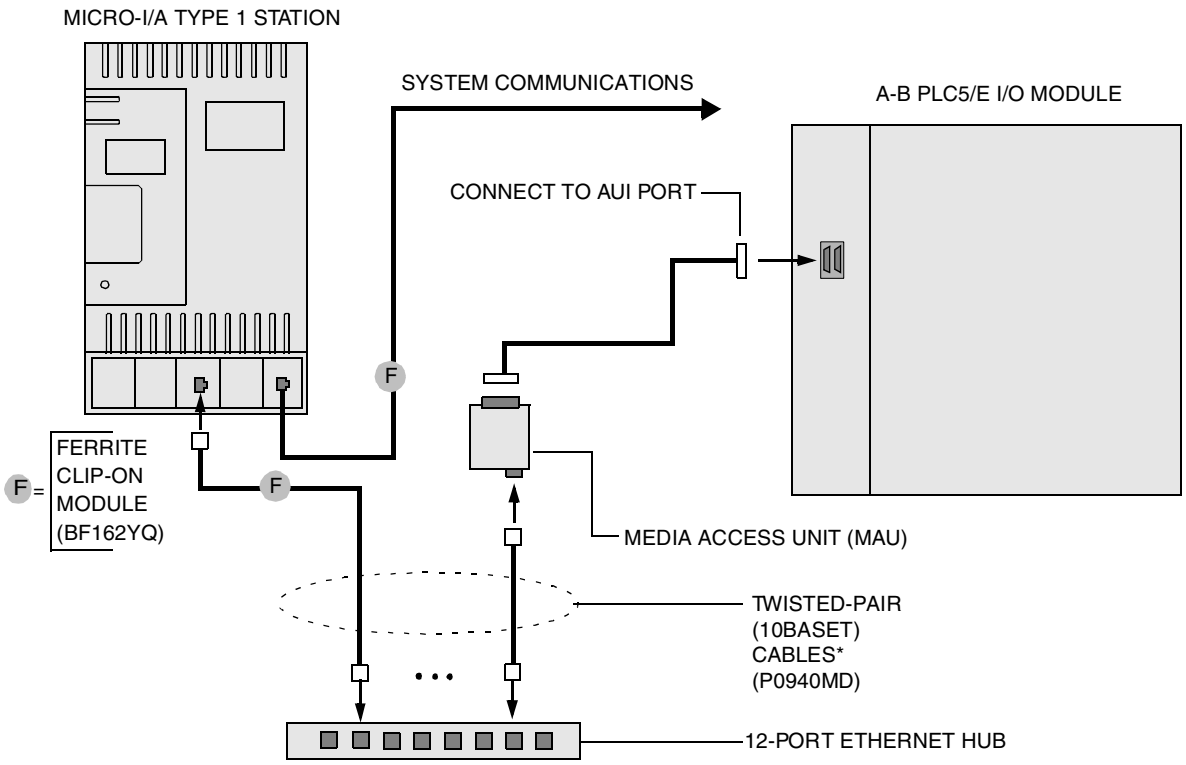
The interface card is a sealed unit; in the event of a card failure, it is easily replaced with a new one.

CARD INSTALLATION/REPLACEMENT

Installation of the Micro-I/A station Allen-Bradley PLC5/E Ethernet Interface card involves removing the front cover on the Micro-I/A station, seating the card into the designated 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 station A-B PLC5/E Ethernet Interface card is removed and later re-installed or replaced (for example, when replacing a defective card), the card is automatically initialized. The unit must be powered off.



NOTES

1. ONLY ONE A-B PLC5/E INTERFACE PCMCIA CARD IS SUPPORTED.
2. MAXIMUM LENGTH OF TWISTED-PAIR CABLE IS 100 m (325 ft).
3. IF AN ETHERNET HUB IS NOT USED, A DIRECT CONNECTION FROM A TYPE 1 STATION TO AN A-B PLC5/E REMOTE I/O MODULE MAY BE CONFIGURED WITH A STANDARD COMMERCIAL “CROSS-OVER” CABLE.
4. ONLY A-B PLC5/E TO Micro-I/A STATION COMMUNICATIONS ARE ALLOWED ON THE HUB. OTHER UNRELATED NETWORK TRAFFIC DEGRADES THE A-B PLC5/E TCP/IP COMMUNICATION PERFORMANCE SIGNIFICANTLY BELOW SPECIFIED LEVELS, OR EVEN PREVENTS ESTABLISHING COMMUNICATIONS.

Figure 1. Typical Configuration for Micro-I/A Type 1 Station and A-B PLC5/E Module

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 A-B PLC5/E 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
- PROFIBUS-DP™ 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 A-B PLC5/E Interface

MAXIMUM I/O MODULES PER CARD
One

NUMBER OF CARDS PER TYPE 1 STATION
One

COMMUNICATIONS SEGMENTS
10BaseT supports up to 100 m (325 ft)
10Base2 supports up to 185 m (600 ft)

Support Equipment

COMMUNICATION CABLE FILTERS
Ferrite clip-on modules (BF162YQ)

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.

NOTE

When this card is used in conjunction with the Foxboro I/A Series Micro-I/A station, this product incorporates technology which is licensed from Allen-Bradley Company, LLC. Allen-Bradley has not technically approved, nor does it warrant or support the products practicing this application. All warranty and support for this product and its application is provided solely by Invensys Systems, Inc. (formerly known as The Foxboro Company).

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