B&R X20IF1086-2

01 Assign the optical network role

1 Managing versus controlled node

Record whether the installed interface is the managing node or a controlled node before removing it. Retain the station-number settings and project configuration; a change of role affects the whole cyclic network.

2 Project firmware level

Compare the Automation Studio hardware entry and firmware upgrade with the controller project. The replacement receives its project firmware automatically, so keep the machine in its maintenance state during initialization.

Protocol	POWERLINK V1/V2
Roles	Managing or controlled node

02 Check the fiber budget

1 Match the multimode core

Identify both fiber cores and connector ends. Use duplex LC multimode fiber with 62.5/125 or 50/125 micrometre geometry. Keep the transmit and receive paths identifiable and protect disconnected optical ends against contamination.

2 Separate loss and distance limits

Calculate the installed fiber and connector losses against the applicable 11 dB or 7.5 dB budget. Independently compare the segment length with the selected mode; acceptable optical loss does not override the mode-specific distance limit.

62.5/125 fiber	11 dB optical budget
50/125 fiber	7.5 dB optical budget
POWERLINK	2 km maximum
Ethernet TCP/IP	400 m maximum

03 Restore the LC connection

1 Keep the optical ends clean

Isolate the controller according to its service procedure before changing the interface. Inspect the LC connector seating and restore the labeled optical pair without stressing the fiber bend or pulling directly on the cable.

2 Retain the network identity

Restore the station-number selection and network role before returning communication to service. Confirm that no other station is using the same controlled-node address; do not treat a link light as address confirmation.

Port	Duplex LC
Physical layer	100BASE-FX
Rate	100 Mbit/s

04 Read link and node indications

1 Distinguish link from traffic

Inspect L/A X1 after controlled power restoration. A steady indication confirms the remote link; blinking adds network activity. If no link appears, check fiber polarity, cleanliness and remote-port operation before changing application settings.

2 Interpret S/E by operating mode

Use the S/E pattern for the configured Ethernet or POWERLINK mode. An alternate green/red indication in POWERLINK V1 can indicate loss of the managing node; use the PLC logbook to separate network failure from a local system error.

L/A steady	Remote link established
L/A blinking	Ethernet activity
S/E	Mode-specific status

X20IF1086-2

05 Prove cyclic data exchange

1 Compare the transferred values

Verify live application values at both ends after the node reaches its operating state. Exercise the intended communication path under controlled conditions and confirm that stale data or repeated synchronization faults are absent.

2 Check loss-of-network response

Use the approved network test to confirm the controller reaction when the optical path or managing node is lost. Restore the connection and ensure recovery is consistent with the configured network behavior before releasing the machine.

Technical basis: B&R X20IF1086-2 Data sheet V1.20.

Related product navigation

B&R X20CP1484-1

B&R X20CP1485-1

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