

COMPACT FIELDPOINT ACCESSORIES

This document describes the wiring, mounting, and data storage accessories available for use with National Instruments Compact FieldPoint. To search for parts listed in this document, go to ni.com and enter the part number in the Search field. For accessories not listed in this document, refer to the *Distributed I/O* section of the NI catalog.

cFP-20xx Controller Wiring Accessories

NI offers several accessories for connecting to the serial ports on the cFP-20xx controller.

DB-9 Right-Angle Cable for RS-232 Serial Port

The Compact FieldPoint RS-232 serial cable, part number 189284-02, is a DB-9 female to DB-9 male cable adapter for use with COM 1 on the cFP-20xx controller. The right-angle connector is well suited for low-profile applications with limited space in front of the controller.

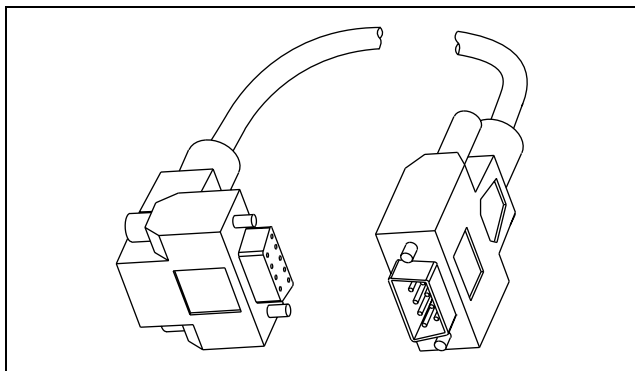


Figure 1. Compact FieldPoint DB-9 Cable Adapter for COM 1

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The Compact FieldPoint DB-9 cable adapter cannot be used with the Compact FieldPoint rack-mount kit. Refer to the *Serial Cables* section of the NI catalog or to ni.com for other DB-9 serial cables that you can use with a rack-mounted Compact FieldPoint system.

RJ-50 Cable Adapters for Serial Ports

NI offers two wiring accessories for use with COM 2, COM 3, and COM 4 on the cFP-20xx controller. COM 2 and COM 3 are RS-232 serial ports and COM 4 is an RS-485 serial port. All three ports use RJ-50 10-position modular jacks. These modular jacks are not compatible with Ethernet cables.

Part numbers 182845-01, -02, and -03 are RJ-50 to DB-9 cable adapters in 1, 2, and 3 m lengths.

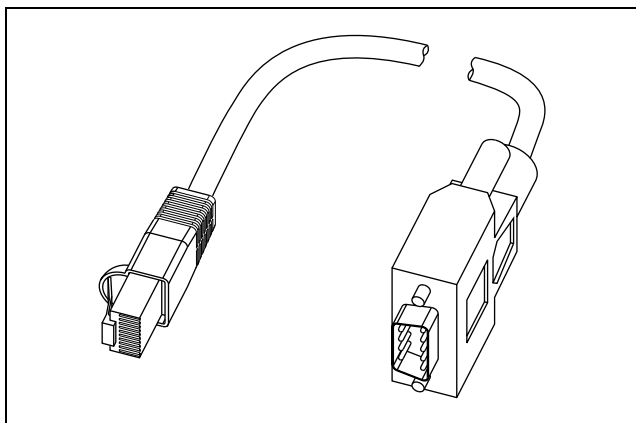


Figure 2. Compact FieldPoint RJ-50 to DB-9 Serial Cable Adapter

Part number 778674-01 is a DIN rail-mountable screw terminal adapter consisting of an RJ-50 serial cable and a 10-position screw terminal block.

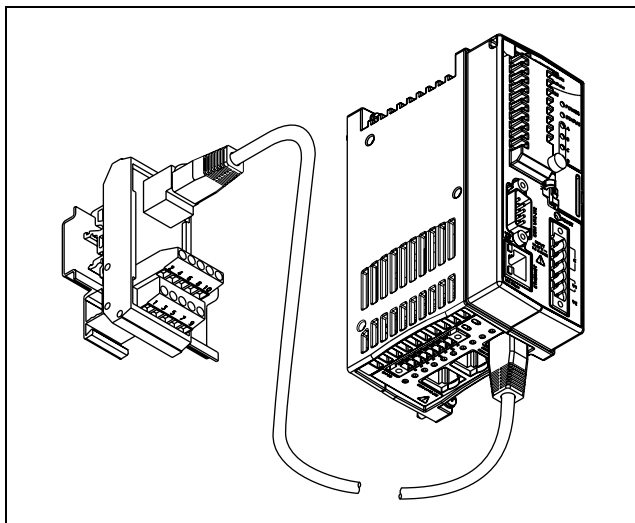


Figure 3. Compact FieldPoint DIN Rail-Mountable Terminal Block

Refer to the *Serial Cables* section of the NI catalog or to ni.com for other RJ-50 serial cables that you can use with Compact FieldPoint controllers.

Signal Assignments for Serial Cable Adapters

Table 1 lists the pins on all the cFP-20xx controller cable adapters and the RS-232 and RS-485 signals assigned to them.

Table 1. Compact FieldPoint Serial Cable Pin Descriptions

DB-9 Pin	RS-232 Signal	RJ-50 Pin or Screw Terminal	RS-485 Signal
1	DCD	10	GND
2	RX	9	CTS+ (HSI+)
3	TX	8	RTS+ (HSO+)
4	DTR	7	RXD+
5	CND	6	RXD-
6	DSR	5	CTS- (HSI-)
7	RTS	4	RTS- (HSO-)
8	CTS	3	TXD+
9	RI	2	TXD-
—	No Connect	1	No Connect

I/O Connector Cable Adapters

NI offers three cable adapters for use with the 37-pin I/O connectors on the Compact FieldPoint backplane.



Caution Compact FieldPoint I/O connector cable adapters are for use only with nonhazardous voltages.¹ For hazardous voltage wiring, use cFP-CB-x connector blocks and follow local electrical standards.

Part numbers 778621-01 and 778621-02 are 37-pin male to 37-pin female cable adapters in 1 and 2 m lengths, respectively. They are designed for connecting directly to DIN rail-mounted terminal blocks, part numbers 778672-01 and 778673-01.

¹ Nonhazardous voltage is voltage below 42.4 V_{rms} or 60 VDC.

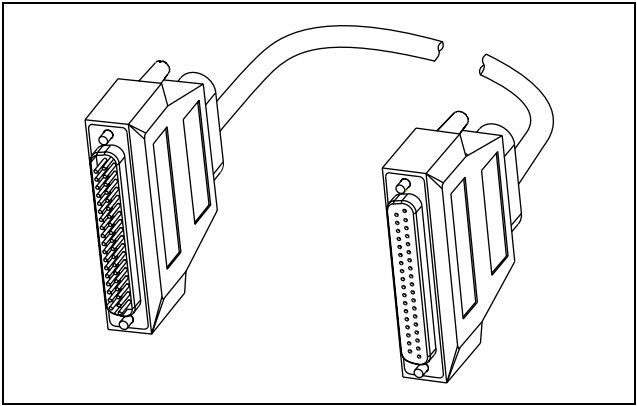


Figure 4. Compact FieldPoint 37-Pin I/O Connector Cable

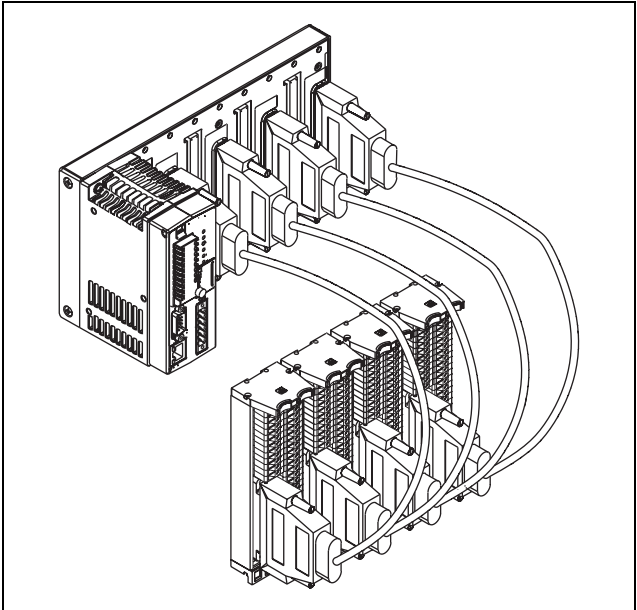


Figure 5. Compact FieldPoint System with DIN Rail-Mounted Terminal Blocks

Part number 778620-04 is a 37-pin female to loose-wires cable adapter of 4 m length. You can use the loose wires to make cables for connecting directly to sensors or to custom connectors.

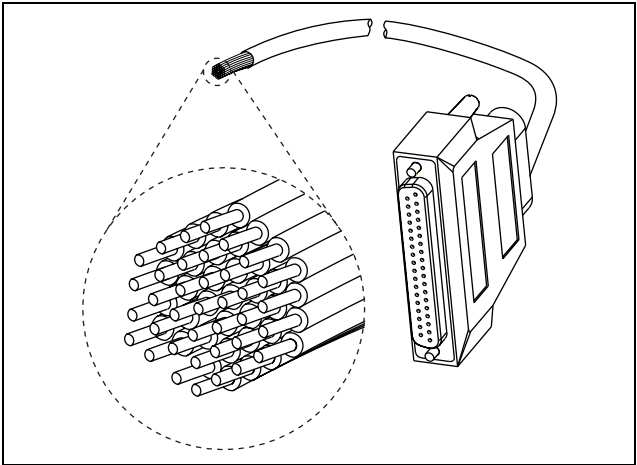


Figure 6. Compact FieldPoint 37-Pin I/O Connector Cable

Table 2 lists the wire colors that correspond to the 37 pins on the Compact FieldPoint I/O connectors. Signal names in parentheses indicate signals common to all Compact FieldPoint I/O modules. For all other signals, refer to the I/O module operating instructions.

Table 2. 37-Pin Cable Adapter Wire Identification

P1 Male	Wire Color(s)	P2 Female
1	Black	1
2	Brown	2
3	Red	3
4	Orange	4
5	Yellow	5
6	Green	6
7	Blue	7
8	Purple	8
9	Gray	9

Table 2. 37-Pin Cable Adapter Wire Identification (Continued)

P1 Male	Wire Color(s)	P2 Female
10	White	10
11	Pink	11
12	Light Green	12
13	Black/White	13
14	Brown/White	14
15	Red/White	15
16	Orange/White	16
17	Green/White	17
18	Blue/White	18
19	Purple/White	19
20	Red/Black	20
21	Orange/Black	21
22	Yellow/Black	22
23	Green/Black	23
24	Gray/Black	24
25	Pink/Black	25
26	Pink/Red	26
27	Pink/Blue	27
28	Pink/Green	28
29	Light Blue	29
30	Light Blue/Black	30
31	Light Blue/Red	31
32	Light Blue/Blue	32
33 (V)	Light Blue/Green	33 (V)
34 (V)	Gray/Red	34 (V)
35 (COM)	Gray/Green	35 (COM)
36 (COM)	Purple/Black	36 (COM)
37 (CJC)	Blue/Black	37 (CJC)

I/O Connector Protective Cover

NI offers a cover to protect unused slots on the backplane from damage caused by dirt, tools, and other potential hazards. The Compact FieldPoint protective cover is part number 778625-01.

Tighten the screws on the dust cover to $0.56 \text{ N} \cdot \text{m}$ ($5 \text{ lb} \cdot \text{in.}$) of torque. The nylon coating on the screws prevents them from loosening.

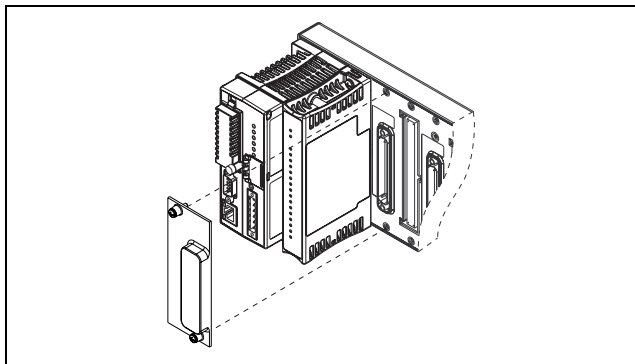


Figure 7. Compact FieldPoint Protective Cover

Mounting Accessories

NI offers several accessories for mounting the Compact FieldPoint system on a DIN rail, in a standard 19 in. instrumentation rack, or on a panel. All Compact FieldPoint mounting accessories will work with either the cFP-BP-4 or the cFP-BP-8.

Refer to the *cFP-20xx and cFP-BP-x User Manual* for instructions on using Compact FieldPoint mounting accessories. Follow the cooling guidelines in the *cFP-20xx and cFP-BP-x User Manual* when using any of the mounting options.

Table 3. Compact FieldPoint Mounting Accessories

Description	Product Name	Part Number
cFP DIN Rail Clip ¹	cFP DIN Rail Clip	778614-01
cFP Horizontal Panel-Mount Kit	cFP-PM-H	778616-01
cFP Vertical Panel-Mount Kit	cFP-PM-V	778688-01
cFP Rack-Mount Kit	cFP-RM-8	778615-01

¹ cFP-BP-8 requires two cFP DIN rail clip kits.

The cFP DIN rail clip kit is designed for quick, convenient mounting on a 35 mm DIN rail. The kit includes the two screws shown in Figure 8.

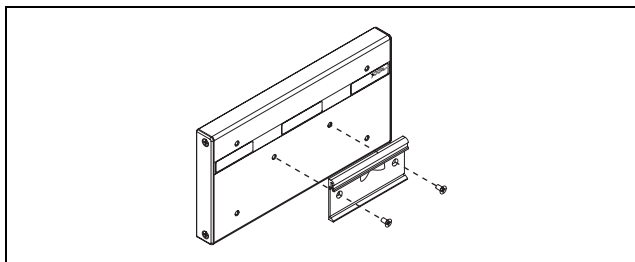


Figure 8. Compact FieldPoint DIN Rail Clip with cFP-BP-4

NI offers two kits for secure, permanent mounting on a panel. Each kit includes four screws for mounting the brackets to the backplane, as shown in Figures 9 and 12.

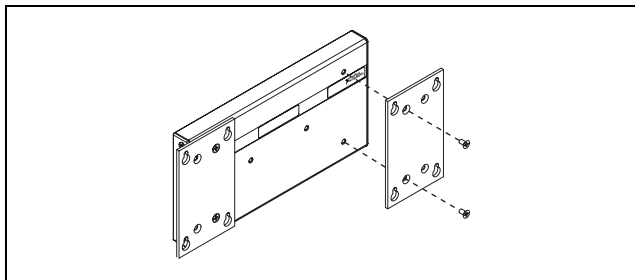


Figure 9. Compact FieldPoint Horizontal Panel-Mount Kit with cFP-BP-4

Figures 10 and 11 show the spacing between the mounting holes of the horizontal panel-mount kit installed on a cFP-BP-4 and a cFP-BP-8.

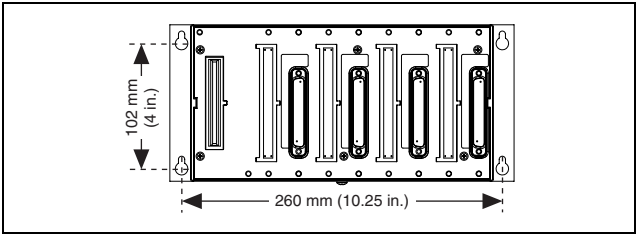


Figure 10. Dimensions of Compact FieldPoint Horizontal Panel-Mount Kit Installed on cFP-BP-4

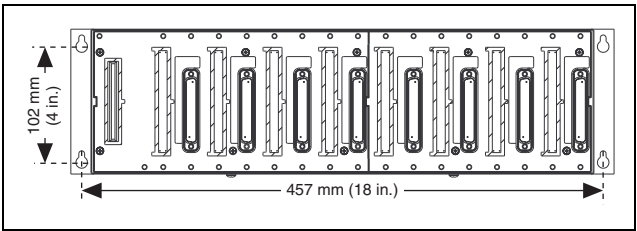


Figure 11. Dimensions of Compact FieldPoint Horizontal Panel-Mount Kit Installed on cFP-BP-8

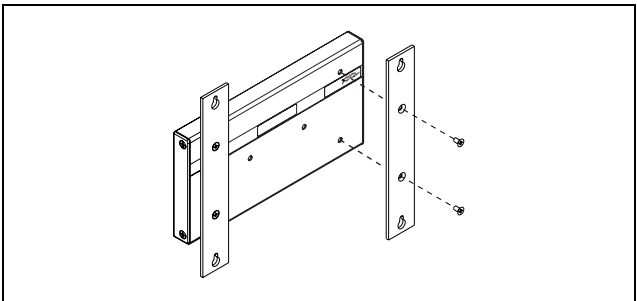


Figure 12. Compact FieldPoint Vertical Panel-Mount Kit with cFP-BP-4

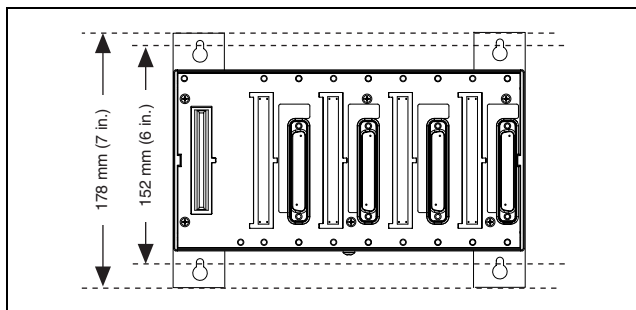


Figure 13. Dimensions of Compact FieldPoint Vertical Panel-Mount Kit

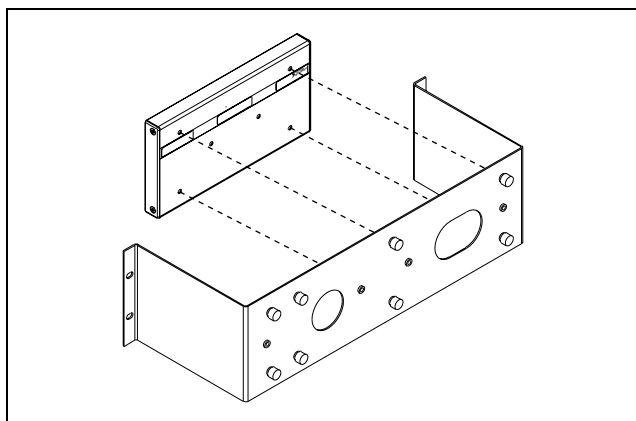


Figure 14. Compact FieldPoint Rack-Mount Kit with cFP-BP-4

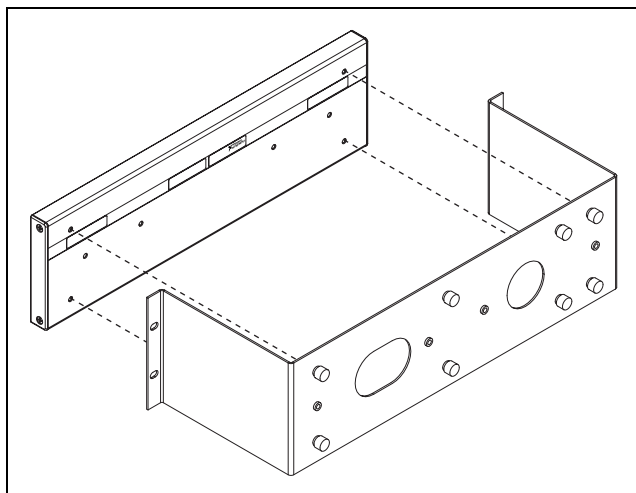


Figure 15. Compact FieldPoint Rack-Mount Kit with cFP-BP-8

Data Storage Accessories

NI offers four industrially rated Compact Flash cards for use as removable data storage devices with the cFP-2020. These Compact Flash cards are designed for reliable performance from -25 to 60 °C, the operating temperature range of the Compact FieldPoint system.

Table 4. Compact Flash Accessories

Description	Part Number
64 MB Compact Flash	778622-64
128 MB Compact Flash	778622-128
256 MB Compact Flash	778622-256
512 MB Compact Flash	778622-512

Refer to the *cFP-20xx and cFP-BP-x User Manual* for instructions on using removable Compact Flash for data storage with the cFP-2020.

Where to Go for Support

For more information about setting up the Compact FieldPoint system, refer to the following National Instruments documents:

- Compact FieldPoint controller module user manual
- I/O module operating instructions
- Compact FieldPoint connector block operating instructions

Go to ni.com/support for the most current manuals, examples, and troubleshooting information.

For telephone support in the United States, create your service request at ni.com/ask and follow the calling instructions or dial 512 795 8248. For telephone support outside the United States, contact your local branch office:

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