



4 IN / 4 OUT Module – 6 units DIN rail

Functional characteristics

FD-DA02 is a module for the acquisition of sensors data and to command actuators devices like sirens, electrical locks, etc with the following characteristics:

- ◆ Can be mounted on DIN rails
- ◆ Data acquisition from dry contacts (ON/OFF)
- ◆ Data acquisition from supervised sensors managing 5 states per sensor (normal, alarm, tamper, cut circuit, short-circuit), and inject pseudo-random interference in order to prevent level detection from the outside.
- ◆ Able to control resistive and inductive loads up to 4 loads, from 0.3ADC (0.2 AAC) up to 2.5 ADC (1.8AAC) per channel adding optional relays)
- ◆ Output monitoring, with alarm generation in the event of faults
- ◆ Able to monitor a FD-PA01 power supply module through a suitable connection, for all the main electrical parameters including the battery effectiveness tests.
- ◆ Visual fault and/or alarm indication
- ◆ Connection to FD-BUS through an RJ45 connection
- ◆ Double RJ45 connector (internally in parallel) for easy reconnection to the FD-BUS.
- ◆ Galvanic separation of the FD-BUS backbone from the local reference ground
- ◆ Possibility of connecting the FD-BUS remote power supply to the local power supply through jumpers.

Protection

The equipment is protected against the following events:

- ◆ polarity reversal on the cables (RJ45) connecting to the FD-BUS
- ◆ voltage surge in the power supply
- ◆ negative voltage peaks at outputs with inductive loads

Modes of Operation

The FD-DA01 module is part of the Orangelink system and can perform the data acquisition functions related to the status of sensors and/or contacts, and control electrolocks and/or turnstiles. The module can operate in two different modes:

- ◆ In dry contact (access control) acquisition mode, the module can acquire the status data from 8 contacts.
- ◆ In supervised contact acquisition mode (intrusion detection and access control), the module can acquire the status data from 4 sensors, and manage the 5 possible states (normal, alarm, tamper, cut, short-circuit).


Visual indicators

The FD-DA01 module can give the user indications by means of:

- ◆ a red LED
- ◆ a yellow LED
- ◆ a green LED

The most common indications are as follows:

- ◆ Green LED, lit steadily when in operation
- ◆ Red LED, lit steadily in the event of an alarm and/or fault
- ◆ Yellow LED, flashes during communication (one flash per message)

Parameter	Description
Dimensions	105x85x55mm (6 DIN units)
Weight	190g
Mounting	On DIN rail
Power supply: internal circuit	From 8V _{DC} to 14V _{DC} 48 mA nominal (at 14V _{DC})
Power supply: optically isolated section on FD-BUS	From 8V _{DC} to 14V _{DC} 0.8 mA nominal (at 14V _{DC})
Processor	P89C662 Philips at 11.0592 MHz
Connections	Power supply input FD-BUS (2 RJ45s in parallel) Remote monitoring input for FD-PA01 power supply module Monitored power outputs (4) Supervised inputs (4) Tamper input
Power input	Clamp (removable) Voltage: from 8V _{DC} to 14V _{DC} Current: up to 3 Amp
Outputs (4)	Open Drain type: Direct current: Voltage applied: from 0V _{DC} to 30V _{DC} Current applied: up to 0.3 ADC Alternate current: Voltage applied: up to 24 Vac Current applied: up to 0.2 Aac Mounting optional relays: Direct current: Voltage applied: from 0Vdc up to 30 Vdc Current applied: up to 2.5 Adc Alternate current: Voltage applied: up to 24 Vac Current applied: up to 1.8 Aac
Inputs (4)	Clamp (removable) for supervised contacts and/or dry contacts Voltage applied: 0V _{DC} to 14V _{DC} Current supplied: 0 mA to 3 mA (programmable) The contacts are supervised by means of 3 external resistors with pre-defined values, for detecting the following conditions: Normal, Alarm, Tamper, Cut, Short-circuit.
Inputs at outputs (4)	While the outputs are in the OPEN state, they can be used as 4 additional digital inputs: <3V=Contact closed <3V=Contact open
Tamper input	Clamp (removable) for tampering with cabinet (dry contact) Voltage applied: 0V _{DC} to 30V _{DC} Response threshold: 3V _{DC} Current supplied: 0.5 mA
Operating temperature	0 ↔ 50°C
Relative humidity	Up to 90% without condensation
FD-BUS connection	2 RJ45 ports in parallel Differential RS485 serial interface Baud rate (nominal) 11,5000 baud Optically isolated floating ground (500V insulation)
Address selector	From 0 to 63 through binary coding on 6 DIP switches
Indicator signals	Alarm LED (red) Communication LED (yellow) Operation LED (green)
Other functions	Jumpers to allow remote power supply by FD-BUS Protection against reversed polarity at input Tamper switch for alarm if casing is opened Functional diagnosis of outputs with alarm indicator in the event of faults
Compliance	 Directives 89/336/EEC, 93/68/EEC, 92/31/EEC EN60950, EN 55022, EN 55024