

# XS1ro/XS2ro Dual Channel Safety Relay Modules



## Datasheet

### Models

Model	Description
XS1ro	1 Dual Channel Safety Relay Module (2 N.O./1 N. C.)
XS2ro	2 Dual Channel Safety Relay Module (2 N.O./1 N.C. each)

### Terminal Assignment

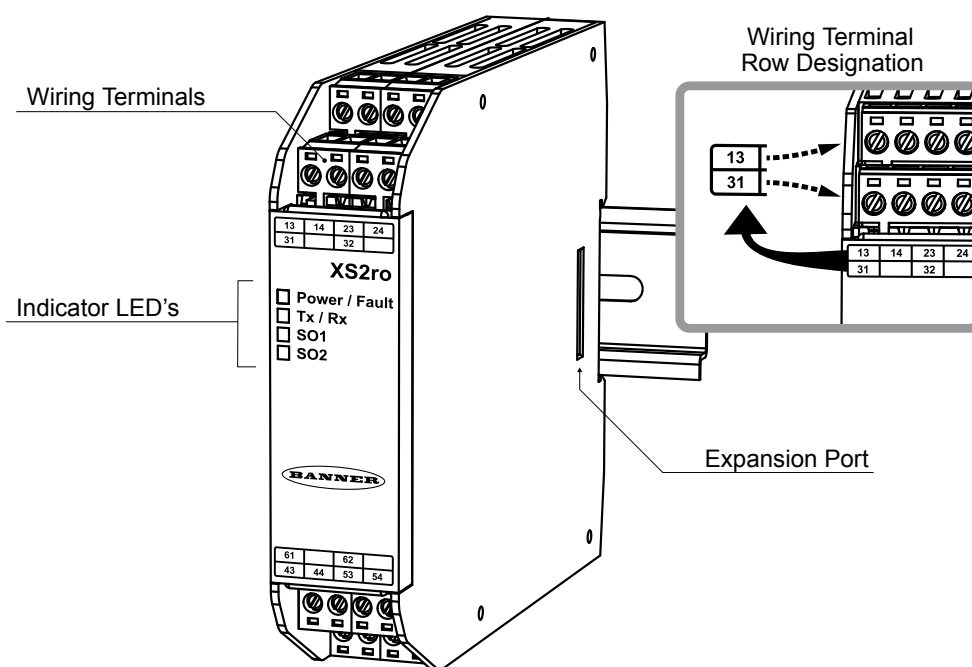
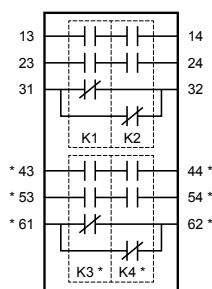


Figure 1. XS2ro



\*Only present in XS2ro.  
If driving external relays, EDM should be configured to monitor the state of these external relays.

Figure 2. Contact Configuration



## Specifications

### Mechanical Stress

Shock: 15 g for 11 ms, half sine, 18 shocks total (per IEC 61131-2)  
Vibration: 3.5 mm occasional / 1.75 mm continuous at 5 Hz to 9 Hz,  
1.0 g occasional and 0.5 g continuous at 9 Hz to 150 Hz: all at 10  
sweep cycles per axis (per IEC 61131-2)

### Safety

Category 4, PL e (EN ISO 13849)  
SIL CL 3 (IEC 62061, IEC 61508)

### Product Performance Standards

See Standards and Regulations section in the Instruction Manual for a  
list of industry applicable U.S. and international standards

### EMC

Meets or exceeds all EMC requirements in IEC 61131-2, IEC 62061  
Annex E, Table E.1 (increased immunity levels), IEC 61326-1:2006,  
and IEC61326-3-1:2008

### Bus Power

XS1ro 0.125 A (outputs On)  
XS2ro: 0.15 A (outputs On)

### Maximum Power

2000 VA, 240 W

### Electrical Life

50,000 at full resistive load

### Overvoltage Category

III

### Pollution Degree

2

### Mechanical Life

40,000,000 operations

*Note: Transient suppression is recommended when switching inductive  
loads. Install suppressors across load. Never install suppressors across  
output contacts.*

### Certifications



### Operating Conditions

Temperature: 0 °C to +55 °C (+32 °F to +131 °F)  
Storage Temperature: -30 °C to +80 °C (-34 °F to +176 °F)

### Environmental Rating

NEMA 1 (IEC IP20), for use inside NEMA 3 (IEC IP54) or better  
enclosure

### Removable Screw Terminals

Wire size: 24 to 12 AWG (0.2 to 3.31 mm<sup>2</sup>)  
Wire strip length: 7 to 8 mm (0.275 in to 0.315 in)  
Tightening torque: 0.565 N·m (5.0 in-lb)

### Removable Clamp Terminals

*Important: Clamp terminals are designed for 1 wire only. If more than  
1 wire is connected to a terminal, a wire could loosen or become  
completely disconnected from the terminal, causing a short.*

Wire size: 24 to 16 AWG (0.20 to 1.31 mm<sup>2</sup>)  
Wire strip length: 8.00 mm (0.315 in)

### Contact Rating

#### UL/NEMA:

- N.O. Contacts: 6 A 250 V ac/24 V dc resistive; B300/Q300  
pilot duty
- N.C. Contacts: 2.5 A 150 V ac/24 V dc resistive; Q300 pilot  
duty

#### IEC 60947-5-1:

- N.O. Contacts: 6 A 250 V ac/dc continuous; AC 15: 3 A 250  
V; DC13: 1 A 24 V/4 A 24 V 0.1 Hz
- N.C. Contacts: 2.5 A 150 V ac/dc continuous; AC 15: 1 A  
150 V; DC13: 1 A 24 V/4 A 24 V 0.1 Hz

### Contact Ratings to preserve 5 µm AgNi gold plating

	Minimum	Maximum
Voltage	100 mV ac/dc	60 V ac/dc
Current	1 mA	300 mA
Power	1 mW (1 mVA)	7 W (7 VA)

### Current Feature ID

Base Modules:	1	XS8si and XS16si:	1
XS2so and XS4so:	1	XS1ro and XS2ro:	1



**Important:** The Safety Controller and all solid state output expansion modules should be connected only to a SELV (Safety Extra-Low Voltage, for circuits without earth ground) or a PELV (Protected Extra-Low Voltage), for circuits with earth ground power supply.

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