



FdxCompact DI-16-C

16 channel digital input module

- Screwless installation with click-on DIN-rail communication bus and power connectors
- Push-in spring connectors for cables
- Detachable terminal blocks per 2 channels

Connect and detect

The 16 channel digital input module is used to read and detect digital signals for indication, alarm, or impulse measurement purposes. Each channel can be individually configured, and has a green and red LED to show its current status.

Connect the module to a serial Modbus master FX-controller to get reliable and fast indications from your field equipment.



Technical features

Dimensions & Weight

134mm x 78mm (x 19 mm thick), 90gr

Recommended power supply

< 25 mA @ 24VDC (+/- 10%)

Input loop current maximum

2 mA @ 24VDC per channel

Operating temperature 0 to +40°C

Communication Modbus RTU (RS485)

at speeds up to 57600 bps

Power and communication: Power and the communication bus are connected to the DI-16-C module by clicking it onto the connector, which in its turn clicks onto the DIN rail. The FdxCompact controllers provide both natively, or you can use the connectors from the Fdx-Terminal-C set. The middle connector is internally connected to the 0 VDC IN.

Modbus address: The address of the DI-16-C module can be set from 1 to 63 by changing the position of dip-switches 1-6. Each dip-switch represents a binary value, as indicated on the module (ST1...ST32).

DIP 1 (32)	DIP 2 (16)	DIP 3 (8)	DIP 4 (4)	DIP 5 (2)	DIP 6 (1)	Modbus address
0	0	0	0	0	1	1
0	0	0	0	1	0	2
0	0	0	0	1	1	3
...
1	0	1	0	1	0	42
...
1	1	1	1	1	1	63

Modbus communication: Use no parity, 8 data bits and 1 stop bit, and the DI-16-C module will auto-detect the communication speed of the bus (9600, 19200, 38400 or 57600 bps).

Modbus loop termination: On the last module, the Modbus loop must be closed by connecting a 120 Ω resistor between the A- and the B-side of the RS-485 loop. Use the terminal that is delivered with your FdxCompact controller, or from the Fdx-Terminal-C set.

Connection: Each channel consists of a loop between the connector marked with "S" and the corresponding numbered connector right next to it. Connect the device to detect between these two.

The connectors marked with "S" provide +/- 20-24 VDC.

A loop is considered closed when the resistance is lower than 50 kΩ. Each loop is galvanically isolated.

Types of indications: In the point programming on an FX-controller, the type of measurement is selected. The FdxCompact DI-16-C module can be used for pulse measurements (through AI points), normal indication (DI points) or alarms (Alarm points).

Impulse measurement: To count impulses, simply select the channel from the point programming of a measurement point on an FX-controller, and choose "counter" as measurement type. The allowed pulse width can be configured between 5 and 1275 milliseconds in the point programming of the connected measurement point on an FX-controller.

LEDs: The 16 green LEDs will indicate the current status of each channel (lit when the channel is active; its loop closed).

When using alarm points from an FX-controller, the LEDs will blink and/or be red according to the status of the alarm point (acknowledged or not, active or not).

Power consumption: The module is to be powered with 24 VDC and consumes 5 mA in stand-by.

Each channel can use up to 2 mA when the input is active. It is therefore recommended to use a power supply providing at least 40 mA.

Firmware compatibility: The module is supported by firmware for FX-controllers from version 12 upwards. This firmware is compatible with the FX-2030, FX-2030A and the FX-3000-C.

