MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ABB

S200-IR8

EIGHT CHANNEL RTD INPUT MODULE

Used with the applicable Advant S200 200-IR8 configuration.

REFERENCE PACKAGE

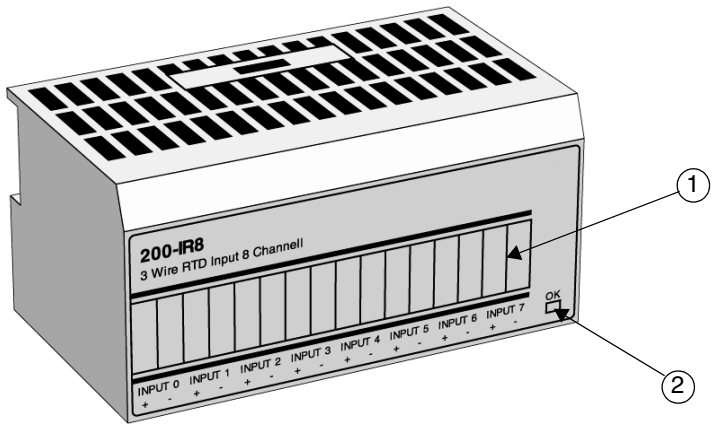
OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: ABB S200 I/O Hardware, 3BSE021356-600 A, RTD Input Unit 200-IR8

RTD Input Unit 200-IR8

200-IR8 is an I/O unit for eight 3-wire RTD input signals. The inputs have programmable filters and the unit is galvanically isolated. The unit has 16 bit resolution. A high number of sensor types are supported.



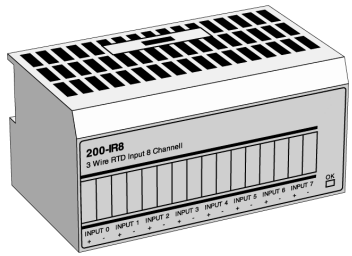
1 = Holder for insertable label for individual output designations
2 = Power ON indicator.
Figure 100. RTD input unit 200-IR8.

Front Panel

Indicators

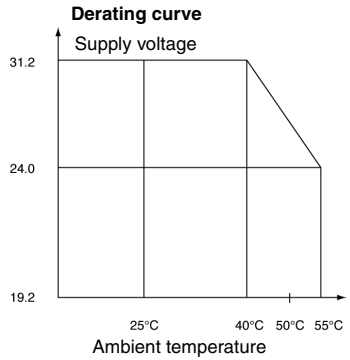
Indication	Function
OK	Bi-colour (green/red) LED 1. Steady red at power up. 2. Off while module performs diagnostic tests. 3. If tests are passed, flashing green as long as configuration words are zero. 4. Steady green when configured.

RTD Input Unit 200-IR8



Technical Data	
Number of inputs	8
Galvanic isolation	Yes
Status indicators	Bi-colour (green/red) LED for OK
Resolution	16-bit
Input range	1–433 Ω
Overvoltage capability	±35 V DC, 25 V AC continuous at 25 °C, 250 V peak transient
Accuracy without calibration and at low humidity levels	0.05% of FSR max. in normal mode (0.01% of FSR typ. in enhanced mode) at 25 °C
Internal current consumption (from serial bus)	20 mA max.
Filter	Programmable
Normal mode noise rejection	60 dB at 60 Hz for A/D filter cut-off at 15 Hz
Calibration	Programmable
Common mode rejection	120 dB at 60 Hz; 100 dB at 50 Hz for A/D filter cut-off at 10 Hz
System throughput	Normal mode, programmable 28 ms–325 ms/channel Enhanced mode, programmable 56 ms–650 ms/channel
Open-wire detection	Out of range reading (upscale)

Technical Data	
Open-wire detection time	1 s typ.
RTD exitation current	718 µA
Input offset drift with temp.	1.5 mΩ/°C max.
Gain drift with temperature Normal mode Enhanced mode	 20 ppm/°C 10 ppm/°C
Temperature (see derating curve on next page)	Operating: 0 °C to +55 °C Non-operating: –40 °C to +85°C
Humidity	Operating: 5–95%, non-condensing Non-operating: 5–80%, non-condensing
Approvals (when product or packaging is marked)	CSA certified; class I div. 2 hazardous locations, group A, B, C, D, temperature code T5 European Ex certified, class I, zone 2, group II C
Supported sensors (resistance)	1–433 Ω 500 Ω Pt Euro -200 to +630 °C (α=0.00385) 200 Ω Pt Euro -200 to +630 °C(α=0.00385) 100 Ω Pt Euro -200 to +870 °C (α=0.00385) 100 Ω Pt U.S. -200 to +630 °C (α=0.00392) 500 Ω Ni -60 to +250 °C (α=0.00618) 200 Ω Ni -60 to +250 °C (α=0.00618) 120 Ω Ni -60 to +250 °C (α=0.00672) 100 Ω Ni -60 to +250 °C (α=0.00618) 10 Ω Cu -200 to +260 °C (α=0.00427)
Unit identity	1B01 (hex)
Backplane key code	3
External DC Power Supply voltage Supply current	 24 V DC nominal (19.2–31.2 V DC) 60 mA at 24V DC
Power dissipation	3 W at 31.2 V DC max.
Weight	0.085 kg excl. package, 0.180 kg incl. package
Dimensions	W 94 x H 46 x D 53 mm
Order code	200-IR8



The area within the curve represents the safe operating range for the unit under various conditions of 24 V DC input voltage and ambient temperatures.