

# XS8si/XS16si Safety Input Modules

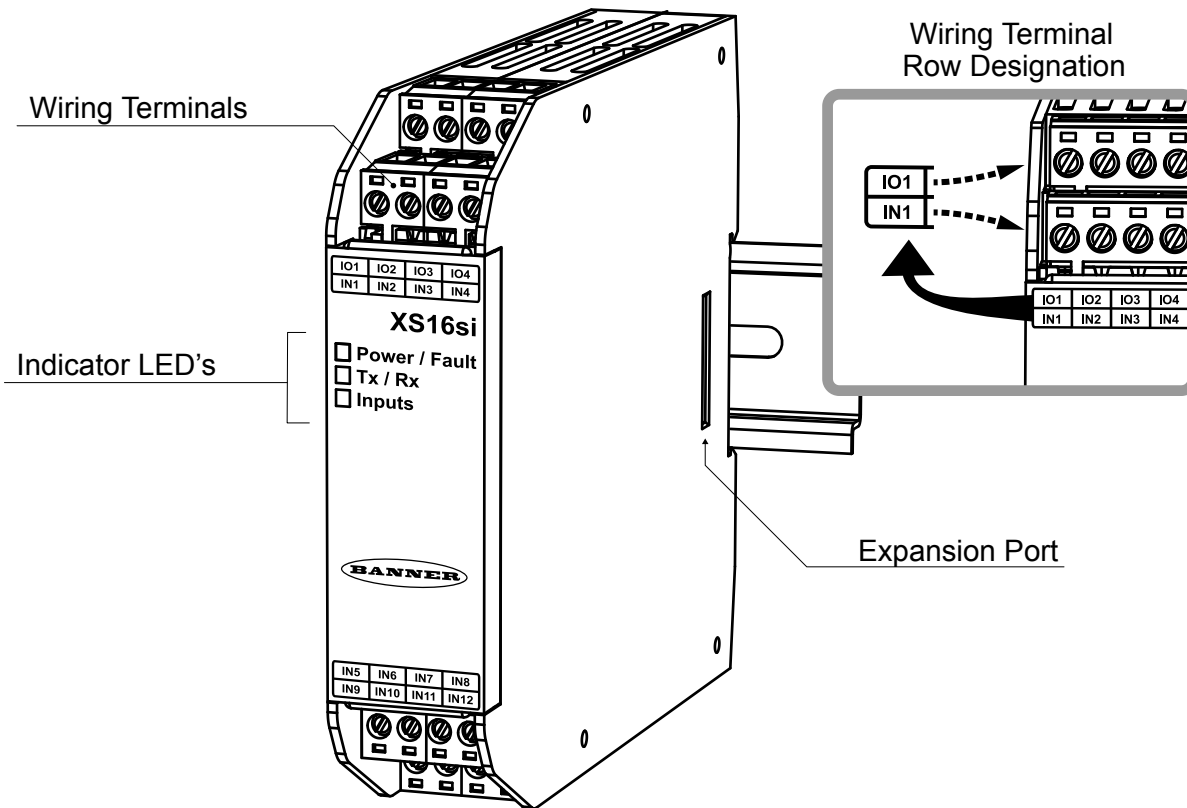


Datasheet

Models

Model	Description
XS8si	Safety Input Module - 8 inputs (2 convertible)
XS16si	Safety Input Module - 16 inputs (4 convertible)

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 IEC 61326-3-1:2008

### Convertible I/O

**Sourcing current:** 80 mA maximum at 55 °C (131 °F) operating ambient temperature (overcurrent protected)

### Bus Power

**XS8si:** 0.07 A no load, 0.23 A max. load  
**XS16si:** 0.09 A no load, 0.41 A max. load

### Safety Ratings

**PFH [1/h]:**  $4 \times 10^{-10}$   
**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)  
**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 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)

### Safety Inputs (and Convertible I/O when used as inputs)

**Input On threshold:** > 15 V dc (guaranteed on), 30 V dc max.

**Input Off threshold:** < 5 V dc and < 2 mA, -3 V dc min.

**Input On current:** 5 mA typical at 24 V dc, 50 mA peak contact cleaning current at 24 V dc

**Input lead resistance:** 300 Ω max. (150 Ω per lead)

**Input requirements for a 4-wire Safety Mat:**

- Max. capacity between plates: 0.22 μF
- Max. capacity between bottom plate and ground: 0.22 μF
- Max. resistance between the 2 input terminals of one plate: 20 Ω

### Output Protection

The convertible inputs 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 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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