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Find the *National Instruments cFP-CB-4* at our website: ***Click HERE***

Compact FieldPoint I/O Connectivity Accessories

Flexible I/O Connectivity

The NI Compact FieldPoint backplane provides standard 37-pin D-Sub connectors for signals from the I/O modules so you can choose the connectivity method that works best for your application. You have three options to connect field wiring to the 37-pin D-Sub connectors:

1. An integrated connector block – NI cFP-CB-1, cFP-CB-2, cFP-CB-3, cFP-CB-4, or cFP-CB-11
2. A cable to an external connector block mounted on a DIN rail
3. Your own custom cable

Integrated Connector Blocks

The most secure and compact connectivity option is to use the Compact FieldPoint integrated connector blocks – the cFP-CB-1, cFP-CB-2, cFP-CB-3, cFP-CB-4, and cFP-CB-11.



Figure 1. cFP-CB-1 General-Purpose Connector Block with Strain Relief

cFP-CB-1 (See Figure 1)

The cFP-CB-1, suitable for any I/O module, is a general-purpose connector block with strain relief. With 36 terminals, the connector block simplifies wiring by eliminating the need to connect more than one wire to a terminal. The cFP-CB-1 also features both a built-in strain relief bar and a separate wire tie connector, making it easy to create secure wiring setups for high shock and vibration applications.



Figure 2. cFP-CB-2 General-Purpose Connector Block with Front Accessibility

cFP-CB-2 (See Figure 2)

The cFP-CB-2, suitable for any I/O module, is a general-purpose connector block with front accessibility. With 36 terminals, the connector block simplifies wiring by eliminating the need to connect more than one wire to a terminal. The cFP-CB-2 also features a removable spring-terminal connector that allows easy front-panel access to the terminals for wiring. If your application is subject to hazardous voltage and/or high vibration, install the NI 9940 backshell on the spring-terminal connector.



Figure 3. cFP-CB-3 Isothermal Connector Block for Thermocouple Measurements

cFP-CB-3 (See Figure 3)

The cFP-CB-3 connector block is designed for use with NI cFP-TC-120 and cFP-TC-125 thermocouple input modules. The cFP-CB-3 uses isothermal construction to minimize thermal gradients on the I/O terminals. Although the cFP-CB-1, cFP-CB-2, cFP-CB-3, and cFP-CB-4 all feature a built-in thermistor for cold-junction compensation, NI strongly recommends using the cFP-CB-3 when measuring thermocouples for increased accuracy. The cFP-CB-3 also features both a built-in strain relief bar and a separate wire tie connector, making it easy to create secure wiring setups for high shock and vibration applications.



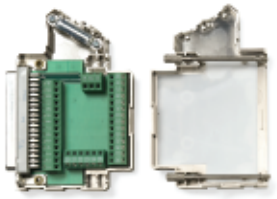
Figure 4. cFP-CB-4 Probeable Connector Block with Front Accessibility

cFP-CB-4 (See Figure 4)

The cFP-CB-4, ideal for prototyping and troubleshooting, is a probeable 20-pin connector block with front accessibility. The removable screw-terminal connector allows easy front-panel access to the terminals for wiring and probing. If your application is subject to hazardous voltage and/or high vibration, NI recommends affixing ferrules to the ends of all signal wires.

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cFP-CB-11 (See Figure 5)

The cFP-CB-11 is a low-profile, general-purpose connector block suitable for any I/O module except the thermocouple module. These connector blocks feature a side exit for the wiring, making them a good fit for applications with limited front clearance. Because the connector blocks are smaller, the cFP-CB-11 is best suited for applications that use small-gauge wire or only a few channels.

Figure 5. cFP-CB-11 General-Purpose Connector Block for Low-Wiring Density and Low Clearance

Connector Block	Screw Terminals	Built-In CJC	High Shock and Vibration	Voltage Limit	Applications	Part Number
cFP-CB-1	36	4	4	250 V	General purpose with strain relief	778618-01
cFP-CB-2	36	4	4	250 V	General purpose with front accessibility	780017-02
cFP-CB-3	18	4	4	250 V	Isothermal for thermocouples	778618-03
cFP-CB-4	20	4	4	250 V	Probeable with front accessibility	780017-04
cFP-CB-11	37	-	-	24 V	Low-wiring density and low clearance	778618-11

Table 1. Compact FieldPoint I/O Connectivity Accessories

Module Compatibility

For easy wiring to multiple channels, the general-purpose connector blocks, cFP-CB-1 and cFP-CB-2, are recommended for I/O modules with more than eight channels. On the cFP-CB-3 and cFP-CB-4 connector blocks, use V terminals for V_{SUP} connections and use C terminals for COM connections, accordingly.

Analog Input	Channels	cFP-CB-1	cFP-CB-2	cFP-CB-3	cFP-CB-4
cFP-AI-100	8 voltage/current	✔[1]	✔[1]	–	✔
cFP-AI-102	8	✔	✔	–	✔
cFP-AI-110	8 voltage/current	✔[1]	✔[1]	–	✔
cFP-AI-111	16	✔[1]	✔[1]	–	✔
cFP-AI-112	16	✔[1]	✔[1]	–	✔
cFP-AI-118	8	✔	✔	–	–
cFP-TC-120	8	✔	✔	✔[1]	✔
cFP-TC-125	8	✔	✔	✔[1]	✔
cFP-RTD-122	8	✔	✔	–	–
cFP-RTD-124	8	✔	✔	–	–
cFP-SG-140	8	✔	✔	–	–
Analog Output					
cFP-AO-200	8	✔	✔	–	✔
cFP-AO-210	8	✔	✔	–	✔
Analog Input/Output					
cFP-AIO-600	4 input, 4 output	✔[1]	✔[1]	–	✔
cFP-AIO-610	4 input, 4 output	✔[1]	✔[1]	–	✔
Digital Input					
cFP-DI-300	8	✔[1]	✔[1]	–	✔
cFP-DI-301	16	✔[1]	✔[1]	–	✔
cFP-DI-330	8	✔[1]	✔[1]	–	✔
cFP-DI-304	32	✔	✔	–	–
cFP-DIO-550	8 input, 8 output	✔	✔	–	–
Digital Output					
cFP-DO-400	8	✔	✔	–	✔
cFP-DO-401	16	✔[1]	✔[1]	–	✔
cFP-DO-403	16	✔[1]	✔[1]	–	✔
cFP-DO-410	8	✔	✔	–	✔
cFP-RLY-421	8	✔	✔	–	✔
cFP-RLY-423	4	✔	✔	–	✔
cFP-RLY-425	8	–	–	–	–
Digital Specialty					
cFP-CTR-500	12 input, 8 output	✔[1]	✔[1]	–	✔
cFP-CTR-502	12 input, 8 output	✔[1]	✔[1]	–	✔
cFP-QUAD-510	4	✔	✔	–	–
cFP-PWM-520	8	✔	✔	–	✔
cFP-PG-522	8	✔	✔	–	✔

[1]Recommended

Table 2. Module Compatibility

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