# SOFTWARE HOUSE®



# **Input/Output Modules**

## **Features That Make a Difference:**

- Provides cost-effective expansion of input and output capacity
- Compatible with full range of Software House® iSTAR and apC access control panels
- Locate modules up to 1,220 m (4,000 ft) away from controllers using flexible two-wire RS-485 RM bus
- Reduces length of sensor and control wiring to save installation costs
- 18 provides eight Class A supervised inputs
- R8 provides eight Form C relay outputs
- 18-CSI, configurable supervised input model, allows use of existing input wiring without changing end-of-line (EOL) resistors
- Three status LEDs per input (red/yellow/green) and one per output enable quick diagnostics and troubleshooting
- Small, modular size requires minimal panel space
- Dedicated tamper input included on each module
- Optional UL-listed enclosure available

The Software House I8, R8, and I8-CSI modules provide a flexible, cost-effective means to expand the input and output functionality of any iSTAR or apC access controller. Common applications include alarm monitoring and control and elevator control.

The I8 input module provides eight Class A supervised inputs. Three LEDs per input help the installer commission and troubleshoot each input circuit – red if the input is in alarm, green for normal, and yellow for a supervision error. LEDs may be turned off via a DIP switch setting.

The I8-CSI module enhances the functionality of the standard I8 module by supporting numerous supervised circuit types and EOL resistance values. This allows the I8-CSI to accommodate existing field wiring without changing EOL resistors. More than 20 different circuit types are supported. The circuit type is selected via a bank of DIP switches and applies to all eight inputs on the I8-CSI.

The R8 output module provides eight Form C dry contact relay outputs. A red status LED per output shows the state of the relay.

All modules feature a dedicated input for an external cabinet tamper switch and mount easily in the Software House RM-CAN or RM-DCM-CAN enclosure. The modules communicate with iSTAR or apC controllers via the two-wire RM bus that allows total wiring distances of up to 1,220 m (4,000 ft). Up to eight I8s and eight R8s can be connected to each apC, iSTAR eX, and iSTAR Pro eight-reader model; up to 16 of each module can be connected to the iSTAR Pro 16-reader model.

The modules are fully compatible with both C◆CURE® 800/8000 and C◆CURE 9000.

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#### General

Dimensions (H x W) . . . . . 11.0 x 15.0 cm (4.3 x 5.9 in)

Environmental......0° to 50° C (32° to 122° F); 5 to 85% relative

humidity, non-condensing

Power Input Voltage . . . . . 12 VDC +/- 10%

Tamper . . . . . . . . . . . . . . . . . . Dedicated input for external tamper switch

CE, EN 50133, ROHS

#### **18 Input Module**

Power Requirements . . . . 180 mA @ 12 VDC Inputs . . . . . . . . . . . . . . . . . Eight Class A supervised

LEDs per Input . . . . . . . . Red (alarm), green (normal), and yellow

(supervision error)

#### 18-CSI Input Module

Power Requirements . . . . 80 mA @ 12 VDC

(supervision error)

.Single resistor: 1K, 5K, 10K Circuits Supported . . . .

Double resistor: 1K, 5K, 10K, 1K/2K, 6.8K/18K, 200/10K

Unsupervised: NO, NC

# **R8 Output Module**

Power Requirements . . . . 45 mA @ 12 VDC plus 32 mA per active relay

Outputs......Eight Form C dry contact relays

LED per Output. . . . . . . . Red (relay active) Relay Contact Ratings . . . 30 VDC, 2.0 A resistive 30 VDC, 1.0 A inductive 125 VAC, 4.0 A

#### Optional Metal Enclosures with Tamper Switch

RM-DCM-CAN

Capacity . . . . . . . . . . . . . . . . . Up to four input or output modules

RM-CAN

Dimensions...........210 x 184 x 83 mm (8.25 x 7.25 x 3.25 in)

Capacity . . . . . . . . One input or output module

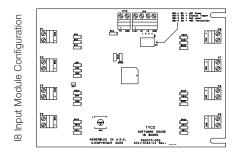
#### **Model Numbers**

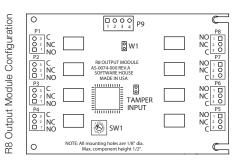
RM-DCM-CAN . . . . . . . Large metal enclosure with tamper switch RM-CAN......Small metal enclosure with tamper switch

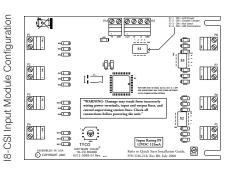
### Wiring Summary

Signal	From	То	Belden #	Gauge	# of Pairs	Shielded	Maximum Length
Comm (two-wire RS485)	apC/iSTAR	18/R8	9841*	24	1	Yes	1,220 m (4,000 ft)
Power	apC/iSTAR	18/R8	9841*	24	1	No	Based on voltage drop
Control Point	R8	Strike, Siren, etc.	8442/8461	18	1	No	Based on voltage drop
Supervised Input	18	REX or Door Contact	8442/8461	22/18	1	No	610 m (2,000 ft)

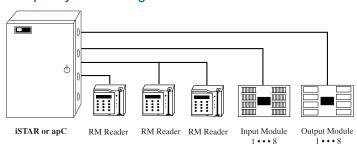
# Wiring Configuration Diagram







### Sample System Configuration: Combination Bus/Star Wiring Diagram



(\*) For plenum or underground applications, use Belden 89182 for one pair 22 AWG, 100 ohm 12,95 pf/ft Note: Control, supervised, and unsupervised input cables must be shielded for FCC Class B operation

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