

XS2so/XS4so Dual Channel Solid-State Safety Output Modules



Datasheet

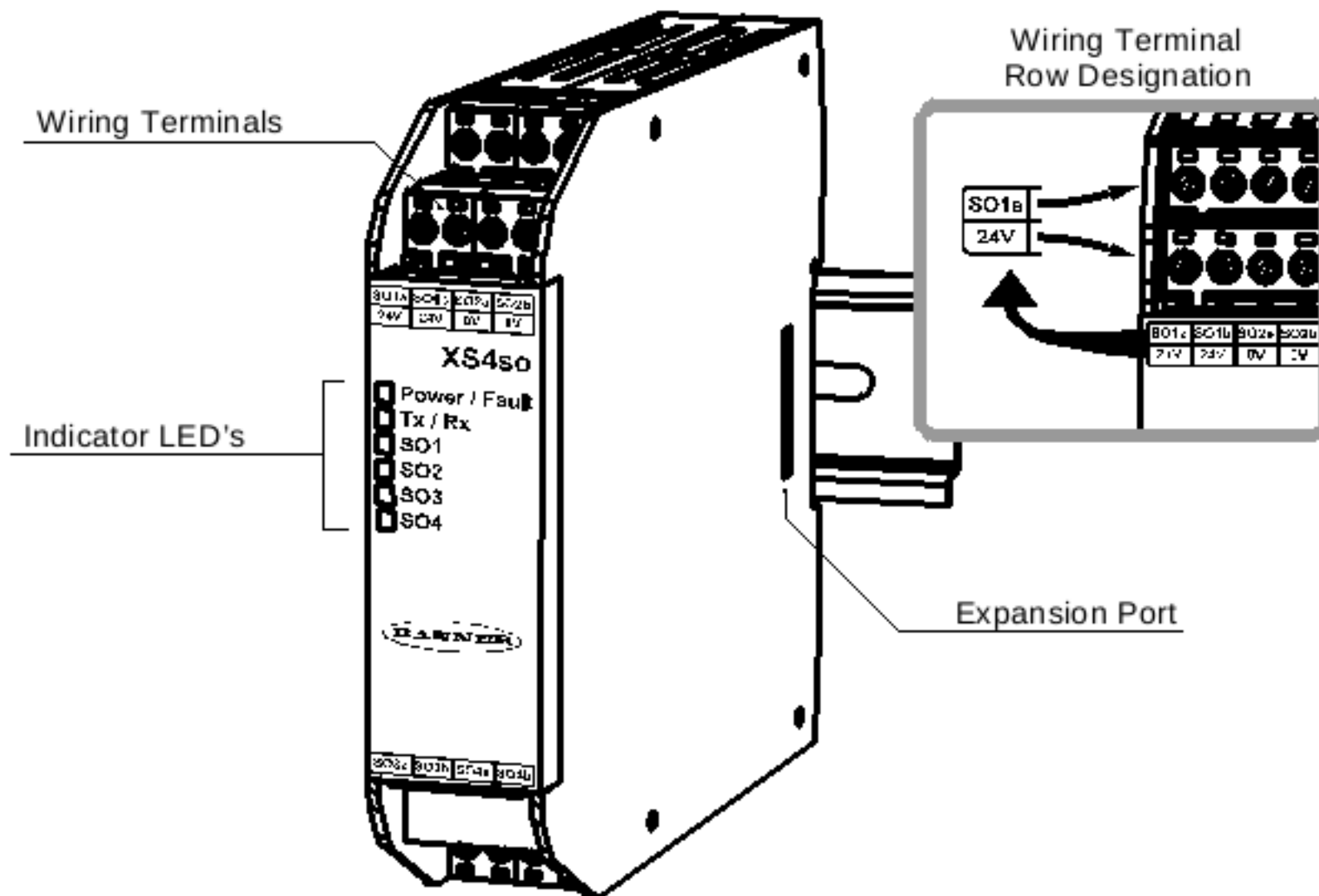


Important: For complete technical information about this product, including installation instructions, application requirements and guidelines, EU Declaration of Conformity, technical specifications and accessories, see www.bannerengineering.com and search for the instruction manual, p/n 174868.

Models

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

Terminal Assignment



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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

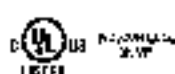
Solid State Safety Outputs

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 μ A max. with open 0 V
 Load: 0.1 μ F max., 1 H max., 10 Ω max. per lead

Safety Ratings

PFH [1/h]: 5.8×10^{-10}
 Proof Test Interval: 20 years

certifications



Operating Conditions

Temperature: 0 °C to +55 °C (+32 °F to +131 °F)
 Storage Temperature: -30 °C to +65 °C (-22 °F to +149 °F)
 Humidity: 90% at +50 °C maximum relative humidity (non-condensing)
 Operating Altitude: 2000 m maximum (6562 ft maximum)

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 \pm 20% (including ripple); 0.075 A no load, 3.075 A max. load
 XS4so: 24 V dc \pm 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: \pm 30 V dc max. referenced to 0 V on the Base Controller

Bus Power

0.02 A

Test Pulse

Width: 200 μ s 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

Feature ID (FID) Compatibility

For Feature ID (FID) compatibility between a Base Module and the Expansion Modules, see XS26-2/SC26-2 Base Safety Controllers datasheet p/n 175119.



Important: The power supply must meet the requirements for extra low voltages with protective separation (SELV, PELV).

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