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Find the *National Instruments FP-TB-1* at our website: ***Click HERE***

FieldPoint Terminal Bases

NI FP-TB-1, NI FP-TB-2, NI FP-TB-3, NI FP-TB-10

- Field wiring connection to FieldPoint I/O modules
- Isothermal FP-TB-3 minimizes thermocouple measurement errors
- Screw terminal and spring terminal options
- DIN-rail mounting
- Local bus for communications and module power
- -40 to 70 °C operating range



Module	Termination Style	Number of Terminals	Description
FP-TB-1	Screw	36	Universal terminal base
FP-TB-2	Spring	36	Universal terminal base
FP-TB-3	Screw	18	Isothermal terminal base for thermocouples
FP-TB-10	Screw	36	Terminal base for dual-channel modules

Overview

The National Instruments FP-TB Series consists of terminal bases for the FieldPoint I/O system. When installed, FieldPoint terminal bases form the local bus that carries communications and power to the I/O modules and provides signal termination for the I/O. All the terminal bases, can be used together.

Compact FieldPoint and FieldPoint

These terminal bases are only used for FieldPoint only. Compact FieldPoint does not use terminal bases. Compact FieldPoint is designed for industrial control applications that perform advanced embedded control, data logging, headless operation, and Ethernet connectivity. Compact FieldPoint is our most rugged and reliable platform and is designed for industrial and mobile environments with high shock, vibration, and temperature extremes. FieldPoint is a lower-cost distributed I/O system with a variety of communication options besides Ethernet. It is designed to be mounted on DIN rails in static applications where the FieldPoint bank is connected to a PC for data collection, analysis, display, and storage.

FP-TB-1 and FP-TB-2 Terminal Bases

The FP-TB-1 and FP-TB-2 are general-purpose terminal bases suitable for any I/O module (except for dual-channel series). With 36 terminals, these bases simplify wiring by eliminating the need to connect more than one wire to a terminal. Although these terminal bases feature a built-in thermistor for cold-junction compensation, we recommend using the FP-TB-3 when measuring thermocouples. FP-TB-1, FP-TB-2, and FP-TB-3 terminal bases accommodate one 8 or 16 channel module.

FP-TB-3 Isothermal Terminal Base

The FP-TB-3 terminal base is designed to accurately measure thermocouples when used with the FP-TC-120 module. The FP-TB-3 uses isothermal construction to minimize thermal gradients on the I/O terminals. This increases the accuracy of the thermistor that is used for cold junction compensation.

FP-TB-10 Terminal Base for Dual-Channel Modules

The FP-TB-10 terminal base accommodates up to six dual-channel I/O modules. The FP-TB-10, like other FieldPoint terminal bases, plugs into adjacent terminal bases to form the local backplane bus that provides power and communications from the network interface module.

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FieldPoint Terminal Bases



Figure 1. Terminal bases connect together to form a local communication bus for all I/O modules.

Mounting and Keying

The terminal bases and network modules conveniently clip and lock onto standard 35 mm (EN 50022) DIN rails. You can connect up to nine terminal bases together with a single network interface module. You can also arrange the row of bases into two or three rows using the FieldPoint bus extender cable.

All FieldPoint modules and terminal bases are keyed to prevent accidental installation of a FieldPoint I/O module on a base wired for a different type of module. The FP-TB Series includes an adjustable key that you can manually set to one of 12 positions.

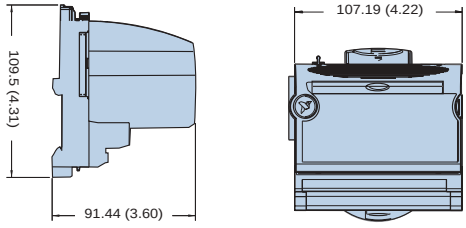


Figure 2. Mechanical dimensions of terminal base and installed module to both the I/O modules and the network modules (all dimensions are in mm (in.))

FieldPoint System Configuration

FieldPoint I/O modules mount on terminal bases. These terminal bases have built-in screw or spring terminals where you can connect your field wiring. You connect up to nine terminal bases to one controller or communication interface for FieldPoint. The five most popular FieldPoint controllers and communication interfaces are:

1. FP-20xx, LabVIEW Real-Time Ethernet controllers
2. FP-1601, Ethernet communication interface
3. FP-1000, RS-232 serial communication interface
4. FP-1001, RS-485 serial communication interface
5. FP-1300, CAN communication interface

For more details on configuring your FieldPoint system, see page 532.

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FieldPoint Terminal Bases

Ordering Information

NI FP-TB-1 777519-01
NI FP-TB-2 777519-02
NI FP-TB-3 777519-03
NI FP-TB-10 777519-10

Recommended FieldPoint System Products

NI FP-1601 777792-01
NI PS-4 Power Supply 778586-90
NI Developer Suite Standard Control Edition 777905-03

BUY ONLINE!

Visit ni.com/info and enter fptb1, fptb2, fptb3, and/or fptb10.

Specifications

The following specifications are typical for a range of -40 to 70 °C, unless otherwise noted.

Installation

Terminal wiring..... 16-26 AWG copper conductor wire with 7 mm (0.28 in.) of insulation stripped from the end[1]
Torque for screw terminals..... 0.5-0.6 N m (4.4-5.3 lb in.)

Physical Characteristics

Weight
- FP-TB-1..... 210 g (7.4 oz)
- FP-TB-2..... 160 g (5.7 oz)
- FP-TB-3..... 240 g (8.5 oz)
- FP-TB-10..... 290 g (10.2 oz)

Dimensions
- With I/O module installed..... 107 by 109 by 91 mm (4.2 by 4.3 by 3.6 in.)

Maximum Working Voltage

Maximum working voltage refers to the signal voltage plus the common-mode voltage.
Channel-to-earth ..... 250 V, Installation Category II
Channel-to-channel ..... See I/O module operatinginstructions

Environmental

FieldPoint modules are intended for indoor use only. For outdoor use, they must be mounted inside a sealed enclosure.
Operating temperature..... -40 to 70 °C
Storage temperature..... -55 to 85 °C
Relative humidity ..... 10 to 90%, noncondensing
Maximum altitude..... 2,000 m
Pollution Degree..... 2

Power Requirements

FP-TB-1 ..... 0 W
FP-TB-2 ..... 0 W
FP-TB-3 ..... 0 W
FP-TB-10 ..... 200 mW

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:
- IEC 61010-1, EN 61010-1
- UL 3121-1, UL 61010C-1
- CAN/CSA C22.2 No. 1010.1

For UL, hazardous location, and other safety certifications, refer to the product label or to ***ni.com***

Electromagnetic Compatibility

CE, C-Tick, and FCC Part 15 (Class A) Compliant
Emissions..... EN 55011 Class A at 10 m FCC Part 15A above 1 GHz
Immunity..... EN 61326:1997 + A2:2001, Table 1
For EMC compliance, operate this device with shielded cabling.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE Marking, as follows:
Low-Voltage Directive (safety)..... 73/23/EEC
Electromagnetic Compatibility
- Directive (EMC)..... 89/336/EEC

Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit ***ni.com/hardref.nsf/*** and search by model number or product line.

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