B&R X20SLX910

01 SafeLOGIC-X Module / system role

Product function

B&R X20SLX910 evaluates distributed safety signals through openSAFETY while providing a local input bank for guarded-machine circuits.

Selected configuration

The controller supports up to ten openSAFETY nodes and four SafeMOTION axes. Its local input circuits accept 24 V DC signals and provide configurable input filtering for the installed sensor circuit.

Functional path

Protective device	Safe input and test pulse	SafeLOGIC-X application	Validated final response

Configuration	20 safe digital inputs
Interface	4 test-pulse outputs, 50 mA each
Operating feature	10 openSAFETY nodes and 4 SafeMOTION axes

Four push-pull pulse outputs supply test signals for compatible input arrangements. Each output is limited to 50 mA, with 200 mA available across all four; the assignment of test pulses must follow the safety application. The number of simultaneously active inputs must be derated with ambient temperature and mounting orientation; use the X20SLX910 derating curves when planning all 20 inputs.

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02 Technical operating envelope

Safe digital inputs	20, type A sink
Pulse outputs	4 push-pull outputs
Nominal I/O supply	24 V DC, -15% / +20%
Input low threshold	<5 V
Input high threshold	>15 V
Hardware input filter	150 µs maximum

Software input filter	0–500 ms
Pulse output current	50 mA per output; 200 mA total
Input cable length	60 m unshielded; 400 m shielded
openSAFETY capacity	10 nodes
SafeMOTION capacity	4 axes
Protection	IP20

Electrical input ratings apply to X20SLX910. Safety integrity depends on the complete engineered and validated safety function. The number of simultaneously active inputs must be derated with ambient temperature and mounting orientation; use the X20SLX910 derating curves when planning all 20 inputs.

Operating interpretation

Safety reaction time includes filtering, communication and application execution. Validate the complete function.

Configuration boundary

Preserve pulse assignments, node identities and the approved safety program when replacing the module.

How does input filtering affect X20SLX910 signal capture?

The hardware filter is at most 150 µs and the software filter can be set from 0 to 500 ms. Include the chosen filter time in the safety response-time calculation.

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03 System integration and applications

Guard-circuit acquisition

Local safe inputs collect switching states from protective devices within an engineered safety circuit.

Distributed safety processing

openSAFETY participants exchange safety data with the SafeLOGIC-X application within its node capacity.

Safe motion coordination

Up to four SafeMOTION axes can participate when the application and associated motion hardware support the intended functions.

Input wiring diagnostics

Assigned test pulses support diagnostic input arrangements without converting the pulse outputs into general actuator channels.

System and supply context

B&R X20SLX910 operates within the following defined system context. Confirm the X20SLX910 identity, terminal keying and safety application.

Application boundary

Electrical input ratings apply to X20SLX910. Safety integrity depends on the complete engineered and validated safety function. The number of simultaneously active inputs must be derated with ambient temperature and mounting orientation; use the X20SLX910 derating curves when planning all 20 inputs.

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04 Engineering selection decisions

How many local safety inputs can X20SLX910 evaluate?

It provides 20 type A sink inputs for 24 V DC signals. The safety program determines how individual or paired input circuits are evaluated.

Which voltage levels distinguish the input states on X20SLX910?

A level below 5 V is low and a level above 15 V is high. Avoid relying on voltages between these thresholds as a defined logic state.

Does shielding change the permitted input cable length of X20SLX910?

The specified maximum is 60 m without shielding or 400 m with shielding. The complete circuit must also meet installation and safety requirements.

Does fitting X20SLX910 alone establish a machine safety level?

No. The claimed safety performance belongs to the validated safety function, including sensors, wiring, program, communications and final switching elements.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of X20SLX910 is unconfirmed. Apter Power availability is assessed separately from manufacturer lifecycle status.

Replacement assessment

Preserve pulse assignments, node identities and the approved safety program when replacing the module.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

B&R SafeIO and SafeLOGIC Technical Data, version 3.5.0.

Related product navigation

- B&R X20AI4222
- B&R X20AI2222

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries