B&R X20AI2437

01 Define the service boundary

1. ### Capture both channel configurations

   Record range, conversion rate, filter, user limits and substitute-value settings separately for each input. Retain the application use of NetTime timestamps.

2. ### Identify sensor supply wiring

   Label each sensor and its own supply. Do not bridge the isolated supplies or treat a supply as isolated from its associated measurement channel.

Input channels	2
Current ranges	4-20 mA or0-25 mA
Converter	16-bit sigma-delta

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02 Prepare the installation

1 Protect the process during exchange

Place the affected analog loops in their approved maintenance state. Prevent an open-circuit or replacement value from driving an unintended control response.

2 Check sensor load and references

Confirm sensor demand is within 30 mA per channel and the current-input common-mode condition remains within 0-7 V. Inspect for shorts or reversed wiring.

Data output rate	4.7-960 samples/s; configurable
Sensor supply	25 V +/-2%; per channel
Sensor output current	30 mA maximum

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03 Restore connections and settings

1 Restore terminal assignments

Fit the X20TB12 terminal block and matching bus arrangement. Reconnect each current loop and sensor feed to the retained channel assignment.

2 Restore timing and substitution

Load the channel-specific rate and filter settings. Reinstate the intended limit and replacement behavior before using measured values in automatic control.

Common-mode range	0-7 V
Hardware input filter	2.5 kHz low-pass
Software filter	Sinc 4

04 Verify the operating response

1 Test with known loop currents

Apply approved current references in the configured 4-20 mA or0-25 mA range. Compare measured values and application scaling independently for both channels.

2 Verify diagnostics and timestamps

Check sensor-supply status, open-circuit/error handling and NetTime behavior where used. A numerical reading alone does not establish correct acquisition timing.

Functional test	Known input or controlled output
Error response	Status and application reaction agree

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05 Release and retain the evidence

1 Resolve any conversion disagreement

Use module and channel status to separate a conversion error from supply overload or a field-circuit fault. Correct the cause before enabling the loop.

2 Retain the current-loop baseline

Record range, rates, filters, supplies, reference-current tests and error-response results. Release both process loops only after their independent checks pass.

Technical basis: B&R X20AI2437 Data Sheet V1.40.

Related product navigation

B&R X20AT6402

B&R X20DO4529

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