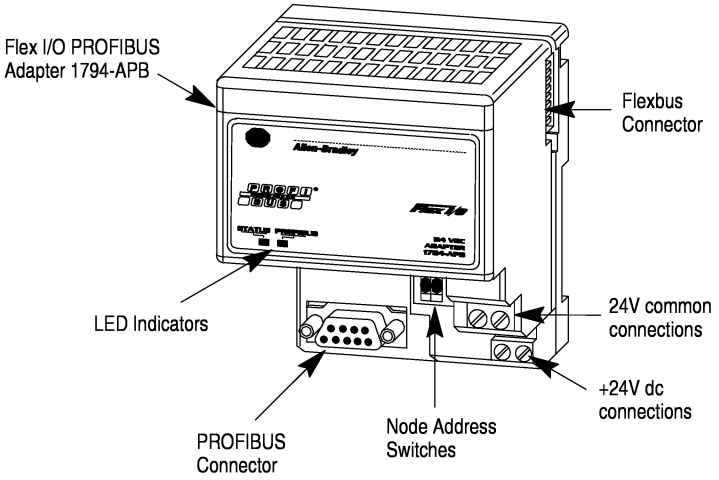
Installation Instructions

FLEX I/O PROFIBUS Adapter
(Cat. No. 1794-APB)



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Compliance to European Union Directives

If this product has the CE mark it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

EMC Directive

This product is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) and the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2EMC – Generic Emission Standard, Part 2 – Industrial Environment
- EN 50082-2EMC – Generic Immunity Standard, Part 2 – Industrial Environment

This product is intended for use in an industrial environment.

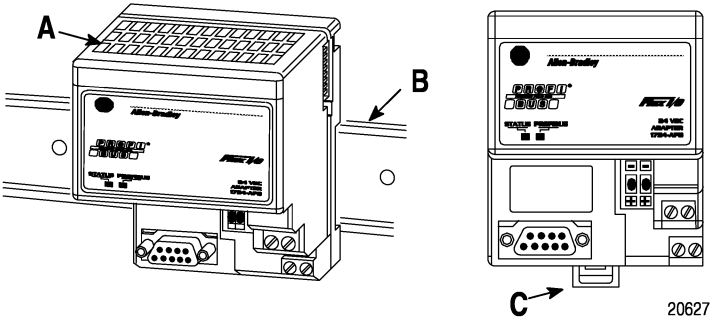
Low Voltage Directive

This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131–2 Programmable Controllers, Part 2 – Equipment Requirements and Tests.

For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the following Allen-Bradley publications:

- Industrial Automation Wiring and Grounding Guidelines For Noise Immunity, publication 1770-4.11
- Guidelines for Handling Lithium Batteries, publication AG-5.4
- Automation Systems Catalog, publication B111

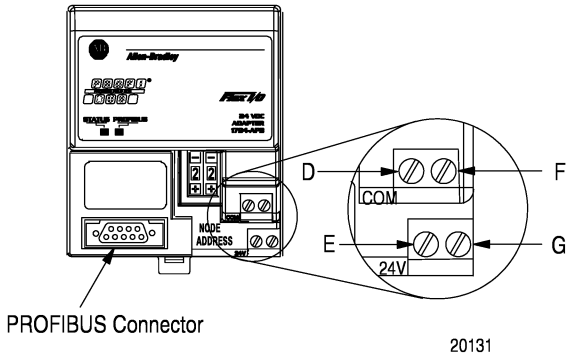
Mounting on the DIN Rail



1. Position the PROFIBUS adapter module **(A)** on a 35 x 7.5mm DIN rail **(B)** (A-B pt. no. 199-DR1; 46277-3; EN 50022) at a slight angle.
2. Hook the lip on the rear of the adapter onto the top of the DIN rail, and rotate the adapter module onto the rail.
3. Press the adapter module down onto the DIN rail until flush. Locking tab **(C)** will snap into position and lock the adapter module to the DIN rail.
4. If the adapter module does not lock in place, use a screwdriver or similar device to move the locking tab down while pressing the adapter module flush onto the DIN rail and release the locking tab to lock the adapter module in place. If necessary, push up on the locking tab to lock.
5. Connect the adapter wiring as shown under "Wiring" later in this document.

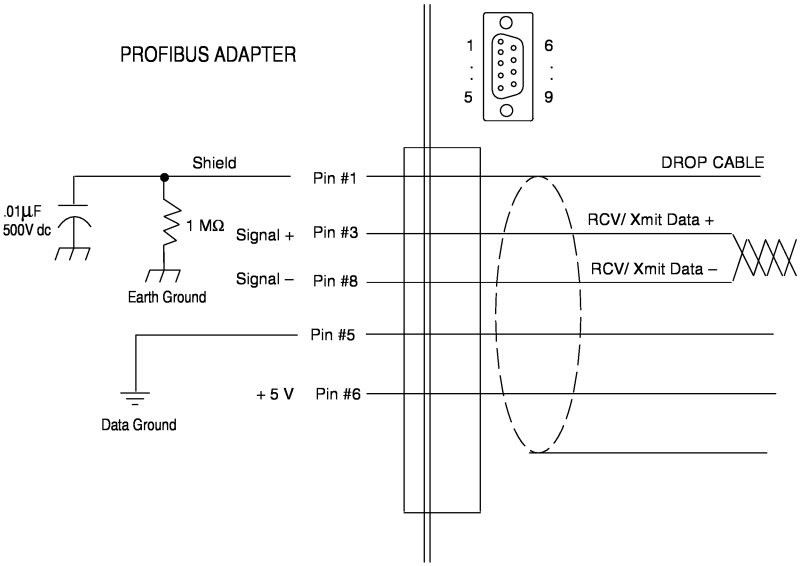
NOTE: For Panel/Wall mounting, refer to publication 1794-2.13, "Panel Mounting Kit, Cat. No. 1794-NM1."

Wiring



Connect the PROFIBUS drop cable to the 9-pin D-shell connector according to the following pin assignments:

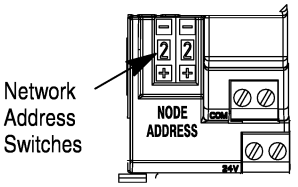
Pin #	RS-485 Reference	Signal	Description
1		Shield	Shield, RC to earth ground
2		RP	not used
3	B/B'	RXD/TXD-P	Receive/transmit data - P
4		CTNR-P	not used
5	C/C'	DGND	Data ground
6		VP	Voltage plus (+5V)
7		RP	not used
8	A/A'	RXD/TXD-N	Receive/transmit data - N
9		CTNR-N	not used
Metal Shell			Earth Ground



1. Connect the cable shield to Pin #1. The shield is connected to earth ground.
2. Connect the data signal pins on both ends (Signal + Pin #3 and Signal – Pin#8).
6. Insert the wired connector into the mating connector on the PROFIBUS adapter.
7. Connect +24V dc input to the left side of the lower connector **E**.
8. Connect 24V common to the left side of the upper connector **D**.
9. Connections **G** and **F** are used to pass 24V dc power (G) and 24V common (F) to the next module in the series (if required).

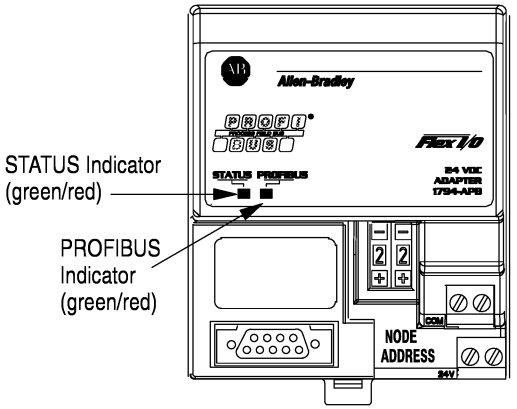
Set the Node Address

Set the node address using the 2-position pen-push switches. Use a ball-point pen to press either the + or – buttons to change the number. Valid settings range from 00 to 99.



Note: The adapter automatically sets the baud rate at power-up.

LED Indicators



STATUS Indicator	
Indication	**Status**
OFF	No power
Solid Green	Normal operation
Flashing Red/OFF	Recoverable fault – Flex I/O module defective – Incorrect Flex I/O module installed – Node address changed since power up
Solid Red	Unrecoverable fault

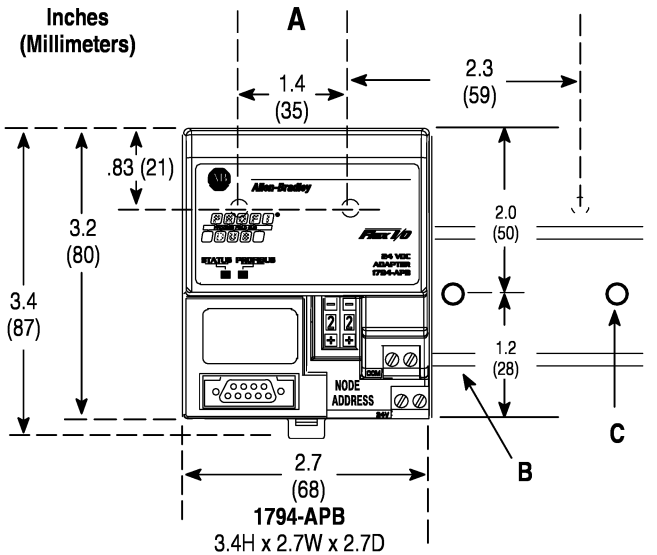
PROFIBUS Indicator	
Indication	**Status**
OFF	No power or no communication
Solid Green	Data is being transmitted and recieved
Flashing Red/OFF	Recoverable fault – Invalid Send Parameter data – Invalid Check Configuration data
Solid Red	Unrecoverable fault – Unable to communicate

1794-APB Specifications

I/O Capacity	8 modules
Power Supply	Note: In order to comply with CE Low Voltage Directives, you must use a Safety Extra Low Voltage (SELV) or a Protected Extra Low Voltage (PELV) power supply to power this adapter.
Input Voltage Rating	24V dc nominal
Input Voltage Range	19.2V to 31.2V dc (includes 5% ac ripple)
Communication Rate	All rates up to 1.5Mbit/s
Indicators	STATUS LED – red/grn PROFIBUS LED – red/grn
Flexbus Output Current	640mA maximum @ 5V dc
Isolation Voltage	100% tested at 850V dc for 1s between user power and flexbus
Power Consumption	400mA maximum from external 24V dc supply
Power Dissipation	7.68W maximum @ 19.2V dc
Thermal Dissipation	26 BTU/hr @ 19.2V dc
Environmental Conditions Operational Temperature Storage Temperature Relative Humidity Shock Operating Non-operating Vibration	 0 to 55°C (32 to 131°F) –40 to 85°C (–40 to 185°F) 5 to 95% noncondensing 30 g peak acceleration, 11(±1)ms pulse width 50 g peak acceleration, 11(±1)ms pulse width Tested 5 g @ 10–500Hz per IEC 68-2-6
PROFIBUS Connector	9-pin D-shell
PROFIBUS Drop Cable	Standard drop cable
Power Conductors Wire Size Category	 12 gauge (4mm^2) stranded maximum 3/64 inch (1.2mm) insulation max. 2[1]
Agency Certification (when product or packaging is marked)	• CSA certified • CSA Class I, Division 2 Groups A, B, C, D certified • UL listed • CE marked for all applicable directives

1 Use this conductor category information for planning conductor routing. Refer to publication 1770-4.1, "Industrial Automation Wiring and Grounding Guidelines."

Mounting Dimensions



A = Mounting hole dimensions for optional mounting kit
B = DIN rail
C = Secure DIN rail approximately every 200mm

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