SIEMENS

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Fire Safety & Sec

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Inspections Division
Approved with Conditions

Date: 06/03/13

Intelligent Peripheral Devices

Quad Interface Module (4-Input / 4-Output)

Model FDCIO422

ARCHITECT AND ENGINEER SPECIFICATIONS

- Four (4) inputs / four (4) outputs via one (1) address
- Status indication via LED display of all input / output functions
- Supports 'Class A' and 'Class B' wiring
- Input lines can be supervised for open, short and ground-fault conditions
- Light-emitting diode (LED) display of input / output status
- Polarity insensitive with *SureWire*™ technology
- Microprocessor-controlled signal evaluation
- Two-wire installation
- Power supply via FDnet / C-Net module
- Communication via FDnet/C-NET
  - Individual addressing
- Mounts in one (1) electrical back box
  - Optional 4-inch and 5-inch square back boxes
- Four (4) relay outputs
  - Rated 2 – 8 Amps
- Electronic address programming is easy and dependable
- Easy front-end access to programming port and wiring terminals
- Model DPU programs and verifies address of the device, as well as performs test functionality
- Restriction of Hazardous Substances (RoHS compliant)
- ®UL 864 9th Edition Listed;
  FM, CSFM and NYC Fire Department Approved

Product Overview

The four (4) input / (4) output interface module (Model FDCIO422) from Siemens Industry — Fire Safety is designed to provide the means of interfacing direct shorting devices to the Cerberus™ PRO fire-alarm control panels (FACPs).

Model FDCIO422, which contains microcomputer-chip (*SureWire*) technology and is polarity insensitive, achieves the state of an 'intelligent device' through its highly advanced method of address programming and supervision — combined with its sophisticated, bi-directional FACP communication.

The relays and contact device inputs for Model FDCIO422 are controlled at the same address. For the FACP, the relays and input contacts can be controlled as a separate function. The relay is typically used where control or shunting of external equipment is required.

Model FDCIO422 is designed to monitor Normally Open (N.O) or Normally Closed (N.C) dry contacts. Each interface module reports the status of the (N.O) or (N.C) contacts to the FACP.

Specifications

Model FDCIO422 is used for the connection of up to two (2) independent 'Class A' or four (4) independent 'Class B,' dry and N.O configurable contacts. Input lines can be supervised for open, short and ground-fault conditions (depending on end-of-line [EOL] termination resistor and class configuration).

Inputs can independently be configured via the FACP for *Alarm*, *Trouble*, *Supervisory* or *Status* zones.

Model FDCIO422 has four (4) programmable outputs with four (4) potential-free latching-type 'Form A' (dry) relay contacts for fire-control installations.

The FDnet module provides supervised, power-limited power supply for Model FDCIO422. The four (4) input / (4) output interface module provides status indication per LED for each input / output, plus one (1) LED for general device status:

- Four (4) EOL devices (470 ohms)
- Three (3) separators to separate power-limited wiring from non-power limited wiring

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Specifications — (continued)

Separators are delivered in the following sizes:

- ✓ 4—x—11/16-inch back box
- ✓ 4—x—11/16-inch extension ring

Note: Optional 5" back boxes are available exclusively via Randl Industries, Inc.

Model FDCIO422 has a multi-color LED that flashes GREEN when operating in 'normal' (standby) condition; AMBER if unit is in a *Trouble* event, and RED to indicate a change of event status.

Model FDCIO422, which is fitted with screw terminals for connection to an addressable circuit, is fully compatible on the same circuits with all intelligent Siemens 'H'-series detectors; 'HMS'-series addressable manual stations, or any other addressable intelligent modules, such as Model HZM or Model HCP.

Model DPU

Model FDCIO422 is compatible with the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable, menu-driven accessory for electronically programming and testing detectors, easily and reliably.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods—such as dials or rotary switches—and reduces installation and service costs by electronically programming and testing the detector prior to installation (via the interface's microcomputer-chip, non-volatile memory).

For proper operation of Model DPU, the technician selects the accessory's program mode, and enters the desired address. In turn, Model DPU automatically sets and verifies the address, as well as tests the detector. When in the 'test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Model DPU operates on AC power or rechargeable batteries, providing flexibility and convenience in programming and testing equipment from practically any location. Further, vibration, corrosion and other conditions that deteriorate mechanical-addressing mechanisms are no longer a cause for concern.

Application

NFPA-guideline spacing is based
namely: smooth ceiling, no air r
physical obstructions between th
detector.

Do not mount interface modules
ventilating or air-conditioning outlets. Exposed joists or beamed ceilings may also effect safe spacing limitations for Model FDCIO422. It is mandatory to precisely follow NFPA 72 regulations, as well as applying professional engineering judgment, regarding interface locations and spacing.

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Electrical Ratings

Voltage Rating:	12VDC — 32VDC
Maximum Voltage: (FDnet / Cnet modules)	32VDC
Operating current: (quiescent)	1mA
Peak Current:	192mA, max.

Supervised switch ratings

Monitoring Voltage:	3VDC
Cable-length input:	200 feet (61 meters), max.
Input-shielding cable-length range:	30 ft — 200 ft (9.14m — 61m)
C line-to-line:	0.02 µF, max.
C line-to-shield:	0.04 µF, max.
Line Sizes American Wire Gauge (AWG)	14 AWG, max; 18 AWG, min.

Technical Data

Communication Protocol:		FDnet / Cnet (supervised signaling-line circuit, power limited)
Operating Temp. Range:		-22 – +140 °F (-30 – +60 °C)
Relay Outputs	**Normally Open**	2 -x- 7 Amps ('Out' B, C)
	Normally Closed	1 -x- 8 Amps ('Out' C)
Relative Humidity:		5 – 85 % (non freezing and condensing at low temperature)
PHYSICAL PROPERTIES	**Color:**	Carrier: ~RAL 9017
	Cage Cover:	Transparent
	Cage:	~RAL 9017
	Faceplate:	White
	Dimensions: { W -x- H -x- D }	4" -x- 4.7" -x- 1.2" (12 cm. -x- 12 cm. -x- 3.1 cm.)
	Weight:	3 Lbs. (1.12 kgs.)
	Volume: (cage and carrier)	11.7 $inch^3$

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Mounting Diagram
– Model FDCIO422 Control-Module (Supplied) Barri

Compatible FACPs

Model Number	Data Sheet Number	Description
FC901	9813	50-point panel
FC922	9815	252-point system (networkable)
FC924	9815	504-point system (networkable)

Details for Ordering

Model Number	Part Number	Description
FDCIO422	S54322-F4-A1	Four (4) Input / Four (4) Output Interface Module
EOL-100	S54312-F7-A1	End-of-Line (EOL) Resistor {100 Ω ±1% ½ W}
TB-EOL	S54322-FY-A2	TB - EOL Terminal

Optional Accessories

[available via Randl Industries, Inc.]

Part Number	Description
M-411000	4–11/16-inch adapter plate
T55017	5-inch back box
T55018	5-inch back box
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Notice: This marketing data sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

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Printed in U.S.A.

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November 2011
New Issue