

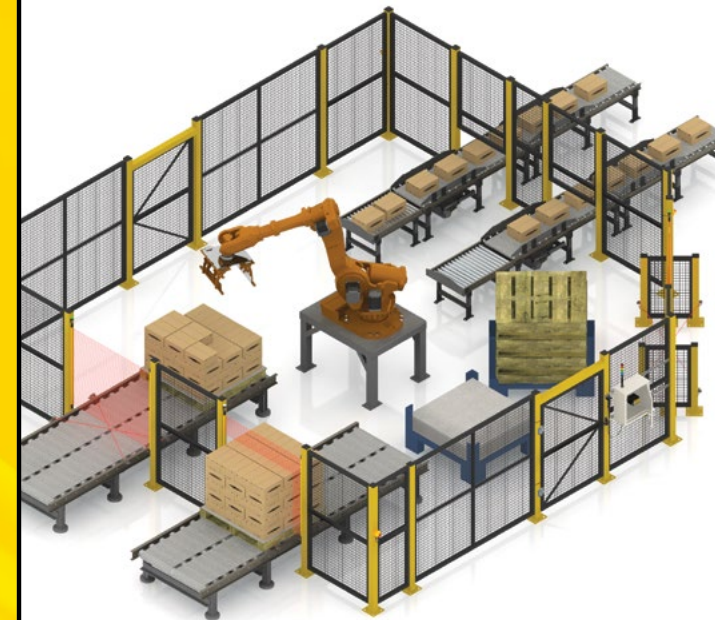


SC26-2

Programmable Safety Controller

SC26-2 Programmable Safety Controller: The next level in machine safety control.

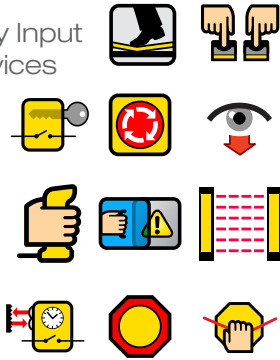
- Intuitive programming environment for **easy implementation**
- Innovative **live display** feature and diagnostics assist in troubleshooting and commissioning
- Base controller **allows eight of the 26 inputs to be configured as outputs** for efficient terminal utilization
- **Software included**



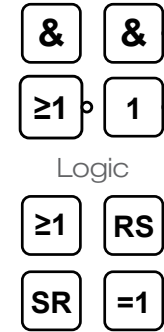
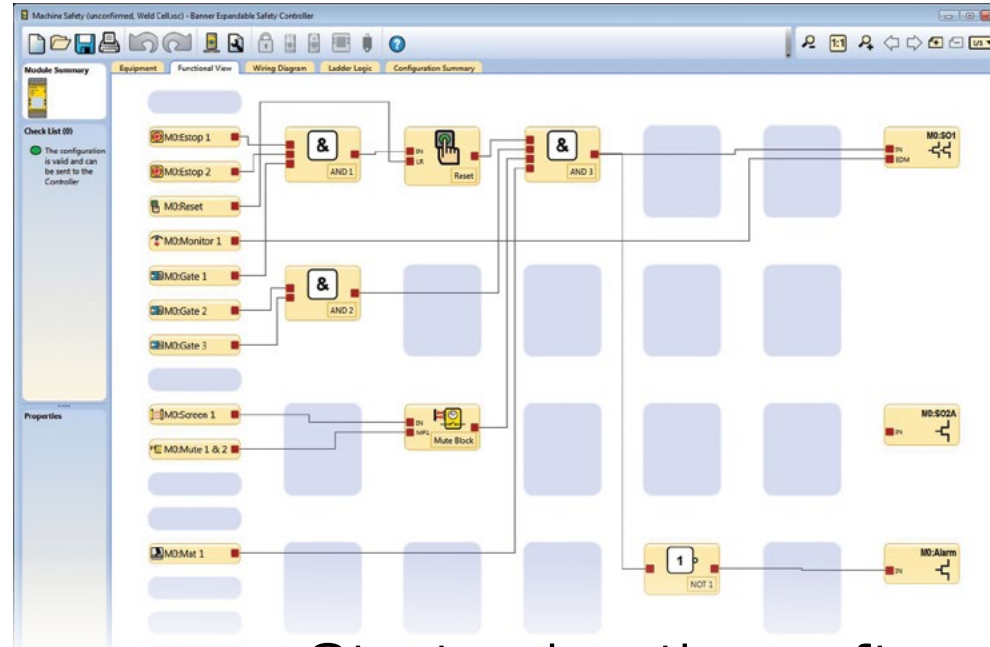


Programmable Safety Controller

Safety Input Devices



The next level in machine safety control...



Logic

Start using the software today
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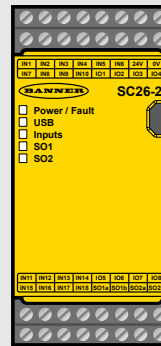
Specifications

Safety Outputs:
2 Dual-channel PNP

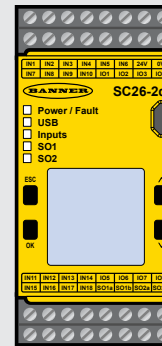
Supply Voltage:
24 V dc

Inputs/Outputs:
26 Safety or non-safety inputs;
8 can be configured as outputs

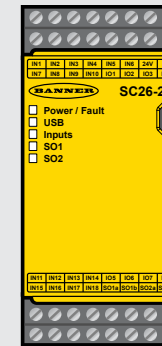
Performance Standards:
Category 4,
PL e per ISO 13849-1,
SIL CL 3 per IEC 62061,
SIL 3 per IEC 61508



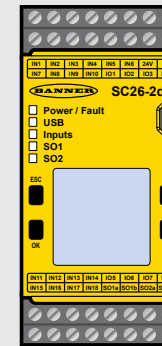
SC26-2



SC26-2D
Display



SC26-2E
Ethernet



SC26-2DE
Display and Ethernet

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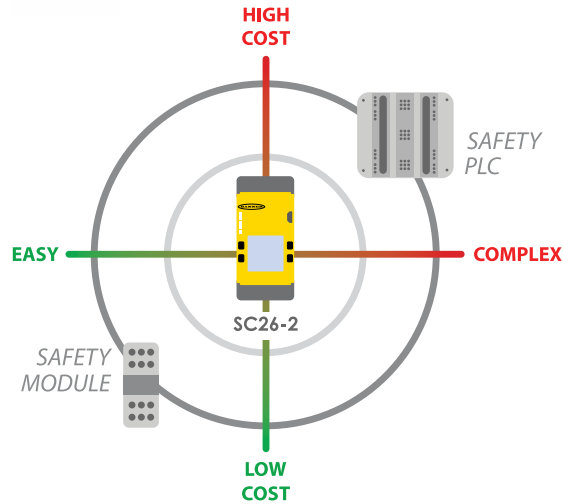


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Programmable Safety Controller



Supply Voltage	24 V dc \pm 20%, 100 mA exclusive of load (add 20 mA for display and 40 mA for Ethernet)
Housing	45 mm DIN mount, NEMA 1 (IEC IP20), plug-in terminals
Safety Outputs	2 Independent, dual-channel, PNP, 0.5 A max. @ 24 V dc
Inputs (and Convertible I/O used at inputs)	26 Safety or non-safety inputs, configurable for solid-state or contact-based inputs
Status Outputs (Convertible I/O used as Outputs)	8 PNP outputs 80 mA @ 24 V dc total
Ethernet Output	64 configurable status outputs, EtherNet/IP (with PCCC), Modbus/TCP
Performance Standards	Category 4, PL e per ISO 13849-1, SIL CL 3 per IEC 62061, SIL 3 per IEC 61508,

Specifications

Target Equipment

- Welding stations
- Assembly machines
- Robotic automation
- End-of-line packaging equipment
- Safety retrofits

Accessories



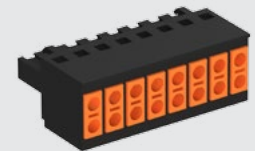
SC-XM2
Memory Card



SC-XMP2
Programming Tool



SC-USB2
USB Cable



SC-TC2
Spring Terminal Block Set

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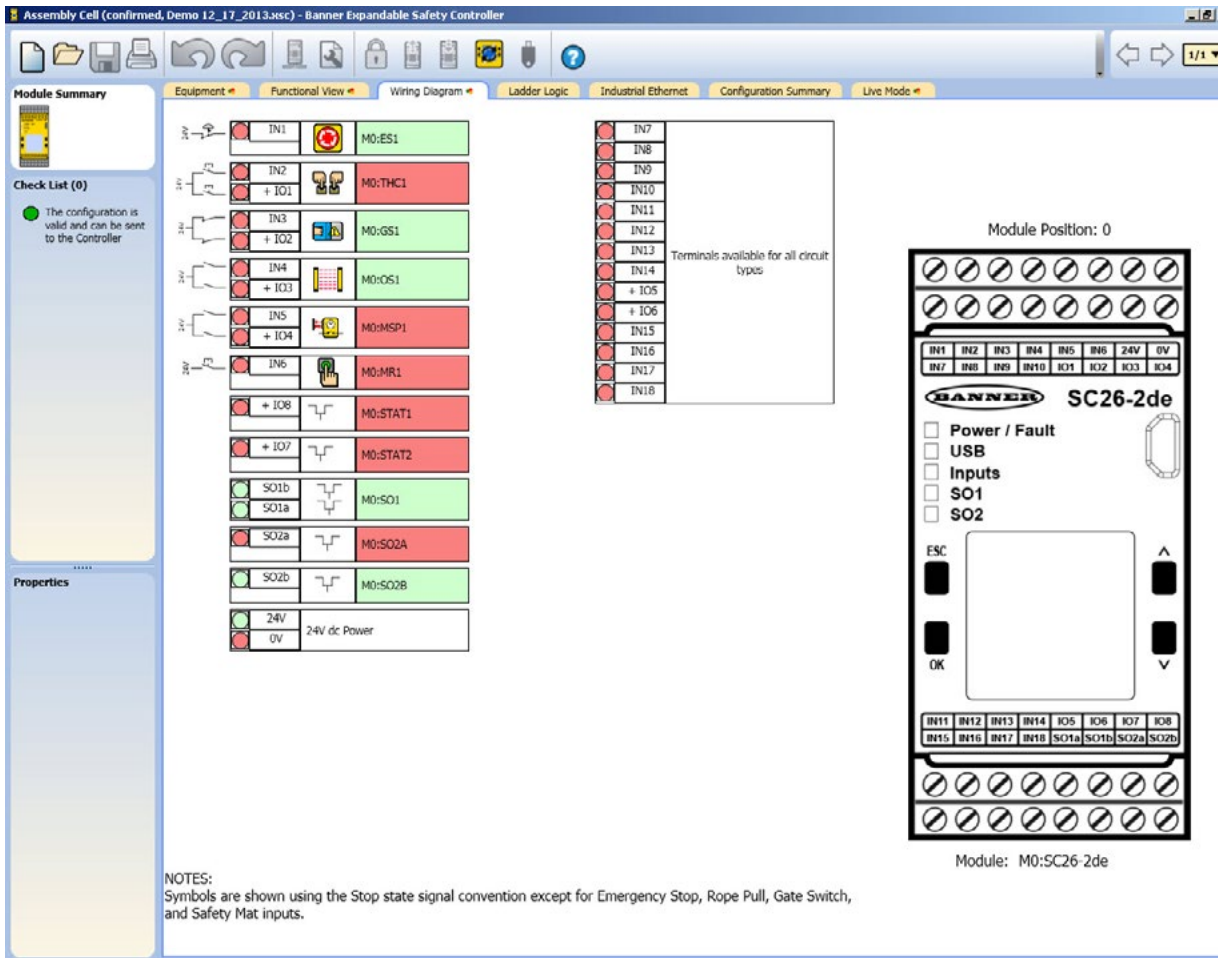
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Programmable Safety Controller



Shows the physical connection to the real world

Efficient use of terminals:

- Eight of the 26 inputs can be configured as outputs
- Terminals can be shared

Spring Clamp Terminal option

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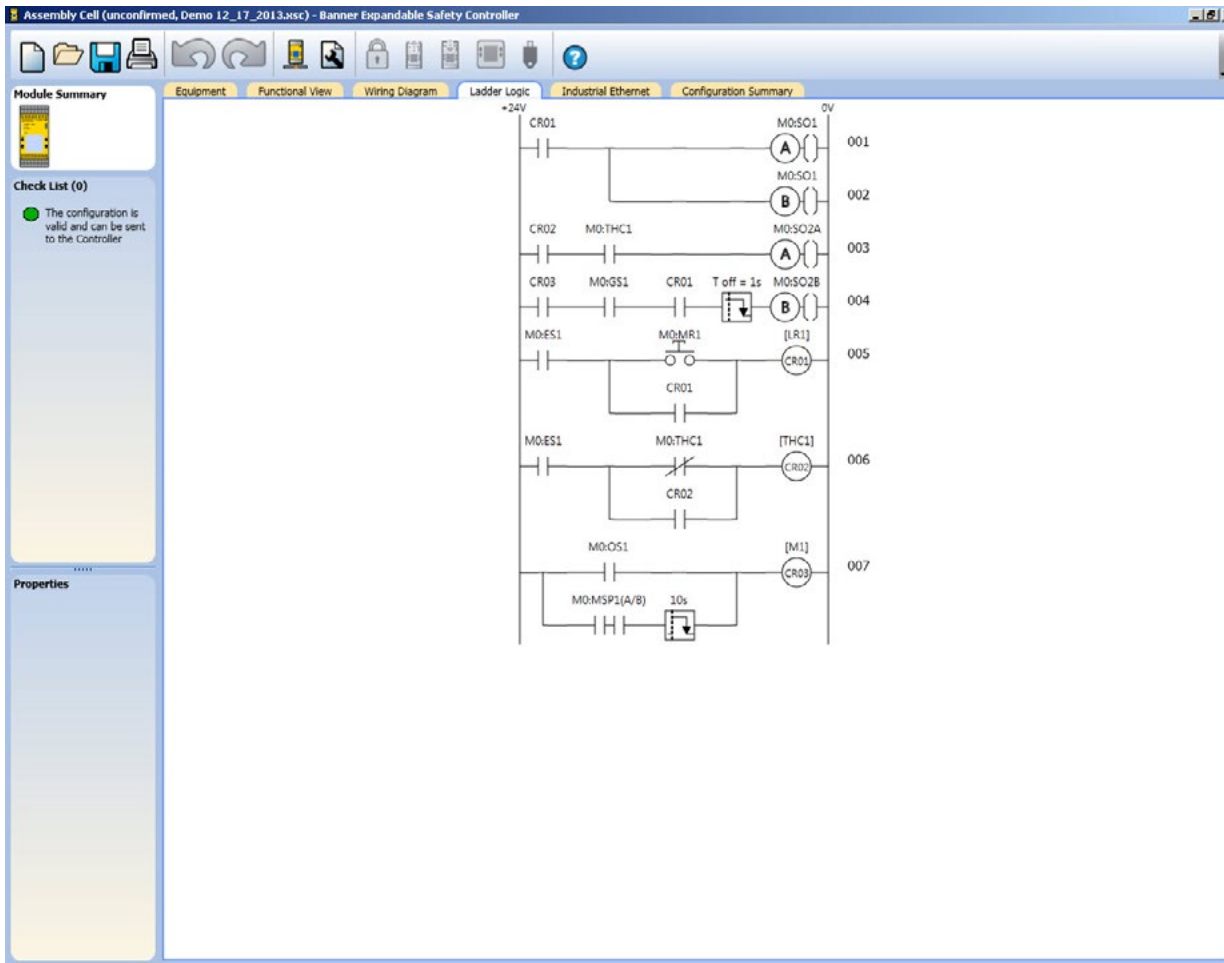
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Programmable Safety Controller



Provides a ladder logic representation of the controller configuration

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Programmable Safety Controller

Assembly Cell (unconfirmed, *Demo 12_17_2013.jsc) - Banner Expandable Safety Controller

Equipment Functional View Wiring Diagram Ladder Logic Industrial Ethernet Configuration Summary

Modbus/TCP Clear All Auto Configure

Modbus/TCP Register Map for the Virtual Status Outputs
All registers are accessible as input registers (30000) or holding registers (40000)

Virtual Status Output	Function	VO Status		Fault Flag		Fault Index
		Discrete	3X/4X Req. Bit	Discrete	3X/4X Req. Bit	
VO1	System Lockout	10001	1:0	10065	5:0	41
VO2	M0-MR1 reset needed	10002	1:1			
VO3	Inputs of M1 are muted	10003	1:2			
VO4	M0-SO2B: Delay In Progress	10004	1:3			
VO5	Track Any Input Fault	10005	1:4			
VO6	M0-SO1 fault	10006	1:5			
VO7	+	10007	1:6			
VO8	+	10008	1:7			
VO9	+	10009	1:8			
VO10	+	10010	1:9			
VO11	+	10011	1:10			
VO12	+	10012	1:11			
VO13	+	10013	1:12			
VO14	+	10014	1:13			
VO15	+	10015	1:14			
VO16	+	10016	1:15			
VO17	+	10017	2:0			
VO18	+	10018	2:1			
VO19	+	10019	2:2			
VO20	+	10020	2:3			
VO21	+	10021	2:4			
VO22	+	10022	2:5			
VO23	+	10023	2:6			
VO24	+	10024	2:7			
VO25	+	10025	2:8			
VO26	+	10026	2:9			
VO27	+	10027	2:10			
VO28	+	10028	2:11			

* Refer to the Instruction Manual for column and row heading descriptions

Supports standard Industrial Ethernet protocols up to 64 outputs

The Ethernet outputs can automatically populate or are customizable

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Programmable Safety Controller

Assembly Cell (unconfirmed, *Demo 12_17_2013.jsc) - Banner Expandable Safety Controller

Equipment Functional View Wiring Diagram Ladder Logic Industrial Ethernet Configuration Summary

Module Summary

Check List (0)
 The configuration is valid and can be sent to the Controller

M0:SC26-2de Inputs

Type: Emergency Stop Name: ES1 Module: M0 Circuit Type: Single-Channel 1 terminal Terminals: IN1 Simultaneity: Simultaneous Debounce Closed-Open: 6ms Debounce Open-Closed: 50ms Startup Test: Disabled Output: LR1, THC1 Safety Outputs: M0:SO1, M0:SO2A, M0:SO2B	Type: Two-Hand Control Name: THC1 Module: M0 Circuit Type: Dual-Channel 2 terminal Terminals: IO1, IN2 Simultaneity: Simultaneous Debounce Closed-Open: 6ms Debounce Open-Closed: 50ms Output: THC1 Safety Outputs: M0:SO2A	Type: Gate Switch Name: GS1 Module: M0 Circuit Type: Dual-Channel 2 terminal Terminals: IO2, IN3 Simultaneity: Simultaneous Debounce Closed-Open: 6ms Debounce Open-Closed: 50ms Startup Test: Disabled Output: A2 Safety Outputs: M0:SO2B
Type: Optical Sensor Name: OS1 Module: M0 Circuit Type: Dual-Channel 2 terminal Terminals: IO3, IN4 Simultaneity: Simultaneous Debounce Closed-Open: 6ms Debounce Open-Closed: 50ms Startup Test: Disabled Output: M1 Safety Outputs: M0:SO2B	Type: Muting Sensor Pair Name: MSP1 Module: M0 Circuit Type: Dual-Channel 2 terminal Terminals: IO4, IN5 Debounce Closed-Open: 50ms Debounce Open-Closed: 50ms Output: M1 Safety Outputs: M0:SO2B	Type: Manual Reset Name: MR1 Module: M0 Circuit Type: Single-Channel 1 terminal Terminals: IN6 Reset Type: Monitored Output: LR1 Safety Outputs: M0:SO1, M0:SO2B

Function Blocks

Type: Latch Reset Block Name: LR1 Power-Up Mode: Normal Input: M0:ES1 Latch Reset: M0:MR1 Output: A2, M0:SO1	Type: THC Block Name: THC1 Muting Time: 1s Two Hand Control: M0:THC1 Stations: Input: M0:ES1 Output: M0:SO2A	Type: Muting Block Name: M1 Muting Mode: One Pair Muting Time: 10s Mute On Power Up: Disabled Input: M0:OS1 Mute Sensor Pair: M0:MSP1 Output: A2	Type: And Name: A2 Input: LR1, M0:GS1, M1 Output: M0:SO2B
---	---	---	--

Safety Outputs

Type: Solid-State Output Name: SO1 Module: M0 Circuit Type: Solid-State-Output 1A8 Terminals: SO1a, SO1b Safety Output Delay: None Power-Up Mode: Normal Input: LR1	Type: Solid-State Output Name: SO2A Module: M0 Circuit Type: Solid-State-Output 2A Terminals: SO2a Safety Output Delay: None Power-Up Mode: Normal Input: THC1	Type: Solid-State Output Name: SO2B Module: M0 Circuit Type: Solid-State-Output 2B Terminals: SO2b Safety Output Delay: Off Delay Output Delay Amount: 1s Cancel Type: Do Not Cancel Power-Up Mode: Normal Input: A2
--	---	---

Response Times (Scan Time = 2ms)

* Warning: This is a single channel input where a single fault can lead to an increased response time or no response at all.
 ** Warning: Logic in the signal path may cause the response time to depend on inputs turning On, which cannot be depended upon for safety.

M0:SO1 M0:ES1 -> *12ms	M0:SO2A M0:THC1 -> 12ms M0:ES1 -> *12ms	M0:SO2B M0:ES1 -> *1012ms M0:GS1 -> 1012ms M0:OS1 -> 1012ms
----------------------------------	--	---

Printable summary of the configuration including attribute details for each input, safety output and function block

Clear summaries of the response time for each safety output

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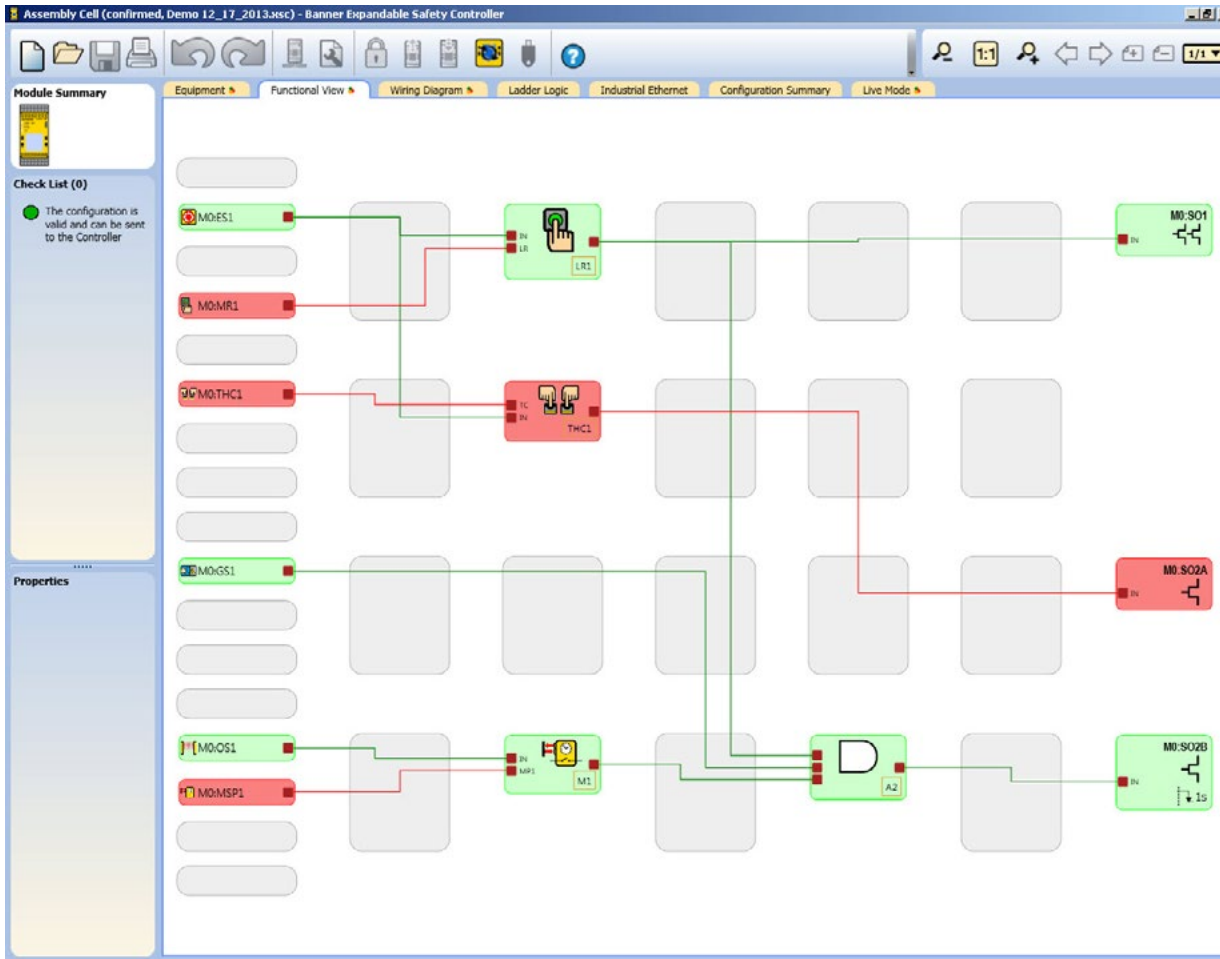
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Programmable Safety Controller

Live Mode



Real time feedback of the status of each output and input

Through color coding, trace how the logic flows in the function view, to assist in trouble shooting and commissioning the safety system

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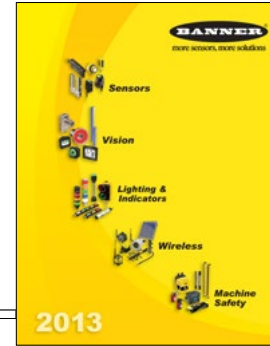




Programmable Safety Controller

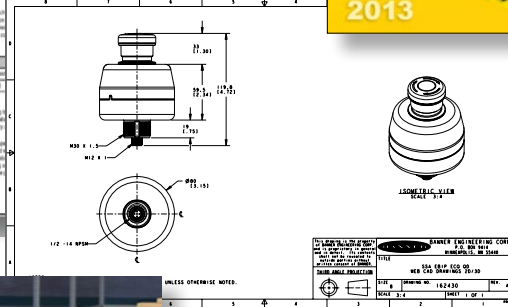
Additional Resources

Link to data sheets



Link to catalog

Link to the Banner website



Link to CAD files



Link to videos



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