Safety Controller Highlights

- Intuitive icon-based drag-and-drop configuration via free PC software
- 10 input, 26 input, and expandable models available
- Communicates over industrial ethernet
  - 80 virtual non-safe inputs
  - 256 virtual non-safe status outputs

BANNER
## Safety Relays and Controllers

Industrial safety controllers and relays provide an interface between safety devices and the machines and processes those devices monitor for a complete and easy-to-use safety control solution.

<table>
<thead>
<tr>
<th>Expandable Safety Controller</th>
<th>Hybrid Safety Controller plus 2 Safety Relays</th>
<th>Safety Relays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expandable for Complex Safety applications where 3 or more safety relays are typically used</td>
<td>Flexible and cost effective solution for machines typically using 2 Safety Relays</td>
<td>Cost effective for simple safety circuits</td>
</tr>
<tr>
<td>• PC Configurable: Flexible and easy-to-use</td>
<td>• PC Configurable: Flexible and easy-to-use</td>
<td>• Pre-set Functionality: Configuration not required</td>
</tr>
<tr>
<td>• Safety Inputs: 26 (base unit) up to 154</td>
<td>• Safety Inputs: up to 10; up to 14 using Automatic Terminal Optimization (ATO)</td>
<td>• Safety Inputs: 1</td>
</tr>
<tr>
<td>• Independently controlled Safety Outputs: up to 68, 0.5A to 6A each</td>
<td>• Independently controlled Safety Outputs: 2, 6A each</td>
<td>• Independently controlled Safety Outputs: 1, 4 to 7A</td>
</tr>
<tr>
<td>• Convertible Safety Inputs: 8 (Base Unit) up to 40</td>
<td>• Convertible Safety Inputs: 4</td>
<td></td>
</tr>
<tr>
<td>• LCD Display for easy troubleshooting</td>
<td>• Terminal LEDs for easy troubleshooting</td>
<td></td>
</tr>
<tr>
<td>• Industrial Ethernet</td>
<td>• Industrial Ethernet</td>
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</tr>
</tbody>
</table>

**More Options**

- Safety Relays and Controllers
- Industrial safety controllers and relays provide an interface between safety devices and the machines and processes those devices monitor for a complete and easy-to-use safety control solution.

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**Contact Information**

www.bannerengineering.com | 1-888-373-6767
## Configurable Safety Controllers

<table>
<thead>
<tr>
<th>Series</th>
<th>XS26</th>
<th>SC26</th>
<th>SC10</th>
<th>SR</th>
<th>IM</th>
<th>ES</th>
<th>UM</th>
<th>GM</th>
<th>SM</th>
<th>AT Two-Hand</th>
<th>MMD</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Input Terminals</td>
<td>up to 154*</td>
<td>up to 26</td>
<td>10*</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2 STB</td>
</tr>
<tr>
<td>Independently Controlled Safe Outputs</td>
<td>up to 68*</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Max. Safety Output Rating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>In-Series Diagnostics (ISD)</td>
<td></td>
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</tr>
</tbody>
</table>

### Pre-configured Safety Relay Modules

<table>
<thead>
<tr>
<th></th>
<th>XS26</th>
<th>SC26</th>
<th>SC10</th>
<th>SR</th>
<th>IM</th>
<th>ES</th>
<th>UM</th>
<th>GM</th>
<th>SM</th>
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<th>MMD</th>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2 STB</td>
</tr>
<tr>
<td>Independently Controlled Safe Outputs</td>
<td>up to 68*</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Max. Safety Output Rating</td>
<td>0.5A, 6A* ea.</td>
<td>0.5A ea.</td>
<td>6A ea.</td>
<td>6A</td>
<td>6A</td>
<td>7A</td>
<td>7A</td>
<td>6A</td>
<td>6A</td>
<td>6A</td>
<td>6A</td>
</tr>
<tr>
<td>In-Series Diagnostics (ISD)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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NOTE: Up to Cat. 4 PL e, per EN ISO 13849-1; SIL 3 per IEC 61508 and IEC 62061. See [www.bannerengineering.com](http://www.bannerengineering.com) for additional information.

* Expandable input and output modules available
1. Choose Controller

2. Equipment View

3. Add safety devices

4. Select safety device properties

5. Add virtual non-safety inputs

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Build System and Select Equipment
Start using the free software today. Go to bannerengineering.com/safetycontroller

The feature-rich SC10 and SC/XS26 safety controller software provides a seamless user interface for setting up and managing safety systems. The software features an intuitive icon-based, drag-and-drop user interface to reduce the learning curve and speed up commissioning.

- Complex configurations made easy
- Simulate configurations before implementation
- Auto configure industrial ethernet for remote monitoring and diagnostics

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Please select a safety controller:
- XS26/SC26 Series
- SC10 Series

Add Equipment

Emergency Stop Properties

Debounce Times

Close to open: 0 sec
Open to close: 0 sec

Enable Startup Test
Simultaneity

Cancel
OK
Cancel

Add Safety Input
Emergency Stop
Gate Switch
Optical Sensor
Two-Hand Control

Safety Mat
Protective Stop
External Device Monitoring
Rope Pull

Enabling Device
Muting Sensor Pair
Bypass Switch
Adjustable Valve Monitor

Cancel
6. Configure Your System in Minutes

Simulation View

Module Summary

Simulation Speed 100%
Step Interval 4 ms

Inputs

Properties

Name    Value
Module   MD
Circuit Type Dual-Channel PNP
Terminals MD

Module Position: 0

Equipment Functional View Wiring Diagram Ladder Logic Industrial Ethernet Configuration Summary Simulation Mode

Function Block Logic Block

Split Output

Assorted View Menus

Simple Drag-and-Drop Connections
SC26 Safety Controller
- Base Controller allows eight of the 26 inputs to be configured as outputs for efficient terminal use
- Two independent pairs of safe outputs at 0.5A each
- Models available with optional ethernet and display

XS26 Expandable Safety Controller
- Optional display screen allows local diagnostics for efficient troubleshooting
- Up to eight expansion I/O modules can be added as automation requirements grow or change
- Choose from six expansion module models with a variety of safety inputs, solid-state safety outputs and safety relay outputs
- Controller and input modules allow safety inputs to be converted to status outputs for efficient terminal use
- Fast programming and swapout using the SC-XM3 memory card (see next page)
SC10 Safety Controller

Automatic Terminal Optimization (ATO)
Allows for an increase from 10 to 14 inputs

Wire Diagram View for 10 Inputs without ATO

Wire Diagram View for 14 Inputs with ATO

SC-XM3
Fast Programming and Swapout
- Backup copy of configuration, password, network settings
- Download configuration without a PC; Save time during panel build
- Fast swapout to minimize downtime at swapout

In-Series Diagnostics (ISD) makes it easy to access diagnostic data from devices in a safety system without special equipment or designated cabling. Users can troubleshoot machine safety systems, prevent system faults, and reduce equipment downtime. This innovative, next generation technology is exclusive to safety devices from Banner Engineering. For more information go to www.bannerengineering.com/isd
<table>
<thead>
<tr>
<th>Model*</th>
<th>Description</th>
<th>Inputs/Convertible</th>
<th>Independently Controlled Safe Outputs</th>
<th>Max. Safety Output Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>XS26-2d</td>
<td>Base Controller with LCD</td>
<td>26/8</td>
<td>2</td>
<td>0.5A PNP @24 V dc</td>
</tr>
<tr>
<td>XS26-2de</td>
<td>Base Controller</td>
<td>26/8</td>
<td>2</td>
<td>0.5A PNP @24 V dc</td>
</tr>
<tr>
<td>XS26-2</td>
<td>Base Controller</td>
<td>26/8</td>
<td>2</td>
<td>0.5A PNP @24 V dc</td>
</tr>
<tr>
<td>XS26-2e</td>
<td>Base Controller</td>
<td>26/8</td>
<td>2</td>
<td>0.5A PNP @24 V dc</td>
</tr>
<tr>
<td>XS8si</td>
<td>Safety Input Module</td>
<td>8/2</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>XS18si</td>
<td>Safety Input Module</td>
<td>16/4</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>XS2so</td>
<td>Safety Output Module</td>
<td>NA</td>
<td>1</td>
<td>0.75A PNP @24 V dc</td>
</tr>
<tr>
<td>XS4so</td>
<td>Safety Output Module</td>
<td>NA</td>
<td>2</td>
<td>0.5A PNP @24 V dc</td>
</tr>
<tr>
<td>XS1ro</td>
<td>Safety Relay Output Module</td>
<td>NA</td>
<td>1</td>
<td>6A; 2 NO, 1 NC aux</td>
</tr>
<tr>
<td>XS2ro</td>
<td>Safety Relay Output Module</td>
<td>NA</td>
<td>2</td>
<td>6A; 2 NO, 1 NC aux</td>
</tr>
</tbody>
</table>

* Models operate at 24 V dc +/- 20%