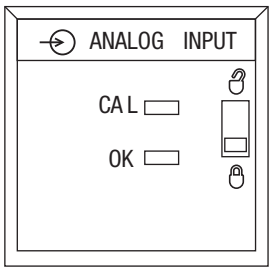
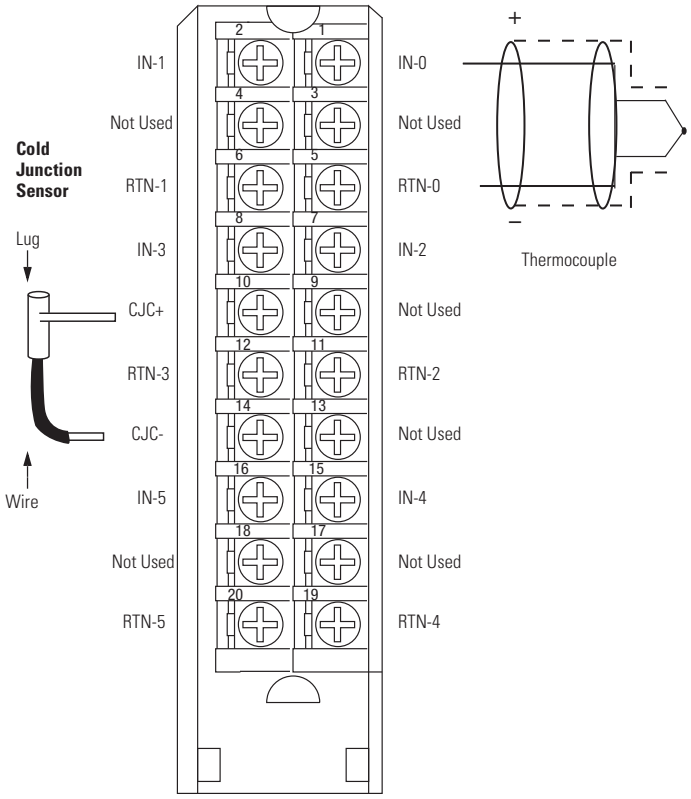
1756-IT6I

ControlLogix temperature sensing analog input module



1756-IT6I



One CJC, part number 94238301, is shipped with the module. A replacement can be ordered as RP-94238301.

Signal and User Counts - 1756-IT6I

Range	Low Signal and User Counts	High Signal and User Counts
-12…30 mV	-15.80323 mV -32768 counts	31.396 mV 32767 counts
-12…78 mV	-15.15836 mV -32768 counts	79.241 mV 32767 counts

Technical Specifications - 1756-IT6I

Attribute	1756-IT6I
Inputs	Six individually isolated thermocouple 1 CJC
Input range	-12…78 mV -12…30 mV (high-resolution range)
Resolution	16 bits -12…78 mV: 1.4 µV/bit (typical) -12…30 mV: 0.7 µV/bit (high-resolution range)
Thermocouples	B, E, J, K, R, S, T, N, C, D, L (TXK/XK)
Thermocouple linearization	ITS-90

Technical Specifications - 1756-IT6I (continued)

Attribute	1756-IT6I
Current draw @ 5.1V	250 mA
Current draw @ 24V	125 mA
Total backplane power	4.3 W
Power dissipation, max	4.3 W
Thermal dissipation	14.66 BTU/hr
Input impedance	>10 MΩ
Open circuit detection time	Positive full scale reading within 2 s
Overvoltage protection, max	120V AC/DC
Normal mode noise rejection	60 dB at 60 Hz(1)
Common mode noise rejection	120 dB @ 60 Hz 100 dB @ 50 Hz
Channel bandwidth	15 Hz (-3 dB)(1)
Settling time	<80 ms to 5% of full scale(1)
Calibrated accuracy @ 25 °C	Better than 0.1% of range
Calibration interval	6 months
Local CJC sensor accuracy	±0.3…3.2 °C, depending on channel
Remote CJC sensor accuracy	±0.3 °C
Offset drift	0.5 µV/°C
Gain drift with temperature, nom	65 ppm/°C
Gain drift with temperature, max	80 ppm/°C
Module error	0.5% of range
Module scan time	25 ms min floating point (millivolt) 50 ms min floating point (temperature) 10 ms min integer (millivolt)(1)
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	2(2)
Enclosure type	None (open-style)
North American temperature code	T4A
IEC temperature code	T4

(1) Notch filter dependent.

(2) 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.

Thermocouple Ranges - 1756-IT6I

Attribute	1756-IT6I	
Thermocouple temperature/millivolt input range	-12…78 mV range	-12…30 mV range
Thermocouple Type B	300…1820 °C (572…3308 °F)	Full range
Thermocouple Type C	0…2315 °C (32…4199 °F)	0…1725 °C (32…3137 °F)
Thermocouple Type E	-270…+1000 °C (-454…+1832 °F)	-270…+415 °C (-454…+779 °F)
Thermocouple Type J	-210…+1200 °C (-346…+2192 °F)	-210…+550 °C (-346…+1022 °F)
Thermocouple Type K	-270…+1372 °C (-454…+2502 °F)	-270…+725 °C (-454…+1337 °F)
Thermocouple Type N	-270…+1300 °C (-454…+2372 °F)	-270…+840 °C (-454…+1544 °F)
Thermocouple Type R	-50…+1768 °C (-58…+3215 °F)	Full range
Thermocouple Type S	-50…+1768 °C (-58…+3215 °F)	Full range
Thermocouple Type T	-270…+400 °C (-454…+752 °F)	Full range
Thermocouple Type D	0…2320 °C (32…4208 °F)	0…1718 °C (32…3124 °F)
Thermocouple Type L (TXK/XK)	-200…+800 °C (-328…+1472 °F)	0…200…399 °C (392…750 °F) °C (32…3124 °F)
Thermocouple resolution over temperature range, nom	-12…78 mV range	-12…30 mV range
Type B, R, S, C	~0.15 °C (~0.28 °F)	~0.08 °C (~0.15 °F)
Type E, J, K, T, N	~0.05 °C (~0.09 °F)	~0.03 °C (~0.05 °F)
Type D	~0.07 °C (~0.13 °F)	~0.03 °C (~0.05 °F)
Type TXK/XK (L)	~0.02 °C (~0.04 °F)	~0.01 °C (~0.02 °F)

Environmental Specifications - 1756-IT6I

Attribute	1756-IT6I
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

Environmental Specifications - 1756-IT6I (continued)

Attribute	1756-IT6I
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-IT6I

Certification (when product is marked)(1)	1756-IT6I
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.