



Installation Instructions

POINTBlock dc 8 Input/8 Relay Output Module

Catalog Numbers 1734D-IB8XOW8, 1734D-IB8XOW8S

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Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls (publication SGI-1.1 available from your local Rockwell Automation sales office or online at <http://literature.rockwellautomation.com>) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.





In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

WARNING 	Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.
ATTENTION 	Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you to identify a hazard, avoid a hazard and recognize the consequences.
SHOCK HAZARD 	Labels may be located on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.
BURN HAZARD 	Labels may be located on or inside the equipment, for example, a drive or motor, to alert people that surfaces may be dangerous temperatures.

Environment and Enclosure

ATTENTION

This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC publication 60664-1), at altitudes up to 2000 m without derating.

This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR Publication 11. Without appropriate precautions, there may be potential difficulties ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbance.

This equipment is supplied as open-type equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to prevent or minimize the spread of flame, complying with a flame spread rating of 5VA, V2, V1, V0 (or equivalent) if non-metallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

Besides this publication, see:

- Industrial Automation Wiring and Grounding Guidelines, for additional installation requirements, Allen-Bradley publication 1770-4.1.
- NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.



Prevent Electrostatic Discharge

ATTENTION

This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment.

- Touch a grounded object to discharge potential static.
 - Wear an approved grounding wriststrap.
 - Do not touch connectors or pins on component boards.
 - Do not touch circuit components inside the equipment.
 - Use a static-safe workstation, if available.
 - Store the equipment in appropriate static-safe packaging when not in use.
-

North American Hazardous Location Approval

The following information applies when operating this equipment in hazardous locations	Informations sur l'utilisation de cet équipement en environnements dangereux
<p>Products marked CL I, DIV 2, GP A, B, C, D are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.</p>	<p>Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.</p>
<div style="display: flex; align-items: center;"> <div style="background-color: black; color: white; padding: 5px; margin-right: 10px; text-align: center;"> WARNING </div> <div style="text-align: center;">  </div> </div> <p>EXPLOSION HAZARD -</p> <ul style="list-style-type: none"> Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous. Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product. Substitution of components may impair suitability for Class I, Division 2. If this product contains batteries, they must only be changed in an area known to be nonhazardous. 	<div style="display: flex; align-items: center;"> <div style="background-color: black; color: white; padding: 5px; margin-right: 10px; text-align: center;"> AVERTISSEMENT </div> <div style="text-align: center;">  </div> </div> <p>RISQUE D'EXPLOSION -</p> <ul style="list-style-type: none"> 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 externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit. La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe 1, Division 2. S'assurer que l'environnement est classé non dangereux avant de changer les piles.

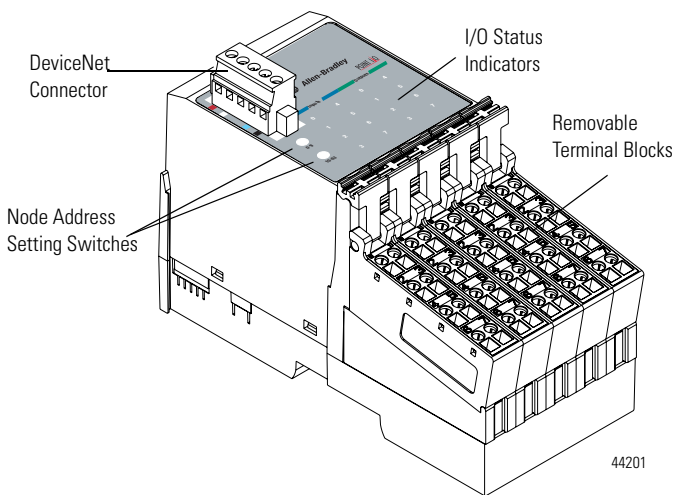
About the Module

This 1734D input/output module is a DIN-rail mounted device with an integrated DeviceNet communication interface, 8 inputs, 8 relay outputs, removable terminations, and a POINTBus expansion port. Use the expansion port to add 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 that powers the POINTBlock electronics and connects to the POINTBus port to power the expansion I/O electronics.

The 1734D-IB8XOW8 module uses cage-clamp termination and the 1734D-IB8XOW8S module uses spring-clamp termination.

1734D-IB8XOW8, 1734D-IB8XOW8S Modules



Install the Module

For information about how to install the module, read this and the sections on how to set the node address and wire the module.

ATTENTION

This product is grounded through the DIN rail to chassis ground. Use zinc-plated, yellow-chromated steel DIN rail to assure proper grounding. Using other DIN rail materials, for example, aluminum and plastic, which can corrode, oxidize or are poor conductors, can result in improper or intermittent platform grounding.

Secure DIN rail to mounting surface approximately every 200 mm (7.8 in.) and use end-anchors appropriately.

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, 120V ac is applied to the modules through the internal field-power bus.

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

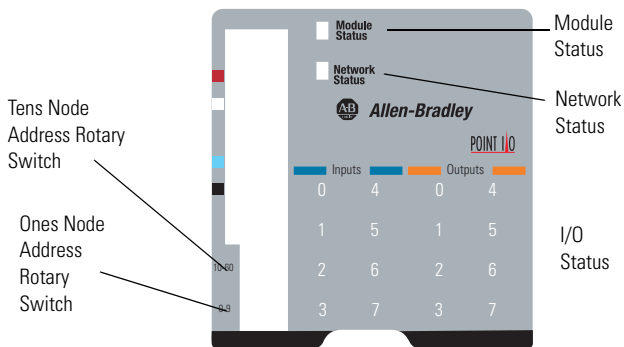
Set Node Address

Read this for information about how to set the node address.

To set the node address, set the combination of ones and tens switches to correspond to the required address.

For example, for 61, set the tens switch to six and the ones switch to one.

Node Address Switches and Status Indicators



Wire the Module

Refer to the figures that show how to wire the module.

WARNING

When you connect or disconnect the Removable Terminal Block (RTB) with field-side power applied, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

WARNING

If you connect or disconnect the communications cable with power applied to this module or any device on the network, an electrical arc can occur. This could cause an explosion in hazardous location installations.

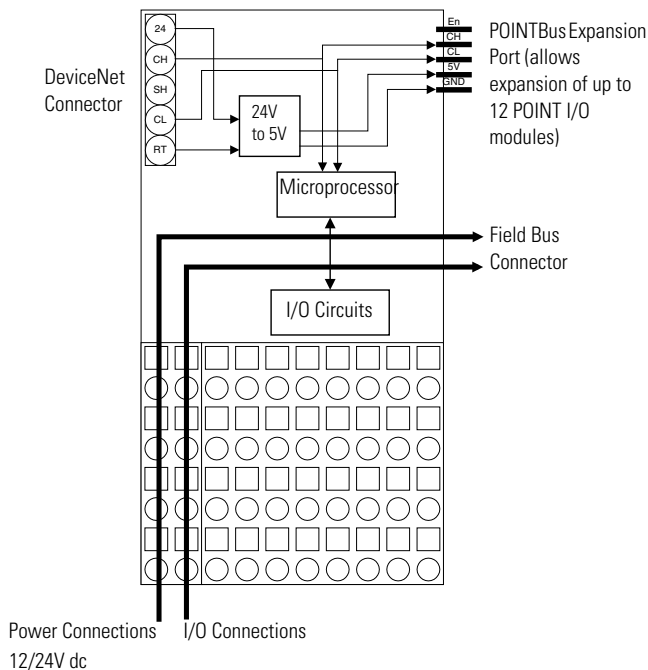
ATTENTION

To comply with the CE low voltage directive (LVD), this equipment must be powered from a source compliant with the following: safety extra-low voltage (SELV) or protected extra-low voltage (PELV).

WARNING

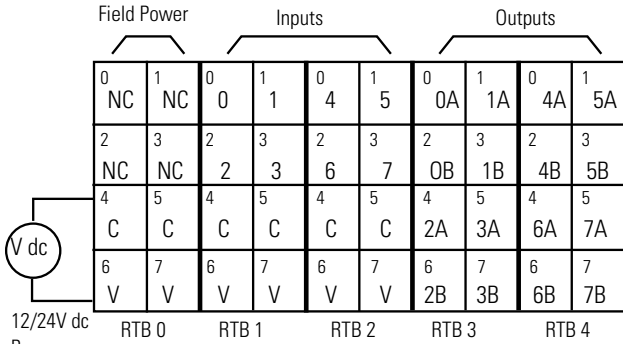
If you connect or disconnect wiring while the field-side power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

Connectors and POINTBus Expansion Ports



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Wire the Module



This supply is to be connected to the internal power bus.

NC = No Connection

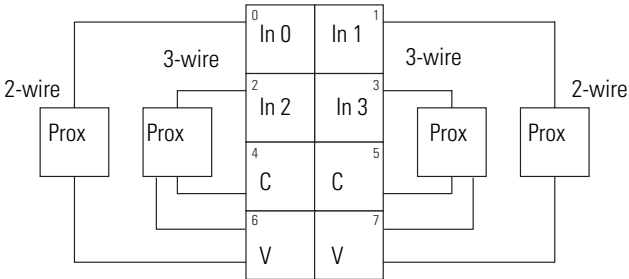
Chas Gnd = Chassis Ground

C = Common

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Input Wiring

Sink Input



V = 12/24V dc
C = Common

Wiring for RTB1 and RTB2

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Channel, Input Terminal, Common, and Voltage for Terminal Blocks

Channel	Input Terminal	Common	Voltage
Removable Terminal Block 0			
0...3		No Connection	No Connection
4, 5		Common	
6, 7			Vin

Removable Terminal Block 1

Channel	Input Terminal	Common	Voltage
0	0	4	6
1	1	5	7
2	2	4	6
3	3	5	7

Removable Terminal Block 2

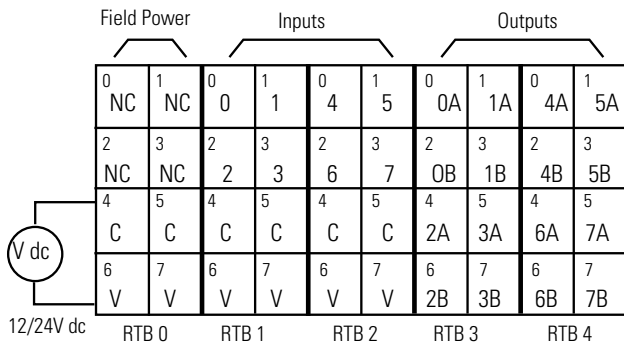
Channel	Input Terminal	Common	Voltage
4	0	4	6
5	1	5	7
6	2	4	6
7	3	5	7

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

IMPORTANT

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

Relay Output Wiring (Load Powered by External Power)



This supply will be connected to the internal power bus.

NC = No Connection

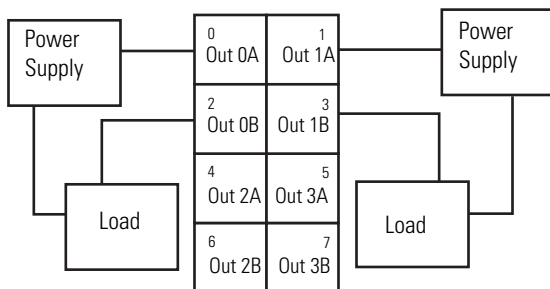
Chas Gnd = Chassis Ground

C = Common

V = Supply

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Relay Output Wiring



Out = Output channel relay contacts

Power Supply = can range from +5V dc...240V ac

C = Common

Wiring for RTB3 is shown.

RTB4 is identical except outputs are numbered Out 4...7.

Terminal, Output, Common, and Supply for Terminal Blocks

Terminal		Common	Voltage
Removable Terminal Block 0			
0...3		No connection	No Connection
4, 5		Common	
6, 7			Vin
Removable Terminal Block 4			
Channel	Output	Common	Supply
0A	0		
0B	2		
1A	1		
1B	3		
2A	4		
2B	6		
3A	5		
3B	7		
Removable Terminal Block 4			
Channel	Output	Common	Supply
4A	0		
4B	2		
5A	1		
5B	3		
6A	4		
6B	6		
7A	5		
7B	7		

Supply voltage can range from +5V dc...240V ac, depending on relay load.
 12/24V dc power for the module is provided by the internal power bus.

DeviceNet Connector Wiring

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

IMPORTANT

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

Specifications

POINTBlock dc 8 Input/8 Relay Output Module - 1734D-IB8XOW8, 1734D-IB8XOW8S

Attribute	Value
POINTBus Output Current	1 A max @ 5V dc output
DeviceNet Current ⁽¹⁾	95 mA max for POINTBlock
Number of POINT I/O Expansion Modules	12 max at expansion port
Isolation Voltage	120V (continuous), Reinforced Insulation Type 1250V rms or 2121V dc for 1 s between ac circuits and DeviceNet network
Indicators	1 red/green module status indicator 1 red/green network status indicator 16 I/O status indicators (8 input/8 relay output)
Power Dissipation	2.0 W max @ 24V dc
Power Consumption	8.2 W max @ 24V dc

POINTBlock dc 8 Input/8 Relay Output Module - 1734D-IB8XOW8, 1734D-IB8XOW8S

Attribute	Value
Field Power Bus	
Supply Voltage, Nom	24V dc
Voltage Range	10...28.8V dc
Supply Current, Max	10 A
Communication Rate	125 Kbps (500 m max) 250 Kbps (250 m max) 500 Kbps (100 m max)
Dimensions (HxWxD), Approx.	76.2 x 60.0 x 33.4 mm (3.00 x 2.36 x 5.25 in.)
Conductors Wire Size	0.25...2.5 mm ² (22...14 AWG), solid or stranded copper rated @ 75 °C (167 °F) or higher 1.2 mm (3/64 in.) insulation max
Category	2 - on all ports ⁽²⁾
Terminal Base Screw Torque	0.5...0.6 Nm (5...7 lb-in)
North American Temp Code	T5
Field Wiring Terminations DeviceNet	1 - Black Wire-V 2 - Blue WireCAN Low 3 - Bare WireDrain 4 - White WireCAN 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
Weight, Approx.	0.40 kg (0.86 lb)

⁽¹⁾ 350 mA for max with expansion of 12 POINT I/O modules

⁽²⁾ Use this conductor category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-IN041.

Environmental Specifications

Attribute	Value
Operational Temperature	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)
Storage Temperature	IEC 60068-2-1 (Test Ab, Unpackaged Non-operating Cold) IEC 60068-2-2 (Test Bb, Unpackaged Non-operating Dry Heat) IEC 60068-2-14 (Test Na, Unpackaged Non-operating Thermal Shock) -40...85 °C (-40...185 °F)
Relative Humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5...95% noncondensing
Shock Operating Nonoperating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 30 g IEC 60068-2-27 (Test Ea, Unpackaged Shock): 50 g
Vibration	IEC 60068-2-6 (Test Fc, Operating): 5 g @ 10...500 Hz
Conducted RF Immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80% AM from 150 kHz...80 MHz
EFT/B Immunity	IEC 61000-4-4: ±2 kV at 5 kHz on power ports ±2 kV at 5 kHz on signal ports ±1 kV at 5 kHz on communication ports
ESD Immunity	IEC 61000-4-2: 4 kV contact discharges 8 kV air discharges
Enclosure Type Rating	None (open-style)
Emissions	CISPR 11: Group 1, Class A
Radiated RF Immunity	IEC 61000-4-3: 10V/m with 1 kHz sine-wave 80%AM from 30...2000 MHz 10V/m with 200 Hz 50% Pulse 100%AM at 900 MHz 1 V/m with 1 kHz sine-wave 80%AM from 2000...2700 MHz
Surge Transient Immunity	IEC 61000-4-5: ±2 kV line-earth(CM) on power ports ±1 kV line-line(DM) and ±2 kV line-earth(CM) on signal ports ±2 kV line-earth(CM) on communication ports

Input Specifications - IEC 3 24V dc Input Compliant⁽¹⁾

Attribute	Value
On-state Voltage Range, Min	10V dc
On-state Voltage Range, Nom	24V dc
On-state Voltage Range, Max	28.8V dc
On-state Current, Min	2.5 mA
On-state Current, Nom	6.3 mA @ 24V dc
On-state Current, Max	7.6 mA
Off-state Voltage, Max	5V dc
Off-state Current, Max	1.5 mA
Input Impedance, Max	5.3 K Ω
Input Delay Time OFF to ON	0.5 ms hardware + (0...65 ms selectable)
ON to OFF	0.5 ms hardware + (0...65 ms selectable)

⁽¹⁾ IEC denotes the International Electrotechnical Commission.

Output Specifications

Attribute	Value
Relay Type	Form A, normally open, Single Pole, Single Throw
Output Voltage Range, 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
Relay Output Current Rating, Inductive	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 θ = 0.4 2.0 A steady state, 15 A make @ 240V ac, PF = cos θ = 0.4
Relay Output Current Rating, Resistive	2 A @ 5...30V dc 0.5 A @ 48V dc 0.25 A @ 125V dc 2 A @ 125V ac 2 A @ 240V ac
Power Rating, Max, For Resistive Loads	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
Power Rating, Max, For Inductive Loads	250 VA for 125V ac 480 VA for 240V ac 60 VA for 28.8V dc 24 VA for 48V dc 31 VA for 125V dc
Load	10 mA per point min
Initial Contact Resistance	30 m Ω
Switching Frequency	1 operation/3 s at rated load
Bounce Time	1.2 ms mean

Output Specifications

Attribute	Value
Expected Contact Life	300 Kcycles resistive; 100 Kcycles inductive
Off-state Leakage, Max	1.5 mA
Output Delay Time	10 ms max ON/OFF

Certifications

Attribute	Value
Certifications (when product is marked) ⁽¹⁾	<p>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.</p> <p>CE European Union 89/336/EEC EMC Directive, compliant with: EN 50082-2; Industrial Immunity EN 61326; 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) European Union 73/23/EEC LVD, compliant with EN 61131-2; Programmable Controllers</p> <p>C-Tick Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions</p> <p>DeviceNet ODVA conformance tested to DeviceNet specifications</p>

⁽¹⁾ See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

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