POINT I/O Modules

Bulletin 1734

Allen-Bradley

by ROCKWELL AUTOMATION

Selection Guide

What's Inside

What's New

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes. Changes in the manual have change bars to identify them.

Topic	Pages
Updated Certifications – Analog I/O Modules	20
Updated specifications for 1734-IR2, 1734-IR2K, and 1734-IR2E	23, 24
Updated Technical Specifications - POINT I/O Terminal Bases	37
Added Wiring without Wire End Ferrule and Wiring with Wire End Ferrule tables	38, 39

POINT I/O Family Overview

The POINT I/O™ family is modular and has I/O modules that are ideal for applications where flexibility and low cost of ownership are needed for successful control system design and operation. As a key element in the Rockwell Automation® Integrated Architecture® system, the comprehensive diagnostics and configurable features allow you to apply the POINT I/O modules easily to any automation system and reduce costs for engineering through standardization. The modules can be used in remote device panels, local control panels, and can be accessed from many locations including the Internet. The modules have just-what-you-need granularity with 1...8 points to reduce system cost and size.

The POINT I/O family includes these features:

- Channel Level Diagnostics for quick troubleshooting
- Multiple termination options and flexibility to save money, cabinet space, and commissioning and troubleshooting time
- Safety I/O and non-safety I/O on the same bus
- DeviceLogix™ for local control and fast response time
- Self-configuring modules that simplify your design and your inventory

The POINT I/O System

POINT I/O has four major components:

- I/O modules provide the field interface and system-interface circuitry
- Communication interface modules provide the network-interface circuitry
- Terminal base units provide the wiring and signal termination for field-side connections and system power for the backplane
- Power distribution modules provide the expandability of the POINT I/O system and the flexibility to mix various signal types

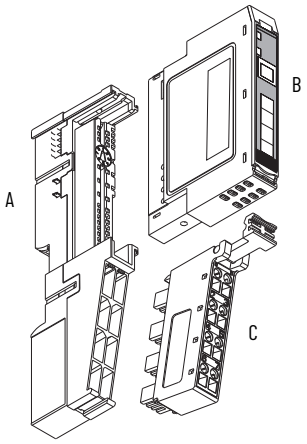
POINT I/O modules offer 1...8 points per module. The I/O modules are interfaced to a network through a communication interface, which includes a built-in power supply that converts incoming 24V DC power to 5V DC backplane power. Each type of communication interface (network adapter) supports a maximum of 13...17 I/O modules, with a maximum of 10 A field power. The I/O modules receive power from the power supply through the backplane. With an external power supply, you can expand a POINT I/O assembly up to a maximum of 63 I/O modules or 504 channels.

The POINT I/O system follows a No Tools design approach. The terminal base, removable terminal block (RTB), and I/O module are assembled as a system without tools.

The base (A) mounts onto the DIN rail and provides the backplane. The POINT I/O module (B) snaps into the base. The RTB (C) snaps into the base and provides the wiring and terminations for field-side connections, as well as system power for the backplane.

POINT I/O System Features

Module Density	1...8 points
Module Features	• Channel-level diagnostics (status indicator and electronic) • Channel-level alarm and annunciation (electronic) • Channel-level open-wire detection with electronic feedback • Channel-level short-circuit detection with electronic feedback • Parameter-level explicit messaging • Removal and insertion under power (RIUP) • Horizontal or vertical mounting without derating • Automatic Device Replacement • Add-on Profiles (AOP) in the Studio 5000 Logix Designer® application
Network Connectivity	• DeviceNet® (including subnet connectivity) • ControlNet® (Logix controllers only) • EtherNet/IP™ (Logix controllers only) • PROFIBUS DP • OPC/DDE Data Monitoring
Environmental Style	Class I Division 2/Zone 2 Marine Certification European ATEX Zone 2 3G
Modules per Node, max	Up to 63



The Producer/Consumer model provides multicast messages. This means that multiple nodes can simultaneously consume the same data from one device. Where you place POINT I/O modules in the control system determines how the modules exchange data.

For a controller to control POINT I/O modules, the I/O modules must be:

- On the same network as the controller
- On a ControlNet network that is local to the controller
- On an EtherNet/IP network that is local to the controller

Select a POINT I/O System

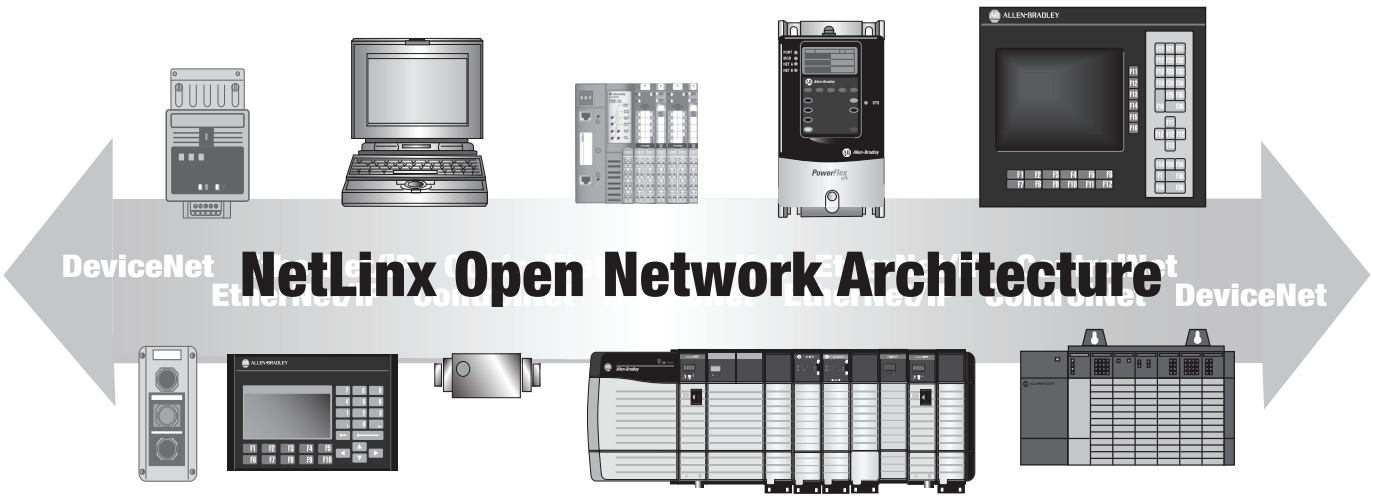
Follow these steps as you select your POINT I/O system.

	Step	Remember to Select	Page
✓	1. Select a communication interface - Choose the interface module for your operating system.	• The appropriate interface module	7
✓	2. Select I/O modules based on field devices - • Location of the device • Number of points needed • Appropriate catalog number • Number of points available per module • Number of modules	• I/O and specialty modules – Some have diagnostic or safety features, electronic fusing, isolated inputs/ outputs, and unique configurable features	13
✓	3. Select a terminal base	• The appropriate terminal base: Terminal base assembly (with RTB) or one-piece assembly • The appropriate terminal type: Screw-clamp or spring-clamp	37
✓	4. Select power components - Choose the optional components that supplement the power provided by the communication adapters.	• Additional power components as needed • Adequate power capacity to meet the backplane current requirements for your I/O modules	41
✓	5. Select POINT I/O Accessories	• The appropriate accessories: POINT I/O marker card or POINTBus™ extension cable	47
✓	6. Determine mounting requirements - Determine the dimensions that are based on the communication interface chosen.	• The appropriate orientation: Horizontal mounting or vertical mounting with no thermal derating • The appropriate number of DIN rails based on the number of modules and the physical locations of those modules	49

Notes:

NetLinx Open Network Architecture

NetLinx Open Network Architecture is the Rockwell Automation strategy of using open networking technology for seamless, top-floor to shop-floor integration. The NetLinx-based networks – EtherNet/IP, ControlNet, and DeviceNet – use the Common Industrial Protocol (CIP™), so they speak a common language and share a universal set of communication services. NetLinx architecture, part of the Integrated Architecture system, seamlessly integrates the components in an automation system from a few devices on one network to multiple devices on multiple networks and includes access to the Internet. This architecture helps you improve flexibility, reduce installation costs, and increase productivity.



Select a Network

You can configure your system for information exchange between a range of devices, software, and operating systems. Separate communication interface adapters are available for different networks. Install adapters into the POINTBus backplane to allow POINT I/O modules to communicate with a controller.

Application requirements	Network	Page
• Plant management (material handling) • Configuration, data collection, and control on one high-speed network • Time-critical applications with no established schedule • Data sent regularly • Internet/Intranet connection • High-speed transfer of time-critical data between controllers and I/O devices • Integrated motion on the EtherNet/IP network and safety • Redundant controller systems	EtherNet/IP	9
• High-speed transfer of time-critical data between controllers and I/O devices • Deterministic and repeatable data delivery • Media redundancy • Intrinsic safety • Redundant controller systems	ControlNet	10
• Connections of low-level devices plant-floor controllers • Data sent as needed • More diagnostics for improved data collection and fault detection • Less wiring and reduced startup time than a traditional, hard-wired system	DeviceNet	10
• Connecting to an existing PROFIBUS DP 5 m (16.4 ft) bus, 12 MB network	PROFIBUS DP	12

Table 1 - Certifications - POINT I/O Communication Modules

Certification[1]	1734-AENT, 1734-AENTK 1734-AENTR, 1734-AENTRK	1734-ADN, 1734-ADNK, 1734-ADNX	1734-ACNR, 1734-ACNRK	1734-PDN, 1734-PDNK	1734-APB
c-UL-us	UL Recognized Component 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.				–
UKCA and CE	UK Statutory Instrument 2016 No. 1091 and 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)				
	–			UK Statutory Instrument 2016 No. 1101 and European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)	–
	UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000; Technical documentation				
Ex	UK Statutory Instrument 2016 No. 1107 and European Union 2014/34/EU ATEX Directive, compliant with: EN IEC 60079-0; General Requirements EN IEC 60079-7; Explosive Atmospheres, Protection “e” II 3G Ex ec IIC T4 Gc DEMKO 04 ATEX 0330347X UL 22 UKEX 2478X				–
IECEx	IECEx System, compliant with: IEC 60079-0; General Requirements IEC 60079-7; Explosive Atmospheres, Protection “e” II 3G Ex ec IIC T4 Gc IECEx UL 20.0072X				–
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions				
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3				
Morocco	Arrêté ministériel n° 6404-15 du 29 ramadan 1436				–
	–			Arrêté ministériel n° 6404-15 du 1 er muharram 1437	–
CCC	CCC: 2020122309111607 CNCA-C23-01 强制性产品认证实施规则 防爆电气 CNCA-C23-01 CCC Implementation Rule Explosion-Proof Electrical Products				–
ODVA or ControlNet	ODVA conformance tested to EtherNet/IP specifications	ODVA conformance tested to DeviceNet specifications	ControlNet International conformance tested to ControlNet Specifications	ODVA conformance tested to DeviceNet specifications	–

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

Table 2 - Environmental Specifications - POINT I/O Communication Modules

Attribute	1734-AENT, 1734-AENTK	1734-AENTR, 1734-AENTRK	1734-ACNR, 1734-ACNRK 1734-ADN, 1734-ADNK, 1734-ADNX	1734-PDN, 1734-PDNK	1734-APB
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 °C ≤ Ta ≤ +55 °C (-4 °F ≤ Ta ≤ +131 °F)				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 °C...+55 °C (-4 °F...+131 °F)
Temperature, surrounding air max	55 °C (131 °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): 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	IEC 61000-6-4				CISPR 11, Group 1, Class A
ESD immunity	IEC6100-4-2: 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...6000 MHz				IEC 61000-4-3: 10V/m with 1 kHz sine wave 80% AM from 30...1000 MHz 10V/m with 200 Hz 50% pulse 100% AM at 900 MHz
EFT/B immunity	IEC 61000-4-4: ±4 kV @ 5 kHz on power ports ±3 kV @ 5 kHz on communication ports	IEC 61000-4-4: ±4 kV @ 5 kHz on power ports ±2 kV @ 5 kHz on communication ports		IEC 61000-4-4: ±4 kV @ 2.5 kHz on power ports ±2 kV @ 5 kHz on shielded ports	IEC 61000-4-4: ±4 kV @ 2.5 kHz on power ports ±4 kV @ 2.5 kHz on communication ports

Table 2 - Environmental Specifications - POINT I/O Communication Modules (Continued)

Attribute	1734-AENT, 1734-AENTK	1734-AENTR, 1734-AENTRK	1734-ACNR, 1734-ACNRK 1734-ADN, 1734-ADNK, 1734-ADNX	1734-PDN, 1734-PDNK	1734-APB
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 communication ports			IEC 61000-4-5: ±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports ±2 kV line-earth (CM) on shielded ports	IEC 61000-4-5: ±500V line-line (DM) and ±500V line-earth (CM) on DC power ports ±4 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				
North American temp code	T4A	T4	T4A		–
UKEX/ATEX temp code	T4	T4	T4		
IECEx temp code	T4	–	T4		
Enclosure type rating	None (open-style)				
Mounting type	DIN rail				

EtherNet/IP Network

EtherNet/IP is an open industrial-networking standard that supports real-time I/O messaging and message exchange. The network uses off-the-shelf Ethernet communication chips and physical media.

EtherNet/IP Network Considerations

Adapter	Considerations
1734-AENT 1734-AENTK 1734-AENTR 1734-AENTRK	• You can install a total of 63 POINT I/O modules on one EtherNet/IP node. • Use expansion power supplies to provide additional POINTBus backplane current. • See the user manual to determine the ratings for direct and rack connections allowed.

The Ethernet adapters support direct, rack-optimized, and enhanced rack-optimized connections. A direct connection is a real-time data transfer link between the controller and module. During configuration, the requested packet interval (RPI) specifies the cyclic rate at which direct-connection messaging occurs. In a rack-optimized connection, data from multiple digital I/O modules is grouped into one block of data that is sent over one connection at the same data rate. Rack-optimized connections reduce the total number of required connections.

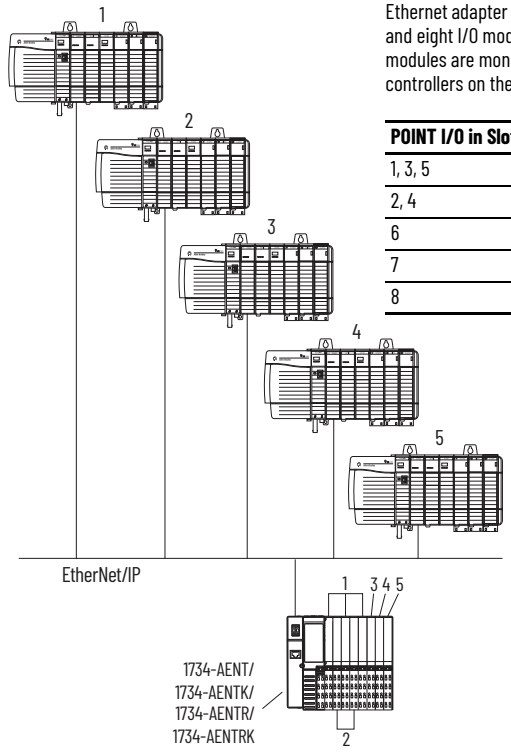
Specifications - 1734-AENT, 1734-AENTK, 1734-AENTR, 1734-AENTRK

Attribute	1734-AENT, 1734-AENTK	1734-AENTR, 1734-AENTRK
Communication rate	10/100 Mbits/s, half or full-duplex	
Ethernet ports	1	2, configured as embedded switches
Supported topologies	Star, Tree	Star, Tree, Daisy-chain/Linear, Ring
Ethernet connector	RJ45, Category 5	
Ethernet cable	RJ45 connector according to IEC 60603-7- 2, or 4 pair Category 5e min cable according to TIA 568-B.1, or Category 5 cable according to ISO/IEC 24702	
Terminal base screw torque	0.8 N•m (7 lb•in)	
Wire size (power)	0.33...2.08 mm^2 (22...14 AWG) solid or stranded shielded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max, or 90 °C (194 °F) for ControlLogix®	
Wire category	1 - on power ports 1 - on communication ports	
Power consumption, max	10.4 W @ 28.8V DC	
Power dissipation, max	5.2 W @ 28.8V DC	6.3 W @ 28.8V DC
Thermal dissipation, max	17.75 BTU/hr @ 28.8V DC	21.5 BTU/hr @ 28.8V DC
Field power supply	10...28.8V DC @ 10 A	

Specifications - 1734-AENT, 1734-AENTK, 1734-AENTR, 1734-AENTRK (Continued)

Attribute	1734-AENT, 1734-AENTK	1734-AENTR, 1734-AENTRK
Field power output	10...28.8V DC @ 9 A	
Module input	1000 mA10...28.8V DC	
POINTBus output, max	5V DC @ 1.0 A	5V DC @ 0.8 A
Isolation voltage	50V (continuous), Reinforced insulation type, between all circuits Type tested at 500V AC for 60 s	

For Certifications, see Table 1.
For Environmental Specifications, see Table 2.
For detailed Power Specifications, see Table 19.



This example shows one POINT I/O Ethernet adapter with five connections and eight I/O modules. The POINT I/O modules are monitored by the five controllers on the Ethernet network.

POINT I/O in Slots	Controlled By
1, 3, 5	Controller 1
2, 4	Controller 2
6	Controller 3
7	Controller 4
8	Controller 5

ControlNet Network

The ControlNet network combines the functionality of an I/O network and a peer-to-peer network, providing high-speed performance. The network provides deterministic, repeatable transfers of critical control data.

ControlNet Network Considerations

Adapter	Considerations
1734-ACNR, 1734-ACNRK	• You can install a total of 63 POINT I/O modules on one ControlNet node. • Use expansion power supplies to provide additional POINTBus backplane current. • Up to 25 direct connections and 5 rack connections are allowed

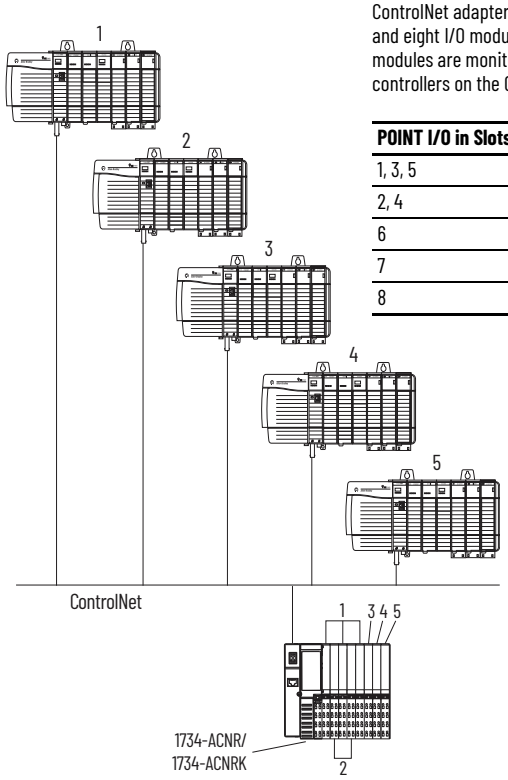
The ControlNet adapters provide high-speed transfer of time-critical data between controllers and I/O devices. They manage data transfers between controllers on the ControlNet network and POINT I/O modules. Features of the adapters include various control system solutions, local communication network access through the network access port (NAP), and redundant media. It requires Series C POINT I/O modules or later.

The adapter supports 25 direct and 5 rack I/O connections. You must use direct connections with analog and specialty modules. Multiple controllers can establish I/O connections through one adapter, up to five rack connections per adapter. The number of connections that are supported on a network depends on the ControlNet parameters (NUT, RPI, and API) and the POINT I/O configuration (number and types of I/O modules).

Specifications - 1734-ACNR, 1734-ACNRK

Attribute	1734-ACNR, 1734-ACNRK
Communication rate, max	128K bit/s at 500 m (1640.42 ft) 250K bit/s at 250 m (820.21 ft) 500K bit/s at 100 m (328.08 ft)
ControlNet power requirements, max	24V DC (+4% = 25V DC) @ 400 mA
ControlNet cable	See the ControlNet Coax Media Planning and Installation Guide, publication CNET-IN002
Terminal base screw torque	0.6 N•m (7 lb•in)
Wire size (power)	0.25...2.5 mm^2 (22...14 AWG) solid or stranded shielded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max
Wire category	1 - on power ports 2 - on communication ports
Number of nodes, max	1
Input byte capacity	248
Output byte capacity	248
Power consumption, max	8.1 W @ 28.8V DC
Power dissipation, max	2.8 W @ 28.8V DC
Isolation voltage	50V (continuous), Basic insulation type, between all circuits Type tested at 750V AC for 60 s
Field side current load	24V DC (+20% = 28.8V DC) @ 400 mA
Field power bus voltage	24V DC
Field power bus supply voltage range	10...28.8V DC
Field power bus supply current, max	10 A
Operating voltage range	10...28.8V DC

For Certifications, see Table 1.
For Environmental Specifications, see Table 2.
For detailed Power Specifications, see Table 19.



This example shows one POINT I/O ControlNet adapter with five connections and eight I/O modules. The POINT I/O modules are monitored by the five controllers on the ControlNet network.

POINT I/O in Slots	Controlled By
1, 3, 5	Controller 1
2, 4	Controller 2
6	Controller 3
7	Controller 4
8	Controller 5

Memory Requirements

The ControlNet adapter has 586 bytes of memory available for scheduled transmit data. When developing an application, the amount of data that is used by an individual connection must also include a small amount of overhead (I/O bytes per connection).

The following formula tracks the amount of available scheduled transmit data.

Available Memory = 586 - [(Number of connections * 10) + Sum of all connection sizes]

In this example, the system uses a ControlNet adapter with five 1734-232ASC modules.

1734-232ASC Module No.	Application Data Size in Bytes	Memory Required in Bytes
1	100	110
2	88	98
3	96	106
4	96	106
5	92	102
Total	472	522
A sixth module could be added to this system if it used less than 54 bytes of application data. There are 64 bytes of memory left: 586 - [(5 * 10) +472] = 64		

For more information about the ControlNet adapter, see the POINT I/O ControlNet Adapter User Manual, publication 1734-UM008.

DeviceNet Network

The DeviceNet network is an open low-level network that provides connections between simple industrial devices, like sensors and actuators, and higher-level devices, like controllers and computers. The DeviceNet network uses CIP to provide the control, configuration, and data collection capabilities for industrial devices.

DeviceNet Network Considerations

Adapter	Consideration
1734-ADN, 1734-ADNK	• You can install a total of 63 POINT I/O modules on one DeviceNet node. • All POINT I/O modules count as one node on the main network. • Behaves as a follower device on the main network and a leader on the POINTBus backplane. • RSNetWorx™ for DeviceNet software is needed for configuration of the 1734-ADN adapter on the main network and the POINTBus backplane. • Use expansion power supplies to provide additional POINTBus backplane current.
1734-ADNX	• Behaves like a 1734-ADN adapter, with additional capabilities. • All POINT I/O modules, and some third-party field devices, count as one node on the main network. • Has a second, Phoenix-style connector that extends the subnet off the module, so you can connect a DeviceNet-capable device to a subnet and scan it with the 1734-ADNX adapter. – The network on the second connector is electrically isolated from the main network. – Use the second connector to extend the total DeviceNet trunk line distance.(1) • Node numbers of the devices on the POINTBus backplane and subnet do not count against the 63 nodes that are allowed on the main network. • Devices on the subnet and the main network must be connected at different communication rates or use different methods of sampling (for example, change of state or polled). Data from these devices is included in the data being sent to or from the 1734-ADNX adapter on the main network. • Use expansion power supplies to provide additional POINTBus backplane current.
1734-PDN, 1734-PDNK	• All POINT I/O modules count as one node on the main network. • Electrically connects the main network to the POINT I/O modules. • No configuration of the 1734-PDN communication interface is necessary because it is transparent to the main network. • Expansion power supplies are not supported.

(1) For example: With thick round media at 125 Kbps, you can run a maximum of 500 m (1640 ft) to a 1734-ADNX adapter on the main network. You can also wire an additional 500 m (1640 ft) of cable on the subnet connector to double the distance of the network. This subnet needs termination resistors and a 24V DC power connection, the same as any other DeviceNet network.

It is important that the total amount of data that comes from the subnet does not exceed the data capability of the adapter.

Data Capability - 1734-ADN, 1734-ADNK, 1734-ADNX

Data Type	Number of Bytes	Comprised of
Output - used as either COS, cyclic, or poll	250	248 data + 2 bytes command info
Polled input	250	248 data + 2 bytes status info
COS/cyclic input	250	248 data + 2 bytes status info
Strobe input	8	6 data + 2 status info

The amount of data that comes through the POINT I/O adapter is added to the amount of data from the main network, and cannot exceed the data capability of the main network leader scanner. If the data capability is exceeded, multiple leader scanners are necessary on the main network and the I/O modules on the subnet must be split between multiple 1734-ADN or 1734-ADNX adapters.

With the 1734-PDN module, multiple leaders on the main network are able to communicate to separate groups of modules on its subnet through the same 1734-PDN communication interface, so no additional adapter is necessary.

Specifications - 1734-ADN, 1734-ADNK, 1734-ADNX, 1734-PDN

Attribute	1734-ADN, 1734-ADNK, 1734-ADNX	1734-PDN, 1734-PDNK
Communication rate, max	125K bit/s at 500 m (1640.42 ft) 250K bit/s at 250 m (820.21 ft) 500K bit/s at 100 m (328.08 ft)	
DeviceNet power requirements, max	24V DC (+4% = 25V DC) @ 30 mA	24V DC (+4% = 25V DC) @ 400 mA
DeviceNet cable	1485C-P1-Cxx See the DeviceNet Media System Technical Data, publication 1485-TD001	
Number of nodes, max	1	–
Terminal base screw torque	0.5...0.6 N•m (5...7 lb•in)	0.6 N•m (7 lb•in)
Wire size (power)	0.25...2.5 mm^2 (24...14 AWG) solid or stranded shielded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max	0.34...2.5 mm^2 (22...14 AWG) solid or stranded shielded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max
Wire category	1 - on power ports 2 - on communication ports	1 - on signal ports
Input byte capacity	248	
Output byte capacity	248	
Power consumption, max	8.1 W @ 28.8V DC	8.0 W @ 25V DC
Power dissipation, max	2.8 W @ 28.8V DC	1.2 W @ 25V DC
Thermal dissipation, max	9.5 BTU/hr @ 28.8V DC	4.1 BTU/hr @ 25V DC
Field side current load	24V DC (+20% = 28.8V DC) @ 400 mA	–
Field power bus voltage	24V DC	120V or 240V AC(1)
Field power bus supply voltage range	10...28.8V DC	
Field power bus supply current, max	10 A	
Isolation voltage	50V (continuous), Basic insulation, between all circuits Type tested at 750V AC for 60 s	50V (continuous) Type tested at 2600V AC for 60 s
Operating voltage range	10...28.8V DC	

(1) The 1734-PDN and 1734-PDNK modules comply with Ex when used at or below 75V DC or 60V AC.

For Certifications, see Table 1.
For Environmental Specifications, see Table 2.
For detailed Power Specifications, see Table 19.

PROFIBUS DP Network

PROFIBUS Decentralized Peripherals (DP) is a standard of fieldbus communication in industrial automation that removes hard wiring and reduces costs that are associated with design and installation.

PROFIBUS DP Network Considerations

Adapter	Considerations
1734-APB	• You can install a total of 63 POINT I/O modules on one PROFIBUS DP node. • Use expansion power supplies to provide additional POINTBus backplane current.

Specifications - 1734-APB

Attribute	1734-APB
Terminal base screw torque	0.6 N•m (7 lb•in)
Wire size (power)	0.25...2.5 mm^2 (22...14 AWG) solid or stranded shielded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max
Wire category	2 - on power ports
Power consumption, max	8.1 W @ 28.8V DC
Power dissipation, max	2.8 W @ 28.8V DC
Thermal dissipation, max	9.5 BTU/hr @ 28.8V DC
Field side current load	–
Field power bus voltage	24V DC
Field power bus supply voltage range	10...28.8V DC
Field power bus supply current, max	10 A
Isolation voltage	1250V rms/V AC

For Certifications, see Table 1.
For Environmental Specifications, see Table 2.
For detailed Power Specifications, see Table 19.

Select POINT I/O Modules

The POINT I/O family provides a wide range of input and output modules to span many applications, from high-speed digital to process control. POINT I/O modules support producer/consumer technology, which allows input information and output status to be shared among multiple Logix controllers.

Each POINT I/O module mounts next to a network adapter or another I/O module in a terminal base with a removable terminal block (RTB) to connect all field-side wiring. A terminal base assembly is not included with the I/O modules and must be ordered separately.

The POINT I/O family includes these modules.

Digital I/O Modules

The digital I/O modules provide:	• A wide variety of voltage interface capabilities • Isolated and non-isolated module types • POINT-level output fault states • Choice of direct-connect or rack-optimized communications • Field-side diagnostics (on select modules)

Most output modules have built-in surge suppression to reduce the effects of high-voltage transients. However, we recommend that you use an additional suppression device if an output is being used to control inductive devices, such as:

- Relays
- Motor starters
- Solenoids
- Motors

Additional suppression is especially important if your inductive device is in series with or parallel to hard contacts, such as push buttons or selector switches.

Table 3 - Certifications - Digital I/O Modules

Certification[1]	1734-IB2 1734-IB4 1734-IB4K 1734-IB8 1734-IB8K 1734-IV2 1734-IV4 1734-OB8 1734-OB8K 1734-OB2E 1734-OB4E 1734-OB8E 1734-OB8EK	1734-IA2 1734-IA4 1734-IA4K 1734-OA2 1734-OA4 1734-OA4K	1734-OW2 1734-OW4 1734-OW4K	1734-IM2 1734-IM4 1734-OX2 1734-OV2E 1734-OV4E 1734-OV8E 1734-OV8EK	1734-IB4D 1734-IV8 1734-IV8K 1734-OB2 1734-OB2EP 1734-OB4 1734-OB4K	1734-8CFG 1734-8CFGDLX
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					Terminal Blocks-Component UL Recognized. See UL File E195367
UKCA and CE	UK Statutory Instrument 2016 No. 1091 and 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)					
	–	UK Statutory Instrument 2016 No. 1101 and European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)			–	
	UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000; Technical documentation					
Ex	UK Statutory Instrument 2016 No. 1107 and European Union 2014/34/EU ATEX Directive, compliant with: EN IEC 60079-0; General Requirements			–		
	EN IEC 60079-7; Explosive Atmospheres, Protection "e" II 3G Ex ec IIC T4 Gc	EN IEC 60079-15; Potentially Explosive Atmospheres, protection "n" II 3G Ex ec nC IIC T4 Gc				
	DEMKO 04 ATEX 0330347X UL 22 UKEX 2478X					
IECEx	IECEx System, compliant with: IEC 60079-0; General Requirements			–		
	IEC 60079-7; Explosive Atmospheres, Protection "e" II 3 G Ex ec IIC T4 Gc	IEC 60079-15; Potentially Explosive Atmospheres, protection "n" II 3G Ex ec nC IIC T4 Gc				
	IECEx UL 20.0072X					
RCM	Australian Radiocommunications Act compliant with: AS/NZS CISPR11; Industrial Emissions					
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3					
Morocco	Arrêté ministériel n° 6404-15 du 29 ramadan 1436					–
	–	Arrêté ministériel n° 6404-15 du 1 er muharram 1437			–	
CCC	CCC: 2020122309111607 CNCA-C23-01 强制性产品认证实施规则 防爆电气 CNCA-C23-01 CCC Implementation Rule Explosion-Proof Electrical Products			–		
ODVA	–			For 1734-IB4D, 1734-IV8, 1734-OV8E modules only: ODVA conformance tested to DeviceNet specifications		–

(1) When product is marked. See the Product Certification link at rok.auto/certifications for Declaration of Conformity, Certificates, and other certification details.

Table 4 - Environmental Specifications - Digital I/O Modules

Attribute	1734-IA2 1734-IA4 1734-IA4K 1734-IB2 1734-IB4 1734-IB4K 1734-IB8 1734-IB8K	1734-OA2 1734-OA4 1734-OA4K	1734-IV2 1734-IV4 1734-OB2 1734-OB4 1734-OB4K 1734-OB2E 1734-OB4E	1734-IV8 1734-IV8K	1734-OB8 1734-OB8K 1734-OB8E 1734-OB8EK	1734-OW2 1734-OW4 1734-OW4K	1734-OX2	1734-IB4D	1734-IM2 1734-IM4	1734-8CFGDLX	1734-OV2E 1734-OV4E 1734-OV8E 1734-OV8EK	1734-8CFG	1734-OB2EP
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 °C ≤ Ta ≤ +55 °C (-4 °F ≤ Ta ≤ +131 °F)							0 °C ≤ Ta ≤ +55 °C (32 °F ≤ Ta ≤ +131 °F)	-20…+55 °C (-4…+131 °F)				
Temperature, surrounding air, max	55 °C (131 °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): 5 g @ 10…500 Hz												
Shock, operating	IEC60068-2-27 (Test Ea, Unpackaged Shock): 30 g												
Shock, nonoperating	IEC60068-2-27 (Test Ea, Unpackaged Shock): 50 g												
Emissions	IEC 61000-6-4								CISPR11 Group 1, Class A		IEC 61000-6-4		
ESD immunity	IEC6100-4-2: 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…6000 MHz							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 10V/m with 1 kHz sine wave 80% AM from 2000…2700 MHz					10V/m with 1 kHz sine wave 80% AM from 80…1000 MHz 10V/m with 200 Hz 50% pulse 100% AM @ 900 MHz
EFT/B immunity	IEC 61000-4-4:												
	±4 kV @ 5 kHz on signal ports		±2 kV @ 5 kHz on power ports ±2 kV @ 5 kHz on signal ports			±4 kV @ 2.5 kHz on signal ports	±3 kV @ 5 kHz on signal ports	±4 kV @ 5 kHz on signal ports		±3 kV @ 5 kHz on signal ports	±2 kV @ 5 kHz on power ports ±2 kV @ 5 kHz on signal ports		±2 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 signal ports												
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine wave 80% AM from 150 kHz…80 MHz												
North American temp code	T4A	T4	T4A	–	T4	T4A	T5	–	T4A	–	T4	–	–
UKEX/ATEX temp code	T4	T4	T4			T4	–		–		–		
IECEx temp code	T4	T4	T4			T4							
Enclosure type rating	None (open-style)												
Mounting type	DIN rail												

Table 5 - Specifications - Digital AC Input Modules

Attribute	1734-IA2	1734-IA4, 1734-IA4K	1734-IM2	1734-IM4
Number of inputs	2 (1 group of 2) nonisolated, sinking	4 (1 group of 4) nonisolated, sinking	2 (1 group of 2) nonisolated, sinking	4 (1 group of 4) nonisolated, sinking
Voltage, on-state, nom	120V AC		220V AC	
Voltage, on-state range	65V AC…132V AC		159V AC…264V AC	
Voltage, off-state, max	43V AC			
Current, on-state, nom	7.5 mA @ 120V AC, 60 Hz		8.5 mA @ 220V AC, 60 Hz	
Current, on-state range	4.0 mA @ 65V AC…8.5 mA @ 132V AC, 60 Hz		6.2 mA @ 159V AC…10.2 mA @ 264V AC, 60 Hz	

Table 5 - Specifications - Digital AC Input Modules (Continued)

Attribute	1734-IA2	1734-IA4, 1734-IA4K	1734-IM2	1734-IM4
Current, off-state, max	2.7 mA @ 43V AC		2.9 mA	
Impedance, input, nom	10.6 kΩ		22.3 kΩ	
Input filter time[1], Off-to-On and On-to-Off	20 ms hardware filter plus 1...65 ms digital filter programmable in increments of 1 ms			
POINTBus current, max	75 mA @ 5V DC			
Power dissipation, max	0.35 W @ 132V AC	0.50 W @ 132V AC	0.48 W @ 264V AC	0.80 W @ 264V AC
Thermal dissipation, max	1.19 BTU/hr @ 132V AC	1.71 BTU/hr @ 132V AC	1.63 W @ 264V AC	2.73 W @ 264V AC
Isolation voltage	240V (continuous) Type tested at 3250V DC for 60 s, field-side to system			
External AC power supply voltage, nom	120V AC @ 60 Hz		220V AC @ 60 Hz	
External AC power supply voltage range	85...132V AC, 47...63 Hz		159...264V AC, 47...63 Hz	
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS			
Wiring category[2]	1 - on signal ports			
Keyswitch position	8			

(1) Input Off-to-On filter time is the time from a valid input signal to recognition by the module. Input On-to-Off filter time is the time from when the input signal drops below the valid level to recognition by the module. Due to the randomness of the AC line-cycle measurement capture point and response time of the hardware filter, the maximum hardware delay is 20 ms plus the filter time.
(2) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

For digital module Certifications, see Table 3.
For digital module Environmental Specifications, see Table 4.

Table 6 - Specifications - Digital AC Output Modules

Attribute	1734-OA2	1734-OA4, 1734-OA4K
Number of outputs	2 nonisolated, sourcing	4 nonisolated, sourcing
Voltage, on-state, nom	120/220V AC[1]	
Voltage, on-state range	74V AC...264V AC	
Voltage drop, on-state, max	1.0V @ 0.75 A	
Current, on-state, min	10 mA per channel	
Current, on-state, max	750 mA per channel	750 mA per output, 2.0 A per channel
Leakage, off-state, max	2.7 mA @ 264V AC	
Output current rating	1.5 A (2 channels @ 750 mA each)	2.0 A (750 mA per output, 2.0 A per module)
Product temperature versus current derating	1.5 A max per module @ 50 °C (122 °F) Derate linearly 13% to 1.3 A max per module @ 55 °C (131 °F)	2.0 A max per module @ 45 °C (113 °F) Derate linearly 30% to 1.4 A max per module @ 55 °C (131 °F)
Surge current	16 A for 100 ms, repeatable every 10 s	
Delay time, max[2], Off-to-On and On-to-Off	1/2 cycle	
POINTBus current	75 mA @ 5V DC	
Power dissipation, max	2 W @ 264V AC	3.5 W @ 264V AC
Thermal dissipation, max	6.8 BTU @ 264V AC	11.9 BTU @ 264V AC
Isolation voltage	240V (continuous), Reinforced insulation Type tested at 3250V DC for 60 s, field-side to system	
Field power supply voltage, nom	120/220V AC @ 60 Hz	
Field power supply voltage range	85...264V AC, 27...63 Hz	
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS	
Wiring category[3]	1 – on signal ports	
Keyswitch position	8	

(1) The module complies with Ex when used at or below 75V DC or 60V AC.
(2) Off-on delay is the time from a valid output on signal to output energization. On-off delay is the time from a valid output off signal to output de-energization.
(3) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Table 7 - Specifications - Digital DC Input Modules

Attribute	1734-IB2	1734-IB4, 1734-IB4K	1734-IB8, 1734-IB8K	1734-IV2	1734-IV4	1734-IV8, 1734-IV8K	1734-IB4D
Number of inputs	2 (1 group of 2), sinking	4 (1 group of 4), sinking	8 (1 group of 8), sinking	2 (1 group of 2), sourcing	4 (1 group of 4), sourcing	8 (1 group of 8), sourcing	4, sinking
Diagnostics	–						Yes
Voltage, on-state, nom	24V DC						
Voltage, on-state range	10...28.8V DC						11...28.8V DC
Voltage, off-state, max	5V DC						
Voltage, off-state range	–						-3...+5V DC

Table 7 - Specifications - Digital DC Input Modules (Continued)

Attribute	1734-IB2	1734-IB4, 1734-IB4K	1734-IB8, 1734-IB8K	1734-IV2	1734-IV4	1734-IV8, 1734-IV8K	1734-IB4D
Current, on-state, nom	4 mA @ 24V DC						–
Current, on-state range	2 mA...5 mA						2...15 mA
Current, off-state, min	1.5 mA						–
Current, off-state, max	–						1.5 mA
Impedance, input, nom	3.6 kΩ						–
Impedance, input, max	4.7 kΩ						
Input filter time[1], Off-to-On and On-to-Off	0.5 ms hardware + (0...65 ms selectable)						0 µs, min 65,535 µs, max 1000 µs, default[2]
POINTBus current, max	75 mA max @ 5V DC						50 mA @ 5V DC
Power dissipation, max	0.7 W @ 28.8V DC	1.0 W @ 28.8V DC	1.6 W @ 28.8V DC	0.7 W @ 28.8V DC	1.0 W @ 28.8V DC	1.6 W @ 28.8V DC	0.6 W max @ 28.8V DC
Thermal dissipation, max	2.4 BTU/hr @ 28.8V DC	3.4 BTU/hr @ 28.8V DC	5.5 BTU/hr @ 28.8V DC	2.4 BTU/hr @ 28.8V DC	3.4 BTU/hr @ 28.8V DC	5.5 BTU/hr @ 28.8V DC	1.9 BTU/hr @ 28.8V DC
Isolation voltage	50V (continuous), Reinforced insulation Type tested at 2500V DC for 60 s, field-side to system			50V (continuous) Type tested at 2500V DC for 60 s			50V (continuous), Reinforced insulation Type tested at 1000V DC for 60 s, field-side to system
External DC power supply voltage, nom	24V DC @ 60 Hz			24V DC			
External DC power supply voltage range	10...28.8V DC						
Terminal base unit	1734-TB or 1734-TBS			1734-TB or 1734-TBS			1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS
Wiring category[3]	1 – on signal ports			2 – on signal ports			1 – on signal ports
Keyswitch position	1						

(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.
(2) Each input is independently settable in 1 µs increments (rounded to the nearest 333 µs).
(3) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

For digital module Certifications, see Table 3.
For digital module Environmental Specifications, see Table 4.

Table 8 - Specifications - Digital DC Output Modules

Attribute	1734-OB2	1734-OB2E	1734-OB2EP	1734-OB4 1734-OB4K	1734-OB4E	1734-OB8 1734-OB8K	1734-OB8E 1734-OB8EK	1734-OV2E	1734-OV4E	1734-OV8E 1734-OV8EK
Number of outputs	2 (1 group of 2), sourcing		2 (1 group of 2), nonisolated, sourcing	4 (1 group of 4), sourcing		8 (1 group of 8), sourcing		2 (1 group of 2), nonisolated sinking	4 (1 group of 4), nonisolated sinking	8 (1 group of 8), nonisolated sinking
Diagnostics	–	Yes		–	Yes	–	Yes			
Electronically protected	Yes									
Voltage, on-state, nom	24V DC									
Voltage, on-state range	10...28.8V DC									
Voltage, on-state drop, max	0.2V DC		0.7V DC (@ 28.8V DC, 55 °C (131 °F), full load condition)	0.2V DC		0.2V DC		0.7V DC (@ 28.8V DC, 55 °C (131 °F), full load condition)		
Voltage, off-state, max	28.8V DC									
Current, on-state, min	1.0 mA per channel									
Currentleakage,off-state, max	0.5 mA									
Output filter time[1], Off-to-On and On-to-Off	0.1 ms									
Output current rating	1.0 A per channel, 2.0 A max per module,		2.0 A per channel, 4.0 A max per module	1.0 A per channel, 3.0 A max per module				1.0 A per output, 2.0 A max per module	1.0 A per output, 3.0 A per module	
Surge current	2 A for 10 ms, repeatable every 3 s		2 A, electronically protected	2 A for 10 ms, repeatable every 3 s						
POINTBus current, max	75 mA @ 5V DC									
Power dissipation, max	0.8 W @ 28.8V DC		3.4 W @ 28.8V DC	1.2 W @ 28.8V DC		2.0 W @ 28.8V DC		0.8 W @ 28.8V DC	1.2 W @ 28.8V DC	2.0 W @ 28.8V DC
Thermal dissipation, max	2.7 BTU/hr @ 28.8V DC		11.6 BTU/hr @ 28.8V DC	4.1 BTU/hr @ 28.8V DC		6.8 BTU/hr @ 28.8V DC		2.7 BTU/hr @ 28.8V DC	4.1 BTU/hr @ 28.8V DC	6.8 BTU/hr @ 28.8V DC

Table 8 - Specifications - Digital DC Output Modules (Continued)

Attribute	1734-OB2	1734-OB2E	1734-OB2EP	1734-OB4 1734-OB4K	1734-OB4E	1734-OB8 1734-OB8K	1734-OB8E 1734-OB8EK	1734-OV2E	1734-OV4E	1734-OV8E 1734-OV8EK
Isolation voltage	50V (continuous), Reinforced insulation Type tested at 2500V DC for 60 s, field-side to system		50V (continuous), Type tested at 1250V AC for 60 s, output to system	50V (continuous), Reinforced insulation Type tested at 2500V DC for 60 s, field-side to system				240V (continuous), basic insulation Type tested @ 2550V DC for 60 s, output to system		
External DC power supply voltage, nom	24V DC		5V DC	24V DC						
External DC power supply voltage range	10...28.8V DC									
External DC power supply current	8 mA		13 mA @ 28.8V DC, no load condition	16 mA		32 mA		8 mA	16 mA	32 mA
Terminal base unit	1734-TB or 1734-TBS									
Wiring category(2)	2 – on signal ports									
Keyswitch position	–		1	–				1		

(1) Off-to-On delay is the time from a valid output "On" signal to output energization. On-to-Off delay is the time from a valid output "Off" signal to output de-energization.
(2) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

For digital module Certifications, see Table 3.
For digital module Environmental Specifications, see Table 4.

Specifications - Digital Contact Modules

Attribute	1734-OW2	1734-OW4, 1734-OW4K
Number of outputs	2 Form A isolated (normally open) electromechanical relays	4 Form A isolated (normally open) electromechanical relays
Leakage current, off-state, max	1.2 mA @ 240V AC, and bleed resistor through snubber circuit	
Contact resistance, initial	30 mΩ	
Contact rating(1)	120/240V AC, 2.0 A @ 50/60 Hz(2) 1800VA make, 180VA break(3) 5...30V DC, 2.0 A, R150	
Switching frequency, max	1 operation/3 s (0.3 Hz @ rated load)	
Expected life of electrical contacts, min	100,000 operations @ rated load	
POINTBus current, max	80 mA @ 5V DC	90 mA @ 5V DC
Power consumption, max	0.8 W	
Power dissipation, max	0.5 W	
Thermal dissipation, max	–	
Isolation voltage	250V Type tested at 2550V DC for 60 s, field-side to system, and between contact sets	
Pilot duty rating	R150	
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS	
Wiring category(4)	1 – on signal ports	
Keyswitch position	7	

(1) **Surge Suppression** – Connect surge suppressors across your external inductive load to extend the life of the module. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.
(2) The module complies with Ex when used at or below 120V AC.
(3) To obtain the maximum make and break ratings for voltages between the maximum design value and 120V, divide the volt-amperes rating by the application voltage. For voltages below 120V, the maximum make current must be the same as for 120V. To obtain the maximum break current for voltages below 120V, divide the break volt-amperes by the application voltage, not to exceed 2 A.
(4) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Specifications - Digital Relay Module

Attribute	1734-OX2
Number of outputs	2 Form C isolated (normally open, normally closed) electromechanical relays
Output voltage range, load dependent	**Resistive**
	5...28.8V DC @ 2.0 A 48V DC @ 0.5 A 125V DC @ 0.25 A 125V AC @ 2.0 A 240V AC @ 2.0 A

Specifications - Digital Relay Module (Continued)

Attribute	1734-0X2	
	Resistive	**Inductive**
Output current, at rated power	2 A @ 5...28.8V DC 0.5 A @ 48V DC 0.25 A @ 125V DC 2 A @ 125V AC 2 A @ 240V AC	2.0 A steady state @ 5...28.8V DC, L/R = 7 ms 0.5 A steady state @ 48V DC, L/R = 7 ms 0.25 A steady state @ 125V DC, L/R = 7 ms 2.0 A steady state, 15 A make @ 125V AC, PF = cos, Theta = 0.4 2.0 A steady state, 15 A make @ 240V AC, PF = cos, Theta = 0.4
	Resistive	**Inductive**
Output power, steady state, max	250 W for 125V AC 480 W for 240V AC 60 W for 28.8V DC 24 W for 48V DC 31 W for 125V DC	250VA for 125V AC 480VA for 240V AC 60VA for 28.8V DC 24VA for 48V DC 31VA for 125V DC
Leakage current, off-state, max	2.0 mA @ 240V AC and bleed resistor through snubber circuit	
Contact resistance, initial	30 mΩ	
Switching frequency, max	1 operation/3 s (0.3 Hz @ rated load)	
Operate/release time, max	10 ms	
Bounce time, mean	1.2 ms	
Contact load per point, min	5 µA	
Output signal delay[1], Off-to-On and On-to-Off	10 ms	
Fusing	Outputs are not fused - If fusing is required, you must supply external fusing.	
Expected life of electrical contacts, min	1,000,00 cycles resistive 10,000 cycles inductive	
POINTBus current, max	100 mA @ 5V DC	
Field power supply voltage, nom	None required	
Field power voltage range, max	240V AC	
Field power supply current, max	2 A per channel, 4 A per module	
Power dissipation, max	0.5 W	
Thermal dissipation, max	1.7 BTU/hr	
Isolation voltage	250V (continuous), Reinforced insulation Type tested at 2550V DC for 1 s, field-side to system, and between contact sets	
Pilot duty rating	15 A inrush AC	
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS	
Wiring category[2]	1 – on signal ports	
Keyswitch position	7	

(1) Off-to-On delay is the time from a valid output "On" signal to output energization. On-to-Off delay is the time from a valid output "Off" signal to output de-energization.
(2) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

For digital module Certifications, see Table 3.
For digital module Environmental Specifications, see Table 4.

Specifications - Digital Self-Configurable I/O Modules

Attribute	1734-8CFG	1734-8CFGDLX (with DeviceLogix)
Number of inputs/outputs	8	
Voltage, on-state input, min	11V DC	
Voltage, off-state input, max	5V DC	
Current, on-state input range	2.0...5.0 mA	
Current, off-state input, min	1.5 mA	
Input filter	Selectable in milliseconds and in multiples of 1 Valid range: 0...65 ms Default: 1 ms Off-to-On and On-to-Off, min: 0 ms Off-to-On and On-to-Off, max: 65 ms	
Voltage, on-state output, nom	24V DC	
Voltage, on-state output range	10...28.8V DC	
Voltage drop, on-state output, max	0.4V DC	
Current, on-state output, max	0.5 A	
Leakage, off-state, max	0.5 mA	
Current, all outputs, max	3.0 A	
Surge current, max	1.0 A for 100 ms, repeatable every 2 s	
POINTBus current, max	100 mA @ 5V DC	
Supply voltage, max	28.8V DC	
Power dissipation, max	2.6 W @ 28.8V DC	
Thermal dissipation, max	8.9 BTU/hr @ 28.8V DC	
Field power supply voltage, nom	24V DC	
Field power voltage range, max	10...28.8V DC	
Isolation voltage	50V (continuous), Reinforced insulation Type tested at 2121V DC for 60 s, field-side to system No isolation between channels	
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS	
Keyswitch position	1	
Reverse polarity protection	–	Yes

For digital module Certifications, see Table 3.
For digital module Environmental Specifications, see Table 4.

Analog I/O Modules

The POINT I/O analog and temperature I/O modules support:	• Onboard, channel-level data alarms (four setpoints per channel) • Scaling to engineering units • Channel-level diagnostics (electronic bits and status indicators) • Integer format
Analog and temperature input modules supportthefollowingconfigurableparameters and diagnostics:	• Open-wire detection with a status indicator and electronic reporting • Four-alarm and annunciation setpoints: Low Alarm; High Alarm; Low/Low Alarm; High/High Alarm calibration mode detection and electronic reporting • Underrange detection and electronic reporting • Overrange detection and electronic reporting • Channel signal range and onboard scaling (scaling to any 16-bit integer underrange/overrrange alarms) • Filter type (notch for A/D, or first-order low-pass digital filter) • Temperature scale (Celsius, Fahrenheit, Kelvin, Rankine, or custom) • Channel update rate (step response plus 0...10,000 ms filter setting)
Choose analog or temperature I/O modules when you need:	• Onboard scaling removes the need to scale the data in the controller, which preserves controller processing time and power for more important tasks, such as I/O control, communications, or other user-driven functions. • Overrange and underrange detections and indications remove the need to test values in the control program, which saves controller processing power. • Ability to configure each channel of the output module individually to hold its last value or assume a user-defined value on a fault condition. • Ability to enable and disable channels individually improves module performance. • Selectable input filters let you select from several different filter frequencies for each channel that best meet the performance needs of your application and environmental limitations. • Selectable response to a broken input sensor feature provides feedback to the controller that a field device is not connected or operating properly. This lets you specify a corrective action that is based on the bit or channel condition. • The modules share a high accuracy rating of ±0.1% of full-scale accuracy at 25 °C (77 °F).

For information and specifications for analog temperature I/O modules, see Temperature Input Modules on page 23.

Table 9 - Certifications - Analog I/O Modules

Certification[1]	1734-IE2C, 1734-IE2CK 1734-IE2V, 1734-IE2VK 1734-IE4C, 1734-IE4CK 1734-IE8C, 1734-IE8CK	1734-OE2C, 1734-OE2CK 1734-OE2V, 1734-OE2VK 1734-OE4C, 1734-OE4CK	1734-IR2, 1734-IR2K 1734-IT2I, 1734-IT2IK	1734-IR2E
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.			
UKCA and CE	UK Statutory Instrument 2016 No. 1091 and 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) UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000; Technical documentation			
Ex	UK Statutory Instrument 2016 No. 1107 and European Union 2014/34/EU ATEX Directive, compliant with: EN IEC 60079-0; General Requirements EN IEC 60079-7; Explosive Atmospheres, Protection "e" II 3G Ex ec IIC T4 Gc DEMKO 04 ATEX 0330347X UL 22 UKEX 2478X			–
IECEx	IECEx System, compliant with: IEC 60079-0; General Requirements IEC 60079-7; Explosive Atmospheres, Protection "e" II 3G Ex ec IIC T4 Gc IECEx UL 20.0072X			
RCM	Australian Radiocommunications Act compliant with: EN 61000-6-4; Industrial Emissions			
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3			
Morocco	Arrêté ministériel n° 6404-15 du 29 ramadan 1436			
CCC	CCC: 2020122309111607 CNCA-C23-01 强制性产品认证实施规则 防爆电气 CNCA-C23-01 CCC Implementation Rule Explosion-Proof Electrical Products			–
DeviceNet	–		ODVA conformance tested to DeviceNet specifications	

(1) When product is marked. See the Product Certification link at rok.auto/certifications for Declaration of Conformity, Certificates, and other certification details.

Table 10 - Environmental Specifications - Analog I/O Modules

Attribute	1734-IE2C 1734-IE2CK	1734-IE2V 1734-IE2VK	1734-OE2C 1734-OE2CK 1734-OE2V 1734-OE2VK	1734-IR2 1734-IR2K	1734-IR2E	1734-IT2I 1734-IT2IK	1734-IE8C 1734-IE8CK	1734-OE4C 1734-OE4CK	1734-IE4C 1734-IE4CK
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 °C ≤ Ta ≤ +55 °C (-4 °F ≤ Ta ≤ +131 °F)								
Temperature, surrounding air max	55 °C (131 °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): 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	IEC 61000-6-4								CISPR11 Group 1, Class A
ESD immunity	IEC6100-4-2: 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 MHz...6000 MHz								
EFT/B immunity	IEC 61000-4-4: ±3 kV @ 5 kHz on signal ports			IEC 61000-4-4: ±4 kV @ 5 kHz on signal ports			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: ±2 kV line-earth (CM) on shielded ports						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								
North American temp code	T5	T4A	T4	T5	—	T4A		T4	T4A
UKEX/ATEX temp code	T4					T4			
IECEx temp code	T4								
Enclosure type rating	None (open-style)								
Mounting type	DIN rail								

Table 11 - Specifications - Analog Input Modules

Attribute	1734-IE2C, 1734-IE2CK	1734-IE2V, 1734-IE2VK	1734-IE4C, 1734-IE4CK	1734-IE8C, 1734-IE8CK
Number of inputs	2 single-ended, non-isolated, current	2 single-ended, non-isolated, voltage	4 single-ended, non-isolated, current	8, single-ended, non-isolated, current
Input range	4...20 mA 0...20 mA	0...10V user configurable (-0.0V under, +0.5V over) ±10V user configurable (-0.5V under, +0.5V over)	4...20 mA 0...20 mA	
Input resolution	16 bits - over 21 mA 0.32 µA/cnt	15 bits plus sign 320 µV/cnt in unipolar or bipolar mode	16 bits - 0...21 mA 0.32 µA/cnt	
Absolute accuracy[1]	0.1% Full Scale @ 25 °C (77 °F)			
Accuracy drift with temperature	16.67 ppm/°F (30 ppm/°C)	2.78 ppm/°F (5 ppm/°C)	16.67 ppm/°F (30 ppm/°C)	
Input update rate, per module	120 ms @ Notch = 50 Hz 100 ms @ Notch = 60 Hz (default) 24 ms @ Notch = 250 Hz 12 ms @ Notch = 500 Hz		240 ms @ Notch = 50 Hz 200 ms @ Notch = 60 Hz (default) 120 ms @ Notch = 100 Hz 100 ms @ Notch = 120 Hz 60 ms @ Notch = 200 Hz 50 ms @ Notch = 240 Hz 40 ms @ Notch = 300 Hz 30 ms @ Notch = 400 Hz 25 ms @ Notch = 480 Hz	480 ms @ Notch = 50 Hz 400 ms @ Notch = 60 Hz (default) 240 ms @ Notch = 100 Hz 200 ms @ Notch = 120 Hz 120 ms @ Notch = 200 Hz 100 ms @ Notch = 240 Hz 80 ms @ Notch = 300 Hz 60 ms @ Notch = 400 Hz 50 ms @ Notch = 480 Hz

Table 11 - Specifications - Analog Input Modules (Continued)

Attribute	1734-IE2C, 1734-IE2CK	1734-IE2V, 1734-IE2VK	1734-IE4C, 1734-IE4CK	1734-IE8C, 1734-IE8CK
Input step response, per channel	80 ms @ Notch = 50 Hz 70 ms @ Notch = 60 Hz (default) 16 ms @ Notch = 250 Hz 8 ms @ Notch = 500 Hz		60 ms @ Notch = 50 Hz 50 ms @ Notch = 60 Hz (default) 30 ms @ Notch = 100 Hz 25 ms @ Notch = 120 Hz 15 ms @ Notch = 200 Hz	12.5 ms @ Notch = 240 Hz 10 ms @ Notch = 300 Hz 7.5 ms @ Notch = 400 Hz 6.25 ms @ Notch = 480 Hz
Digital filter time constant	0...10,000 ms (default = 0 ms)		–	
Input impedance	60 Ω	100 kΩ	60 Ω	
Input resistance	60 Ω	200 kΩ	60 Ω	
Conversion type	Delta Sigma			
Common mode rejection ratio	120 dB		-120 dB	
Normal mode rejection ratio	-60 dB			
Notch filter	-3 dB settable at the following: 13.1 Hz @ Notch = 50 Hz 15.7 Hz @ Notch = 60 Hz 65.5 Hz @ Notch = 250 Hz 131 Hz @ Notch = 580 Hz		13.1 Hz @ Notch = 50 Hz 15.7 Hz @ Notch = 60 Hz (default) 26.2 Hz @ Notch = 100 Hz 31.4 Hz @ Notch = 120 Hz 52.4 Hz @ Notch = 200 Hz	62.9 Hz @ Notch = 240 Hz 78.6 Hz @ Notch = 300 Hz 104.8 Hz @ Notch = 400 Hz 125.7 Hz @ Notch = 480 Hz
Data format	Signed integer			
Maximum overload	Fault protected to 28.8V DC			
Calibration	Factory calibrated			
POINTBus current	75 mA @ 5V DC			
Power dissipation, max	0.6 W @ 28.8V DC	0.75 W @ 28.8V DC	0.55 W @ 28.8V DC	0.6 W @ 28.8V DC
Thermal dissipation, max	2.0 BTU/hr @ 28.8V DC	2.5 BTU/hr @ 28.8V DC	2.0 BTU/hr @ 28.8V DC	
Input current	–		4...20 mA or 0...20 mA	
Isolation voltage	50V (continuous) No isolation between individual channels		50V No isolation between individual inputs or inputs to field power	
	Type tested at 2550V DC for 60 s	Type tested at 2200V DC for 60 s	Type tested at 1500V AC for 60 s, inputs and field power to system	
Field power supply voltage, nom	24V DC		5V DC	5V DC
Field power voltage range, max	10...28.8V DC		10...28.8V DC, 20 mA, Class 2	
Field power supply current, max	10 mA @ 24V DC	15 mA @ 24V DC	–	
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS		1734-TB3 or 1734-TB3S	1734-TB and 1734-TBS
Wiring category(2)	1 - on signal ports		2 - on signal ports 1 - on power ports	
Keyswitch position	3			

(1) Includes offset, gain, non-linearity, and repeatability error terms.
(2) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

For analog module Certifications, see Table 9.
For analog module Environmental Specifications, see Table 10.

Table 12 - Specifications - Analog Output Modules

Attribute	1734-OE2C, 1734-OE2CK	1734-OE2V, 1734-OE2VK	1734-OE4C, 1734-OE4CK
Number of outputs	2 single-ended, non-isolated, current	2 single-ended, non-isolated, voltage	4 analog, single-ended, non-isolated
Output range	4...20 mA 0...20 mA 0 mA until communication is established	0...10V user configurable (-0.0V under, +0.5V over) ±10V user configurable (-0.5V under, +0.5V over) 0V until communication is established	4...20 mA user configurable 0...20 mA user configurable 0 mA until communication is established
Output resolution	13 bits - over 0...21 mA average value: 2.5 µA/cnt typical range: 2.3...2.7 µA/cnt	14 bits (13 plus sign) 1.28 mV/cnt in unipolar or bipolar mode	16 bits - over 0...21 mA 0.32 µA/cnt
Absolute accuracy(1)	0.1% Full Scale @ 25 °C (77 °F)		0.4% (0.1% if calibrated)
Accuracy drift with temperature	16.67 ppm/°F (30 ppm/°C)	2.78 ppm/°F (5 ppm/°C)	<27.78 ppm/°F (<50 ppm/°C)
Step response to 63% of FS	24 µs		160 µs
Surge current	–		2 A for 10 ms, repeatable every 3 s
Resistive load on current output	0...750 Ω	–	0...750 Ω
Current load on voltage output	–	3 mA	–
Digital to analog conversion rate	16 µs	20 µs	1 µs
Data format	Signed integer		
Calibration	Factory calibrated		
POINTBus current	75 mA @ 5V DC		
Power dissipation, max	1.23 W @ 750 Ω load on each output 1.83 W @ 0 Ω load on each output	1.0 W	1.86 W @ 750 Ω load on each output 2.15 W @ 0 Ω load on each channel

Table 12 - Specifications - Analog Output Modules (Continued)

Attribute	1734-OE2C, 1734-OE2CK	1734-OE2V, 1734-OE2VK	1734-OE4C, 1734-OE4CK
Thermal dissipation, max	4.19 BTU/hr @ 750 Ω load on each output 6.24 BTU/hr @ 0 Ω load on each output	3.4 BTU/hr	6.34 BTU/hr @ 750 Ω load on each output 7.33 BTU/hr @ 0 Ω load on each channel
Isolation voltage	50V (continuous-voltage withstand rating) No isolation between individual channels Type tested at 2200V DC for 60 s		50V No isolation between individual outputs or outputs to field power Type tested at 1500V DC for 60 s, outputs and field power to system
Field power supply voltage	24V DC, nom		5V DC
Field power voltage range, max	10...28.8V DC		10...28.8V DC (includes 5% AC ripple), 220 mA, Class 2
Field power supply current	70 mA @ 24V DC (includes output @ 20 mA)	35 mA @ 24V DC (includes output @ 3 mA)	110 mA @ 24V DC (includes output @ 20 mA), nom
Terminal base unit	1734-TB, 1734-TBS, 1734-TB3, 1734-TB3S, 1734-TOP, or 1734-TOPS		1734-TB or 1734-TBS
Wiring category[2]	1 - on signal ports		2 - on signal ports 1 - on power ports
Keyswitch position	4		

(1) Includes offset, gain, non-linearity, and repeatability error terms.
(2) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Temperature Input Modules

POINT I/O temperature modules can detect and communicate these electronic conditions.

Overrange alarm	• The channel overrange alarm is set if the input is greater than the maximum temperature (thermocouple or RTD range dependent), millivolt (+75V) or resistance (600 Ω) range value, or above the maximum range of the thermocouple or RTD. • The cold-junction compensator has its own overrange alarm. If the CJC temperature goes above 70 °C (158 °F), the overrange alarm is set.
Underrange alarm	• The channel underrange alarm is set if the input is less than the minimum temperature (thermocouple or RTD range dependent), millivolt (-75 mV) or resistance (10 Ω) range value, or below the minimum range of the thermocouple or RTD. • The cold-junction compensator has its own underrange alarm. If the CJC temperature goes below 0 °C (32 °F), the underrange alarm is set.
Level alarm (Low-Low, Low, High, High-High)	• When the channel input goes below a low alarm or above a high alarm, a bit is set in the data table. All alarm status bits can be read individually or by reading the channel status byte (bits 2...5 for channel 0; bits 10...13 for channel 1). • Each channel alarm can be configured individually.
Open-wire alarm	• The module is able to check for a broken or detached wire. In any mode, if a broken/detached lead is detected, the data value is forced to maximum and the overrange alarm is set. Once the alarm is issued, it remains active as long as the input signal is faulted.

POINT I/O temperature modules can provide these functions.

Cold junction compensation (1734-IT2I only)	When using thermocouples, cold junction compensation is required at the termination of the thermocouple wire. Cold junction can be accomplished in three ways: • Enter an estimated temperature • Use external cold-junction compensators • Use a 1734-TBCJC mounting base (recommended) Use the 1734-TBCJC mounting base for the easiest, least expensive, and most accurate method for cold junction compensation instead of the use of an estimated temperature and external compensators. An open cold-junction compensator causes the input point to the maximum temperature value for the selected input type. This causes an alarm to be set. Once the alarm is issued, it remains active as long as the input signal is faulted (above maximum). Set the cold junction enable bit on the 1734-IT2I module to enable or disable the cold junction linearization. If enabled, the proper cold junction compensation value is applied to the selected thermocouple. If disabled, the data (CJ temperature) is still available but is not applied to the input. If the 1734-TBCJC is not available, this parameter must be set to disabled. A cold junction value can be added using the cold junction offset parameter.
Noise filtering	You can select the type and amount of noise filtering on each individual channel. • Notch filter of analog to digital converter • First-order, low-pass digital filter Choose the filter that provides you with the update and step response that most closely matches your system requirements.

Specifications - Analog Temperature Input Modules

Attribute	1734-IR2, 1734-IR2K	1734-IR2E	1734-IT2I, 1734-IT2IK
Number of inputs	2 single-ended, non-isolated, RTD	2 single-ended, non-isolated, high-resolution RTD	2 differential, individually isolated, thermocouple
Input signal	0...600 Ω	78.12...234.38 Ω	±75 mV
Input resolution	16 bits 9.5 mΩ/cnt 0.03 °C/cnt, pt 385 @ 25 °C (0.05 °F/cnt, pt 385 @ 77 °F)	16 bits 2.4 mΩ/cnt 0.006 °C/cnt, pt 385 @ 25 °C (0.0114 °F/cnt, pt 385 @ 77 °F)	15 bits plus sign 2.5 mV/cnt[1]

Specifications - Analog Temperature Input Modules (Continued)

Attribute	1734-IR2, 1734-IR2K			1734-IR2E			1734-IT2I, 1734-IT2IK		
	Resistance	Alpha	Range	Resistance	Alpha	Range	Sensor	Range	Resolution (average over span)
Supported sensors	100 Ω Pt 200 Ω Pt 100 Ω Pt 200 Ω Pt 10 Ω Cu 100 Ω Ni 120 Ω Ni 120 Ω Ni	0.00385 Euro 0.00385 Euro 0.003916 U.S. 0.003916 U.S. 0.00427 0.00618 0.00618 0.00672	-200...+870 °C (-328...+1598 °F) -200...+596.6 °C (-328...+1105.88 °F) -200...+630 °C (-328...+1166 °F) -200...+583.4 °C (-328...+1105.88 °F) -200...+260 °C (-328...+500 °F) -60...+250 °C (-76...+482 °F) -60...+250 °C (-76...+482 °F) -80...+320 °C (-112...+608 °F)	100 Ω Pt	0.00385 Euro	-50...+320 °C (-58...+608 °F)	Type B Type C Type E Type J Type K Type N Types R and S Type T	30...1820 °C (86...3308 °F) 0...2315 °C (32...4199 °F) -270...+1000 °C (-454...+1832 °F) -210...+1200 °C (-346...+2192 °F) -270...+1372 °C (-454...+2502 °F) -270...+1300 °C (-454...+2373 °F) 50...1768.1 °C (-58...+3214 °F) -270...+400 °C (-454...+752 °F)	3 counts/°C 6 counts/°C 24 counts/°C 21 counts/°C 13 counts/°C 11 counts/°C 4 counts/°C 15 counts/°C
Cold junction compensation range	–						Included in 1734-RTBCJC terminal base RTB 0...70 °C (32...158 °F)		
Absolute accuracy	0.1% Full Scale @ 25 °C (77 °F)								
Accuracy drift with temperature	30 ppm/°C (16.67 ppm/°F)								
Input impedance	–						100 kΩ		
Input resistance	–						1 MΩ		
Input update rate, per module	40 ms @ Notch = 50 Hz 33 ms @ Notch = 60 Hz 0 ms @ Notch = 100 Hz 17 ms @ Notch = 120 Hz 10 ms @ Notch = 200 Hz	8 ms @ Notch = 240 Hz 7 ms @ Notch = 300 Hz 5 ms @ Notch = 400 Hz 4 ms @ Notch = 480 Hz					20 ms @ Notch = 50 Hz 17 ms @ Notch = 60 Hz 10 ms @ Notch = 100 Hz 8 ms @ Notch = 120 Hz 5 ms @ Notch = 200 Hz	4 ms @ Notch = 240 Hz 3 ms @ Notch = 300 Hz 3 ms @ Notch = 400 Hz 2 ms @ Notch = 480 Hz	
Step response, per channel	60 ms @ Notch = 50 Hz 50 ms @ Notch = 60 Hz 30 ms @ Notch = 100 Hz	25 ms @ Notch = 120 Hz 15 ms @ Notch = 200 Hz 13 ms @ Notch = 240 Hz	10 ms @ Notch = 300 Hz 8 ms @ Notch = 400 Hz 6 ms @ Notch = 480 Hz						
Common mode rejection ratio	120 dB								
Normal mode rejection ratio	100 dB						-60 dB		
Notch filter	-3 dB settable at the following: 13.1 Hz @ Notch = 50 Hz 15.7 Hz @ Notch = 60 Hz 26.2 Hz @ Notch = 100 Hz 31.4 Hz @ Notch = 120 Hz 52.4 Hz @ Notch = 200 Hz	62.9 Hz @ Notch = 240 Hz 78.6 Hz @ Notch = 300 Hz 104.8 Hz @ Notch = 400 Hz 125.7 Hz @ Notch = 480 Hz							
Conversion type	Delta Sigma								
Data format	Signed integer								
Maximum overload	No input protection						Input not overvoltage protected		
Calibration	Factory calibrated								
POINTBus current	220 mA @ 5V DC						175 mA @ 5V DC		
Power dissipation, max	1.0 W								
Thermal dissipation, max	3.3 BTU/hr								
Isolation voltage	50V (continuous), Basic insulation, I/O to system Type tested at 1600V AC for 60 s								
Field power supply	No external supply required								
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS						1734-TBCJC		
Wiring category	1 - on signal ports								
Keyswitch position	6								

(1) Includes offset, gain, non-linearity, and repeatability error terms.

For analog module Certifications, see Table 9.
For analog module Environmental Specifications, see Table 10.

POINT Guard I/O Modules

Use the POINT Guard I/O safety modules in the POINT I/O system to distribute safety I/O on a GuardLogix®, Compact GuardLogix, or SmartGuard™ system. To configure the modules, use 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.

Table 13 - Certifications - POINT Guard I/O Modules

Certification[1]	1734-IE4S, 1734-IE4SK 1734-IB8S, 1734-IB8SK 1734-OB8S, 1734-OB8SK 1734-OBV2S, 1734-OBV2SK
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.
UKCA and CE	UK Statutory Instrument 2016 No. 1091 and 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) UK Statutory Instrument 2008 No. 1597 and European Union 2006/42/EC MD Directive, compliant with: EN ISO 13849-1; Safety-related parts of control systems EN 61508-1...7; General requirements UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000; Technical documentation
Ex	UK Statutory Instrument 2016 No. 1107 and European Union 2014/34/EU ATEX Directive, compliant with: • EN IEC 60079-0 General Retirements • EN IEC 60079-7 Equipment protection by increased safety "e" • II 3 G Ex ec IIC T4 Gc • DEMKO 09 ATEX 0919970X
IECEx	IECEx System, compliant with: IEC 60079-0; General Requirements IEC 60079-7; Explosive Atmospheres, Protection "e" II 3G Ex ec IIC T4 Gc IECEx UL 20.0093X
RCM	Australian Radiocommunications Act compliant with: EN 61000-6-4; Industrial Emissions
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3
TÜV Functional Safety	Certified by TÜV Rheinland[2]: capable of SIL CL 3 (IEC 61508, IEC 62061) and PLe/Cat. 4 (ISO13849-1)
CCC	CNCA-C23-01 强制性产品认证实施规则 防爆电气 CNCA-C23-01 CCC Implementation Rule Explosion-Proof Electrical Products CCC: 2020122309113860; 2022122309115063
ODVA	ODVA conformance tested to CIP Safety™ on DeviceNet specifications

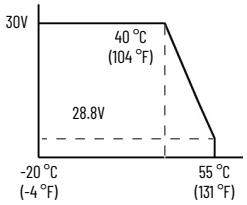
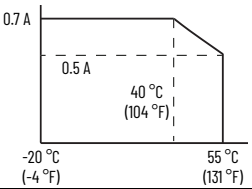
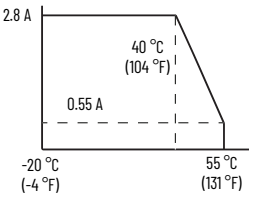
(1) When product is marked. See the Product Certification link at rok.auto/certifications for Declaration of Conformity, Certificates, and other certification details.
(2) When used with specified firmware revisions.

Table 14 - Environmental Specifications - POINT Guard I/O Modules

Attribute	1734-IE4S 1734-IE4SK	1734-IB8S 1734-IB8SK	1734-OB8S 1734-OB8SK	1734-OBV2S 1734-OBV2SK
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 °C < Ta < +55 °C (-4 °F < Ta < +131 °F)			
Temperature, surrounding air max	55 °C (131 °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): 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			
Corrosives	—	G2 (ISA S71.04)		—
Emissions	IEC 61000-6-4: Group 1, Class A			
ESD immunity	IEC6100-4-2: 6 kV contact discharges	IEC6100-4-2: 4 kV contact discharges		
	8 kV air discharges			
Radiated RF immunity	IEC 61000-4-3: 10V/m with 1 kHz 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 shielded on signal ports	IEC 61000-4-4: ±2 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	IEC 61000-4-5: ±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports		—
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine wave 80% AM from 150 kHz...80 MHz			
Temp code	T4			
Enclosure type rating	None (open-style)			
Terminal base unit[1]	1734-TB, 1734-TB, 734-TOP, 1734-TOPS, 1734-TOP3, or 1734-TOP3S			
Wiring category[2]	2 - on signal ports 1 - on power ports	2 - on signal ports		
Keyswitch positions Key 1 (left) Key 2 (right)	 8 3	 8 1	 8 2	

(1) Two terminal bases are required for each safety module.
(2) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Specifications - 1734-IB8S, 1734-IB8SK

Attribute	1734-IB8S, 1734-IB8SK
Safety Digital Input	
Inputs per module	8
Input type	Current sinking
Voltage, on-state input[1]	11...30V DC, 3.5 mA @ 40 °C (104 °F), SELV/PELV 150VA max 11...28.8V DC, 3.5 mA @ 55 °C (131 °F), SELV/PELV 150VA max
Temperature vs. max safety input voltage derating for both horizontal and vertical installations	
Voltage, off-state input, max	5V DC
Current, on-state input, min	3.3 mA
Current, off-state, max	1.3 mA
IEC 61131-2 (input type)	Type 3
Reaction time	<16.2 ms
Pulse Test Output	
Output type	Current sourcing
Number of sources (T0, T1M, T2, T3M)	4
Test output current (each output point)	0.7 A @ 40 °C (104 °F) 0.5 A @ 55 °C (131 °F) Inrush electronically limited
Temperature vs. current per test output point derating for both horizontal and vertical installations	
Aggregate current of test outputs per module	2.8 A @ 40 °C (104 °F) 0.55 A @ 55 °C (131 °F)
Temperature vs. aggregate current per module derating for both horizontal and vertical installations	
Pulse width	525 µs
Pulse period	144 ms
Field capacitance limit that is permitted per test output, max	100 nF
Current, max (when used to control muting lamp)	25 mA (to avoid fault when used as a muted lamp output)
Current, min (when used to control muting lamp)	5 mA (at which fault indication is generated when used as a muted lamp output)
Residual voltage, max	0.3V
Output leakage current, max	0.1 mA
Short circuit protection	Yes

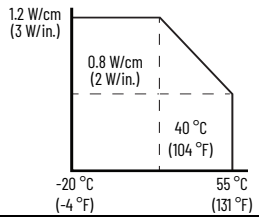
Specifications - 1734-IB8S, 1734-IB8SK (Continued)

Attribute	1734-IB8S, 1734-IB8SK
POINTBus	
POINTBus current, max	125 mA
Power dissipation, max[2]	3.0 W
Power dissipation, typical[3]	2.25 W
Thermal dissipation, max	10.25 BTU/hr
Isolation voltage	50V (continuous), Basic Insulation Type between field side and system, No isolation between individual channels
	Tested according to UL 61010-1
Power bus, operating supply voltage, nom[1]	24V DC
Power bus, operating voltage range[1]	19.2...28.8V DC, SELV/PELV 150VA max
Power bus current, max (No Load)	25 mA
Input filter time[4], Off-to-On and On-to-Off	0...126 ms (in 6 ms increments)

(1) For detailed power supply requirements, see Select Power Components on page 41.
(2) Maximum power dissipation applies when using 28.8V DC module supply, 30V DC on all inputs and maximum power dissipated with all four test outputs in the ON state.
(3) Typical power dissipation applies when using 24V DC module supply, 24V DC on all inputs and nominal power dissipated with all four test outputs in the ON state.
(4) 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.

For POINTGuard I/O module Certifications, see Table 13.
For POINTGuard I/O module Environmental Specifications, see Table 14.

Specifications - 1734-IE4S, 1734-IE4SK

Attribute		1734-IE4S, 1734-IE4SK
Safety Analog Input		
Inputs per module		4 single-ended
Input type		Software-configurable for voltage, current, or tachometer
Input voltage mode ranges		±5V, ±10V, 0...5V, 0...10V
Input current mode ranges		0...20 mA, 4...20 mA
Input tachometer mode ranges		0...24V with configurable ON and OFF thresholds in 1V increments
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
System temperature derating		
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 • 10 Hz • 5 Hz • 50 Hz
Step response to 63%, approx[1]		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 @ 10 Hz: 3 dB @ 4.8 Hz 50 dB @ 50 Hz 50 dB @ 60 Hz Filter frequency @ 5 Hz: 3 dB @ 2.6 Hz 70 dB @ 50 Hz 70 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
Accuracy	Voltage mode	@ 25° C [77° F]: ±0.5% full-scale Drift: ±0.02% full scale/°C
	Current mode[2]	@ 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 at 100 Hz and 55 °C (131 °F)	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

Specifications - 1734-IE4S, 1734-IE4SK (Continued)

Attribute	1734-IE4S, 1734-IE4SK
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
Sensor supply undercurrent fault	Detected at < 4.0 mA (2.5 mA typical)
Aggregate current of sensor outputs per module	600 mA
POINTBus	
POINTBus current, max	110 mA @ 5V DC
Power dissipation, max	2.2 W
Thermal dissipation, max	7.5 BTU/hr
Isolation voltage	50V (continuous), Basic Insulation Type between field side and system, No isolation between individual channels Tested according to UL 61010-1
Power bus, operating voltage range[3]	19.2...28.8V DC, Class 2
Power bus current, max (No Load)	65 mA

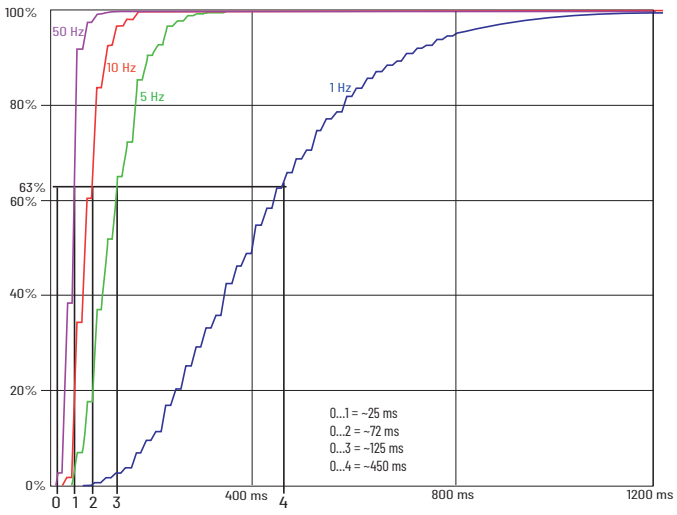
(1) For more information, see Step Response and Filter Response - 1734-IE4S, 1734-IE4SK.
(2) For more information, see Drift and Temperature - 1734-IE4S, 1734-IE4SK on page 29.
(3) For detailed power supply requirements, see Select Power Components on page 41.

For POINTGuard I/O module Certifications, see Table 13.
For POINTGuard I/O module Environmental Specifications, see Table 14.

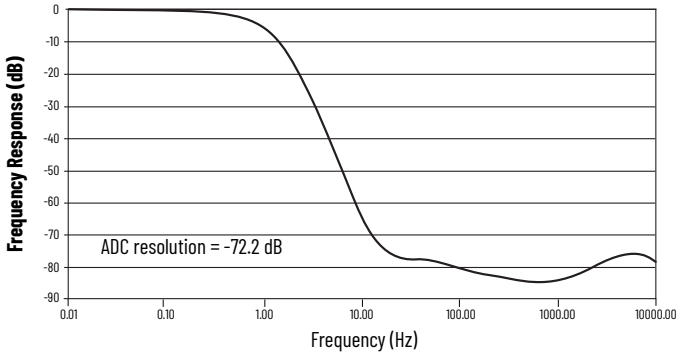
Step Response and Filter Response - 1734-IE4S, 1734-IE4SK

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

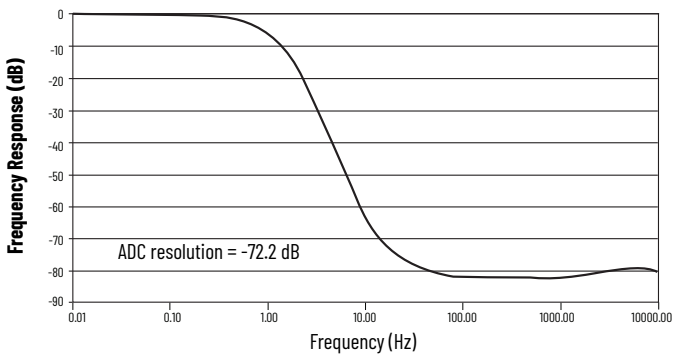
Step Response



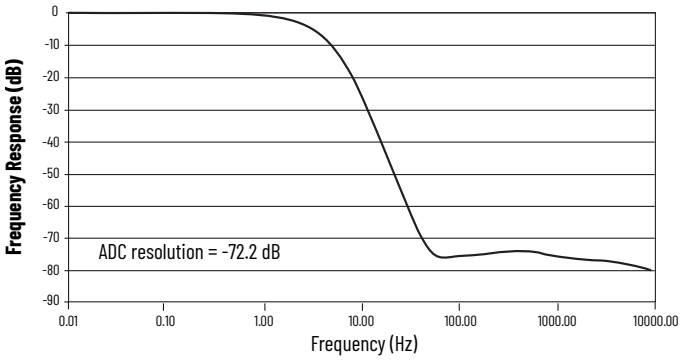
Frequency Response of Current Input with Filter = 1 Hz



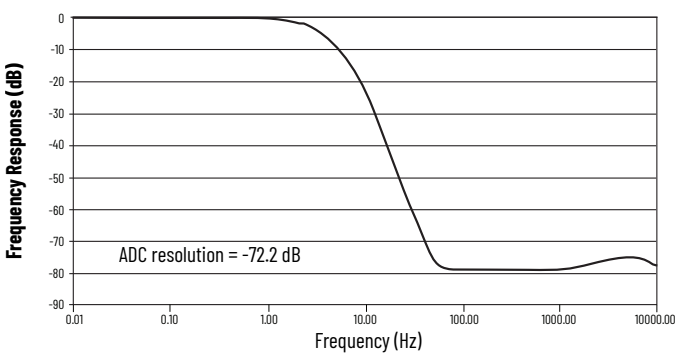
Frequency Response of Voltage Input with Filter = 1 Hz



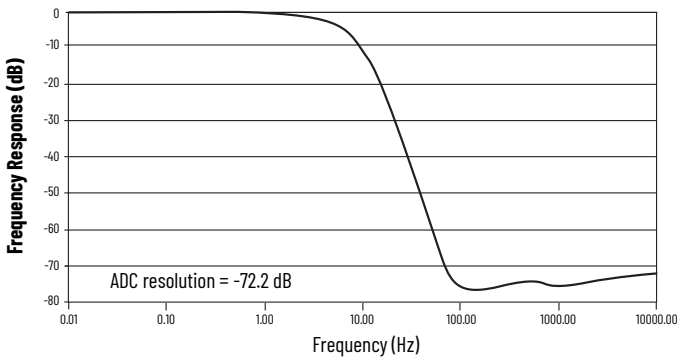
Frequency Response of Current Input with Filter = 5 Hz



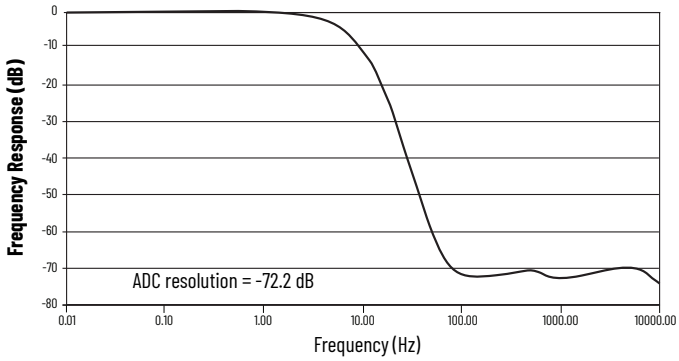
Frequency Response of Voltage Input with Filter = 5 Hz



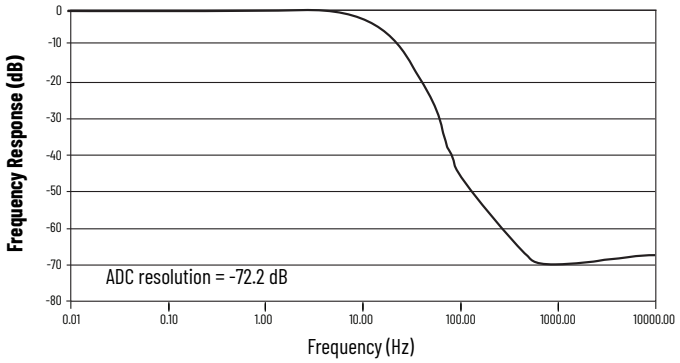
Frequency Response of Current Input with Filter = 10 Hz



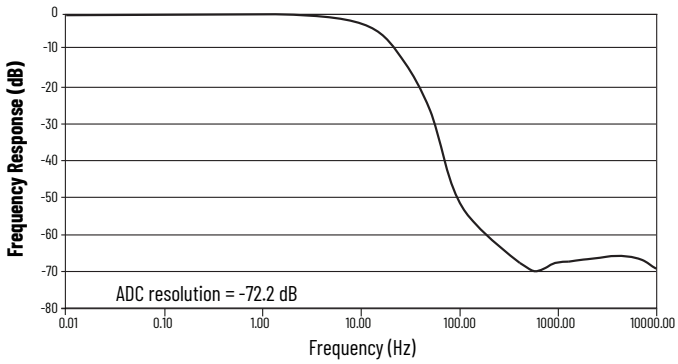
Frequency Response of Voltage Input with Filter = 10 Hz



Frequency Response of Current Input with Filter = 50 Hz

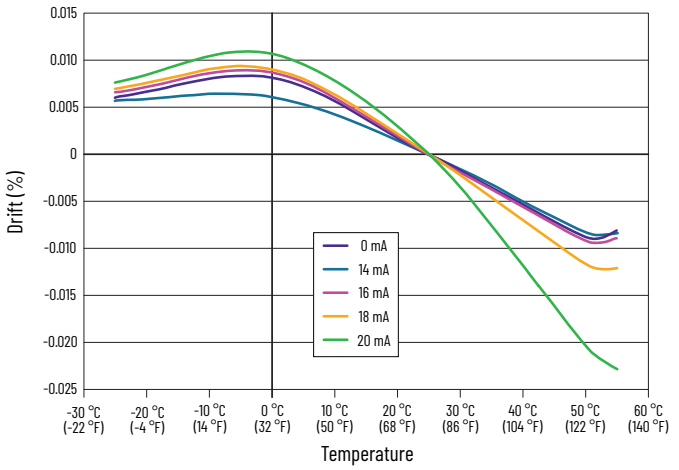


Frequency Response of Voltage Input with Filter = 50 Hz

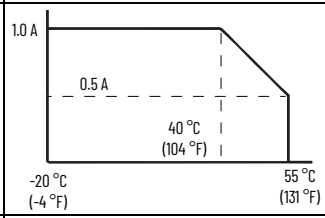
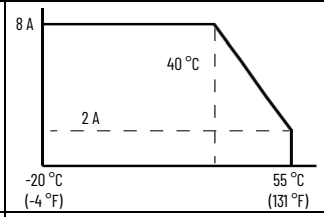


Drift and Temperature - 1734-IE4S, 1734-IE4SK

In Current mode, the accuracy drift of the 1734-IE4S and 1734-IE4SK modules is dependent on the temperature of the module and the amount of current being measured. This graph shows the drift of the module increases greatly when currents above 16 mA are measured. To help preserve the accuracy of the 1734-IE4S and 1734-IE4SK modules in Current mode, choose a sensor for your application that operates in the middle of its range and not at the outer limits.



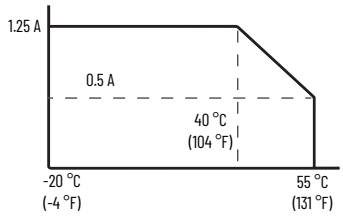
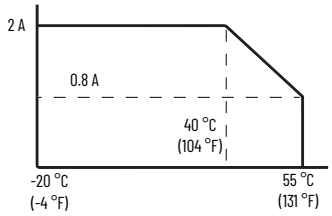
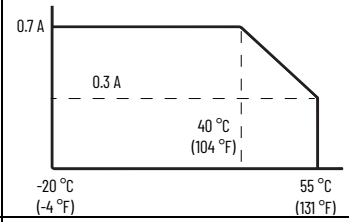
Specifications - 1734-OB8S, 1734-OB8SK

Attribute	1734-OB8S, 1734-OB8SK
Safety Digital Output	
Outputs per module	8, current sourcing
Current, max (each output point/bipolar pair)	1 A @ 40 °C (104 °F) 0.5 A @ 55 °C (131 °F)
Temperature vs. current per output point/bipolar pair derating for both horizontal and vertical installations	
Current, aggregate of outputs/bipolar pairs per module[1]	8.0 A (4 A per terminal base) @ 40 °C (104 °F) 2.0 A (1 A per terminal base) @ 55 °C (131 °F)
Temperature vs. aggregate current per module/of bipolar pairs per module derating for both horizontal and vertical installations[2]	
Current, leakage, max	0.1 mA
Voltage, on-state drop	0.165V
Pulse width	475 µs
Pulse period	575 ms
Maximum field capacitance limit permitted per output	950 nF
Short-circuit detection	Yes (short high and low, and cross-circuit fault detection)
Short-circuit protection	Electronic
Reaction time	<6.2 ms
POINTBus	
POINTBus current, max	125 mA
Power dissipation, max[3]	3.5 W
Power dissipation, typical[4]	2.5 W
Thermal dissipation, max	11.96 BTU/hr
Isolation voltage	50V (continuous), Basic Insulation Type between field side and system, No isolation between individual channels Tested according to UL 61010-1
Power bus, operating supply voltage, nom[2]	24V DC
Power bus, operating voltage range[2]	19.2...28.8V DC, SELV/PELV 150VA max
Power bus current, max (No Load)	50 mA

(1) To comply with UL certification requirements, field power must be supplied from one SELV/PELV-compliant power supply that limits available field power to 150VA. Therefore, the aggregate current of outputs per module is limited to a maximum set by the 150V A limit, unless derated further as shown.
(2) For detailed power supply requirements, see Select Power Components on page 41.
(3) Maximum power dissipation applies when using 28.8V DC module supply and maximum power that is dissipated for all eight outputs in the ON state.
(4) Typical power dissipation applies when using a 24V DC module supply and nominal power that is dissipated with all eight outputs in the ON state.

For POINTGuard I/O module Certifications, see Table 13.
For POINTGuard I/O module Environmental Specifications, see Table 14.

Specifications - 1734-OBV2S, 1734-OBV2SK

Attribute	1734-OBV2S, 1734-OBV2SK
Safety Digital Output	
Outputs per module	4 (2 bipolar pairs), current sourcing/current sinking
Current (each output point/bipolar pair), max	1.25 A @ 40 °C (104 °F) 0.5 A @ 55 °C (131 °F)
Temperature vs. current per output point/bipolar pair derating for both horizontal and vertical installations	
Current, aggregate of outputs/bipolar pairs per module[1]	2.0 A @ 40 °C (104 °F) 0.8 A @ 55 °C (131 °F)
Temperature vs. aggregate current per module/of bipolar pairs per module derating for both horizontal and vertical installations[2]	
Current rating, sensor power supply, V and C terminals	0.7 A max per point at 40 °C (104 °F) 0.3 A max per point at 55 °C (131 °F)
Temperature versus sensor power current derating, per terminal	
Current, leakage, max	1.0 mA
Voltage, on-state drop	0.33V (per bipolar pair)
Pulse width	475 µs
Pulse period	575 ms
Maximum field capacitance limit permitted per output	950 nF
Short-circuit detection	Yes - Short high and low, and cross-circuit fault detection
Short-circuit protection	Electronic
Reaction time	<6.2 ms

Specifications - 1734-OBV2S, 1734-OBV2SK (Continued)

Attribute	1734-OBV2S, 1734-OBV2SK
POINTBus	
POINTBus current, max	125 mA
Power dissipation, max[3]	3.1 W
Power dissipation, typical[4]	2.2 W
Thermal dissipation, max	10.59 BTU/hr
Isolation voltage	50V (continuous), Basic Insulation Type between field side and system, No isolation between individual channels Tested according to UL 61010-1
Power bus, operating supply voltage, nom[2]	24V DC
Power bus, operating voltage range[2]	19.2...28.8V DC, SELV/PELV 150VA max
Power bus current, max (No Load)	65 mA
Pilot duty rating	DC-13, DC-14 Inrush Electronically limited 1.8 A

(1) To comply with UL certification requirements, field power must be supplied from one SELV/PELV-compliant power supply that limits available field power to 150VA. Therefore, the aggregate current of outputs per module is limited to a maximum set by the 150V A limit, unless derated further as shown.
(2) For detailed power supply requirements, see Select Power Components on page 41.
(3) Maximum power dissipation applies when using 28.8V DC module supply and maximum power that is dissipated for all eight outputs in the ON state.
(4) Typical power dissipation applies when using a 24V DC module supply and nominal power that is dissipated with all eight outputs in the ON state.

For POINTGuard I/O module Certifications, see Table 13.
For POINTGuard I/O module Environmental Specifications, see Table 14.

Specialty I/O Modules

Table 15 - Certifications - POINT I/O Specialty Modules

Certification[1]	1734-CTM	1734-VTM	1734-ARM	1734-IJ, 1734-IK, 1734-IKK 1734-SSI, 1734-SSIK 1734-VHSC24, 1734-VHSC5	1734-4IOL, 1734-4IOLK	1734-232ASC 1734-485ASC, 1734-485ASCK
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.				UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E322657. UL Listed for Class I Division 2, Group A, B, C, D Hazardous Locations, certified for U.S. and Canada. See UL File E334470.	
UKCA and CE	–	–	UK Statutory Instrument 2016 No. 1091 and 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			
		UK Statutory Instrument 2016 No. 1101 and European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)	–			
	UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000; Technical documentation					
Ex	–			UK Statutory Instrument 2016 No. 1107 and European Union 2014/34/EU ATEX Directive, compliant with: EN IEC 60079-0; General Requirements EN IEC 60079-7; Explosive Atmospheres, Protection “e” II 3G Ex ec IIC T4 Gc DEMKO 04 ATEX 0330347X UL 22 UKEX 2478X		–
IECEx				IECEx System, compliant with: IEC 60079-0; General Requirements IEC 60079-7; Explosive Atmospheres, Protection “e” II 3G Ex ec IIC T4 Gc IECEx UL 20.0072X		–
RCM	–		Australian Radiocommunications Act compliant with: AS/NZS CISPR11; Industrial Emissions			
KC			Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3			
Morocco			Arrêté ministériel n° 6404-15 du 29 ramadan 1436		–	Arrêté ministériel n° 6404-15 du 29 ramadan 1436
			Arrêté ministériel n° 6404-15 du 1 er muharram 1437	–		
CCC	–			CNCA-C23-01 强制性产品认证实施规则 防爆电气 CNCA-C23-01 CCC Implementation Rule Explosion-Proof Electrical Products CCC: 2020122309111607		–

(1) When product is marked. See the Product Certification link at rok.auto/certifications for Declaration of Conformity, Certificates, and other certification details.

Table 16 - Environmental Specifications - POINT I/O Specialty Modules

Attribute	1734-232ASC, 1734-485ASC, 1734-485ASCK,	1734-SSI, 1734-SSIK,	1734-IJ 1734-IK, 1734-IKK	1734-VHSC24, 1734-VHSC5	1734-4IOL, 1734-4IOLK	1734-ARM	1734-CTM, 1734-VTM
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 °C ≤ Ta ≤ +55 °C (-4 °F ≤ Ta ≤ +131 °F)					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)	
Temperature, surrounding air max	55 °C (131 °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): 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	IEC 61000-6-4	CISPR 11 (IEC 61000-6-4) Class A		IEC 61000-6-4		CISPR 11 (IEC 61000-6-4) Class A	–
ESD immunity	IEC6100-4-2: 6 kV contact discharges 8 kV air discharges						–

Table 16 - Environmental Specifications - POINT I/O Specialty Modules (Continued)

Attribute	1734-232ASC, 1734-485ASC, 1734-485ASCK,	1734-SSI, 1734-SSIK,	1734-IJ 1734-IK, 1734-IKK	1734-VHSC24, 1734-VHSC5	1734-4IOL, 1734-4IOLK	1734-ARM	1734-CTM, 1734-VTM
Radiated RF immunity	IEC 61000-4-3: 10V/m with 1 kHz sine wave 80% AM from 80...6000 MHz				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 10V/m with 1 kHz sine wave 80% AM from 2000...2700 MHz	IEC 61000-4-3: 10V/m with 200 Hz 50% pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% pulse 100% AM @ 1890 MHz 10V/m with 1 kHz sine wave 80% AM from 30 MHz to 2000...2700 MHz	–
EFT/B immunity	IEC 61000-4-4: ±2 kV @ 5 kHz on communication ports	IEC 61000-4-4: ±3 kV @ 5 kHz on signal ports	IEC 61000-4-4: ±4 kV @ 2.5 kHz on signal ports	IEC 61000-4-4: ±3 kV @ 5 kHz on signal ports	IEC 61000-4-4: ±2 kV @ 5 kHz on power ports ±2 kV @ 5 kHz on signal ports	–	
Surge transient immunity	IEC 61000-4-5: ±2 kV line-earth (CM) on communication ports	IEC 61000-4-5: ±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports ±2 kV line-earth (CM) on communication ports	IEC 61000-4-5: ±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports			–	
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine wave 80% AM from 150 kHz...80 MHz					–	
North American temp code	T4A				–	–	T5
UKEX/ATEX temp code	–	T4			T4	–	–
IECEx temp code		T4			–		
Enclosure type rating	None (open-style)						
Mounting type	DIN rail						

Serial Interface Modules

1734-232ASC, 1734-485ASC, 1734-485ASCK

The serial interface modules offer an interface solution for peripheral products with serial ports. These modules allow a device with serial interface output, like barcode readers, to communicate up to 128 bytes of ASCII data to any network supported by the POINT I/O system.

Specifications - POINT I/O ASCII Modules

Attribute	1734-232ASC	1734-485ASC, 1734-485ASCK
Number of serial channels	1, full-duplex	
Supported serial ports	RS-232	RS-422, RS-485
Data rate, max	38.4 Kbps	
Input voltage range - Signal Ground (SG)	"0", asserted, ON, space, active: 3…25V DC "1", unasserted, OFF, mark, inactive: -3…-25V DC	
Field power supply voltage, nom	24V DC	
Field power voltage range, max	10…28.8V DC	
Field power supply current, max	15 mA @ 24V DC, fault protected to 28.8V DC	
POINTBus current, max	75 mA @ 5V DC	
Power dissipation, max	0.75 W @ 28.8V DC	
Thermal dissipation, max	2.5 BTU/hr @ 28.8V DC	
Isolation voltage	Type tested at 2200V DC for 60 s No isolation between individual channels	
Terminal base unit	1734-TB or 1734-TBS	
Wiring category(1)	2 - on communication ports	
Keyswitch position	2	
Serial Port Parameters		
Serial character framing	7N2, 7E1, 701, 8N1, 8N2, 8E1, 801, 7E2, 702	
Serial port communication speed	1200 bps, 2400 bps, 4800 bps, 9600 bps, 19.2 kbps, 38.4 kbps	
Serial Port Receive from ASCII Device		
Number of receive chars, max	1…128	
Receiver record start mode	No, exclude, include start delimiter	
Receive start delimiter	ASCII character	
Receive record end mode	No, exclude, include end delimiter	
Receive end delimiter	ASCII character	
Send (Produce) on DeviceNet to Leader		
Receive string data type	Array, short_string, string	
Pad mode	Pad mode disabled, enabled	
Pad character	ASCII character	
Receive swap mode	Disabled, 16-bit, 24-bit, 32-bit swap	
DeviceNet handshake mode	Leader/follower handshake, produce immediate	
Produce assembly size	4…132	
Serial data size	0…128 bytes	
Receive transaction ID	0…255	
Serial Port Transmit to ASCII Device		
Number of transmit chars, max	1…128	
Transmit end delimiter mode	No, exclude, include end delimiter	
Transmit end delimiter character	ASCII character	
Consume on DeviceNet from Leader		
Consume string data type	Array, short_string, string	
Transmit swap mode	Disabled, 16-bit, 24-bit, 32-bit swap	
DeviceNet record header mode	Transmit handshake/immediate	
Consume assembly size	4…132	
Serial Port Transmit/Explicit Messages		
Transmit serial data string size	0…128 bytes	
Transmitted serial data length	0…128 bytes	
Transmit transaction ID	0…255	
Status	TX FIFO overflow, RX FIFO overflow, RX parity error, handshake error, new data flag	

(1) Use this conductor category information to plan conductor routing. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

1734-SSI

The serial synchronous interface (SSI) module collects serial data from industrial absolute-position encoding sensors that use the standard SSI protocol.

Specifications - POINT I/O SSI Module

Attribute	1734-SSI, 1734-SSIK
Number of SSI channels	1
Field power supply voltage, nom	10…28.8V DC @ 450 mA
Field power supply voltage range	24V DC @ 450 mA
Power dissipation, max	0.94 W
Isolation voltage	50V (continuous), Basic insulation Type tested at 1250V AC for 60 s, field to system
Terminal base unit	1734-TB or 1734-TBS
Wiring category(1)	1 - on signal ports
Keyswitch position	2
Encoder type	Any absolute encoder that supports standard SSI protocol including linear, rotary, and optical distance devices Most-Significant Bit Aligned data format Physical interface for clock and data signals is RS-422
SSI data rate	125 kHz, 250 kHz, 500 kHz, 1 MHz, 2 MHz (software selectable)
SSI bits per word	2…31 (software selectable)
SSI word length	4 bytes (32 bits)
SSI word delay time(2)	16…65,535 µs (software selectable)
SSI features	Gray or binary code capable with gray to binary conversion, increasing or decreasing SSI count indication, 2 SSI word comparator values, SSI word latching with I1 input
SSI position forming time(3)	≥ 0.5 ms
SSI cable type	UL CM/AWM 2464/CSA Type CMG FT4 or similar cable that uses shielded twisted pairs for D± and C± connections. You can wire the I1 input separately from the SSI cable.
SSI cable length, based on desired data rate	125 kHz - 320 m (1050 ft) 250 kHz - 160 m (525 ft) 500 kHz - 60 m (195 ft) 1 MHz - 20 m (65 ft) 2 MHz - 8 m (25 ft)
SSI sensor power	450 mA, 10…28.8V DC
SSI clock drive current, max (out of C+/- terminals)	125 mA
Input I1 category/type	IEC Type 3 voltage and current characteristics, sourcing type
Voltage, on-state range	0…(Field supply voltage minus 10V)V DC
Voltage, off-state, min	Field supply voltage minus 5V
Voltage, off-state, max	Equal to the field supply voltage
Current, on-state, nom	4 mA (Field supply voltage = 24V DC)
Current, on-state range	2…5 mA
Current, off-state, max	1.2 mA
Input impedance, nom	3.6 kΩ
Input impedance, max	4.7 kΩ
Input filter time, nom	0.5 ms

(1) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.
(2) Time between successive SSI words (Tp) - Also called Dwell Time.
(3) Corresponds to the expected maximum time at which the SSI sensor outputs a particular position value while in motion. To use sensors that forms position times faster, change the SSI Word Filter Control parameter from its default value of 5 (max). This change sacrifices electrical noise environment performance for sensor data conversion speed.

For specialty module Certifications, see Table 15.
For specialty module Environmental Specifications, see Table 16.

Address Reserve Module

1734-ARM

The address reserve module holds addresses and slot numbers to maintain the numbering schemes of purchased I/O module sets. Non-parameterized, signal module's structure and address location are retained when replaced with a signal module. The 1734-ARM has no module configuration and does not communicate I/O data.

Specifications - 1734-ARM

Attribute	1734-ARM
POINTBus current. max	75 mA @ 5V DC
Power dissipation, max	0.375 W @ 5V DC
Thermal dissipation, max	1.3 BTU/hr @ 5V DC
Isolation voltage	Type tested at 2200V DC for 60 s No isolation between individual channels
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS
Keyswitch position	Use the keyswitch position of the removed module

For specialty module Certifications, see Table 15.
For specialty module Environmental Specifications, see Table 16.

Common Terminal and Voltage Terminal Modules

1734-CTM and 1734-VTM

The POINT I/O common terminal and voltage terminal modules expand the termination capability of POINT I/O. Use the common and voltage terminal modules to provide external connections to 8-channel POINT I/O modules and to manage the wiring from field devices to the POINT I/O system.

Specifications - POINT I/O Terminal Modules

Attribute	1734-CTM	1734-VTM
POINTBus current, max	–	
Power dissipation, max	–	
Thermal dissipation, max	9.50 BTU/hr @ 28.8V DC	
Isolation voltage	250V (continuous), basic insulation Type tested at 1600V DC for 60 s, field-side to system	
Field power supply voltage range	10...28.8V DC, 120/240V AC	
Field power supply current, max	2 A per point, 4 A module	
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS	
Keyswitch position	5	

4 Channel IO-Link Master Module

1734-4IOL

The POINT I/O 4 channel IO-Link master module provides four channels that can be individually configured as IO-Link master or as a standard digital I/O module. The IO-Link channel master module can be configured to fit any IO-Link and/or discrete application.
In IO-Link master mode, the module supports four channels for IO-Link master communication with IO-Link compatible devices. In standard digital I/O mode, the module supports four channels of digital input or output. Digital input channels support IEC61131-2 type 1 input. Channels can also be disabled if not in use.

Specifications - 1734-4IOL

Attribute	1734-4IOL
Number of inputs/outputs	4 single-ended, non-mutual isolated, configurable
Communication rate, IO-Link	4.8 kB; 38.4 kB; 230.4 kB
Device cable length, IO-Link, max	20 m (65.6 ft)
POINTBus current, max	100 mA @ 5V DC
Power dissipation, max	1.5 W @ 28.8V DC
Thermal dissipation, max	5.12 BTU/hr @ 28.8V DC
Field power bus supply, nom	24V DC
Field power bus supply range	19.2...28.8V DC
Isolation voltage	50V (continuous), basic insulation Type tested at 2121V DC for 60 s, field-side to system No isolation between individual channels
Terminal base unit	1734-TB, 1734-TBS, 1734-TB3, 1734-TB3S, 1734-TOP, 1734-TOPS, 1734-TOP3, or 1734-TOP3S
Wiring category(1)	2 - on signal ports
Keyswitch position	2
Standard Digital Input	
Backplane power	5V DC, 100 mA
Input ratings	24V DC, 12 mA
Voltage, on-state, min	11V DC
Voltage, off-state, max	5V DC
Current, on-state, min	2.0 mA
Current, on-state, max	7.0 mA
Current, off-state, min	1.5 mA
Input filter, On-to-Off and Off-to-On	0...65 ms Each input is set independently in 1 ms intervals Default = 1 ms
Standard Digital Output	
Backplane power	5V DC, 100 mA
Output ratings	Per channel: 24V DC, 0.15 A Per module, max: 24V DC, 0.6 A
Voltage, on-state, nom	24V DC
Voltage, on-state range	19.2V DC...28.8V DC
Voltage drop, on-state, max	0.9V DC
Current, on-state, max	150 mA
Current leakage, off-state, max	0.5 mA
Current, all outputs, max	600 mA
Surge current, max	0.3 A for 10 ms, repeatable every 3 s

(1) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

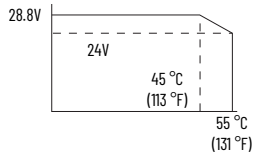
For specialty module Certifications, see Table 15.
For specialty module Environmental Specifications, see Table 16.

Counter Modules

The POINT I/O counter modules serve as signal conditioners and function blocks (counters) between the customer process signals on the mounting base and the POINTBus backplane that contains the command information. The three main functional blocks are the customer digital I/O interface, the counter ASIC, and the microprocessor.	
Accept feedback from:	• Encoders (either single-ended or differential) • Pulse generators • Mechanical limit switches • Frequencies up to 1 MHz
Available filter settings:	50 Hz, 500 Hz, 5 kHz, 50 kHz The filter can be turned off to achieve the fastest counting rate.
The modules return the count or frequency in the form of a 24-bit binary number (0...16,777,215) expressed in a 32-bit word. Each counter has a user-selectable preset and rollover value that is associated with it.	
Modes of operation:	• Counter mode — Read incoming single-phase pulses, return a binary count. • Encoder mode — Read incoming two-phase quadrature pulses, return a binary count. • Period/rate mode — Count internal clocks during the on period, return a frequency (1734-VHSC24 and 1734-VHSC5 outputs are updated only at the end of the period). • Continuous/rate mode — Count internal clocks during the on period, return a frequency (1734-VHSC24 and 1734-VHSC5 outputs are updated continuously during this period). • Rate measurement mode — Read pulses during the sample period, return a frequency. • Pulse-width modulation (PWM) mode — Generate a pulse width modulated signal (1734-VHSC24 and 1734-VHSC5 only). • Pulse generator mode — Generates a pulse of defined width, returns width, and quantity of trigger (1734-VHSC24 and 1734-VHSC5 only).
The operation of the counter and encoder modes is nearly identical. The difference between the two modes is in the type of feedback (one-phase versus two-phase) for the count direction (up or down). In encoder mode, a transition is expected on B for counting to proceed in a direction. In counter mode, the B input can be left at a static level. All operating modes are selected by writing appropriate configuration data to the module.	

1734-IJ, 1734-IK, 1734-IKK

Specifications - POINT I/O Incremental Encoder Modules

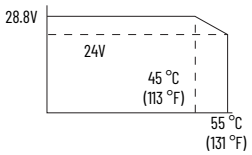
Attribute	1734-IJ	1734-IK, 1734-IKK
Number of inputs	1 (1 group of A/A return, B/B return and Z/Z return)	
Voltage, input	5V DC	15...24V DC
Voltage, on-state input, min	≥ 2.6V DC	≥ 12.5V DC
Voltage, on-state input, max	±6V	
Voltage, off-state input, max	≤ 1.25V DC	≤ 1.8V DC
Current, input	19.1 mA @ 5V DC 25.7 mA @ 6V DC	6.1 mA @ 15V DC or 10.2 mA @ 24V DC
Current, on-state input, min	≥ 5 mA	
Current, off-state input, max	≤ 0.250 mA	
Input filter selections, per A/B/Z group	Off 10 µs (50 kHz) 100 µs (5 kHz) 1.0 ms (500 Hz) 10.0 ms (50 Hz)	
Input frequency, max	1.0 MHz counter and encoder X1 configurations 500 kHz encoder X2 configuration (no filter) 250 kHz encoder X4 configuration (no filter)	
POINTBus current, max	160 mA	
Power dissipation, max	1.1 W @ rated load	1.5 W @ rated load
Thermal dissipation, max	3.75 BTU/hr @ rated load	5.1 BTU/hr @ rated load
Isolation voltage	50V Type tested at 1100V DC for 60 s, field-side to system	
External DC power supply	No additional external power required	
Terminal base unit	1734-TB, 1734-TBS, 1734-TB3, or 1734-TB3S	
Wiring category(1)	1 - on signal ports	
Keyswitch position	2	

(1) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

For specialty module Certifications, see Table 15.
For specialty module Environmental Specifications, see Table 16.

1734-VHSC24, 1734-VHSC5

Specifications - POINT I/O Very High Speed Counter Modules

Attribute	1734-VHSC24	1734-VHSC5
POINTBus current, max	180 mA	
Power dissipation, max	1.9 W @ rated load	1.5 W @ rated load
Thermal dissipation, max	6.5 BTU/hr @ rated load	5.1 BTU/hr @ rated load
Isolation voltage	50V (continuous), Basic insulation Type tested at 1100V DC for 60 s, field-side to system	
External DC power supply	No additional external power required - It does not represent the power that is required to supply outputs.	
Field power bus supply, nom	24V DC	
Field power bus supply range	10...28.8V DC	
Terminal base unit	1734-TB or 1734-TBS	
Keyswitch position	2	
Input Specifications		
Number of inputs	1 (1 group of A/A return, B/B return and Z/Z return)	
Voltage, input	24V DC	5V DC
Voltage, on-state, min	≥ 12.5V DC	≥ 2.6V DC
Voltage, on-state, max		±6V
Voltage, off-state, max	≤1.8V DC	≤1.25V DC
Current, input	6.1 mA @ 15V DC 10.2 mA @ 24V DC	19.1 mA @ 5V DC 25.7 mA @ 6V DC
Current, on-state, min	≥5 mA	
Current, off-state, max	≤0.250 mA	
Input filter selections	Off 10 µs (50 kHz) 100 µs (5 kHz) 1.0 ms (500 Hz) 10.0 ms (50 Hz)	
Input frequency, max	1.0 MHz counter and encoder X1 configurations 500 kHz encoder X2 configuration (no filter) 250 kHz encoder X4 configuration (no filter)	
Output Specifications		
Number of outputs	1 isolated group of 2 capable of 0.5 A @24V DC	
Output control	Outputs can be tied to any of four compare windows	
Voltage, output	10...28.8V DC	
Voltage, on-state, drop	≤0.3V DC @ 0.5 A	
Current, on-state	0.5 A max, Pilot Duty	
Current, off-state, leakage	≤0.5 mA	
Current, short-circuit(1)	6 A	
Open-wire detection	Open wire is detected when the output turns off.	
Output delay(2) Off-to-On On-to-Off	 25 µs (load dependent) 150 µs (load dependent)	

(1) Outputs are short-circuit protected in either cycle until you correct the fault or latch off, dependent on the programming. Short circuit is detected when the output turns on.
(2) Off-to-On delay is the time from a valid output "On" signal to when the output is powered. On-to-Off delay is the time from a valid output "Off" signal to when power is removed from the output.

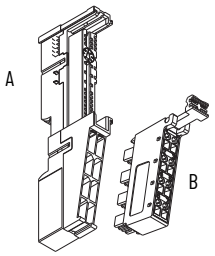
For specialty module Certifications, see Table 15.
For specialty module Environmental Specifications, see Table 16.

The POINT I/O terminal base mounts directly onto a DIN rail, either vertically or horizontally, and forms the interconnect for the POINTBus backplane communication and field power-bus distribution. The mechanical keying of the terminal base helps prevent incorrect module placement.

Terminal Base Assembly

The I/O mounting base and RTB are sold together as one unit called a Terminal Base Assembly.

Each assembly includes an RTB that provides 8 or 12 separate terminal locations for field wiring. The RTB also provides vertical access to wire and screw terminations. A separate terminal point is provided for each wire, including a shield ground terminal point for 2-point analog modules.



Each terminal base assembly includes a base (A) that mounts onto the DIN rail and a removable terminal block (B) for I/O wiring.

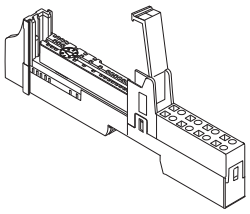
Once the RTB is wired properly, you never need to rewire terminations. The RTB separates from the I/O mounting base and I/O module to facilitate rapid installation and commissioning of the system. Each terminal is numbered on the bottom of the RTB to simplify troubleshooting. Spare or replacement RTBs are available.

Cat. No.	Description	Replacement RTB Cat. No.
1734-TB	Mounting base with 8-terminal screw-clamp RTB	1734-RTB
1734-TBS	Mounting base with 8-terminal spring-clamp RTB	1734-RTBS
1734-TB3	Mounting base with 12-terminal screw-clamp RTB	1734-RTB3
1734-TB3S	Mounting base with 12-terminal spring-clamp RTB	1734-RTB3S
1734-TBCJC(1)	Mounting base with cold junction compensation RTB	1734-RTBCJC

(1) For use with the 1734-IT2I thermocouple input module only.

One-piece Terminal Bases

The POINT I/O one-piece terminal base is a mounting base with an integrated terminal block.



Cat. No.	Description
1734-TOP	8-terminal screw-clamp terminal base
1734-TOPS	8-terminal spring-clamp terminal base
1734-TOP3	12-terminal screw-clamp terminal base
1734-TOP3S	12-terminal spring-clamp terminal base

Terminal Base Pins

1734-TB, 1734-TBS, 1734-TOP, 1734-TOPS

0	1
2	3
4	5
6	7

The pins on bases with 8 terminals are independent of each other.

1734-TBCJC

	3
4	5
6	7

1734-TB3, 1734-TB3, 1734-TOP3, 1734-TOP3S

0	1
2	3
4	5
6	7
8	9
10	11

For the 1734-TB3 and 1734-TB3S modules:
Pins 4, 5, 8, and 9 are internally shorted.
Pins 6, 7, 10, and 11 are internally shorted.

For 1734-TOP3 and 1734-TOP3S modules:
Pins 4 and 8 are internally shorted.
Pins 5 and 9 are internally shorted.
Pins 6 and 10 are internally shorted.
Pins 7 and 11 are internally shorted.

Technical Specifications - POINT I/O Terminal Bases

Attribute	1734-TB 1734-TB3	1734-TBS 1734-TB3S 1734-TOPS 1734-TOP3S	1734-TOP 1734-TOP3	1734-TBCJC
Field power bus supply voltage, max	28.8V DC, 120/240V AC			
Field power bus supply current, max	10 A			
Signal terminal voltage	28.8V DC, 120V/240V AC			–
Signal terminal current	2 A			–
Enclosure type rating	None (open-style)			
Terminal base screw torque	0.8 N•m (7 lb•in)	–	0.4 N•m (3.5 lb•in)	0.5…0.6 N•m (5…7 lb•in)
Wire type	Solid or stranded shielded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max			Shielded thermocouple wire, 1.2 mm (3/64 in.) insulation max

Wiring without Wire End Ferrule – 1734-RTB, 1734-RTBS

Cat. No.	Wire Size Range	Number of Wires	Strip Length
			8-position RTB
1734-RTB	0.25…2.5 mm² (24…14 AWG)	1	16 ± 1 mm (0.63 ± 0.03 in.)
1734-RTBS	0.08…2.5 mm² (28…14 AWG)		
1734-RTB 1734-RTBS	0.75 mm² (18 AWG)	2(1)	18 ± 1 mm (0.71 ± 0.03 in.)

(1) For two wires per cavity, only stranded wire can be used.

Wiring with Wire End Ferrule – 1734-RTB, 1734-RTBS

Cat. No.	Wire Size Range(1)	Number of Wires	Strip Length(2)	Sleeve Length(3)(4)
			12-position RTB	
1734-RTB	0.50…1.0 mm² (20…17 AWG)	1	12.5 ± 0.4 mm (0.49 ± 0.016 in.)	10 mm (0.393 in.)
1734-RTBS	0.75…1.5 mm² (18…16 AWG)		14.5 ± 0.4 mm (0.57 ± 0.016 in.)	12 mm (0.47 in.)
	0.50 (20 AWG)		12.5 ± 0.4 mm (0.49 ± 0.016 in.)	10 mm (0.393 in.)

(1) Wire size = 0.325 mm² (22 AWG) is not included in the DIN 46228-4 standard.
(2) Ferrule stripping length: See the ferrule manufacturer's guidelines to determine the actual wire stripping length. Ensure that the tolerance does not exceed ± 0.4 mm (± 0.016 in.), or follow the manufacturer's specified range if it is smaller.
(3) TWIN wire end ferrules are not recommended for wiring.
(4) Recommended wire end Ferrule with insulating collar, in accordance with DIN 46228-4 and UL 486F.

Wiring without Wire End Ferrule – 1734-RTB3, 1734-RTB3S

Cat. No.	Wire Size Range	Number of Wires	Strip Length
			12-position RTB
1734-RTB3	0.25…2.5 mm² (24…14 AWG)	1	14 ± 1 mm (0.55 ± 0.03 in.)
1734-RTB3S	0.08…2.5 mm² (28…14 AWG)		
1734-RTB3 1734-RTB3S	0.75 mm² (18 AWG)	2(1)	16 ± 1 mm (0.63 ± 0.03 in.)

(1) For two wires per cavity, only stranded wire can be used.

Wiring with Wire End Ferrule – 1734-RTB3, 1734-RTB3S

Cat. No.	Wire Size Range(1)	Number of Wires	Strip Length(2)	Sleeve Length(3)(4)
			12-position RTB	
1734-RTB3	0.50…1.0 mm² (20…17 AWG)	1	12.5 ± 0.4 mm (0.49 ± 0.016 in.)	10 mm (0.393 in.)
1734-RTB3S	1.5 mm² (16 AWG)		12.5 ± 0.4 mm (0.49 ± 0.016 in.)	
	0.50…1.0 mm² (20…17 AWG)		10.5 ± 0.4 mm (0.413 ± 0.016 in.)	8 mm (0.315 in.)

(1) Wire size = 0.325 mm² (22 AWG) is not included in the DIN 46228-4 standard.
(2) Ferrule stripping length: See the ferrule manufacturer's guidelines to determine the actual wire stripping length. Ensure that the tolerance does not exceed ± 0.4 mm (± 0.016 in.), or follow the manufacturer's specified range if it is smaller.
(3) TWIN wire end ferrules are not recommended for wiring.
(4) Recommended wire end Ferrule with insulating collar, in accordance with DIN 46228-4 and UL 486F.

Wiring without Wire End Ferrule – 1734-TOP, 1734-TOPS, 1734-TOP3, 1734-TOP3S

Cat. No.	Wire Size Range	Number of Wires	Strip Length without Ferrule	
			8-position Wiring Block	12-position Wiring Block
1734-TOP 1734-TOPS 1734-TOP3 1734-TOP3S	0.25…2.5 mm² (24…14 AWG)	1	12 mm (0.47 in.)	12 mm (0.47 in.)

Wiring with Wire End Ferrule – 1734-TOP, 1734-TOPS, 1734-TOP3, 1734-TOP3S

Cat. No.	Wire Size Range[1]	Number of Wires	Strip Length[2]		Sleeve Length[3][4]
			8-position Wiring Block	12-position Wiring Block	
1734-TOP 1734-TOPS 1734-TOP3 1734-TOP3S	0.50…0.75 mm² (20…18 AWG)	1	14 mm (0.55 in.)	14 mm (0.55 in.)	12 mm (0.47 in.)
	1.0…1.5 mm² (17…16 AWG)		15 mm (0.59 in.)	15 mm (0.59 in.)	

(1) Wire size = 0.325 mm² (22 AWG) is not included in the DIN 46228-4 standard.
(2) Ferrule stripping length: See the ferrule manufacturer's guidelines to determine the actual wire stripping length. Ensure that the tolerance does not exceed ± 0.4 mm (± 0.016 in.), or follow the manufacturer's specified range if it is smaller.
(3) TWIN wire end ferrules are not recommended for wiring.
(4) Recommended wire end Ferrule with insulating collar, in accordance with DIN 46228-4 and UL 486F.

Wiring without Wire End Ferrule – 1734-RTBCJC

Cat. No.	Wire Size Range	Number of Wires	Strip Length
			8-position RTB
1734-RTBCJC	0.08…2.5 mm² (28…14 AWG)	1	14 ± 1 mm (0.55 ± 0.03 in.)
	0.75 mm² (18 AWG)	2[1]	16 ± 1 mm (0.63 ± 0.03 in.)

(1) For two wires per cavity, only stranded wire can be used.

Wiring with Wire End Ferrule – 1734-RTBCJC

Cat. No.	Wire Size Range[1]	Number of Wires	Strip Length[2]	Sleeve Length[3][4]
			12-position RTB	
1734-RTBCJC	0.50…1.0 mm² (20…17 AWG)	1	12.5 ± 0.4 mm (0.49 ± 0.016 in.)	10 mm (0.393 in.)

(1) Wire size = 0.325 mm² (22 AWG) is not included in the DIN 46228-4 standard.
(2) Ferrule stripping length: See the ferrule manufacturer's guidelines to determine the actual wire stripping length. Ensure that the tolerance does not exceed ± 0.4 mm (± 0.016 in.), or follow the manufacturer's specified range if it is smaller.
(3) TWIN wire end ferrules are not recommended for wiring.
(4) Recommended wire end Ferrule with insulating collar, in accordance with DIN 46228-4 and UL 486F.

Table 17 - Environmental Specifications - POINT I/O Terminal Bases and RTBs

Attribute	1734-TB, 1734-TBS	1734-TOP, 1734-TOPS, 1734-TOP3, 1734-TOP3S, 1734-TB3, 1734-TB3S 1734-RTB, 1734-RTBS, 1734-RTB3, 1734-RTB3S	1734-TBCJC
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)	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 °C ≤ Ta ≤ +55 °C (-4 °F ≤ Ta ≤ +131 °F)	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 °C ≤ Ta ≤ 55 °C (32 °F ≤ Ta ≤ 131 °F)
Temperature, surrounding air max	55 °C (131 °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): 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	–		IEC 61000-6-4
ESD immunity	–		IEC6100-4-2: 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 10V/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 power ports ±2 kV at 5 kHz on signal ports
Surge transient immunity	–		IEC 61000-4-5: ±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports
Conducted RF immunity	–		IEC61000-4-6: 10V rms with 1 kHz sine wave 80% AM from 150 kHz…80 MHz

Table 18 - Certifications - POINT I/O Terminal Bases and RTBs

Certification[1]	1734-TOP, 1734-TOPS 1734-TOP3, 1734-TOP3S	1734-TB, 1734-TBS 1734-RTB, 1734-RTBS 1734-RTB3, 1734-RTB3S	1734-TB3, 1734-TB3S	1734-TBCJC
c-UL-us	UL Recognized Component Industrial Control Equipment, certified for US and Canada.			Terminal blocks – Component UL recognized.
	See UL File E65584	See UL File E195367		See UL File E195367
UKCA and CE	–		UK Statutory Instrument 2016 No. 1091 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)	
	UK Statutory Instrument 2016 No. 1101 and European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)			
	UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000; Technical documentation			
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions			
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3			
Morocco	Arrêté ministériel n° 6404-15 du 1 er muharram 1437 Arrêté ministériel n° 6404-15 du 29 ramadan 1436			

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

All POINT I/O modules are powered from the POINTBus backplane by either an adapter or expansion power supply.

Category	Cat. No.	Page
Communication adapter with built-in power supply	1734-AENT, 1734-AENTR, 1734-ACNR, 1734-ACNRK, 1734-ADN, 1734-ADNX, 1734-APB, 1734-PDN	42
Expansion power supply	1734-EP24DC, 1734-EP24DCK, 1734-EPAC, 1734-EPACK	43
Field power distributor	1734-FPD	45

Place POINT I/O modules to the right of the adapter or expansion power supply until the usable backplane current of that supply is exhausted. The number of supported modules is dependent on these factors.

- The POINTBus output current of the adapter
- The POINTBus output current of the expansion power supply, if used
- The current requirement of each connected module

Use this table in the information in this section to plan the maximum size layout of your POINT I/O system.

Cat. No.		POINTBus Current Requirement
1734-IB4D		50 mA
1734-232ASC 1734-485ASC 1734-ARM 1734-IA2 1734-IB2 1734-IB4 1734-IB8 1734-IE2C 1734-IE2V 1734-IM2 1734-IV2 1734-IV4	1734-OA2 1734-OB2 1734-OB4 1734-OB8 1734-OB2E 1734-OB2EP 1734-OB4E 1734-OB8E 1734-OE2C 1734-OE2V 1734-OV2E 1734-OV4E	75 mA
1734-OW2		80 mA

Cat. No.	POINTBus Current Requirement
1734-OW4	90 mA
1734-4IOL 1734-8CFG 1734-8CFGDLX 1734-OX2	100 mA
1734-SSI	110 mA
1734-IJ2 1734-IK2	160 mA
1734-IT2I	175 mA
1734-VHSC5 1734-VHSC24	180 mA
1734-IR2	220 mA

POINT I/O Communication Adapters

POINT I/O communication adapters have built-in POINTBus power supplies (DC-DC).

Table 19 - Power Specifications - POINT I/O Communication Adapters

Attribute	1734-AENT, 1734-AENTK	1734-AENTR	1734-ACNR, 1734-ACRNK	1734-ADN, 1734-ADNK, 1734-ADNX(1)(2)	1734-APB	1734-PDN, 1734-PDNK(2)
Network	EtherNet/IP		ControlNet	DeviceNet	PROFIBUS DP	DeviceNet
ControlNet or DeviceNet Power Supply Specifications						
Input voltage rating	–		24V DC	24V DC	–	24V DC
Input voltage range			10...28.8V DC	11...25V DC		11...25V DC
Power requirements, max			24V DC (+4% = 25V DC) @ 400 mA	24V DC (+4% = 25V DC) @ 30 mA		24V DC (+4% = 25V DC) @ 400 mA
Input overvoltage protection			Reverse polarity protection			Reverse polarity protection
Power Supply Specifications						
Input voltage rating	24V DC @ 10 A		24V DC			–
Input voltage range	10...28.8V DC @ 1000 mA		10...28.8V DC			
Field side power requirement, max	400 mA @ 24V DC (+20% = 28.8V DC)		425 mA @ 24V DC (+20% = 28.8V DC)	400 mA @ 24V DC (+20% = 28.8V DC)		
Input overvoltage protection	Reverse polarity protection					
Interruption	Output voltage stays within specifications when input drops out for 10 ms @ 10V with maximum load					
Inrush current	6 A for 10 ms					6 A for 5 ms
General Specifications						
Power consumption, max	10.4 W @ 28.8V DC		8.1 W @ 28.8V DC			8.0 W @ 25V DC
Power dissipation, max	5.2 W @ 28.8V DC	6.3 W @ 28.8V DC	2.8 W @ 28.8V DC			1.2 W @ 25V DC
Thermal dissipation, max	17.75 BTU/hr @ 28.8V DC	21.5 BTU/hr @ 28.8V DC	9.5 BTU/hr @ 28.8V DC			4.1 BTU/hr @ 25V DC
Field side current load	24V DC @ 400 mA		24V DC (+20% = 28.8V DC) @ 400 mA	24V DC @ 400 mA	–	
Field power bus voltage	24V DC					120V or 240V AC(3)
Field power bus supply voltage range	10...28.8V DC					
Field power bus supply current, max	10 A					
Isolation voltage	50V (continuous), Reinforced insulation type, between all circuits Type tested at 500V AC for 60 s		50V (continuous), Basic insulation type, between all circuits Type tested at 750V AC for 60 s	50V (continuous), Type tested at 800V DC for 60 s	1250V rms/V AC	50V (continuous), Type tested at 2600V DC for 60 s
POINTBus output current, max	1.0 A @ 5V DC	0.8 A @ 5V DC	1.0 A @ 5V DC (±5% = 4.75...5.25V)			1.3 A @ 5V DC (±5% = 4.75...5.25V)
I/O module capacity, max	Up to 13 modules				Up to 14 modules	Up to 17 modules
Capacity with expansion power supplies, max	63 modules, up to 5 rack-optimized connections and/or enhanced rack-optimized connections(4)					Not supported
I/O module connection capacity, max	31 direct I/O connections 20 connections when safety I/O modules are installed		5 rack and 25 direct	Do not exceed scanner capacity		

(1) User-supplied power must be separate from DeviceNet power (and Subnet power for the 1734-ADNX).
(2) DeviceNet power must be supplied by a Class 2 source.
(3) The 1734-PDN complies with Ex when used at or below 120V or 240V AC.
(4) Rack-optimized connections are used for digital modules only. Enhanced rack-optimized connections are used for all module types: digital, analog, and specialty.

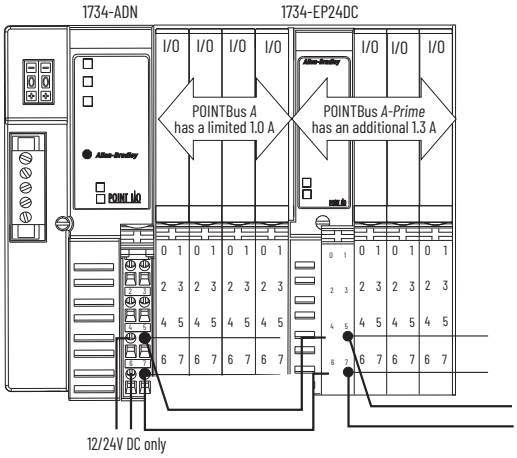
Expansion Power Supplies

The expansion power supplies provide these services:	• Separates the field power distribution at the left of the power supply from the field power distribution to the right of the power supply • Adds an additional 1.3 A of current to the POINTBus for I/O modules to the right of the power supply
The expansion power supplies have these features:	• The 1734-EP24DC expansion power supply passes 24V DC field power through the POINTBus backplane to the I/O modules to the right of it. It also converts 24V DC to 5V DC. • The 1734-EPAC expansion power supply passes 120/240V AC field power through the POINTBus backplane to the I/O modules to the right of it. It also converts 120/240V AC to 5V DC. • These power supplies extend the backplane bus power and create a field voltage partition segment to support field devices for up to 17 I/O modules. • The expansion power supplies maintain the integrity of the POINT I/O backplane because POINTBus data is not interrupted. • Separation of the field power distribution provides a functional and logical partition to: – Separate field power between input and output modules. – Separate field power to the analog and digital modules. – Group modules to perform a specific task or function.

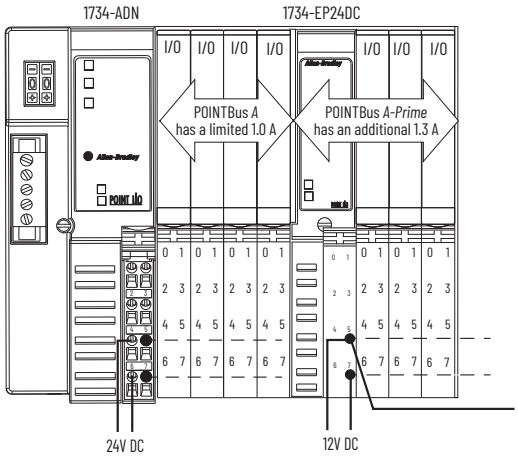
You can use multiple expansion power units with the 1734-ADN, 1734-ADNX, 1734-ACNR, 1734-AENT, and 1734-APB communication adapters(1) to add additional modules to a system. For example, for a 36 module system with a 1734-ADN adapter, add at least 2 expansion power units to provide more POINTBus current for modules to the right of the supply.

(1) Do not use the expansion power supplies with the 1734-PDN or 1734D series communication adapters.

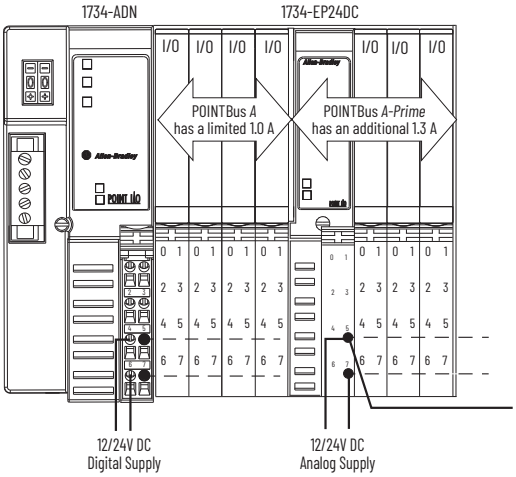
Continued Power to Field Devices Example



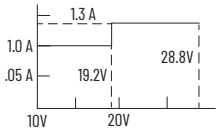
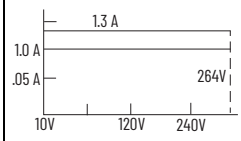
Logical Partition Example



Functional Partition Example



Technical Specifications - POINT I/O Expansion Power

Attribute	1734-EP24DC, 1734-EP24DCK	1734-EPAC, 1734-EPACK
I/O module capacity	4...17, dependent on the current rating of each module	
Input voltage rating, nom	24V DC	120/240V AC, 50...60 Hz
Input voltage range	10...28.8V DC range	85...264V DC range
Field side power requirements, max	24V DC (+20% = 28.8V DC) @ 400 mA	120V AC @ 200 mA 240V AC @ 100 mA
Inrush current, max	6 A for 10 ms	2 A for 6 ms
POINTBus output current rating		
Horizontal mounting	1.0 A @ 5V DC for 10...19.2V 1.3 A @ 5V DC for 19.2...28.8V	1.3 A @ 5.2V DC
Vertical mounting	1.0 A @ 5V DC for 10...28.8V input	1.0 A @ 5.2V DC
Current derating		
Overvoltage protection, inputs	Reverse polarity protected	MOV and fuse protected
Power supply interruption protection	Output voltage stays within specifications when input drops out for 10 ms @ 10V with maximum load.	Output voltage stays within specifications when input drops out for 10 ms @ 85V with maximum load.
Power consumption, max	9.8 W @ 28.8V DC	15.1 W @ 264V AC
Power dissipation, max	3.0 W @ 28.8V DC	8.4 W @ 264V AC
Thermal dissipation, max	10.0 BTU/hr @ 28.8V DC	28.7 BTU/hr @ 264V AC
Isolation voltage	50V (continuous), tested at 2600V DC for 60 s	264V (continuous), tested at 3250V DC for 60 s
Field power bus supply voltage, nom	24V DC	120...240V AC, 50...60 Hz
Field power supply voltage range	10...28.8V DC	85...264V AC
Field power supply current, max	10 A	
Voltage variation	–	30% dips for 1 period at 0° & 180° on AC supply ports 60% dips for 5 and 50 periods on AC supply ports ±10% fluctuations for 15 minutes on AC supply ports >95% interruptions for 250 periods on AC supply ports
Wiring category	2 - on power ports	1 - on power ports
Wire size	0.25...2.5 mm^2 (22...14 AWG) solid or stranded shielded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max	

Technical Specifications - POINT I/O Expansion Power (Continued)

Attribute	1734-EP24DC, 1734-EP24DCK	1734-EPAC, 1734-EPACK
Terminal base screw torque	0.8 N•m (7 lb•in)	
I/O module capacity, max	Up to 17	
Capacity with expansion power supplies, max	63	
I/O module connection capacity, max	Do not exceed scanner capacity	

Environmental Specifications - POINT I/O Expansion Power

Attribute	1734-EP24DC, 1734-EP24DCK	1734-EPAC, 1734-EPACK
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 °C ≤ Ta ≤ +55 °C (-4 °F ≤ Ta ≤ +131 °F)	-20...+55 °C (-4...+131 °F)
Temperature, surrounding air max	55 °C (131 °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): 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	IEC 61000-6-4	
ESD immunity	IEC6100-4-2: 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...6000 MHz	
EFT/B immunity	IEC 61000-4-4:	
	±2 kV @ 5 kHz on power ports ±2 kV @ 5 kHz on signal ports	±4 kV @ 5 kHz on power ports
Surge transient immunity	IEC 61000-4-5:	
	±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports	±1 kV line-line (DM) and ±2 kV line-earth (CM) on power ports
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine wave 80% AM from 150 kHz...80 MHz	
North American temp code	T4A	T3C
UKEX/ATEX temp code	T4	–
IECEx temp code	T4	
Enclosure type rating	None (open-style)	
Mounting type	DIN rail	

Certifications - POINT I/O Expansion Power

Certification[1]	1734-EP24DC, 1734-EP24DCK	1734-EPAC, 1734-EPACK
c-UL-us	UL Recognized Component Industrial Control Equipment, certified for US and Canada.	
	See UL File E65584.	See UL File E194810.
	UL Listed for Class I Division 2, Group A, B, C, D Hazardous Locations, certified for U.S. and Canada. See UL File E194810.	–

Certifications - POINT I/O Expansion Power (Continued)

Certification[1]	1734-EP24DC, 1734-EP24DCK	1734-EPAC, 1734-EPACK
UK and CE or CE	UK Statutory Instrument 2016 No. 1091 and European Union 2014/30/EU EMC Directive, compliant with:	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)	
	UK Statutory Instrument 2016 No. 1101 and European Union 2014/35/EU LVD, compliant with:	European Union 2014/35/EU LVD, compliant with:
	EN 61131-2; Programmable Controllers (Clause 11)	
	UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with:	European Union 2011/65/EU RoHS, compliant with:
	EN IEC 63000; Technical documentation	
Ex	UK Statutory Instrument 2016 No. 1107 and European Union 2014/34/EU ATEX Directive, compliant with: EN IEC 60079-0; General Requirements EN IEC 60079-7; Explosive Atmospheres, Protection "e" II 3G Ex ec IIC T4 Gc DEMKO 04 ATEX 0330347X UL 22 UKEX 2478X	–
IECEx	IECEx System, compliant with: IEC 60079-0; General Requirements IEC 60079-7; Explosive Atmospheres, Protection "e" II 3G Ex ec IIC T4 Gc IECEx UL 20.0072X	
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions	
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3	
Morocco	Arrêté ministériel n° 6404-15 du 29 ramadan 1436	–
CCC	CCC: 2020122309111607 CNCA-C23-01 强制性产品认证实施规则 防爆电气 CNCA-C23-01CCCImplementationRuleExplosion-Proof Electrical Products	
UKCA	2016 No. 1091 – Electromagnetic Compatibility Regulations 2016 No. 1101 – Electrical Equipment (Safety) Regulations 2012 No. 3032 – Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations	

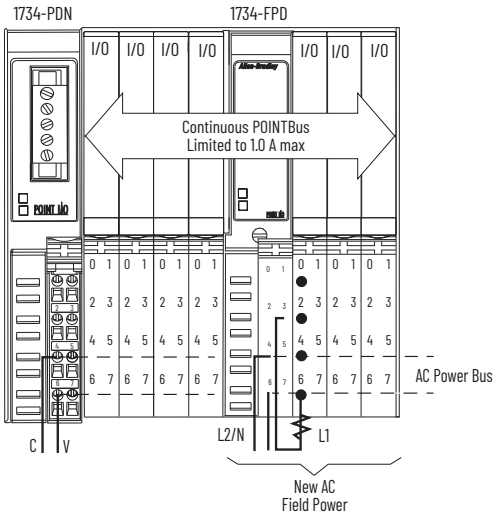
(1) When product is marked. See the Product Certification link at rok.auto/certifications for Declarations of Conformity, Certificates, and other certification details.

Field Power Distributor

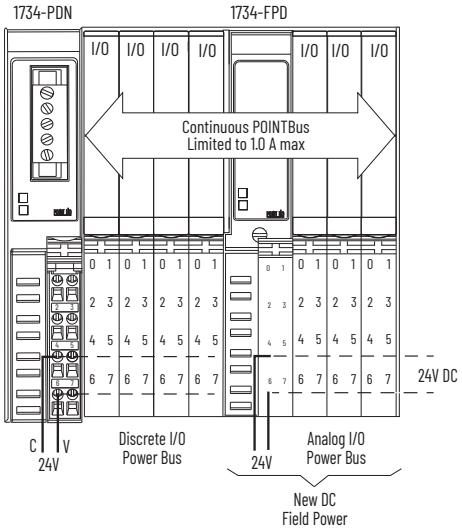
The 1734-FPD breaks the field power distribution at the left of the distributor and changes the field power distribution source for I/O modules to the right of the distributor.	
The field power distributor has these features:	• Distributes field-side voltage • Can use with a broad range of voltage inputs including 5...125V DC and 24...240V AC applications • Passes through all POINT I/O backplane signals • Facilitates logical or functional partitions of low-channel count and high I/O-mix applications • For use with all POINT I/O communication adapters(1) • Partitions power sources (auxiliary power, major motion, or minor motion) • Starts new voltage distribution point

(1) There is no backplane bus power extension (12 modules maximum) when using the 1734-PDN adapter as it does not add power to the POINTBus backplane.

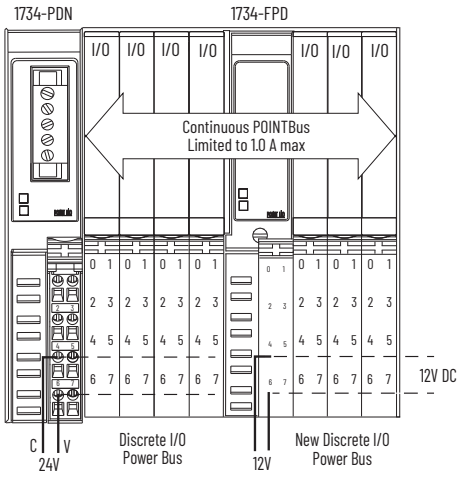
New AC Power Bus Example



New Analog Power Bus Example



New Discrete Power Bus Example



Technical Specifications - 1734-FPD

Attribute	1734-FPD
POINTBus current	Passthrough
Power consumption, max	None
Power dissipation, max	None
Thermal dissipation, max	None
Isolation voltage (continuous-voltage withstand rating)	50V (continuous) Tested @ 2600V DC for 60 s
Input voltage rating, nom	12V DC or 24V DC 120V AC or 240V AC
Input voltage range	10...28.8V DC
Input current, max	10 A
Field power bus supply voltage (1)	12V or 24V DC 120V or 240V AC 50 Hz or 60 Hz
Field power bus supply, max	264V AC
Field power bus supply range	10...28.8V DC
Field power bus supply current, max	10 A
Wiring category(2)	1 - on power ports
Wire size	0.25...2.5 mm^2 (22...14 AWG) solid or stranded shielded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max
Terminal base screw torque	0.8 N•m (7 lb•in)

(1) Complies with Ex when used at or below 120V AC.
(2) Use this conductor category information to plan conductor routing. For more information, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Environmental Specifications - 1734-FPD

Attribute	1734-FPD
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 °C ≤ Ta ≤ +55 °C (-4 °F ≤ Ta ≤ +131 °F)
Temperature, surrounding air max	55 °C (131 °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) 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	IEC 61000-6-4
ESD immunity	IEC6100-4-2: 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...6000 MHz
EFT/B immunity	IEC 61000-4-4: ±4 kV @ 2.5 kHz on power ports
Surge transient immunity	IEC 61000-4-5: ±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine wave 80% AM from 150 kHz...80 MHz
North American temp code	T4A
UKEX/ATEX temp code	T4
IECEx temp code	T4
Enclosure type rating	None (open-style)
Mounting type	DIN rail

Certifications - 1734-FPD

Certification(1)	1734-FPD
c-UL-us	UL Recognized Component 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.
UK and CE	UK Statutory Instrument 2016 No. 1091 and 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) UK Statutory Instrument 2016 No. 1101 and European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11) UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000; Technical documentation
Ex	UK Statutory Instrument 2016 No. 1107 and European Union 2014/34/EU ATEX Directive, compliant with: EN IEC 60079-0; General Requirements EN IEC 60079-7; Explosive Atmospheres, Protection "e" II 3G Ex ec IIC T4 Gc DEMKO 04 ATEX 0330347X UL 22 UKEX 2478X
IECEx	IECEx System, compliant with: IEC 60079-0; General Requirements IEC 60079-7; Explosive Atmospheres, Protection "e" II 3G Ex ec IIC T4 Gc IECEx UL 20.0072X
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3
Morocco	Arrêté ministériel n° 6404-15 du 1 er muharram 1437 Arrêté ministériel n° 6404-15 du 29 ramadan 1436
CCC	CCC: 2020122309111607 CNCA-C23-01 强制性产品认证实施规则 防爆电气 CNCA-C23-01 CCC Implementation Rule Explosion-Proof Electrical Products

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

These accessories are available for the POINT I/O system.

Name	Cat. No.	Description
POINT I/O Marker Card	1492-SM5X5	127 x 127 mm (5 x 5 in.) cards with 100 markers per card, qty 5 Enter text and symbols on the marker cards with different font sizes and text widths, and multiple lines.
POINTBus Extension Cable	1734-EXT1	1 meter extension cable
	1734-EXT3	3 meter extension cable

Certifications - POINT I/O Extension Cables

Certification[1]	1734-EXT1 1734-EXT3
UK and CE	UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000; Technical documentation
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions
UKCA	2012 No. 3032 – Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations

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

Notes:

Mount the POINT I/O system on a DIN rail in the horizontal or vertical orientation. Use the EN50022 - 35 x 7.5 mm (1.38 x 0.30 in.) DIN rail with the POINT I/O modules.

ATTENTION: This product is grounded through the DIN rail to chassis ground. Use zinc-plated chromate-passivated steel DIN rail to assure proper grounding. The use of other DIN rail materials (for example, aluminum or plastic) that can corrode, oxidize, or are poor conductors, can result in improper or intermittent grounding. Secure DIN rail to mounting surface approximately every 200 mm (7.8 in.) and use end-anchors appropriately. Be sure to ground the DIN rail properly.
See Industrial Automation Wiring and Grounding Guidelines, Rockwell Automation publication 1770-4.1, for more information.

System Mounting Dimensions

The height of the system depends on the terminal base that you use. To determine the width, use this table.

Network Adapter	Network Adapter Width		Expansion Power Supply or Field Power Distributor Width		I/O Module Width		Safety I/O Module Width
1734-ACNR 1734-ADN 1734-ADNX 1734-AENT 1734-AENTR 1734-APB	56.1 mm (2.21 in.)	+	# of power supplies or distributors * 25.4 mm (1.00 in.)	+	# of I/O * 12.1 mm (0.48 in.)	+	# of safety I/O * 24.1 mm (0.94 in.)
1734-PDN 1734-PDNK	25.4 mm (1.00 in.)						

IMPORTANT Allow a minimum clearance of 25.4 mm (1.0 in.) on all sides of the system.

For systems with POINT I/O safety modules, a total of 50.8 mm (2.0 in.) of clearance is required above the system.

Cat. No.	Dimensions (HxWxD), approx.(1)	Weight, approx.
Network Adapters		
1734-ACNR, 1734-ACNRK. 1734-APB	133.4 x 56.1 x 79.8 mm (5.25 x 2.21 x 3.14 in.)	255.15 g (9.00 oz)
1734-ADN, 1734-ADNX		259.97 g (9.17 oz)
1734-AENT, 1734-AENTK		263.08 g (9.28 oz)
1734-AENTR, 1734-AENTRK	133.4 x 73.8 x 79.8 mm (5.25 x 2.91 x 3.14 in.)	281.23 g (9.92 oz)
1734-PDN, 1734-PDNK	133.4 x 25.4 x 79.8 mm (5.25 x 1.00 x 3.14 in.)	0.13 kg (0.29 lb)
Expansion Power Supplies and Field Power Distributor		
1734-EPAC, 1734-EPACK	133.4 x 25.4 x 79.8 mm (5.25 x 1.00 x 3.14 in.)	181.44 g (6.40 oz)
1734-EP24DC, 1734-EP24DCK		121.90 g (4.30 oz)
1734-FPD		122.47 g (4.32 oz)
Terminal Bases		
1734-TB	133.4 x 13.8 x 79.4 mm (5.25 x 0.54 x 3.12 in.)	83.95 g (2.94 oz)
1734-TBS		72.86 g (2.57 oz)
1734-TB3, 1734-TBCJC	158.0 x 13.8 x 79.8 mm (6.22 x 0.54 x 3.14 in.)	97.52 g (3.44 oz)
1734-TB3S		87.03 g (3.07oz)
1734-TOP	144.0 x 13.8 x 78.6 mm (5.67 x 0.54 x 3.09 in.)	63.79 g (2.25 oz)
1734-TOPS		55.57 g (1.96 oz)
1734-TOP3	167.6 x 13.8 x 79.1 mm (6.60 x 0.54 x 3.11 in.)	79.10 g (2.79 oz)
1734-TOP3S		66.90 g (2.36 oz)

Cat. No.	Dimensions (HxWxD), approx.(1)	Weight, approx.
I/O Modules		
1734-8CFG, 1734-8CFGDLX	77.5 x 12.1 x 56.6 mm (3.05 x 0.48 x 2.23 in.)	34.02 g (1.20 oz)
1734-IA2, 1734-IA4, 1734-IA4K, 1734-IB2 1734-IM2, 1734-IM4 1734-OA2, 1734-OA4, 1734-OA4K 1734-CTM, 1734-CTMK, 1734-VTM, 1734-VTMK		30.90 g (1.09 oz)
1734-IB4, 1734-IB4K, 1734-IV4		31.75 g (1.12 oz)
1734-IB8, 1734-IB8K, 1734-IV8, 1734-IV8K		32.32 g (1.14 oz)
1734-IB4D, 1734-OE2C, 1734-OE2CK, 1734-OE2V, 1734-OE2VK		36.00 g (1.27 oz)
1734-IE4C, 1734-IE4CK, 1734-IE8C, 1734-IE8CK		35.01 g (1.235 oz)
1734-IR2, 1734-IR2K, 1734-IR2E, 1734-IT2I, 1734-IT2IK		36.29 g (1.28 oz)
1734-IV2		31.18 g (1.10 oz)
1734-OB2, 1734-OB2E, 1734-OB2EP, 1734-OV2E		32.60 g (1.15 oz)
1734-OB4, 1734-OB4K, 1734-OB4E, 1734-OV4E		33.17 g (1.17 oz)
1734-OB8, 1734-OB8K, 1734-OB8E, 1734-OB8EK, 1734-OV8E		35.44 g (1.25 oz)
Safety I/O Modules		
1734-IB8S, 1734-IB8SK, 1734-OB8S, 1734-OB8SK, 1734-OBV2S, 1734-OBV2SK	77.5 x 24.0 x 56.6 mm (3.05 x 0.94 x 2.23 in.)	62.4 g (2.2 oz)
1734-IE4S, 1734-IE4SK		68 g (2.4 oz)
Specialty Modules		
1734-4IOL	77.5 x 12.1 x 56.6 mm (3.05 x 0.48 x 2.23 in.)	36.00 g (1.27 oz)
1734-ARM		28.30 g (1.0 oz)
1734-232ASC 1734-485ASC, 1734-485ASCK		28.06 g (0.99 oz)
1734-IJ, 1734-IK, 1734-IKK		36.29 g (1.28 oz)
1734-SSI, 1734-SSIK		31.75 g (1.12 oz)

(1) Dimensions and weight of modules are listed without the terminal base.

Notes:

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

Additional Resources

Category	Cat. No.	Resource
Communication Adapters	1734-AENT, 1734-AENTK	POINT I/O EtherNet/IP Adapter Installation Instructions, publication 1734-IN590 POINT I/O EtherNet/IP Adapter Module User Manual, publication 1734-UM011
	1734-AENTR, , 1734-AENTRK, 1738-AENTR	POINT I/O Dual Port EtherNet/IP Adapter Installation Instructions, publication 1734-IN040 POINT I/O and ArmorPOINT® I/O 2 Port EtherNet/IP Adapters User Manual, publication 1734-UM014
	1734-ACNR, 1734-ACNRK	POINT I/O ControlNet Adapter Installation Instructions, publication 1734-IN582 POINT I/O ControlNet Adapter User Manual, publication 1734-UM008
	1734-ADN, 1734-ADNK, 1734-ADNX	POINT I/O DeviceNet Adapter Installation Instructions, publication 1734-IN026 POINT I/O DeviceNet Adapter User Manual, publication 1734-UM002
	1734-PDN, 1734-PDNK	POINT I/O DeviceNet Communication Interface Module Installation Instructions, publication 1734-IN057
	1734-APB	POINT I/O PROFIBUS Adapter Installation Instructions, publication 1734-IN014 POINT I/O PROFIBUS Adapter Module User Manual, publication 1734-UM005
POINT I/O Modules	1734-IA2, 1734-IA4, 1734-IA4K, 1734-IB2, 1734-IB4, 1734-IB4K, 1734-IB8, 1734-IB8K, 1734-IB4D, 1734-IM2, 1734-IM4, 1734-IV2, 1734-IV4, 1734-IV8, 1734-IV8K, 1734-OA2, 1734-OA4, 1734-OA4K, 1734-OB2, 1734-OB2EP, 1734-OB2E, 1734-OB4, 1734-OB4K, 1734-OB4E, 1734-OB8, 1734-OB8K, 1734-OB8E, 1734-OB8EK, 1734-OV2E, 1734-OV4E, 1734-OV8E, 1734-OV8EK, 1734-OW2, 1734-OW4, 1734-OW4K, 1734-OX2, 1734-IE2C, 1734-IE2CK, 1734-IE2V, 1734-OE2C, 1734-OE2CK, 1734-OE2V, 1734-OE2VK, 1734D-IA16, 1734D-IA8XOA8, 1734D-IA8XOW8, 1734D-IB16, 1734D-IB8XOB8E, 1734D-IB8XOW8	POINT I/O Digital and Analog Modules and POINTBlock I/O Modules User Manual, publication 1734-UM001
Digital I/O Modules	1734-IA2, 1734-IA4, 1734-IA4K	POINT I/O 120V AC Input Modules Installation Instructions, publication 1734-IN010
	1734-IB2, 1734-IB4, 1734-IB4K, 1734-IB8, 1734-IB8K	POINT I/O Input Modules Installation Instructions, publication 1734-IN051
	1734-IB4D	POINT I/O 24VDC 4-channel Discrete Input Module with Diagnostics Installation Instructions, publication 1734-IN029
	1734-IM2, 1734-IM4	POINT I/O 220V AC Input Modules Installation Instructions, publication 1734-IN008
	1734-IV2, 1734-IV4, 1734-IV8, 1734-IV8K	POINT I/O Source Input Modules Installation Instructions, publication 1734-IN052
	1734-OA2, 1734-OA4, 1734-OA4K	POINT I/O 120V and 220V AC Output Modules Installation Instructions, publication 1734-IN009
	1734-OB2, 1734-OB4, 1734-OB4K, 1734-OB8, 1734-OB8K	POINT I/O Output Modules Installation Instructions, publication 1734-IN018
	1734-OB2E, 1734-OB4E, 1734-OB8E, 1734-OB8EK	POINT I/O Protected Output Module Installation Instructions, publication 1734-IN056
	1734-OB2EP	POINT I/O Protected Output Module Installation Instructions, publication 1734-IN586
	1734-OV2E, 1734-OV4E, 1734-OV8E, 1734-OV8EK	POINT I/O Protected Sink Output Modules Installation Instructions, publication 1734-IN585
	1734-OW2, 1734-OW4, 1734-OW4K	POINT I/O 2 and 4 Relay Output Modules Installation Instructions, publication 1734-IN055
	1734-OX2	POINT I/O 2 Relay Output Module Installation Instructions, publication 1734-IN587
	1734-8CFG	POINT I/O Module with 8 Configurable 24V DC Points Installation Instructions, publication 1734-IN038
	1734-8CFGDLX	POINT I/O Module with 8 Configurable 24V DC Points and DeviceLogix Installation Instructions, publication 1734-IN039
Analog I/O Modules	1734-IE2C, 1734-IE2CK, 1734-IE2V, 1734-IE2VK	POINT I/O 2 Current and 2 Voltage Input Analog Modules Installation Instructions, publication 1734-IN027
	1734-IE4C, 1734-IE4CK	POINT I/O 4 Channel High Density Current Input Modules Installation Instructions publication 1734-IN032
	1734-IE8C, 1734-IE8CK	POINT I/O 8 Channel High Density Current Input Modules Installation Instructions publication 1734-IN033
	1734-OE2C, 1734-OE2CK, 1734-OE2V, 1734-OE2VK	POINT I/O 2 Current Output and 2 Voltage Output Analog Modules Installation Instructions, publication 1734-IN002
	1734-OE4C, 1734-OE4CK	POINT I/O 4 Channel Analog Current Output Module Installation Instructions, publication 1734-IN034
	1734-IR2, 1734-IR2K, 1734-IR2E, 1734-IT2I, 1734-IT2IK	POINT I/O RTD and Isolated Thermocouple Input Modules Installation Instructions, publication 1734-IN011
POINT Guard I/O Modules	1734-IB8S, 1734-IB8SK, 1734-OB8S, 1734-OB8SK, 1734-IE4S, 1734-IE4SK, 1734-OBV2S, 1734-OBV2SK	POINT Guard I/O Safety Modules Installation Instructions, publication 1734-IN016 POINT Guard I/O Safety Modules User Manual, publication 1734-UM013
Specialty Modules	1734-232ASC, 1734-485ASC, 1734-485ASCK	POINT I/O RS-232 and RS-485 ASCII Modules Installation Instructions, publication 1734-IN588 POINT I/O ASCII Modules User Manual, publication 1734-UM009
	1734-SSI, 1734-SSIK	POINT I/O Synchronous Serial Interface Absolute Encoder Module Installation Instructions, publication 1734-IN581 POINT I/O Synchronous Serial Interface Absolute Encoder Module User Manual, publication 1734-UM007
	1734-ARM	POINT I/O Address Reserve Module Installation Instructions, publication 1734-IN019
	1734-CTM, 1734-VTM	POINT I/O Common Terminal Module and Voltage Terminal Module Installation Instructions, publication 1734-IN024
	1734-4IOL, 1734-4IOLK	POINT I/O 4 Channel IO-Link Master Module Installation Instructions, publication 1734-IN043 POINT I/O 4 Channel IO-Link Master Module User Manual, publication 1734-UM020
	1734-IJ, 1734-IK, 1734-IKK	POINT I/O 5V and 24V Encoder/Counter Modules Installation Instructions, publication 1734-IN005 POINT I/O Encoder/Counter Modules User Manual, publication 1734-UM006
	1734-VHSC5, 1734-VHSC24, 1734-VHSC24K	POINT I/O 5V DC and 24V DC Very High Speed Counter Module Installation Instructions, publication 1734-IN003 POINT I/O Very High-speed Counter Modules User Manual, publication 1734-UM003

Additional Resources (Continued)

Category	Cat. No.	Resource
Terminal Bases	1734-TB, 1734-TBS	POINT I/O Wiring Base Assembly Installation Instructions, publication 1734-IN511
	1734-TB3, 1734-TB3S, 1734-RTB, 1734-RTBS, 1734-RTB3, 1734-RTB3S	POINT I/O Wiring Base Assembly Installation Instructions, publication 1734-IN013
	1734-TOP, 1734-TOPS, 1734-TOP3, 1734-TOP3S	POINT I/O One-piece Terminal Bases Installation Instructions, publication 1734-IN028
	1734-TBCJC, 1734-RTBCJC	POINT I/O Cold Junction Compensation Wiring Base Assembly Installation Instructions, publication 1734-IN583
Power Supplies	1734-FPD, 1734-FPDK	POINT I/O Field Potential Distributor Module Installation Instructions, publication 1734-IN059
	1734-EP24DC, 1734-EP24DCK	POINT I/O 24V DC Expansion Power Supply Installation Instructions, publication 1734-IN058
General Information	—	EtherNet/IP Network Devices User Manual, publication ENET-UM006
		Ethernet Reference Manual, publication ENET-RM002
		Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1
		Product Selection and Configuration tools, rok.auto/systemtools
		Rockwell Automation Global Short-circuit Current Ratings (SCCR) Tool, rok.auto/sccr
		Product Certifications website, rok.auto/certifications

Rockwell Automation recognizes that some of the terms that are currently used in our industry and in this publication are not in alignment with the movement toward inclusive language in technology. We are proactively collaborating with industry peers to find alternatives to such terms and making changes to our products and content. Please excuse the use of such terms in our content while we implement these changes.

Notes:

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

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Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752, İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

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AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000
EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2663 0600
ASIA PACIFIC: Rockwell Automation SEA Pte Ltd, 2 Corporation Road, #04-05, Main Lobby, Corporation Place, Singapore 618494, Tel: (65) 6510 6608
UNITED KINGDOM: Rockwell Automation Ltd., Pitfield, Kiln Farm, Milton Keynes, MK11 3DR, United Kingdom, Tel: (44) (1908) 838-800

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