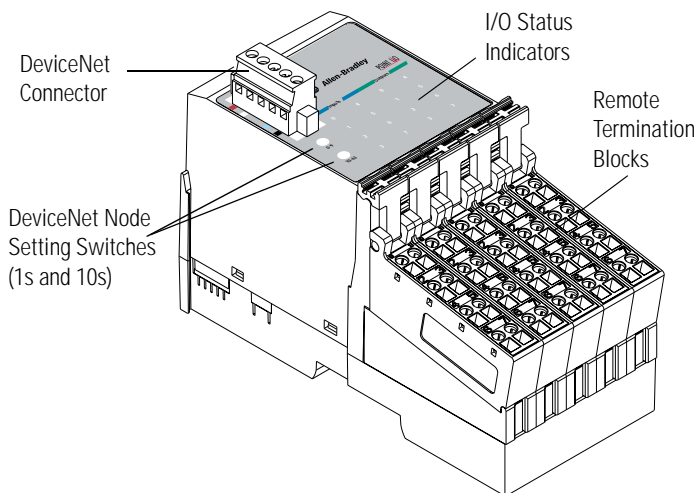




Installation Instructions

POINTBlock dc 16 Input Module

(Cat. No. 1734D-IB16 and -IB16S)

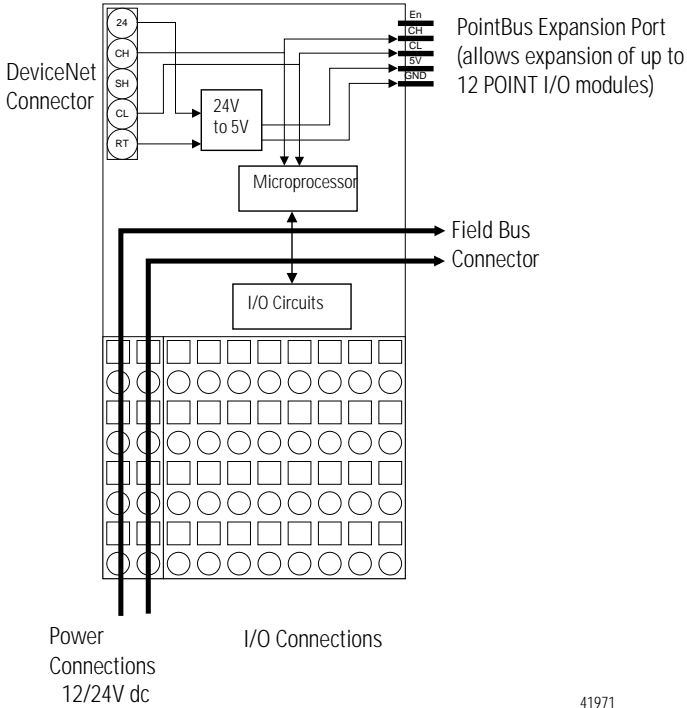


This 1734D input module is a DIN-rail mounted device with an integrated DeviceNet communication interface, 16 inputs, removable terminations, and a PointBus expansion port. The expansion port allows you to add up to a maximum of 12 additional POINT I/O modules.

The module includes a non-isolated DeviceNet communication interface. The 24V dc from the DeviceNet connection powers a non-isolated dc/dc converter that generates +5V dc which powers the POINTBlock electronics and connects to the PointBus port to power the expansion I/O electronics.

The 1734D-IB16 uses cage-clamp terminations, and the 1734D-IB16S uses spring-clamp terminations.

Simplified Schematic of POINTBlock



41971

ATTENTION



Whatever field power you supply is connected to the internal field-power bus. **For example, if 120V ac is applied to the power connections, there will be 120V ac applied to the modules through the internal field-power bus.**

POINT I/O modules to the right of this module will have this internal power bus voltage applied, unless you use a 1734-FPD to interrupt and change the field power-bus voltage.

ATTENTION

POINTBlock is designed to be grounded through the DIN rail to chassis ground. To assure proper grounding of POINTBlock and POINT I/O adapters and terminal bases to chassis ground, the recommended DIN rail material is zinc-plated, yellow-chromated steel. Mount POINTBlock, POINT I/O adapters and terminal bases only to zinc-plated, yellow-chromated steel.

Installing the POINTBlock 16 Input Module

To install the 16 Input module on the DIN rail, proceed as follows:

1. Position the block module vertically above the DIN rail.
2. Press down firmly to install the module on the DIN rail. (The locking mechanism will lock the module to the DIN rail.)

ATTENTION

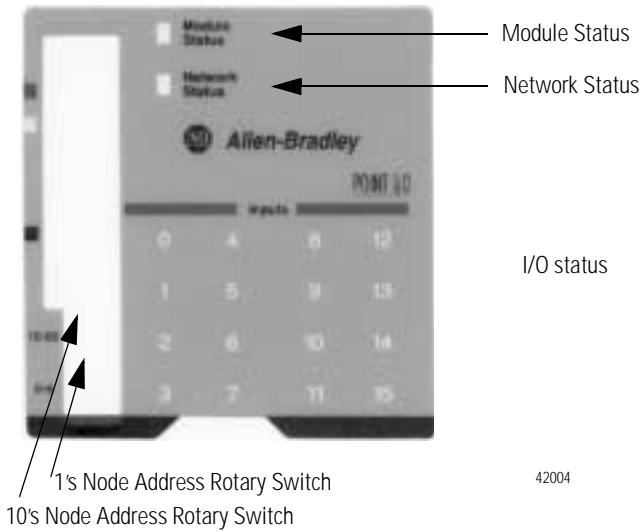
Do not discard the end cap. Use this end cap to cover the exposed interconnections on the last mounting base/block module on the DIN rail. Failure to do so could result in equipment damage or injury from electric shock.

If installing a replacement POINTBlock module to an existing system:

1. To remove the block module from the DIN rail, pull up on the RTB removal handles to remove the terminal blocks.
2. Use a small bladed screwdriver to rotate the orange DIN rail locking screw to a vertical position. This releases the locking mechanism.
3. Lift straight up to remove.
4. Position the replacement block module vertically above the DIN rail.

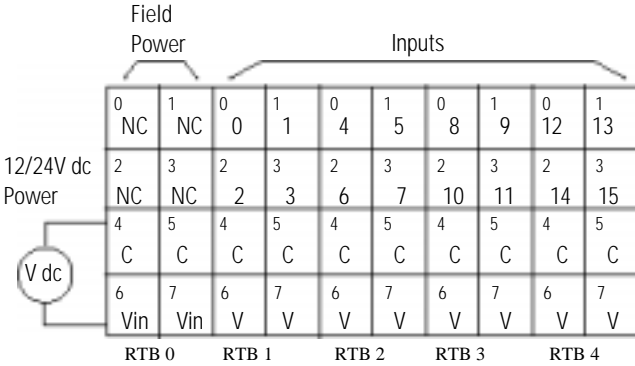
5. Slide the block module down allowing the interlocking side pieces to engage the adjacent module/adaptor.
6. Press firmly to seat the block module on the DIN rail. The module locking mechanism will snap into place.

Setting the Node Address



To set the node address, set the combination of 1's and 10's to correspond to the required address. (For example, for 61, set the 10's switch to 6 and the 1's switch to 1.)

Wiring the 16 dc Input Module



This supply will be connected to the internal power bus.

NC = No Connection

Chas Gnd = Chassis Ground

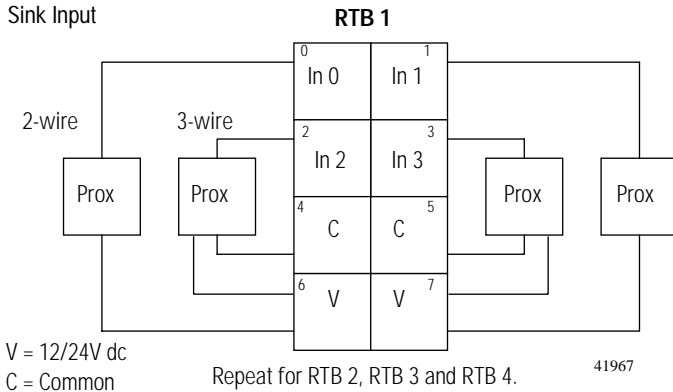
C = Common

V = Supply

42064

Input Wiring

Sink Input



41967

Channel	Input Terminal	Common	Voltage
Remote Termination Block 0			
Field Power Block	No connections to terminals 0, 1, 2 and 3		
Vin (12/24V dc)			6 and 7
Common		4 and 5	
Remote Termination Block 1			
0	0	4	6
1	1	5	7
2	2	4	6
3	3	5	7
Remote Termination Block 2			
4	0	4	6
5	1	5	7
6	2	4	6
7	3	5	7
Remote Termination Block 3			
8	0	4	6
9	1	5	7
10	2	4	6
11	3	5	7
Remote Termination Block 4			
12	0	4	6
13	1	5	7
14	2	4	6
15	3	5	7

Connect common on 3-wire proximity switches.
12/24V dc is supplied through the internal power bus.

Note: When connecting more than 1 wire in a termination point, make sure that both wires are the same gauge and type.

DeviceNet Connector Wiring

DeviceNet connection	Red	+V	42132
	White	CAN - High	
	Bare	Shield	
	Blue	CAN - Low	
	Black	-V	

Communicating with Your Module



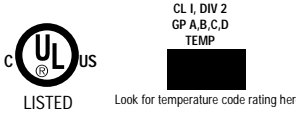
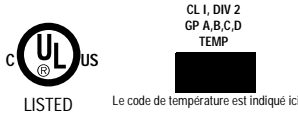
I/O messages are sent to (consumed) and received from (produced) the POINTBlock I/O modules. These messages are mapped into the processor's memory. This POINTBlock I/O input module produces 2 bytes of input data (scanner Rx). It does not consume I/O data (scanner Tx).

Default Data for the 1734D-IB16

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Produces (Rx)	I15	I14	I13	I12	I11	I10	I9	I8	I7	I6	I5	I4	I3	I2	I1	I0
Consumes (Tx)	No consumed data															

Where: I0 = channel 0, I1 = channel 1; 0 = off, 1 = on

Safety Approvals

C-UL and UL Hazardous Location Approval	Approbation d'utilisation dans des environnements dangereux par la C-UL and UL
<p>C-UL and UL certifies products for general use as well as for use in hazardous locations. Actual C-UL and UL certification is indicated by the product label as shown below, and not by statements in any user documentation.</p>	<p>La C-UL and UL certifie des produits pour une utilisation générale aussi bien que pour une utilisation en environnements dangereux. La certification C-UL and UL en vigueur est indiquée par l'étiquette produit et non par des indications dans la documentation utilisateur.</p>
<p>Example of the C-UL and UL certification product label:</p> 	<p>Exemple d'étiquette de certification d'un produit par la C-UL and UL :</p> 
<p>To comply with C-UL and UL certification for use in hazardous locations, the following information becomes a part of the product literature for this C-UL and UL-certified industrial control product.</p> <ul style="list-style-type: none"> This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or non-hazardous locations only. The products having the appropriate C-UL and UL markings (that is, Class I, Division 2, Groups A, B, C, D) are certified for use in other equipment where the suitability of combination (that is, application or use) is determined by the C-UL and UL or the local inspection office having jurisdiction. Peripheral equipment must be suitable for the location in which it is used. 	<p>ÉPour satisfaire à la certification C-UL and UL en environnements dangereux, les informations suivantes font partie intégrante de la documentation des produits de commande industrielle certifiés.</p> <ul style="list-style-type: none"> Cet équipement ne convient qu'à une utilisation dans des environnements de Classe I, Division 2, Groupes A, B, C, D ou non dangereux. Les produits portant le marquage C-UL and UL approprié (c'est-à-dire Classe I, Division 2, Groupes A, B, C, D) sont certifiés pour une utilisation avec d'autres équipements, les combinaisons d'applications et d'utilisation étant déterminées par la C-UL and UL ou le bureau local d'inspection. L'équipement périphérique doit convenir à l'emplacement d'utilisation.
<p>Important: Due to the modular nature of a programmable control system, the product with the highest temperature rating determines the overall temperature code rating of a programmable control system in a Class I, Division 2, location. The temperature code rating is marked on the product label as shown.</p>	<p>Important: De par la nature modulaire des systèmes de commande programmables, le produit ayant le code de température le plus élevé détermine le code de température global du système dans un environnement de Classe I, Division 2. Le code de température est indiqué sur l'étiquette produit.</p>
<p>Temperature code rating:</p> 	<p>Code de température :</p> 
<p>The following warnings apply to products having C-UL and UL certification for use in hazardous locations.</p>	<p>Les avertissements suivants s'appliquent aux produits ayant la certification C-UL and UL pour une utilisation dans des environnements dangereux.</p>
<p>WARNING: Explosion Hazard</p> <ul style="list-style-type: none"> Substitution of components may impair suitability for Class I, Division 2. Do not replace components unless power has been switched off or the area is known to be non-hazardous. Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous. Do not disconnect connectors unless power has been switched off or the area is known to be non-hazardous. Secure any user-supplied connectors that mate to external circuits on this equipment by using screws, sliding latches, threaded connectors, or other means such that any connection can withstand a 15 Newton (3.4 lb.) separating force applied for a minimum of one minute. Batteries must only be changed in an area known to be non-hazardous. 	<p>AVERTISSEMENT : Risque d'explosion</p> <ul style="list-style-type: none"> La substitution de composants peut rendre ce matériel inadapté à une utilisation en environnement de Classe I, Division 2. Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de remplacer des composants. Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement. Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs fournis par l'utilisateur pour se brancher aux circuits externes de cet appareil à l'aide de vis, loquets coulissants, connecteurs filetés ou autres, de sorte que les connexions résistent à une force de séparation de 15 Newtons (1,5 kg - 3,4 lb.) appliquée pendant au moins une minute. S'assurer que l'environnement est classé non dangereux avant de changer les piles.
<p>C-UL and UL logo is a registered trademark of the Underwriters Laboratories.</p>	<p>Le sigle C-UL and UL est une marque déposée de la Underwriters Laboratories.</p>

Specifications

Specifications - 1734D-IB16, -IB16S

Input Specifications - IEC 3+ 24V dc Input Compliant

Number of Channels	16 input channels
ON-State Voltage Range	10V dc min 24V dc nominal 28.8V dc max
ON-State Current	2.5mA min 6.3mA nominal @ 24V dc 7.6mA max
OFF-State Voltage	5V dc max
OFF-State Current	1.5mA min
Input Impedance	4.7K Ω max (3.6K Ω nominal)
Input Filter Time OFF to ON ON to OFF	0.5ms hardware + (0 - 65ms selectable) 0.5ms hardware + (0 - 65ms selectable)

General Specifications

Pointbus Output Current	1A max @ 5V dc output power
DeviceNet Current	95mA maximum for POINTBlock 350mA for maximum with expansion of 12 POINT I/O modules
Number of POINT I/O Expansion Modules	12 maximum at expansion port
Isolation Voltage	850V dc for 1s between user power and DeviceNet
Indicators	1 red/ green module status indicator 1 red/green network status indicator 16 yellow I/O status indicators
Power Dissipation	2.0W maximum @ 24V dc
Power Consumption	8.2W maximum @ 24V dc
Field Power Bus Supply Voltage Voltage Range Supply Current	24V dc nominal 10-28.8V dc 10A max
Dimensions Inches (Millimeters)	3.00H x 2.36W x 5.25L (76.2 Hx 60.0W x 133.4L)

Environmental Conditions	
Operational Temperature	-20 to +55°C (-4 to +131°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Relative Humidity	5 to 95% noncondensing
Shock	Operating 30g peak acceleration, 11(±1)ms pulse width
Non-operating	50g peak acceleration, 11(±1)ms pulse width
Vibration	Tested 5g @ 10-500Hz per IEC 68-2-6
Conductors Wire Size	14 AWG (2.5mm ²) - 22 AWG (0.25mm ²) solid or stranded copper rated @ 75°C or greater
Category	3/64 inch (1.2mm) insulation max 2 ¹
Terminal Base Screw Torque	7 pound-inches (0.6 Nm)
Field Wiring Terminations	1 - Black Wire -V
DeviceNet	2 - Blue Wire CAN Low
	3 - Bare Wire Drain
	4 - White Wire CAN High
	5 - Red Wire +V
Field Power Supply	0 - No Connection 1 - No Connection
	2 - No Connection 3 - No Connection
	4 - Common 5 - Common
	6 - Supply 7 - Supply
Mass	12.02 oz/340.77 grams
Agency Certification (when product is marked)	<ul style="list-style-type: none"> • C-UL Listed • C-UL Class I, Division 2 Groups A, B, C and D certified • UL listed • UL Class I, Division 2 Groups A, B, C and D certified • CE marked for all applicable directives • C-Tick marked for all applicable acts
<p>1 Use this conductor category information for planning conductor routing. Refer to publication 1770-4.1, "Industrial Automation Wiring and Grounding Guidelines."</p>	

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