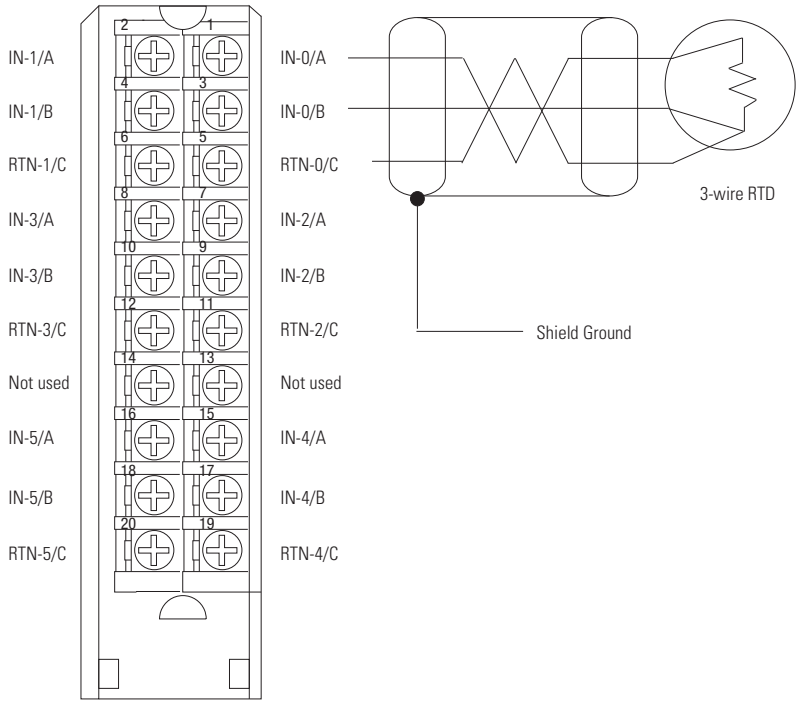
1756-IR6I

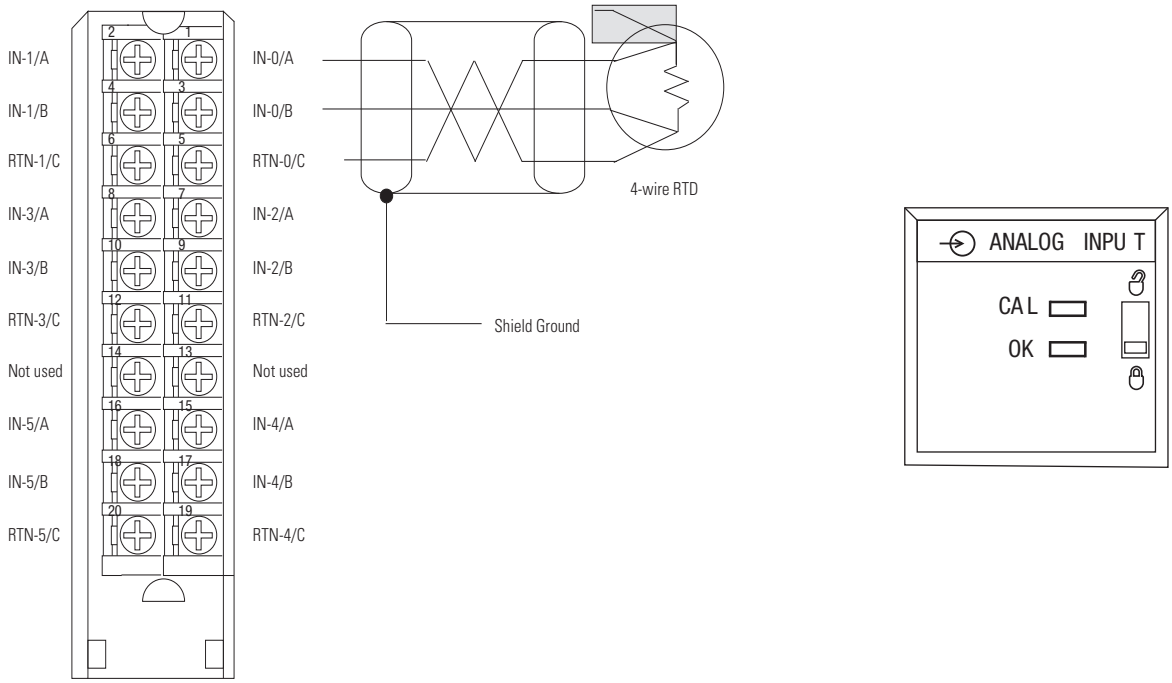
ControlLogix temperature sensing analog input module

1756-IR6I 3-wire RTD



IMPORTANT: For 2-wire resistor applications including calibration, make sure IN-*x*/B and RTN-*x*/C are shorted together as shown.

1756-IR6I 4-wire RTD



Signal and User Counts - 1756-IR6I

Range	Low Signal and User Counts	High Signal and User Counts
1…487 Ω	0.859068653 Ω -32768 counts	507.862 Ω 32767 counts
2…1000 Ω	2 Ω -32768 counts	1016.502 Ω 32767 counts
4…2000 Ω	4 Ω -32768 counts	2033.780 Ω 32767 counts
8…4020 Ω	8 Ω -32768 counts	4068.392 Ω 32767 counts

Technical Specifications - 1756-IR6I

Attribute	1756-IR6I
Inputs	6 individually isolated RTD
Input range	1…487 Ω 2…1000 Ω 4…2000 Ω 8…4000 Ω
Resolution	16 bits 1…487 Ω: 7.7 mΩ/bit 2…1000 Ω:15 mΩ/bit 4…2000 Ω:30 mΩ/bit 8…4020 Ω:60 mΩ/bit

Technical Specifications - 1756-IR6I (continued)

Attribute	1756-IR6I
Sensors supported	100, 200, 500, 1000 Ω Platinum, alpha=385 100, 200, 500, 1000 Ω Platinum, alpha=3916 120 Ω Nickel, alpha=672 100, 120, 200, 500 Ω Nickel, alpha=618 10 Ω Copper
Current draw @ 5.1V	250 mA
Current draw @ 24V	125 mA
Total backplane power	4.25 W
Power dissipation, max	4.3 W
Thermal dissipation	14.66 BTU/hr
Open circuit detection time	Negative full scale reading within 5 s with any combination of lost wires, except input terminal A alone. If input terminal A is lost by itself, the module reads a positive full scale reading within 5 s
Overvoltage protection, max	24V AC/DC
Normal mode noise rejection	60 dB at 60 Hz(2)
Common mode noise rejection	120 dB @ 60 Hz 100 dB @ 50 Hz
Channel bandwidth	15 Hz(2)
Settling time	<80 ms to 5% of full scale(2)
Calibrated accuracy @ 25 °C	Better than 0.1% of range
Calibration interval	6 months
Offset drift	10 MΩ/°C
Gain drift with temperature, nom	50 ppm/°C
Gain drift with temperature, max	90 ppm/°C
Module error	0.54% of range
Module scan time	25 ms min floating point (ohms) 50 ms min floating point (temperature) 10 ms min integer (ohms)(2)
Data format	Integer mode (left justified, 2 s complement) IEEE 32-bit floating point
Module conversion method	Sigma-Delta
Isolation voltage	250V (continuous), basic insulation type, input channels-to-backplane, and input channel-to-channel
Module keying	Electronic, software configurable
Removable terminal block	1756-TBNH 1756-TBSH
RTB keying	User-defined mechanical
Slot width	1
Wire category(1)	2
Enclosure type	None (open-style)
North American temperature code	T4A
IEC temperature code	T4

(1) Use this conductor category information for planning conductor routing as described in the system-level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

(2) Notch filter dependent.

Environmental Specifications - 1756-IR6I

Attribute	1756-IR6I
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	0…60 °C (32…140 °F)
Temperature, surrounding air, max	60 °C (140 °F)
Temperature, nonoperating IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test N/A, Unpackaged Nonoperating Thermal Shock)	-40…+85 °C (-40…+185 °F)
Relative humidity IEC 60068-2-30 (Test dB, Unpackaged Damp Heat)	5…95% noncondensing
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10…500 Hz
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	50 g
Emissions	IEC 61000-6-4
ESD immunity IEC 61000-4-2	6 kV contact discharges 8 kV air discharges
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000…2700 MHz
EFT/B immunity IEC 61000-4-4	±2 kV at 5 kHz on shielded signal ports
Surge transient immunity IEC 61000-4-5	±2 kV line-earth (CM) on shielded signal ports
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine-wave 80% AM from 150 kHz…80 MHz on shielded signal ports

Certifications - 1756-IR6I

Certification (when product is marked)[1]	1756-IR6I
UL	UL Listed Industrial Control Equipment. See UL File E65584.
CSA	CSA Certified Process Control Equipment. See CSA File LR54689C. CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations. See CSA File LR69960C.
CE	European Union 2014/30/EU EMC Directive, compliant with: • EN 61326-1; Meas./Control/Lab., Industrial Requirements • EN 61000-6-2; Industrial Immunity • EN 61000-6-4; Industrial Emissions • EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)
RCM	Australian Radiocommunications Act, compliant with: EN 61000-6-4; Industrial Emissions
Ex	European Union 2014/34/EU ATEX Directive, compliant with: • EN 60079-15; Potentially Explosive Atmospheres, Protection "n" • EN 60079-0; General Requirements II 3 G Ex nA IIC T4 X Gc
FM	FM Approved Equipment for use in Class I Division 2 Group A,B,C,D Hazardous Locations
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3
EAC	Russian Customs Union TR CU 020/2011 EMC Technical Regulation Russian Customs Union TR CU 004/2011 LV Technical Regulation

(1) See the Product Certification link at rok.auto/certifications for Declarations of Conformity, Certificates, and other certification details.