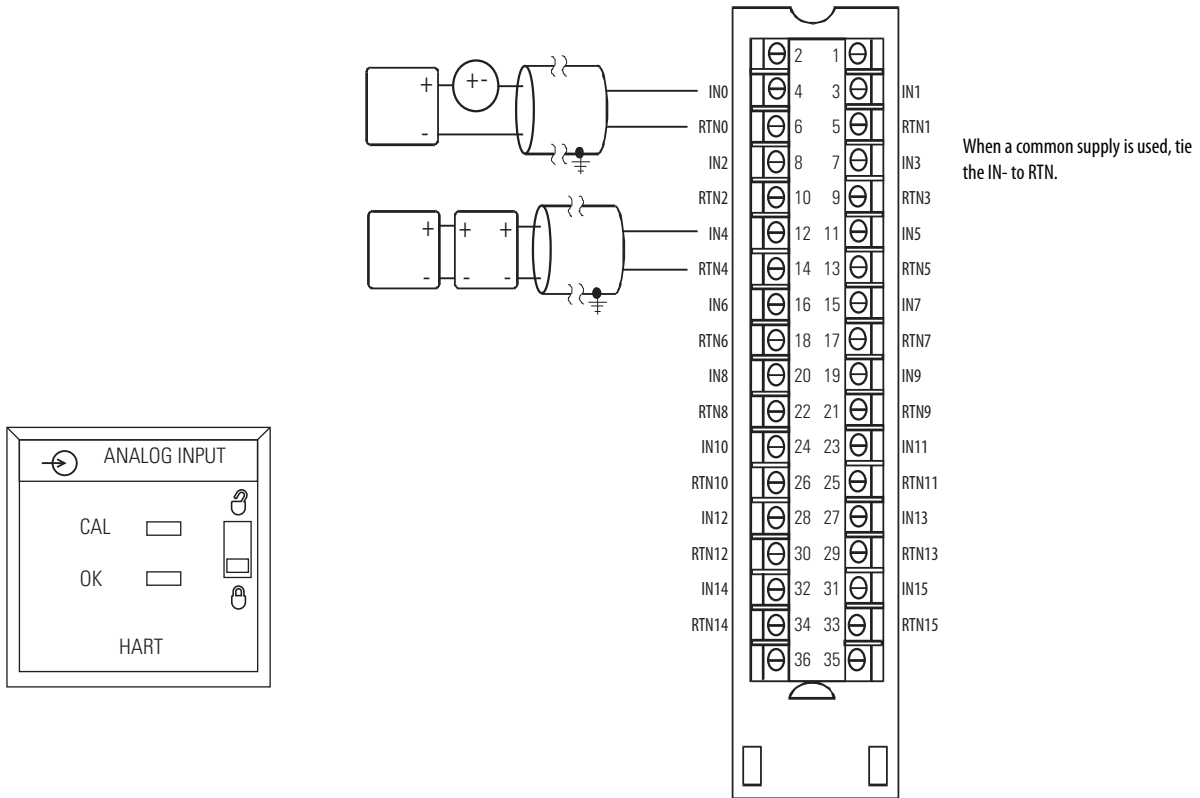


1756-IF16H

ControlLogix current analog input module with HART protocol



Technical Specifications - 1756-IF16H

Attribute	1756-IF16H
Inputs	16 differential, current Dedicated HART modem per channel
Input range	0...20 mA 4...20 mA
Resolution	16...21 bits
Voltage and current ratings	Backplane: 5.1V DC @ 200 mA, 24V DC @ 125 mA Input current range: 0...20 mA, 4...20 mA
Total backplane power	4.02 W
Power dissipation, max	6 W
Isolation voltage	50V (continuous), Basic insulation type, Input Channels to Backplane No isolation between individual Input Channels Type tested at 1500V DC for 60 s
Thermal dissipation	12 BTU/hr
Input impedance	249 Ω
Open circuit detection time	Positive full scale reading within 5 s
Overvoltage protection, max	8V DC
Normal mode noise rejection	74 dB @ 50/60 Hz (15 Hz filter) 90 dB @ 60 Hz (20 Hz filter)
Common mode noise rejection	> 90 dB @ 50/60 Hz (15 Hz and 20 Hz filters only)

Technical Specifications - 1756-IF16H (continued)

Attribute	1756-IF16H
Repeatability	Better than 0.01% of range (15 Hz and 20 Hz filters only)
Calibrated accuracy	Better than 0.13% of range (all filters)
Calibration interval	12 months typical
Offset drift	27 $\mu\text{V}/^\circ\text{C}$
Gain drift with temperature	11 ppm/ $^\circ\text{C}$
Module error	0.3% of range
Module input scan time, min	11...328 ms (filter dependent)
Module HART scan time	Estimate 1 s if all channels are HART enabled
Data format	Integer mode (left justified, 2 s complement) IEEE 32-bit floating point
Input conversion method	Successive approximation
Output conversion method	R-Ladder DAC, monotonicity with no missing codes
Module keying	Electronic, software configurable
Removable terminal block	1756-TBCH 1756-TBS6H
RTB keying	User-defined mechanical
Slot width	1
Wire size	1756-TBCH Single wire connection: 0.33...2.1 mm ² (22...14 AWG) solid or stranded shielded copper wire, rated at 105 $^\circ\text{C}$ (221 $^\circ\text{F}$) or greater, 1.2 mm (3/64 in.) insulation max 1756-TBS6H Single wire connection: 0.33...2.1 mm ² (22...14 AWG) solid or stranded shielded copper wire, rated at 105 $^\circ\text{C}$ (221 $^\circ\text{F}$) or greater, 1.2 mm (3/64 in.) insulation max
Terminal block torque spec	1756-TBCH 0.5 N·m (4.4 lb·in)
Wire category ⁽¹⁾	2 - on signal ports
Wire type	Copper
North American temp code	T5
ATEX temp code	T4
IECEx temp code	T4
Enclosure type rating	None (open-style)

(1) Use this Conductor Category information for planning conductor routing. See the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

Environmental Specifications - 1756-IF16H

Attribute	1756-IF16H
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 $^\circ\text{C}$ < Ta < +60 $^\circ\text{C}$ (+32 $^\circ\text{F}$ < Ta < +140 $^\circ\text{F}$)
Temperature, surrounding air, max	60 $^\circ\text{C}$ (140 $^\circ\text{F}$)
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 Na, Unpackaged Nonoperating Thermal Shock)	-40...+85 $^\circ\text{C}$ (-40...+185 $^\circ\text{F}$)
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5...95% noncondensing

Environmental Specifications - 1756-IF16H (continued)

Attribute	1756-IF16H
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 1V/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 signal ports
Surge transient immunity IEC 61000-4-5	±2 kV line-earth (CM) on shielded ports
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine-wave 80% AM from 150 kHz...80 MHz

Certifications - 1756-IF16H

Certification ⁽¹⁾	1756-IF16H
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810.
CE	European Union 2014/30/EU EMC Directive, compliant with: <ul style="list-style-type: none"> • 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)
RCM	Australian Radiocommunications Act, compliant with: <ul style="list-style-type: none"> • EN 61000-6-4; Industrial Emissions
Ex	European Union 2014/34/EU ATEX Directive, compliant with: <ul style="list-style-type: none"> • EN 60079-0; General Requirements • EN 60079-15; Potentially Explosive Atmospheres, Protection "n" • II 3 G Ex nA IIC T4 Gc • DEMKO12ATEX1219040X
IECEx	IECEx System, compliant with: <ul style="list-style-type: none"> • IEC 60079-0; General Requirements • IEC 60079-15; Potentially Explosive Atmospheres, Protection "n" • II 3 G Ex nA IIC T4 Gc • IECEx UL 16.0109X
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: <ul style="list-style-type: none"> • 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) When marked. See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.