

XS2so/XS4so Dual Channel Solid-State Safety Output Modules

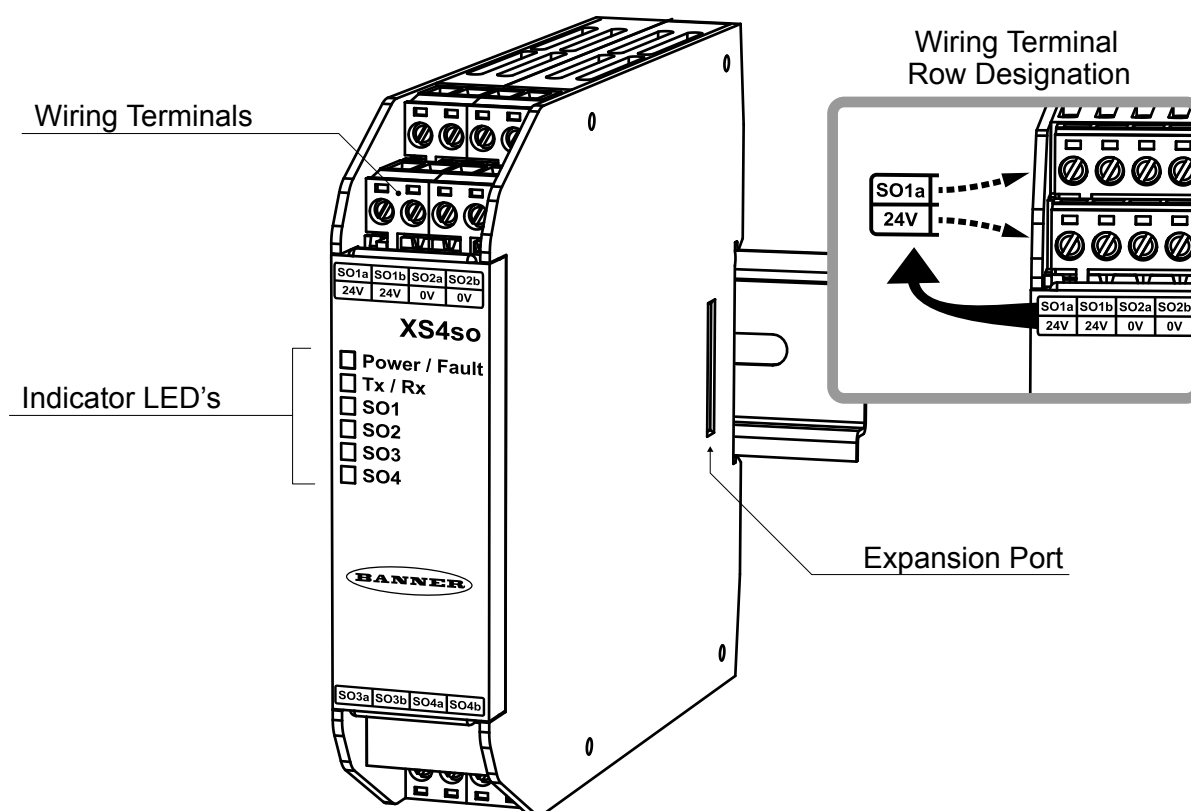


Datasheet

Models

Model	Description
XS2so	2 Dual Channel Solid-State Safety Output Module
XS4so	4 Dual Channel Solid-State Safety Output Module

Terminal Assignment



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

Solid State Safety Outputs

XS2so: 0.75 A max. at 24 V dc (1.0 V dc max drop)
XS4so: 0.5 A max. at 24 V dc (1.0 V dc max drop)
Inrush: 2 A max.
Output Off threshold: 1.7 V dc typical (2.0 V dc max.)
Output leakage current: 50 µA max. with open 0 V
Load: 0.1 µF max., 1 H max., 10 Ω max. per lead

Certifications



Current Feature ID

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

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 mm²)
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 mm²)
Wire strip length: 8.00 mm (0.315 in)

External Power

XS2so: 24 V dc ± 20% (including ripple); 0.075 A no load, 3.075 A
max. load

XS4so: 24 V dc ± 20% (including ripple); 0.1 A no load, 4.1 A max.
load

Maximum Power-up Delay: 5 seconds after the Base Controller

Limited Isolation: ±30 V dc max. referenced to 0 V on the Base
Controller

Bus Power

0.02 A

Test Pulse

Width: 200 µs max.
Rate: 200 ms typical

Output Protection

All solid-state outputs (safety and non-safety) are protected from
shorts to 0 V or +24 V, including overcurrent conditions



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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