

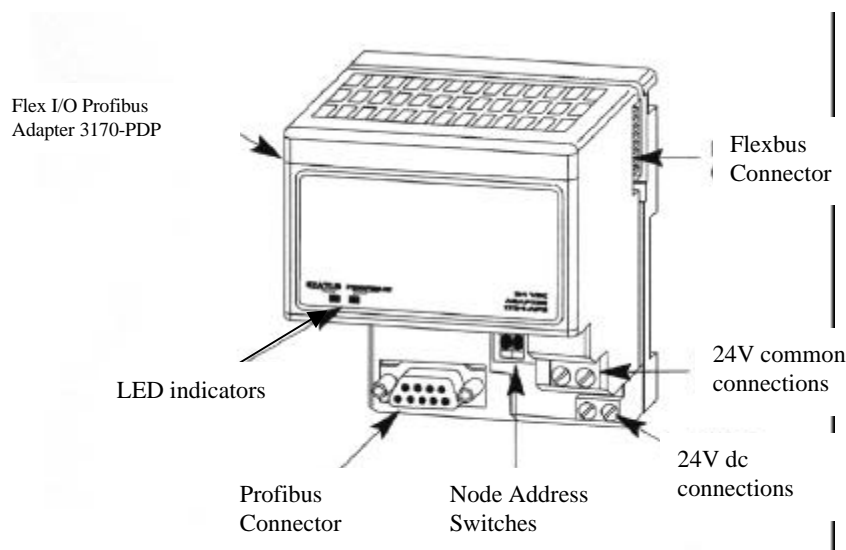
## FLEX I/O PROFIBUS Adapter 3170-PDP Profibus DP Installation Instructions

The following documents are available off the website:

<http://www.prosoft-technology.com>

User & Programming Manual

3170-PDP GSD File - PSFT0882.GSD



### 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.

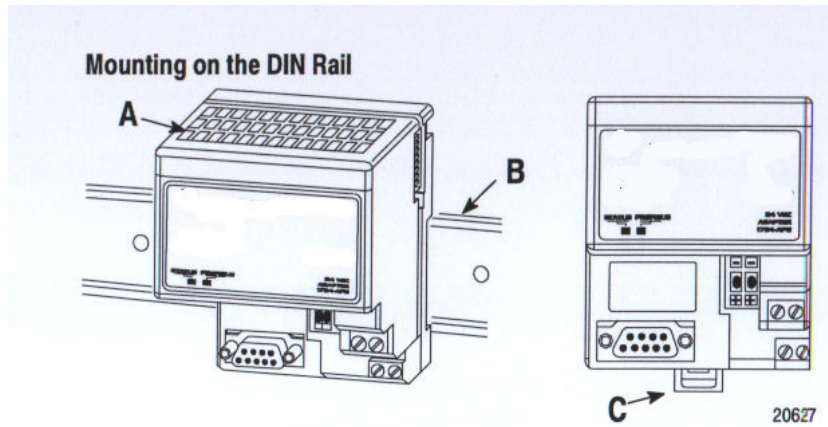
#### EMC Directive

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

This product is intended for use in an industrial environment.

## Mounting Instructions

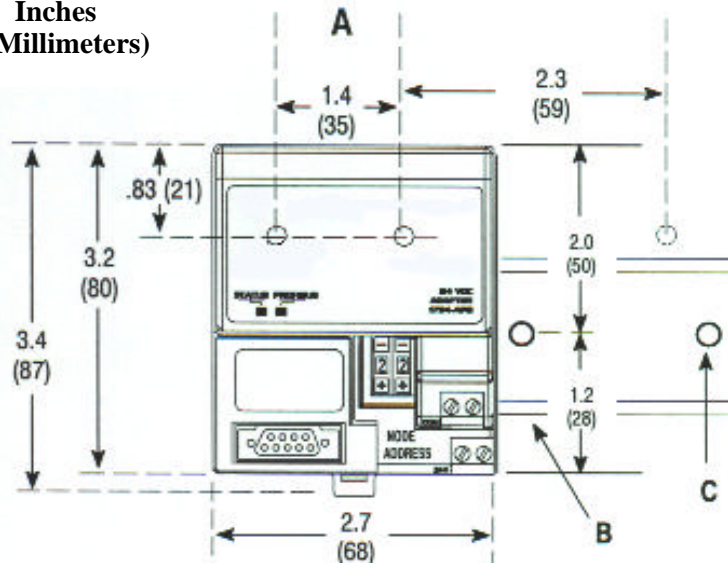


1. Position the PROFIBUS adapter module (A) on a 35 x 7.5mm DIN rail (B) (A-B pt. no. 199-DR1; 46277-3; EN 50022) at a slight angle
2. Hook the lip on the rear of the adapter onto the top of the DIN rail, and rotate the adapter module onto the rail.
3. Press the adapter module down onto the DIN rail 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.

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

### Mounting Dimensions

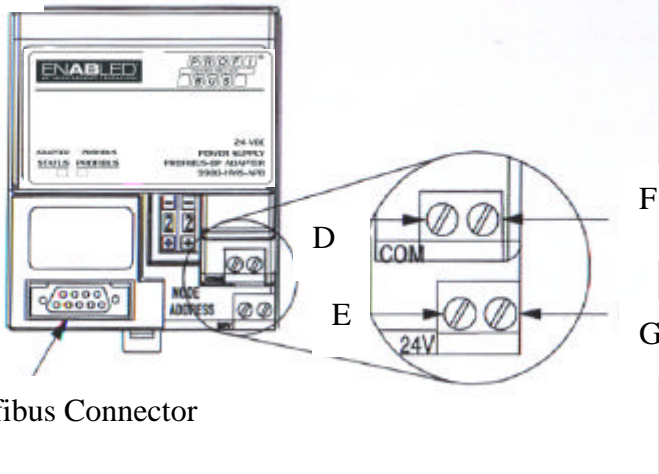
Inches  
(Millimeters)



3170-PDP  
3.4H x 2.7W x 2.7D  
(87H x 68W x 69D)

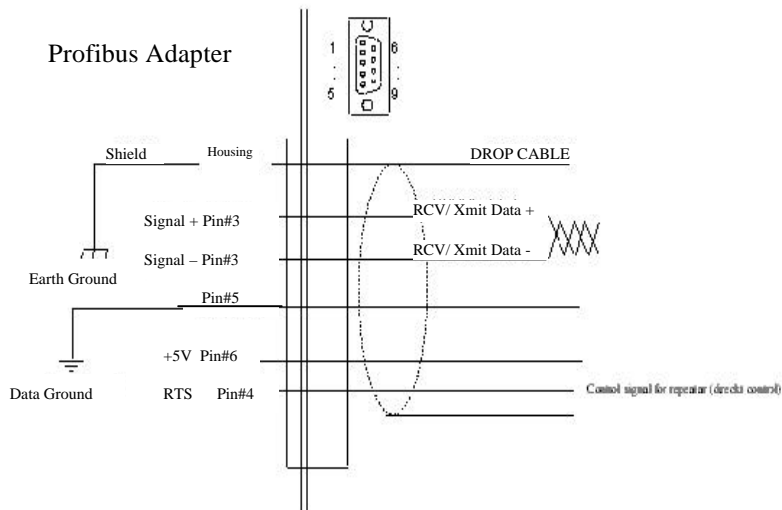
- A = Mounting hole dimensions from optional mounting kit
- B = DIN rail
- C = Secure DIN rail approximately every 200mm

## Wiring



Profibus Connector

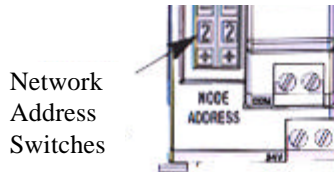
Pin #	RS-485 Reference	Signal	Description
1			Not used
2		RP	Not used
3	B/B'	RXD/TXD-P	Receive/transmit data - P
4		CTNR-P	Control signal for repeaters
5	C/C'	DGND	Data ground
6		VP	Voltage plus (+5V)
7		RP	not used
8	A/A'	RXD/TXD-N	Receive/transmit data - N
9		CTNR-N	not used
Metal Shell			Earth Ground



1. Connect the cable shield to the housing of the DSUB. The shield is connected to earth ground.
2. Connect the data signal pins on both ends (Signal + Pin #3 and Signal - Pin#8).
3. Insert the wired connector into the mating connector on the PROFIBUS adapter.
4. Connect +24V dc input to the left side of the lower connector E.
5. Connect 24V common to the left side of the upper connector D.
6. 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).

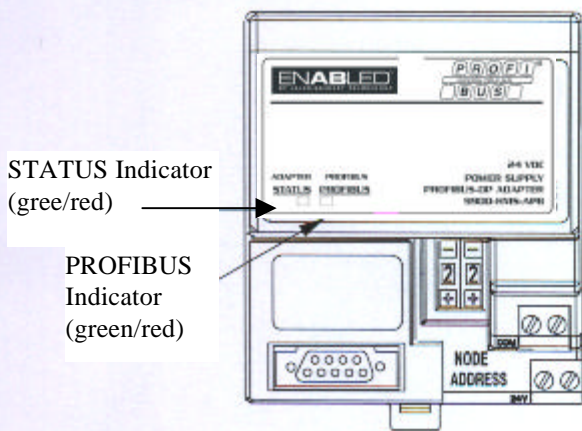
## Set the Node Address

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

## 3170-PDP Specifications

### 3170-PDP Flex I/O Profibus

#### Adapter Specifications

I/O Capacity	8 modules
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 12Mbit/s
Indicators	STATUS LED - red/grn PROFIBUS LED - red/grn
Flexbus Output Current	640mA maximum @ 5V dc
Power Consumption	400mA maximum from external 24V dc supply
Power Dissipation	7.68W maximum @ 19.2V dc
Environmental Conditions Operational Temperature Storage Temperature	0 to 55°C (32 to 131°F) -40 to 85°C (-40 to 185°F)
PROFIBUS Connector	9-pin D-shell
PROFIBUS Drop Cable	Standard drop cable
Power Conductors Wire Size	12 gauge (4mm <sup>2</sup> ) stranded maximum 3/64 inch (1.2mm) insulation max. 2 <sup>1</sup>
Category	
Agency Certification (when product or packaging is marked)	<ul style="list-style-type: none"> <li>CE marked for all applicable directives.</li> <li>PNO</li> </ul>

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

## Configuration differences between 1794-APB and 3170-PDP

There are two things that must be taken in consideration when replacing the A-B adapter with the ProSoft Technology, Inc 3170-PDP adapter. These items are further described in this document.

### 1. GSD file

The 1794-APB has a Rockwell GSD file with a Rockwell "Profibus Ident Number" (stating Rockwell as manufacturer among other things). The 3170-PDP has a ProSoft Technology, Inc GSD file with a unique ProSoft Technology "Profibus Ident Number" (stating ProSoft Technology as the manufacturer amongst other things).

For a new customer this does not make any difference, just simply use the ProSoft Technology, Inc GSD (PSFT0882.GSD) file instead of the old Rockwell GSD file when installing the unit. For a customer already using 1794-APB and needing a replacement unit, this will generate some extra work for that user. The A-B adapter is fully replaceable, but if a replacement is to be done, the Profibus Master must be modified as it will still be configured with the Rockwell GSD file. The 3170-PDP only responds to the ProSoft Technology, Inc GSD file, which means that the GSD file must also be replaced, otherwise network communication will not start. The user must start up the Profibus Configurator and replace the Rockwell GSD file with the PSFT0882.GSD file.

### 2. User parameter data:

One extra byte of user parameter data has to be added to the parameterization string. This extra byte is needed for the 12Mbit ASIC on board. The user has to add this extra byte in the first position of the user parameter data string. An example of the adapter configured in Full Format for the different adapters are shown below. Figure 1 shows the configuration for 1794-APB, figure 2 shows the same configuration, but for 3170-PDP.

**Note that one byte(00h) has to be placed before the Flag byte when 3170-PDP is used!**

User parameter data for 1794-APB:

1:st byte = Flag byte

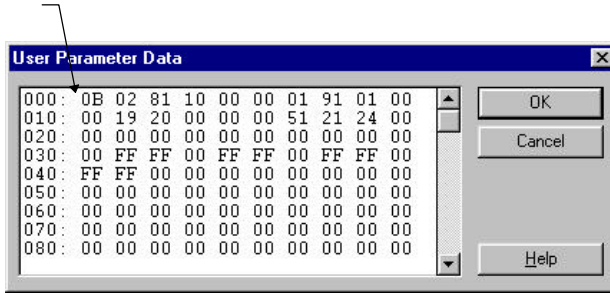


Figure 1 1794-APB

User parameter data for 3170-PDP:

1:st byte = 00h

2:nd byte = Flag byte

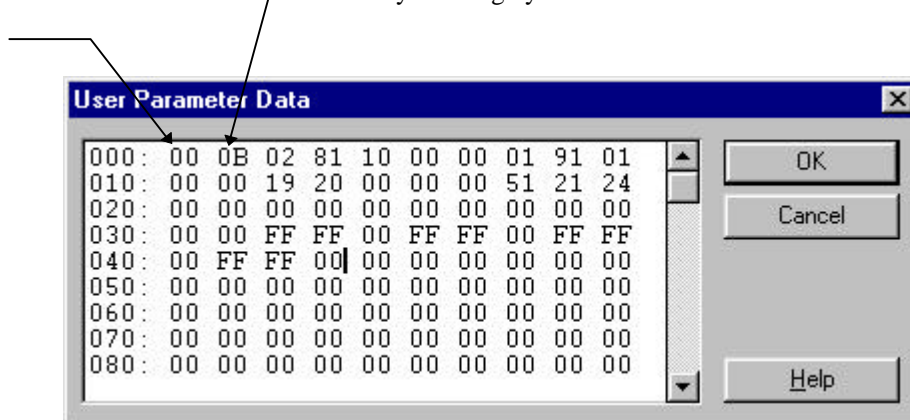


Figure 2: ProSoft Technology, Inc 3170-PDP