FOXBORO®

PSS 21H-6B8 B4

I/A Series® Hardware
Field Automation Subsystem
Micro-I/A™ Station Allen-Bradley™ Remote I/O Interface

DESCRIPTION

The Micro-I/A station Allen-Bradley Remote I/O Interface card and connecting cable provide field communication between a Micro-I/A station and Allen-Bradley Remote I/O (RIO) modules. When used with the Integrated Control software, Allen-Bradley Flex™ I/O modules are supported on the RIO bus. The maximum number of A-B™ Remote I/O Interface cards usable in one Micro-I/A station is a function of the available number of PCMCIA slots, which could be up to three in some instances. However, since the RIO bus allows multiple drops over remote distances, in many instances only a single A-B Remote I/O Interface card is required.

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:

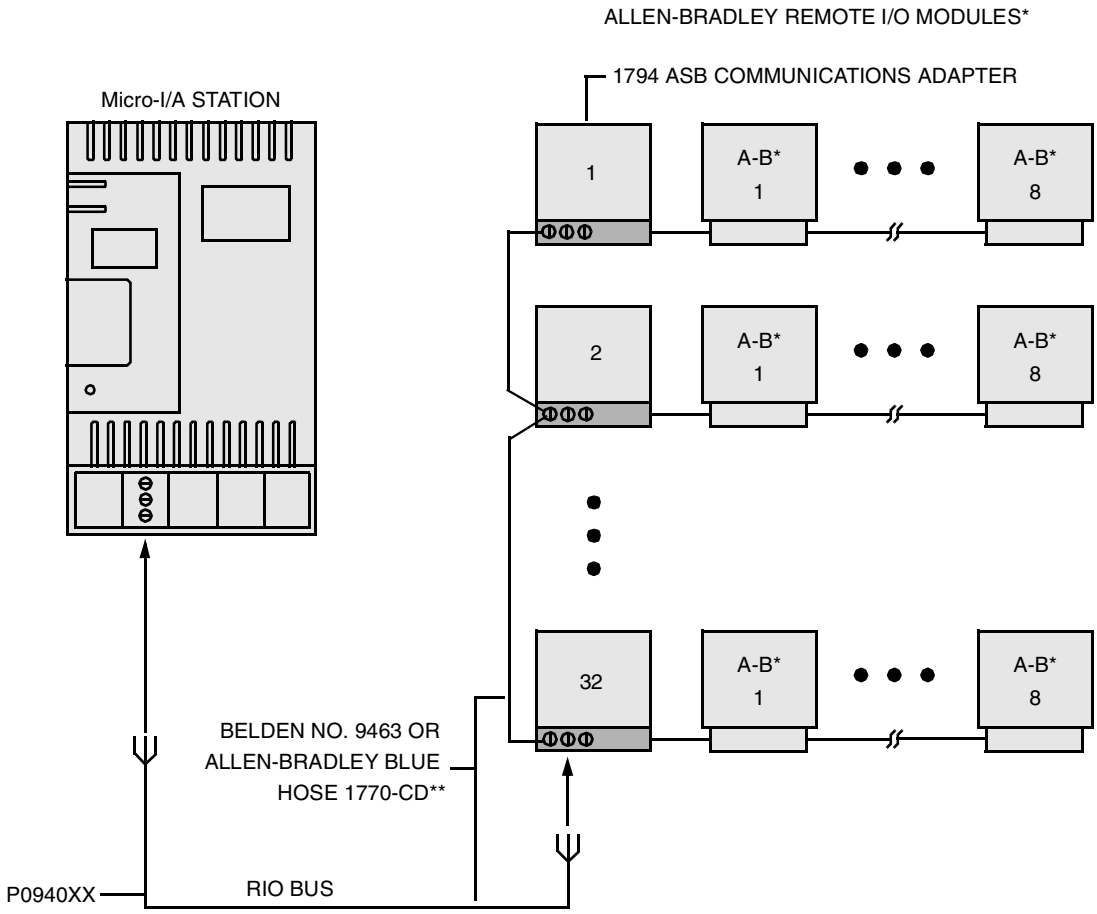
- Small size
- Minimal power consumption
- Easy installation and removal.

COMMUNICATIONS

This interface card is the link between a Micro-I/A station and up to 32 racks of Allen-Bradley Remote Input/Output (RIO) adapters, each of which can access up to eight A-B I/O modules. The Micro-I/A station can be up to 3,000 meters (10,000 feet) away from a strand of A-B I/O modules depending on selected baud rate. The A-B I/O modules that can be connected are:

- A-B 1794-IB16, DIN, 24 V dc, 16 point
- A-B 1794-IB8S, DIN, 24 V dc, 8 point, sensor
- A-B 1794-IA8, 120 V ac DIN, 8 point
- A-B 1794-IE4X0E2, 4 In/2 Out Analog Combo
- A-B 1794-OB16, 24 V dc 16 Source DOUT
- A-B 1794-OE4, AOUT, 4 point
- A-B 1794-OA8, 120 V ac DOUT, 8 point
- A-B 1794-OW8, DOUT, 8 Relay, Form A, N.O.
- A-B 1794-IE8, AIN, 8 point
- A-B 1794-IT8, thermocouple, 8 point
- A-B 1794-IR8, RTD, 8 point.

The I/A Series software supports the A-B RIO “fault groups”. If RIO adapters are configured into a fault group and one RIO adapter fails, the other RIO adapters in the same fault group stop scanning their inputs and assert fail-safe values on the analog outputs and hold last value/reset on the discrete outputs.



NOTE: 24 V DC POWER MUST BE SUPPLIED TO THE 1794 ASB COMMUNICATION ADAPTERS AND THEIR ASSOCIATED MODULES. THE USER-PROVIDED SUPPLY CAN BE EITHER THE ALLEN-BRADLEY 1794-PS1 OR EQUIVALENT.

* REFER TO ALLEN-BRADLEY DOCUMENTATION FOR SIGNAL CABLE CONNECTION INFORMATION.
** REFER TO ALLEN-BRADLEY PUBLICATION ICCG-2.2 FOR SPECIFICATIONS.

Figure 1. Typical Configuration for Micro-I/A Type 1 Station and A-B Remote I/O Modules

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 Allen-Bradley Remote I/O 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 an Allen-Bradley Remote I/O Interface card is removed and later reinstalled or replaced (for example, when replacing a defective card), the card is automatically initialized and I/O scanning immediately continues.

FUNCTIONAL SPECIFICATIONS

Electromagnetic Compatibility
The Allen-Bradley I/O Interface card (PC card) is tested for electromagnetic compatibility as a component of the Micro-I/A station. Refer to PSS 21H-6B4 B4.

Power
INPUT VOLTAGE
5 V dc
INPUT CURRENT
250 mA
POWER CONSUMPTION
1.25 W (maximum)

Bus
LENGTH
AB-1770-CD; Belden 9463
NUMBER OF DROPS
32
BUS SPEED
51.6 KBaud; 3,048 m (10,000 ft)
115.2 KBaud; 1,524 m (5,000 ft)
230.4 KBaud; 762 m (2,500 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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