B&R X20BC0087

01 Modbus station map and address identity

1 Save switches, flash parameters and module order

Record the full X20BC0087 identity, address-switch setting, flash-stored parameters and Ethernet route. Save the Modbus register map and exact X20 module sequence. Capture the X20BB80 base and X20PS9400 or X20PS9402 power-module arrangement.

2 Keep the register map with the physical I/O sequence

Record the complete X20 module arrangement alongside the Modbus addresses. A controller that reconnects at the expected IP address can still exchange the wrong process data if the module order or register map differs.

Record	Complete marking and installed position
Comparison	Field labels agree with application assignments
Fieldbus role	Modbus TCP/UDP slave
Ethernet ports	2 shielded RJ45, integrated switch

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02 X20 base, power module and environment

1 Inspect the bus-controller supply arrangement

Check the bus-controller and I/O supply arrangement before inserting the replacement. The controller consumes 2 W from the bus. Retain the specified base, power module and terminal block, and verify the orientation-specific operating temperature and noncondensing environment.

2 Use the orientation-specific temperature limit

Check the uncoated X20BC0087 at its actual mounting orientation: up to +60°C horizontal or +50°C vertical. Preserve the specified base and power assembly, and keep the environment noncondensing.

Supply evidence	Measured at the device connection
Work condition	Power isolated while wiring is handled
Transfer rate	10/100 Mbit/s
Physical layer	10BASE-T / 100BASE-TX

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03 Ethernet ports and X2X assembly

1 Restore both shielded RJ45 routes

Reconnect the two shielded RJ45 paths and the X2X expansion assembly with the original labels. Keep each Ethernet segment within 100 m. Confirm module order and terminal engagement before enabling any outputs controlled through the Modbus map.

2 Check network reach and local-module engagement

Keep each Ethernet segment within 100 m and confirm the local X2X assembly is fully engaged. Correct Ethernet link indication does not establish that the entire local I/O station is present or correctly ordered.

Wiring record	Connection-by-connection comparison
Physical inspection	Shield, connector and strain relief checked
Duplex	Half or full duplex
Maximum segment	100 m

04 Address mode and I/O cycle selection

1 Restore the recorded switch and network settings

Restore the correct address mode and stored network values. Avoid 0xFE initialization during normal replacement. Check the selected 0.5–4 ms I/O cycle against the application; do not assume the fieldbus and X2X clocks are synchronized.

2 Avoid unintended parameter initialization

Confirm the intended address mode before applying power. The 0xFE setting initializes parameters, so it is unsuitable for ordinary replacement when the existing stored configuration must be retained.

Configuration	Approved settings restored
Diagnostic condition	Normal recognition before functional testing
Minimum fieldbus cycle	1 ms
Minimum X2X cycle	500 microseconds

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05 Register exchange and loss-of-link behavior

1 Prove input and output mapping with the master

Confirm the master connects and reads the expected registers, then test representative input and output points. Exercise communication loss and watchdog behavior under a safe process state. Check duplicate-IP and missing-module diagnostics before restoring normal operation.

2 Separate bus timing from end-to-end response

Assess the configured 0.5–4 ms I/O cycle together with network loading. Fieldbus and X2X cycles are not synchronized; minimum bus-cycle figures alone do not establish the complete application's response time.

Technical basis: B&R X20(c)BC0087 Data sheet V2.40.

Related product navigation

- B&R X20CP1483
- B&R X20CP1686X

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