

Counter Modules Environmental Specifications

1734 Counter Modules Environmental Specifications

Operating temperature	-20...55 °C (-4...131 °F)
Nonoperating Temperature	-40...85 °C (-40...185 °F)
Relative humidity	5...95% non-condensing
Operating shock	30 g
Nonoperating shock	50 g
Vibration	5 g @ 10...500 Hz
Enclosure type rating	None (open-style)
Mounting type	DIN Rail
Certifications (when product is marked)	c-UL-us, CE, C-Tick, Ex

Safety I/O Modules

Use the POINT Guard I/O Safety Modules in the POINT I/O platform to distribute Safety I/O on a GuardLogix, Compact GuardLogix or SmartGuard system. You can configure the modules by using the network configuration tool, RSNetWorx software, or the GuardLogix programming tool, RSLogix 5000 software, version 17 or later.

GuardLogix systems are intended for the use of POINT Guard I/O modules with an EtherNet/IP adapter. SmartGuard systems are intended to use POINT Guard I/O modules with the 1734-PDN module.

Use the modules to construct a safety-control network system that meets the requirements up to Safety Integrity Level 3 (SIL 3) as defined in IEC 61508, Functional Safety of Electrical, Electronic, and Programmable Electronic Safety-related Systems, and the requirements for Safety Category 4 / Performance Level e of the EN ISO 13849-1 standard.

1734-IB8S Technical Specifications

Attribute	Value
Safety Input	
Inputs per module	8
Input type	Current sinking
Voltage, on-state input	11...30V DC
Voltage, off-state input, max	5V DC
Current, on-state input, min	3.3 mA
Current, off-state, max	1.3 mA

1734-IE4S – Safety Analog Input Module Specifications

Attribute	Specification	
Voltage code range	Bipolar modes: -32768/+32767 Unipolar modes: 0/+32767	
Current code range (4...20 mA mode)	-8192...32767	
Tachometer code range	0...1000	
Voltage overrange thresholds	@ ±10V: 10.0V @0 ...10V: 10.0V	@±5V: 5.0V @0...5V: 5.0V
Voltage underrange thresholds	@ ±10V: -10.0V @0 ...10V: 0.5V	@±5V: -5.0V @0...5V: 0.25V
Current overrange thresholds	@ 0...20 mA: 20.0 mA	@4...20 mA: 20.0 mA
Current underrange thresholds	@ 0...20 mA: 0.5 mA	@4...20 mA: 4.0 mA
Tachometer frequency range	1...1000 Hz	
Tachometer overrange threshold	1 kHz	
ADC resolution	12 bits	
Filter	Single-pole anti-aliasing filter: • Filter frequency = 10 Hz followed by four-pole digital filter Available corner frequencies, approx. • 1 Hz • 5 Hz • 10 Hz • 50 Hz	
Step response to 63% (approx.)	Filter frequency @ 1 Hz = 450 ms Filter frequency @ 5 Hz = 125 ms Filter frequency @ 10 Hz = 72 ms Filter frequency @ 50 Hz = 25 ms	
Normal mode rejection	Filter frequency @ 1 Hz: • 3 dB @ 0.7 Hz • 70 dB @ 50 Hz • 70 dB @ 60 Hz Filter frequency @ 5 Hz: • 3 dB @ 2.6 Hz • 70 dB @ 50 Hz • 70 dB @ 60 Hz	Filter frequency @ 10 Hz: • 3 dB @ 4.8 Hz • 50 dB @ 50 Hz • 50 dB @ 60 Hz Filter frequency @ 50 Hz: • 3 dB @ 10.2 Hz • 20 dB @ 50 Hz • 20 dB @ 60 Hz
Voltage mode input impedance	> 200K Ohms	
Current mode input impedance	<100 Ohms	
Tachometer mode input impedance	> 200K Ohms	
Data value format	16-bit, two's complement	

1734-IE4S – Safety Analog Input Module Specifications

Attribute	Specification	
Accuracy	Voltage mode	@ 25° C [77° F]: ±0.5% full scale Drift: ±0.02% full scale/°C
	Current mode	@ 25° C [77° F]: ±0.6% full scale Drift: ±0.03% full scale/°C
	Tachometer mode	@ 25° C [77° F]: ±2% gain error drift: ±0.1%/°C additional gain error, due to temperature Example for a module at 100 Hz and 55 °C: Accuracy = 100 Hz x (0.02 + (0.001 x (55-25))) = 100 Hz x (0.02 + 0.03) = ±5 Hz error
Calibration	Factory-calibrated; no user-calibration	
Maximum overload on inputs	±30V	
I/O scan rate	≥ 6 ms	
Wire type	Shielded on signal ports	
POINTBus		
Field power input	19.2...28.8V DC, 65 mA, Class 2	
Sensor Output		
Output type	Sensor power supply, 24V DC	
Rated output current per point	150 mA max. per output @ 55°C (131 °F)	
On-state voltage drop	≤ 0.5V	
Leakage current, max	< 0.1 mA	
Over current detection	Yes	
Open load detection	Yes	
Aggregate current of sensor outputs per module	600 mA	
Terminal base screw torque	See terminal base specifications	

Step Response and Filter Response for 1734-IE4S Modules

Filter Setting	Step Response to 63%	Corner Frequency-3 dB
50 Hz	~ 25 ms	10.2 Hz
10 Hz	~ 72 ms	4.75 Hz
5 Hz	~ 125 ms	2.62 Hz
1 Hz	~ 450 ms	0.68 Hz

Allen-Bradley 1734-IE4S

Environmental Specifications

Attribute	Value
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): -20...55 °C (-4...131 °F) ⁽¹⁾
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)
Temperature, surrounding air, max	55 °C (131 °F)(1)
Relative humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5...95% noncondensing
Vibration	IEC 60068-2-6, (Test Fc, Operating) 5 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	CISPR 11:Group 1, Class A
ESD immunity	IEC 61000-4-2: 6 kV contact discharges 8 kV air discharges
Radiated RF immunity	IEC 61000-4-3: 10V/m with 1kHz sine-wave 80% 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: ±3 kV @ 5 kHz on power ports ±3 kV @ 5 kHz on signal ports
Surge transient immunity	IEC 61000-4-5: ±1 kV line-line (DM) and ±2 kV line-earth (CM) on power ports ±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

⁽¹⁾ Refer to [System Temperature Derating When a 1734-IF4S Module Is Used on page 46](#).

1734-IB8S, 1734-OB8S, 1734-IE4S – Technical Specifications

Attribute	1734-IB8S	1734-OB8S	1734-IE4S
POINTBus			
POINTBus current, max	175 mA	190 mA	110 mA @ 5V
Power dissipation, max	2.44 W	3.02 W	2.2 W
Thermal dissipation	8.34 BTU/hrr	10.32 BTU/hr	7.5 BTU/hr
Isolation voltage	50V (continuous), Basic Insulation Type between field side and system No isolation between individual channels Type tested @ 707V DC for 60 s		50V continuous- basic Insulation Type, I/O and field power to system Type tested @ 500V AC for 60 seconds. No isolation between individual I/O or I/O to field power.
Power bus, operating supply voltage, nom	24V DC		
Power bus, operating voltage range	19.2...28.8V DC		
Input filter time, OFF to ON ⁽¹⁾	0...126 ms (in 6 ms increments)		
Input filter time, ON to OFF ⁽¹⁾			
Terminal base screw torque	See terminal base specifications		
Indicators	1 yellow lock status indicator 1 green/yellow power status indicator 8 I/O channel status indicators		4 analog input (yellow/red) 4 sensor power (green/red) 1 power (green/yellow)

⁽¹⁾ Input off-to-on filter time is the time from a valid input signal to recognition by the module. Input on-to-off time is the time from a valid input signal to recognition by the module.

1734-IB8S, 1734-OB8S, and 1734-IE4S Physical Specifications

Attribute	Value
Keyswitch positions (left and right)	1734-IB8S: Key 1 = 8 (left); Key 2 = 1 (right) 1734-OB8S: Key 1 = 8 (left); Key 2 = 2 (right) 1734-IE4S: Key 1 = 8 (left); Key 2 = 3 (right)
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, 1734-TOPS, 1734-TOP3, 1734-TOP3S
Pilot duty rating	Not rated (1734-OB8S and 1734-IE4S)
North America temp code	T4 (1734-OB8S and 1734-IB8S) T4A (1734-IE4S)
IEC temp code	T4
Enclosure type rating	None (open-style)
Wiring category ⁽¹⁾	2 – on signal ports (1734-IB8S, 1734-OB8S, 1734-IE4S) 1 – on power ports (1734-IE4S only)

1734-IB8S, 1734-OB8S, and 1734-IE4S Physical Specifications

Attribute	Value
Wire size	Determined by installed terminal block.
Weight, approx.	62.4 g (2.2 oz) – 1734-IB8S and 1734-OB8S 68 g (2.4 oz) – 1734-IE4S
Dimensions (HxWxD), approx. (without terminal block)	77 x 24 x 55 mm (3.03 x 0.94 x 2.17 in.)

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

POINT I/O Accessories

POINT I/O Marker Card

The POINT I/O Marker Card is available under catalog number 1492-SM5X5. Each kit contains five 12.7 x 12.7 cm (5 x 5 in.) cards with 100 markers per card. You can enter text on the marker cards using different font sizes and text widths; you can print multiple lines on one marker card; you can even print common symbols.