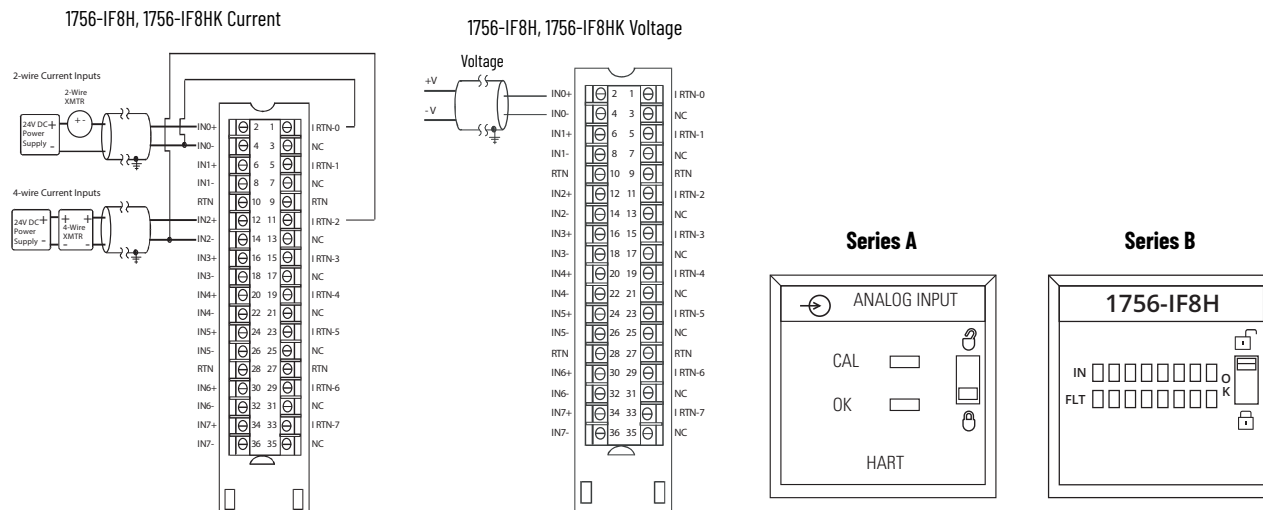


1756-IF8H, 1756-IF8HK

ControlLogix® voltage/current analog input module with HART protocol



Technical Specifications

Attribute	1756-IF8H/A, 1756-IF8HK/A	1756-IF8H/B, 1756-IF8HK/B
Inputs	Eight differential voltage or current inputs, one HART modem per module	Eight differential voltage or current inputs, one HART modem per channel
Input range	±10V 0...5V 1...5V 0...10V 0...20 mA 4...20 mA	
Resolution	16...21 bits	
Voltage and current ratings	Backplane: 5.1V DC, 300 mA, 24V DC, 135 mA Input voltage range: -10...+10V Input current range: 0...20 mA, 4...20mA	Backplane: 5.1V DC, 230 mA, 24V DC, 80 mA Input voltage range: -10...+10V Input current range: 0...20 mA, 4...20mA
Total backplane power	4.77 W	3.1 W
Power dissipation	Voltage: 3.21 W Current: 4.01 W	Voltage: 2.76 W Current: 3.56 W
Thermal dissipation	Voltage: 11.0 BTU/hr Current: 13.7 BTU/hr	
Input impedance	-	
Open circuit detection time	Positive full-scale reading within 5 s	
Overvoltage protection, max	Voltage: 30V DC Current: 8V DC	
Normal mode noise rejection	> 80 dB @ 50/60 Hz	
Common mode noise rejection	> 100 dB @ 50/60 Hz	
Calibrated accuracy	Voltage: Better than 0.05% of range Current: Better than 0.15% of range	
Calibration interval	12 months	
Offset drift	90 μV/°C	

Technical Specifications (Continued)

Attribute	1756-IF8H/A, 1756-IF8HK/A	1756-IF8H/B, 1756-IF8HK/B
Gain drift with temperature	Voltage: 10 ppm/°C Current: 20 ppm/°C	
Module error	Voltage: 0.1% of range Current: 0.3% of range	
Module I/O scan time	Analog: 18...488 ms (filter dependent)	Analog: 18...488 ms (filter dependent)
Module HART scan time	Typically 1 s per HART channel enabled Estimate 10 s if all 8 channels have HART enabled Pass through messages, handheld communicators, secondary masters, communication errors, or configuration changes can significantly increase the update time	Estimate 1 s if all 8 channels have HART enabled (scan time does not increase with enabling additional channels because one HART modem is assigned per channel.) Pass through messages, handheld communicators, secondary masters, communication errors, or configuration changes can significantly increase the update time
Data format	IEEE 32-bit floating point	
Input conversion method	Sigma-Delta	
Isolation voltage	50V (continuous), Basic insulation type, input channels to backplane No isolation between individual input channels	250V (continuous), Reinforced Insulation Type, inputs to backplane. Basic Insulation Type, inputs to ground.
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 °C (221 °F), or greater, 1.2 mm (3/64 in.) insulation max. Double wire connection: 0.33...1.3 mm ² (22...16 AWG) solid or stranded copper wire rated at 105 °C (221 °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 °C (221 °F), or greater, 1.2 mm (3/64 in.) insulation max.	
Terminal block torque specs	1756-TBCH 0.5 N•m (4.4 lb•in)	
Wire category ⁽¹⁾	2 - on signal ports	
Wire type	Copper	
Enclosure type rating	None (open-style)	
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](#).

Environmental Specifications

Attribute	1756-IF8H/A, 1756-IF8HK/A	1756-IF8H/B, 1756-IF8HK/B
Temperature, operating IEC 60068-2-1 (Test Ae, Operating Cold), IEC 60068-2-2 (Test Be, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	0 °C ≤ Ta ≤ +60 °C (+32 °F ≤ Ta ≤ +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 Na, 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	