*Installation Instructions*

# ArmorBlock Guard I/O DeviceNet Safety Modules

Catalog Numbers 1732DS-IB8XOBV4, 1732DS-IB8




Allen-Bradley • Rockwell Software Rockwell Automation

## 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://www.rockwellautomation.com/literature/) 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 identify a hazard, avoid a hazard and recognize the consequences. |
| **SHOCK HAZARD**  | Labels may be 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 on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures. |

## Environment and Enclosure

**ATTENTION**

This equipment is intended for use in overvoltage Category II applications (as defined in IEC 60664-1), at altitudes up to 2000 m (6562 ft) 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 with electromagnetic compatibility in residential and other environments due to conducted and radiated disturbances.

This equipment is supplied as enclosed equipment. It should not require additional system enclosure when used in locations consistent with the enclosure type ratings stated in the Specifications section of this publication. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings, beyond what this product provides, that are required to comply with certain product safety certifications.

In addition to this publication, see:

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

## Preventing 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.

**ATTENTION**

Make sure all connectors and caps are securely tightened to properly seal the connections against leaks and maintain IP enclosure type requirements.

Personnel responsible for the application of safety-related Programmable Electronic Systems (PES) shall be aware of the safety requirements in the application of the system and shall be trained in using the system.

If the devices (sensors) connected to the input connections require Class 2 power to operate, the auxiliary power connections of this equipment must be powered by a Class 2 source.
To comply with the CE low-voltage directive (LVD), this equipment and all connected I/O must be powered from a source compliant with the following: safety extra low voltage (SELV) or protected extra low voltage (PELV).

## Before You Begin

Before installing and operating the product, read these installation instructions to learn important installation-related information and the precautions to follow as you install and operate the product. Keep these instructions for future reference.

Concerning suitability for use, note that we are not responsible for conformity with any standards, codes, or regulations that apply to the combination of the products in your application or use of the product. Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used. Know and observe all prohibitions of use applicable to this product.

Never use the products for an application involving serious risk to life or property without first verifying that the system as a whole has been designed to address the risks and that the Rockwell Automation product is properly rated and installed for the intended use within the overall equipment or system.

### Module Identification and Dimensions

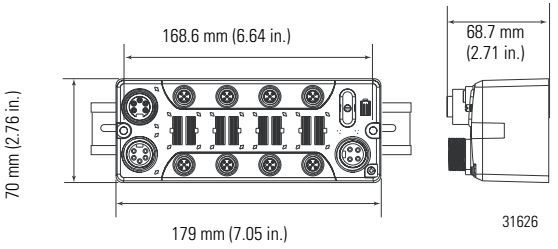
See the table for identification information and figures for module dimensions.

#### Module Identification

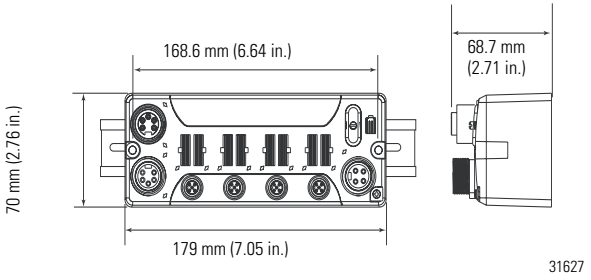
| Cat. No. | Name | Safety Inputs | Test Outputs(1) | Safety Outputs |
|---|---|---|---|---|
| 1732DS-IB8 | Safety input module | 8 | 8 | - |
| 1732DS-IB8XOBV4 | Safety I/O module with solid state outputs | 8 | 8 | 4 bipolar pairs |

(1) Each test output can be set to function as a pulse test output or a standard output pulse. Test outputs are used in combination with a safety input. Broken wires in an external indicator can be detected for terminal T3 and T7 only.

**1732DS-IB8XOBV4 Module Dimensions**




**1732DS-IB8 Module Dimensions**



## Observing Precautions for Correct Use

Read this for information related to operating directions after reading the Guard I/O DeviceNet Safety User Manual, publication 1791DS-UM001.

Do not use the unit in locations subject to the following:

- Direct sunlight
- Temperatures or humidity beyond the ranges noted in the Specifications section
- Corrosive or flammable gases
- Shock or vibration beyond the range noted in the Specifications section

## Observing Precautions for Safe Use

Read this list of precautions for safe use.

- Wire conductors correctly and verify operation of the module before commissioning the system in which the module is incorporated, noting that incorrect wiring can lead to loss of safety function.
- Do not apply DC voltages exceeding rated voltages to the module.
- Apply properly specified voltages to the module inputs. Note that applying inappropriate voltages causes the module to fail to perform its specified function, which leads to loss of safety functions or damage to the module.
- Do not use test outputs as any safety output. Test outputs are not safety outputs.
- Be sure that qualified personnel confirm installation and conduct test operations and maintenance after installation of the module.
- Be sure that personnel familiar with machinery where the module is to be installed should conduct and verify installation.
- Do not dismantle, repair, or modify the module. This can lead to loss of its safety function.

- Use only appropriate components or devices complying with relevant safety standards corresponding to the required level of safety categories (safety integrity level). Conformity to requirements of safety category (safety integrity level) is determined as an entire system. We recommend you consult a certification body regarding assessment of conformity to required safety level.
- You are responsible for compliance with applicable standards for the entire system.
- Disconnect the module from the power supply when wiring.

**ATTENTION**

Safety state of the module and its data is defined as off state.

Serious injury can occur due to breakdown of safety outputs. Do not connect loads beyond the rated value of the safety outputs.

Serious injury can occur due to loss of required safety functions. Wire the module properly so that supply voltages or voltages for loads do not touch the safety outputs accidentally or unintentionally.

As serious injury can occur due to loss of safety functions, use appropriate devices as shown in the Controlling Devices - Sample Requirements table.

**Controlling Devices - Sample Requirements**

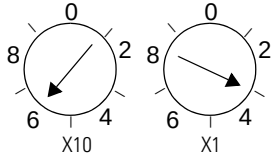
| Device | Requirement | Allen-Bradley Bulletin Safety Components |
|---|---|---|
| Emergency stop switch | Use approved devices with direct opening mechanism complying with IEC/EN 60947-5-1. | Bulletin 800F, 800T |
| Door interlocking switch limit switch | Use approved devices with direct opening mechanism complying with IEC/EN 60947-5-1 and capable of switching microloads of 24V DC 5 mA. | Bulletin 440K, 440G, or 440H for interlock switch, Bulletin 440P or 802T for limit switch |
| Safety sensor | Use approved devices complying with the relevant product standards, regulations, and rules in the country where used. | Any Allen-Bradley Guardmaster product |
| Relay with forcibly guided contacts | Use approved devices with forcibly guided contacts complying with EN 50205. For feedback purposes, use devices with contacts capable of switching micro loads of 24V DC 5 mA. | Bulletin 700S, 100S |
| Other devices | Evaluate whether devices used are appropriate to satisfy requirements of safety category levels. | None |

## Install the Module

Read this section for installation-related information.

### Set MAC ID

Set the MAC ID by using the rotary switches. The MAC ID is set to 63 by default.




### Wiring the Module

Follow these guidelines when wiring the module:

- Do not share communication, input, or output lines with high voltage, referring to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.
- Wire correctly after confirming the signal names of all terminals.
- Follow wiring and installation guidelines for DeviceNet networks and be sure that you:
  - do not exceed a drop length of 5.7 m (19 ft).
  - note that the total drop length budget for the network is reduced by 0.30 m (1 ft) for each 1732DS module.

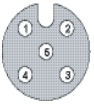
## Working with I/O Connectors

See the figure that shows connectors. The modules have M12 female I/O connectors.

## Input and Output Configuration

### Input Configuration

| Pin | Signal |
|---|---|
| 1 | Test Output n+1 |
| 2 | Safe Input n+1 |
| 3 | Input Common |
| 4 | Safe Input n |
| 5 | Test Output n |



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### Output Configuration (1732DS-IB8XOBV4 module only)

| Pin | Signal |
|---|---|
| 1 | Output +24V DC Power |
| 2 | Output n+1<br>(Sinking/Switch 24V DC Common) |
| 3 | Output Power Common |
| 4 | Output n (Sourcing/Switch 24V DC) |
| 5 | Output Power Common |

The modules have mini-sealed DeviceNet In (male) and DeviceNet Out (female) connectors for daisy-chaining and a mini-sealed Power Output (male) connector.

## DeviceNet and Power Configuration

Male

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Female

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### DeviceNet Male and Female Configuration

| Pin | Signal |
|---|---|
| 1 | Drain |
| 2 | V+ |
| 3 | V- |
| 4 | CAN-H |
| 5 | CAN_L |

Male

44044

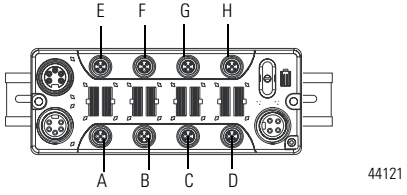
### Power Configuration

| Pin | Signal |
|---|---|
| 1 | Output +24V DC Power(1) |
| 2 | Input +24V DC Power |
| 3 | Input Power Common |
| 4 | Output Power Common(1) |

(1) 1732DS-IB8XOBV4 module only.

## Terminal Positions

See the figure and table that show terminal positions.

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### Terminal Positions

| 1732DS-IB8XOBV4 and 1732DS-IB8 Modules | | 1732DS-IB8XOBV4 Module Only | |
|---|---|---|---|
| A-1 | Test Output 1 | E-1 | S+/24V DC[1] |
| A-2 | Safety Input 1 | E-2 | Safety Output 1[2] (Switch 24V DC Common) |
| A-3 | Input Common | E-3 | L-/24V DC Common[3] |
| A-4 | Safety Input 0 | E-4 | Safety Output 0[2](Switch 24V DC) |
| A-5 | Test Output 0 | E-5 | L-/24V DC Common[3] |
| B-1 | Test Output 3 | F-1 | S+/24V DC[1] |
| B-2 | Safety Input 3 | F-2 | Safety Output 3[2] (Switch 24V DC Common) |
| B-3 | Input Common | F-3 | L-/24V DC Common[3] |
| B-4 | Safety Input 2 | F-4 | Safety Output 2[2] (Switch 24V DC) |
| B-5 | Test Output 2 | F-5 | L-/24V DC Common[3] |
| C-1 | Test Output 5 | G-1 | S+/24V DC[1] |
| C-2 | Safety Input 5 | G-2 | Safety Output 5[2] (Switch 24V DC Common) |
| C-3 | Input Common | G-3 | L-/24V DC Common[3] |
| C-4 | Safety Input 4 | G-4 | Safety Output 4[2] (Switch 24V DC) |
| C-5 | Test Output 4 | G-5 | L-/24V DC Common[3] |
| D-1 | Test Output 7 | H-1 | S+/24V DC[1] |
| D-2 | Safety Input 7 | H-2 | Safety Output 7[2] (Switch 24V DC Common) |
| D-3 | Input Common | H-3 | L-/24V DC Common[3] |
| D-4 | Safety Input 6 | H-4 | Safety Output 6[2] (Switch 24V DC) |
| D-5 | Test Output 6 | H-5 | L-/24V DC Common[3] |

[1] S+ denotes output return +24V DC.

[2] Safety outputs can be used only as pairs. Safety outputs 0/1, 2/3, 4/5, and 6/7 must be controlled as a pair.

[3] L- denotes output return common.

## Interpret the Status Indicators

See the tables for information about how to interpret status indicators.

### 24V DC Input Power Indicator

| State | Status | Description | Recommended Action |
|---|---|---|---|
| Off | No power | No power is applied. | Apply power to this section. |
| Solid green | Normal operation | The applied voltage is within specifications. | None. |
| Solid yellow | Input power out of specification | The input power is out of specification. | Check your configuration, wiring, and voltages and apply the changes. |

### 24V DC Output Power Indicator (1732DS-IB8XOBV4 module only)

| State | Status | Description | Recommended Action |
|---|---|---|---|
| Off | No power | No power is applied. | Apply power to this section. |
| Solid green | Normal operation | The applied voltage is within specifications. | None. |
| Solid yellow | Output power out of specification | The output power is out of specification. | Check your configuration, wiring, and voltages and apply the changes. |

### Module Status Indicator[(1)]

| State | Status | Description |
|---|---|---|
| Off | No power or autobauding | No power is applied to the DeviceNet connector. |
| Solid green | Normal operation | The module is operating normally. |
| Solid red | Unrecoverable fault | The module detected an unrecoverable fault. |

### Module Status Indicator(1)

| State | Status | Description |
|---|---|---|
| Flashing green | Module needs commissioning due to missing, incomplete, or incorrect configuration | Module is unconfigured. |
| Flashing red | Recoverable fault or user-initiated firmware update in progress | The module has detected a recoverable fault or user-initiated firmware update is in progress. |
| Flashing red and green | Device in self test | The module is performing its power-cycle diagnostic tests. |

(1) For recommended action, refer to the user manual that covers these modules.

### Network Status Indicator(1)

| State | Status | Description |
|---|---|---|
| Off | Module not online or no power | The module is not online with the network. |
| Flashing green | Module online with no connections in established state | The module identified the communication rate of the network but no connections are established. |
| Solid green | Module online with connections in established state | The module is operating normally. |

### Network Status Indicator[1]

| State | Status | Description |
|---|---|---|
| Flashing red | One or more I/O connections in timed-out state or user-initiated firmware update in progress | The module detected a recoverable network fault or user-initiated firmware update is in progress. |
| Solid red | Critical link failure | The module detected an error that prevents it from communicating on the network. |
| Flashing red and green | Communication faulted module | The module detected a network access error and is in communication faulted state. The module received and accepted an Identity Communication Faulted Request-long protocol message. |

(1) For recommended action, refer to the user manual that covers these modules.

### Safety Input Status Indicator

| State | Status | Description | Recommended Action |
|---|---|---|---|
| Off | Safety input off or module being configured | The safety input is off or the module is being configured. | Turn the safety input on or wait for the module to be configured. |
| Solid yellow | Safety input on | The safety input is on. | None. |
| Solid red | Fault detected | A fault in the external wiring or input circuit detected. | Check configuration, field wiring, and devices. If no problem found, replace module. |
| Flashing red | Partner fault detected | A fault in the partner input circuit of a dual input configuration detected. | Check the field wiring and verify your configuration for the partner circuit. If no problem found, replace module. |

### Safety Output Status Indicator (1732DS-IB8XOBV4 module only)

| State | Status | Description | Recommended Action |
|---|---|---|---|
| Off | Safety output off or module being configured | The safety output is off or the module is being configured. | Turn the safety output on or wait for the module to be configured. |
| Solid yellow | Safety output on | The safety output is on. | None. |
| Solid red | Fault detected | A fault in the output circuit was detected. | Check the circuit wiring and end device. If no problem found, replace module. |
| | | Both tags in a dual channel circuit do not have the same value. | Make sure logic is driving tag values to the same state (off or on). |
| Flashing red | Partner fault detected | A fault in the partner of a dual output circuit was detected. | Check the circuit wiring and end device of the partner. If no problem found, replace module. |

### Configuration Lock Indicator[(1)]

| State | Status | Description | Recommended Action |
|---|---|---|---|
| Off | No configuration | Invalid configuration data. | None. |
| Solid yellow | Locked | Valid configuration, locked by a network configuration tool, such as RSNetWorx for DeviceNet software. | None. |
| Flashing yellow | Not locked | Valid configuration, owned by a network configuration tool, such as RSNetWorx for DeviceNet software. | None. |

(1) Not applicable if owned by a GuardLogix controller.

## Specifications

### Technical Specifications - 1732DS-IB8XOBV4, 1732DS-IB8

| Attribute | 1732DS-IB8XOBV4, 1732DS-IB8 |
|---|---|
| **Safety Input** | |
| Input type | Current sinking |
| Voltage, on-state input, min | 11V DC |
| Current, on-state input, min | 3.3 mA |
| Voltage, off-state input, max | 5V DC |
| Current, off-state, max | 1.3 mA |
| IEC 61131-2 (input type) | Type 3 |
| **Pulse Test Output** | |
| Output type | Current sourcing |
| Pulse test output current | 0.7 A |
| Residual voltage, max | 1.2V |
| Output leakage current, max | 0.1 mA |
| Short circuit protection | Yes |
| Current, max | 25 mA - Current, max (to avoid fault when used as a muted lamp output) |
| Current, min | 5 mA - Current, min (at which fault indication is generated when used as a muted lamp output) |
| **Safety Output (1732DS-IB8XOBV4 module only)** | |
| Output types | Current sourcing/current sinking - bipolar pair |
| Output current rating | 2 A max per point<br>8 A total module @ 40 °C (104 °F)<br>6 A total module @ 60 °C (140 °F) |
| On-state voltage drop | ±0.6V |
| Leakage current | ±1.0 mA(1) |

### Technical Specifications - 1732DS-IB8XOBV4, 1732DS-IB8

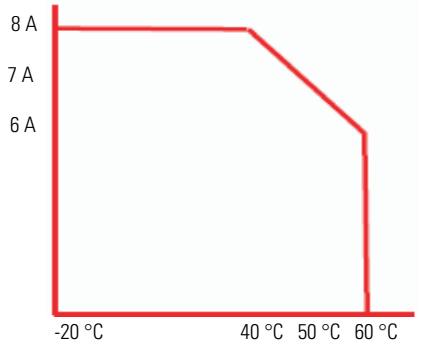
| Attribute | 1732DS-IB8XOBV4, 1732DS-IB8 |
|---|---|
| Internal resistance from P to M terminal | 3.25 kΩ |
| Short circuit detection | Yes (short high and low and cross-circuit fault detect) |
| Short circuit protection | Electronic |
| Aggregate current of outputs per module | 8 A @ 40 °C (104°F)<br>6 A @ 60 °C (140 °F) |
| Pilot duty rating | DC-14 Pilot Duty (1732DS-IB8XOBV4 module only) |
| Number of outputs | 4 dual channel |

(1) Includes the presence of a single P stuck-high or M stuck-low short.

### General Specifications - 1732DS-IB8XOBV4, 1732DS-IB8

| Attribute | 1732DS-IB8XOBV4, 1732DS-IB8 |
|---|---|
| Enclosure type rating | Meets IP64/65/66/67/69K (when product is marked) |
| Communication power supply voltage | 11…25V DC (supplied from communication power supply) |
| Communication current consumption | 85 mA at 24V DC |
| Operating voltage range | 19.2…28.8V DC (24V DC, -20…20%) |
| Isolation voltage | 50V (continuous), reinforced insulation type, I/O to DeviceNet network, I/O to power, and power to DeviceNet network, Tested at 750V DC for 60s |

## General Specifications - 1732DS-IB8XOBV4, 1732DS-IB8

| Attribute | 1732DS-IB8XOBV4, 1732DS-IB8 |
|---|---|
| Product temperature versus current derating |  Product Temperature Versus Current Derating (combined current from both input and output supplies) |
| Wiring category(1) | 1 - on signal ports<br>1 - on power ports<br>2 - on communication ports |
| Weight, approx. | 640 g (1.41 lb) |
| Dimensions (HxWxD), approx. | 69 x 179 x 70 mm (2.7 x 7.0 x 2.8 in.) |

(1) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

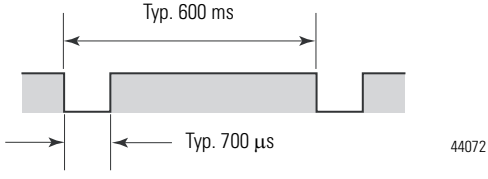
### Environmental Specifications - 1732DS-IB8XOBV4, 1732DS-IB8

| Attribute | 1732DS-IB8XOBV4, 1732DS-IB8 |
|---|---|
| Temperature, operating<br>IEC 60068-2-1 (Test Ad, Operating Cold),<br>IEC 60068-2-2 (Test Bd, Operating Dry Heat),<br>IEC 60068-2-14 (Test Nb, Operating Thermal Shock) | -20…60 °C (-4…140 °F) |
| Temperature, storage<br>IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold)<br>IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat) | -45…85 °C (-49…185 °F) |
| Relative humidity<br>IEC 60068-2-30 (Test Db, Unpackaged Damp Heat) | 5…95% noncondensing |
| Vibration<br>IEC 60068-2-6 (Test Fc, Operating) | 5 g @ 10…500 Hz |
| Shock, operating<br>IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 30 g |
| Shock, nonoperating<br>IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 50 g |
| Emissions<br>CISPR 11 | Group 1, Class A |
| ESD immunity<br>IEC 61000-4.2 | 6 kV contact discharge<br>8 kV air discharge |
| Radiated RF immunity<br>IEC 61000-4-3 | 10V/m with 1 kHz sine-wave 80%AM from 80…2000 MHz<br>10V/m with 200 Hz 50% Pulse 100%AM at 900 MHz<br>10V/m with 200 Hz 50% Pulse 100%AM at 1890 MHz<br>3V/m with 1 kHz sine-wave 80%AM from 2000…2700 MHz |

### Environmental Specifications - 1732DS-IB8XOBV4, 1732DS-IB8

| Attribute | 1732DS-IB8XOBV4, 1732DS-IB8 |
|---|---|
| Conducted RF immunity<br>IEC 61000-4-6 | 10V rms with 1 kHz sine-wave 80%AM from 150 kHz…80 MHz |
| EFT/B immunity<br>IEC 61000-4-4 | ±4 kV at 5 kHz on power ports<br>±3 kV at 5 kHz on signal ports<br>±2 kV at 5 kHz on communication ports |
| Surge transient immunity<br>IEC 61000-4-5 | ±1 kV line-line (DM) and ±2 kV line-earth (CM) on power ports<br>±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports<br>±2 kV line-earth (CM) on communication ports |
| **Reaction Time** | |
| Input reaction time, max | 16.2 ms + set values of ON/OFF delays |
| Output reaction time, max | 6.2 ms + (20 ms) relay response time (1732DS-IB8XOBV4 module) |

## Signal Sequence




While safety outputs are in an on state, the signal sequence shown in the figure is output continuously for fault diagnosis when output pulse testing is enabled. Confirm response time of device connected to safety outputs so the device does not malfunction due to off pulse.

**Certifications - 1732DS-IB8XOBV4, 1732DS-IB8**

| Certification (when product is marked)[1] | 1732DS-IB8XOBV4, 1732DS-IB8 |
|---|---|
| c-UL-us | UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. |
| CE | European Union 2004/108/EC EMC Directive, compliant with:<br>EN 61326-1; Meas./Control/Lab., Industrial Requirements.<br>EN 61000-6-2; Industrial Immunity.<br>EN 61000-6-4; Industrial Emissions.<br>EN 61131-2; Programmable Controllers<br>(Clause 8, Zone A & B). |
| C-Tick | Australian Radiocommunications Act, compliant with:<br>AS/NZS CISPR 11; Industrial Emissions. |
| ODVA | ODVA conformance tested to DeviceNet specifications. |
| TÜV | TÜV Certified for Functional Safety up to and including Category 4 and SIL 3.[2] |

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

(2) When used with specified firmware revisions.

## Additional Resources

For safe and correct use of the product, read these publications:

- DeviceNet Modules in Logix5000 Control Systems User Manual, publication DNET-UM004
- Guard I/O DeviceNet Safety Modules User Manual, publication 1791DS-UM001

You can view or download publications at http://literature.rockwellautomation.com. To order paper copies of technical documentation, contact your local Rockwell Automation distributor or sales representative.

## Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At http://www.rockwellautomation.com/support/, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/support/.

## Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

| | |
|---|---|
| United States | 1.440.646.3434<br>Monday – Friday, 8 a.m. – 5 p.m. EST |
| Outside United States | Please contact your local Rockwell Automation representative for any technical support issues. |

## New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

| | |
|---|---|
| United States | Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process. |
| Outside United States | Please contact your local Rockwell Automation representative for the return procedure. |



**www.rockwellautomation.com**

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