B&R X20SL8010

01 Application identity checks

1 Capture the approved safety application

Retain the approved project and configuration before removing the controller. Identify every safety node and its role; changing the central controller requires restoration of the intended safety application rather than merely obtaining a normal power indicator.

2 Preserve the SafeKEY assignment

Record the compatible SafeKEY and its application identity. Application memory is a separate component, so confirm that the offered controller and retained memory together support the intended replacement procedure before disconnecting the original assembly.

Application identity	Approved safety project
Memory component	Separate compatible SafeKEY
Node capacity	20 maximum

X20SL8010

02 SafeDESIGNER checks

1 Check the engineering-tool combination

Compare Automation Studio, Automation Runtime, SafeDESIGNER and Safety Release versions as a set. The listed SafeDESIGNER range ends at 3.0 and Safety Release at 1.6; do not assume that an arbitrary newer version is interchangeable.

2 Retain permitted controller partners

Check any SafeLOGIC inter-controller communication in the project. The supported partner types are SL8001 and SL8011, and the machine-options function is not supported by this controller.

SafeDESIGNER	2.71 through 3.0
Safety Release	1.3 through 1.6
Controller partners	SL8001 / SL8011

X20SL8010

03 POWERLINK checks

1 Rebuild the POWERLINK topology

Mark both shielded RJ45 connections and their station destinations. Keep each segment within 100 m and restore the intended topology; a link indicator does not confirm that the safety nodes are assigned to the correct application.

2 Check the supply before startup

Verify the 24 V DC supply within its -15% to +20% tolerance and allow for 5.1 W consumption. The integrated fuse is not replaceable, so investigate an abnormal supply condition instead of attempting an improvised fuse repair.

POWERLINK	100 Mbit/s, two RJ45 ports
Segment length	100 m maximum
Supply	24 V DC -15%/+20%

X20SL8010

04 Minimum task cycle checks

1 Validate the application timing

Review the configured task cycle and the complete safety response path. A 1 ms minimum controller task does not mean that sensors, network transfers and actuators together produce a 1 ms machine response.

2 Test each safety function deliberately

Use the approved validation procedure to exercise the intended safety input and output paths. Keep the machine in a controlled maintenance state and verify the resulting safe actions, reset behavior and diagnostic response for the actual application.

Minimum task cycle	1 ms
System response	Includes network, I/O and actuators
Acceptance basis	Validated machine safety functions

X20SL8010

05 Horizontal ambient checks

1 Restore thermal installation limits

Confirm controller orientation and local cabinet temperature. Horizontal installation permits 0 to 55°C, while vertical installation permits 0 to 45°C; cooling is fanless and the enclosure must maintain non-condensing conditions.

2 Retain validation and service evidence

Record the restored application identity, node assignments, tool versions and safety-function test results. Preserve the mission-time and proof-test planning for the complete safety application rather than treating a successful boot as final acceptance.

Technical basis: B&R X20SL8010 product technical data.

Related product navigation

B&R X20AI2222

B&R 7DM465.7

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