B&R X20SL8010

01 Function and selected configuration

Product function

B&R X20SL8010 coordinates a safety application by supervising its configuration, assigning retained parameters to replacement modules and executing the safety program.

Selected configuration

The controller supports a maximum of 20 safety nodes and a shortest task-class cycle of 1 ms. POWERLINK uses an internal two-port hub with two shielded RJ45 connectors at 100 Mbit/s, with a maximum 100 m segment between stations.

Functional path

Safety nodes	POWERLINK network	SafeLOGIC program	Validated safe action

Supported safety nodes	20 maximum
Shortest task-class cycle	1 ms
POWERLINK transfer rate	100 Mbit/s

The supported engineering environment includes Automation Studio 3.0.80 or later, Automation Runtime 3.00 or later, SafeDESIGNER 2.71 through 3.0 and Safety Release 1.3 through 1.6. These compatibility limits must be considered as a combination rather than independently selecting the newest tool version.

X20SL8010

02 Technical operating envelope

Supported safety nodes	20 maximum
Shortest task-class cycle	1 ms
POWERLINK transfer rate	100 Mbit/s
Network ports	2 shielded RJ45; internal hub
Maximum segment length	100 m between stations
Nominal supply	24 V DC -15%/+20%

Power consumption	5.1 W
Functional safety capability	SIL 3; Category 4 / PL e
Mission time	20 years maximum
Proof-test interval	20 years
Horizontal operating temperature	0 to 55°C
Vertical operating temperature	0 to 45°C

Controller capabilities require validation within the complete safety application.

Signal interpretation

The supported engineering environment includes Automation Studio 3.0.80 or later, Automation Runtime 3.00 or later, SafeDESIGNER 2.71 through 3.0 and Safety Release 1.3 through 1.6. These compatibility limits must be considered as a combination rather than independently selecting the newest tool version.

Interface boundary

SafeMOTION is supported, while machine options are not. Inter-controller communication is limited to SafeLOGIC SL8001 or SL8011 partners. SafeKEY application memory is ordered separately; the controller rating alone does not establish the achieved safety integrity of the complete machine.

X20SL8010

03 System integration and applications

Central safety logic

Execute the approved safety program and supervise its associated safety-node configuration.

Replacement parameter management

Assign retained application parameters to replacement safety modules within the validated configuration.

SafeMOTION integration

Coordinate supported SafeMOTION functions with the controller's safety application.

Distributed safety network

Connect up to 20 supported safety nodes through the configured POWERLINK architecture.

System and supply context

The safety controller is applied in the Safety nodes / POWERLINK network / SafeLOGIC program / Validated safe action arrangement. Select associated equipment for the actual channel or installation.

Application boundary

Controller capabilities require validation within the complete safety application. The examples below address the stated product function.

Which SafeLOGIC controllers can communicate with X20SL8010?

The supported inter-controller partners are SL8001 and SL8011.

X20SL8010

04 Engineering selection decisions

How many safety nodes can X20SL8010 supervise?

It supports up to 20 safety nodes. The complete application must also meet its configured timing and resource requirements.

Does X20SL8010 support the machine-options function?

No. Machine options are not supported, although SafeMOTION is supported.

Which SafeDESIGNER range is listed for X20SL8010?

SafeDESIGNER 2.71 through 3.0 is supported, together with the compatible Safety Release range 1.3 through 1.6.

What POWERLINK segment length is permitted with X20SL8010?

The maximum cable length between two stations is 100 m at the 100 Mbit/s transfer rate.

Retain permitted controller partners	Check any SafeLOGIC inter-controller communication in the project.
Rebuild the POWERLINK topology	Mark both shielded RJ45 connections and their station destinations.

X20SL8010

05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of X20SL8010 is unconfirmed.

Replacement assessment

Preserve supported safety nodes 20 maximum, shortest task-class cycle 1 ms, powerlink transfer rate 100 Mbit/s. Check supported safety nodes and shortest task-class cycle against the installed configuration.

Document roles

The separate technical reference organizes manufacturer specifications by function and interface. This product brief explains selection and system context. The independent installation guide covers preparation, connection, tests and handover. All three are authored by Apter Power using the applicable manufacturer data.

Technical basis

B&R X20SL8010 product technical data.

Related product navigation

- B&R 3IF771.9
- B&R X20AI4222

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

Product enquiries