

# SpaceLogic RTD-DI-16 Plant Room Controllers

EcoStruxure™ Building



## 16-channel RTD/digital input I/O module

### Introduction

SpaceLogic™ RTD-DI-16 Central IO module is an RTD/digital input, 16-channel I/O module.

The inputs of RTD-DI-16 can be configured to read seven different types of inputs:

- 2-wire RTD temperature
- 3-wire RTD temperature
- 2-wire RTD resistive
- 3-wire RTD resistive

- Digital
- Counter
- Resistive

RTD-DI-16 supports 3-wire configurations that consume two input channels. The number of channels available range between 8 to 16 depending on the number of 3-wire configurations that are used.

The inputs can be used for sensing multiple dry contact inputs in applications, such as equipment status monitoring or alarm point monitoring. As counter inputs, they are commonly used in energy metering applications.

# SpaceLogic RTD-DI-16

The RTD inputs are ideal for temperature points in a building control system.

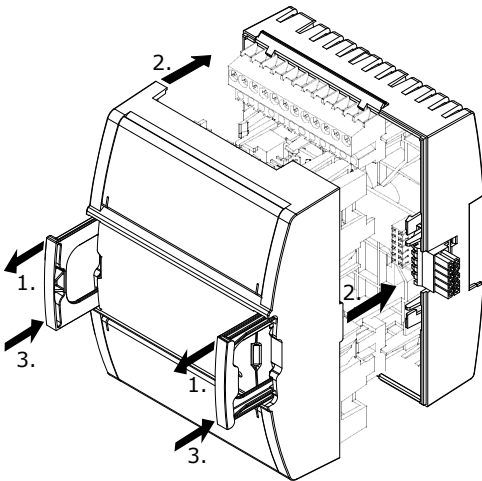
## Function

### Modular and scalable system

The modules are part of a modular system that delivers power and communications on a common bus. Connecting modules is a one-step process: just slide the modules together using the built-in connectors.

### Patented two-piece design

Each module can be separated from its terminal base to allow the site to be wired prior to the installation of the electronics. The patented locking mechanism serves as handles for removing the module from its base. All critical components have a protective cover that permits convection cooling to occur.



Two-piece design

### Hot-connect and Hot-swap

Because critical applications require 24-hour operation, Schneider Electric designed the Central IO modules for hot-connection of terminal bases and hot-swapping of the modules

## Specifications

### SpaceLogic RTD-DI-16

Input channels	16
3-wire RTDs require 2 inputs	
DC input supply power	1.6 W
DC input supply voltage	24 VDC
Environment	
Ambient temperature, operating	0 to 50 °C (32 to 122 °F)

to their bases. This design ensures continuous power and communication during service operations.

### Auto-addressing

The auto-addressing feature automatically assigns device addresses without the need to set DIP switches or press commission buttons. Each device automatically knows its order in the chain and assigns itself accordingly – significantly reducing engineering and maintenance time.

### Simple DIN-rail installation

Fasteners easily snap into a locked position for panel installation. The fastener has a quick-release feature for easy DIN-rail removal.

### Efficient terminal management

The Central IO module terminals are clearly labeled and protected by transparent covers. The terminals are at the top and bottom of each module and are accessible for maintenance without removing the module. The EcoStruxure Building Operation WorkStation software can generate custom as-built labels for each module. Pre-perforated letter and A4 size label sheets are available as an accessory.

### Accommodates multiple row panel installations

The SpaceLogic devices use built-in connectors for single row connectivity, side by side. If a panel size requires multiple rows, extension cords are available.

### LED status indicators

The Central IO module has a status indicator that denotes the health and status of the module.

Each input channel has a dedicated two color status LED. The LED can be configured to display either red or green for each input state.

### Protection

Protection components on the inputs protect against high-voltage short-duration transient events.

# SpaceLogic RTD-DI-16

Ambient temperature, storage	-20 to +70 °C (-4 to +158 °F)
Maximum humidity	95 % RH non-condensing
<b>Material</b>	
Plastic flame rating	UL94-5VB
Enclosure	PC/ABS
Ingress protection rating	IP 20
<b>Mechanical</b>	
Dimensions including terminal base	90 W x 114 H x 64 D mm (3.6 W x 4.5 H x 2.5 D in.)
Weight including terminal base TB-IO-W1	0.269 kg (0.59 lb)
Weight including terminal base TB-IO-W1-2	0.299 kg (0.66 lb)
Weight excluding terminal base	0.146 kg (0.32 lb)
Terminal base	TB-IO-W1 TB-IO-W1-2
<b>Agency compliances</b>	
Emission	RCM; BS/EN 61000-6-3; FCC Part 15, Sub-part B, Class B
Immunity	BS/EN 61000-6-2
Safety standards	BS/EN 61010-1; UL 916 C-UL US Listed
Product	BS/EN 61326-1
Smoke control product safety	UL 864
<b>Part numbers</b>	
RTD-DI-16, Central IO module 16 RTD/digital inputs	SXWRTD16X10001
TB-IO-W1, terminal base for Central IO module <sup>a</sup> (Required for each Central IO module)	SXWTBIOW110001
<small>a) The Central IO modules are compatible with TB-IO-W1 (SXWTBIOW110001) and TB-IO-W1-2 (SXWTBIOW110002). TB-IO-W1 is UL 864 certified. UL 864 certification for TB-IO-W1-2 is currently pending.</small>	

# SpaceLogic RTD-DI-16

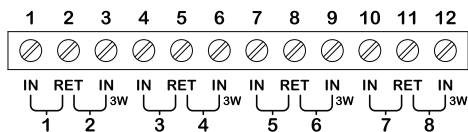
TB-IO-W1-2, terminal base for Central IO module<sup>a</sup>  
(Required for each Central IO module)

SXWTBIOW110002

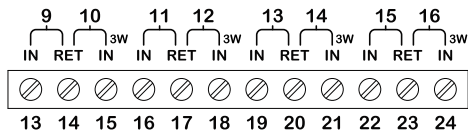
a) The Central IO modules are compatible with TB-IO-W1 (SXWTBIOW110001) and TB-IO-W1-2 (SXWTBIOW110002). TB-IO-W1 is UL 864 certified. UL 864 certification for TB-IO-W1-2 is currently pending.

Accessory part numbers	
DIN-RAIL-CLIP, DIN-rail end clip package of 25 pieces	SXWDINEND10001
PRINTOUT-A4-W1, printout sheets for terminal labels A4 sheet size, 100 sheets, 18 labels per sheet	SXWTERLBL10011
PRINTOUT-LTR-W1, printout sheets for terminal labels Letter sheet size, 100 sheets, 16 labels per sheet	SXWTERLBL10012
S-CABLE-L, S-cable extension cord for the I/O bus, L shaped connectors 1.5 m	SXWSCABLE10002
S-CABLE-L, S-cable extension cord for the I/O bus, L shaped connectors 0.75 m	SXWSCABLE10003

## Inputs



## RTD-DI-16



Absolute maximum ratings -0.5 to +24 VDC

## RTD temperature

Reliability check Yes

Supported RTDs Pt100, Pt1000, Ni1000, LG-Ni1000, and JCI-Ni1000

## Pt100

Range -50 to +150 °C (-58 to +302 °F)

Measurement accuracy +/-0.3 °C (+/-0.54 °F)

Resolution 0.03 °C (0.05°F)

## Pt1000

Range -50 to +150 °C (-58 to +302 °F)

Measurement accuracy +/-0.2 °C (+/-0.36 °F)

Resolution 0.03 °C (0.05 °F)

## Ni1000

Range -50 to +150 °C (-58 to +302 °F)

# SpaceLogic RTD-DI-16

Measurement accuracy	+/-0.1 °C (+/-0.18 °F)
Resolution	0.03 °C (0.05 °F)
<b>LG-Ni1000</b>	
Range	-50 to +150 °C (-58 to +302 °F)
Measurement accuracy	+/-0.1 °C (+/-0.18 °F)
Resolution	0.03 °C (0.05 °F)
<b>JCI-Ni1000</b>	
Range	-50 to +150 °C (-58 to +302 °F)
Measurement accuracy	+/- 0.1 °C (+/- 0.18 °F)
Resolution	0.03 °C (0.05 °F)
<b>RTD temperature wiring</b>	
Maximum wire resistance	20 ohm/wire (40 ohm total)
Maximum wire capacitance	60 nF
The wire resistance and capacitance typically corresponds to a 200 m wire.	
<b>RTD resistive</b>	
Reliability check	Yes
<b>100 ohm</b>	
Range	50 to 220 ohm Including wiring resistance
Measurement accuracy R = resistance in ohm	+/- (0.08 + 2 x 10 <sup>-4</sup> x R) ohm
Resolution	0.01 ohm
<b>1,000 ohm</b>	
Range	500 to 2,200 ohm Including wiring resistance
Measurement accuracy R = resistance in ohm	+/- (0.3 + 2 x 10 <sup>-4</sup> x R) ohm
Resolution	0.1 ohm
<b>RTD resistive wiring</b>	
Maximum wire capacitance	60 nF
<b>Digital</b>	
Range	Dry contact switch closure or open collector/open drain, 24 VDC, 2.4 mA
Minimum pulse width	120 ms
LED polarity	Software selectable, if the LED is activated when the input is high or low
LED color	Red or green, software selectable

# SpaceLogic RTD-DI-16

Counter	
Range	Dry contact switch closure or open collector/open drain, 24 VDC, 2.4 mA
Minimum pulse width	20 ms
Maximum frequency	25 Hz
LED polarity	Software selectable, if the LED is activated when the input is high or low
LED color	Red or green, software selectable
Resistive	
Range	0 to 15,000 ohm
Accuracy R = resistance in ohm	$\pm(3 + 6 \times 10^{-4} \times R)$ ohm
Resolution	1 ohm
Reliability check	Yes
Maximum wire capacitance	60 nF

# SpaceLogic RTD-DI-16

## Regulatory Notices



### Federal Communications Commission

FCC Rules and Regulations CFR 47, Part 15, Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.

### Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



### Regulatory Compliance Mark (RCM) - Australian Communications and Media Authority (ACMA)

This equipment complies with the requirements of the relevant ACMA standards made under the Radiocommunications Act 1992 and the Telecommunications Act 1997. These standards are referenced in notices made under section 182 of the Radiocommunications Act and 407 of the Telecommunications Act.



### UK Conformity Assessed

S.I. 2016/1091 - Electromagnetic Compatibility Regulations 2016

S.I. 2012/3032 - Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

S.I. 2013/3113 - Waste Electrical and Electronic Equipment Regulations 2013

This equipment complies with the rules, of the UK regulations, for governing the UKCA Marking for the United Kingdom specified in the above directive(s).



### CE - Compliance to European Union (EU)

2014/30/EU Electromagnetic Compatibility Directive

2011/65/EU Restriction of Hazardous Substances (RoHS) Directive

2015/863/EU amending Annex II to Directive 2011/65/EU

This equipment complies with the rules, of the Official Journal of the European Union, for governing the Self Declaration of the CE Marking for the European Union as specified in the above directive(s).



### WEEE - Directive of the European Union (EU)

This equipment and its packaging carry the waste of electrical and electronic equipment (WEEE) label, in compliance with European Union (EU) Directive 2012/19/EU, governing the disposal and recycling of electrical and electronic equipment in the European community.



UL 916 Listed products for the United States and Canada, Open Class Energy Management Equipment. UL file E80146.



UL 864 Listed products for the United States. 10<sup>th</sup> Edition Smoke Control System. UL file S5527.

[www.se.com/buildings](http://www.se.com/buildings)

Life Is On

**Schneider**  
Electric