B&R X20AI2632

01 Identify the two-channel terminal set

1 Distinguish six-pin and twelve-pin blocks

Record whether X20TB06 or X20TB12 is fitted before moving field wiring. Both can serve the module, but the terminal count does not increase the module beyond two analog inputs.

2 Trace each positive signal lead

Identify whether each transmitter uses the voltage or current positive terminal and retain the negative return. Mark both channel numbers so the two process values are not exchanged during a terminal-block transfer.

Inputs	Two differential channels
Preferred terminal block	X20TB06
Alternative terminal block	X20TB12

02 Check the transmitter circuit

1 Account for current-loop burden

Verify the transmitter can drive the complete loop with less than 400 ohms added by the module input. Test the loop at its high signal value rather than relying only on a low-current check.

2 Compare common-mode potentials

Measure the reference relationship between the two signal sources before connecting them. Keep both inputs within the +/-12 V common-mode limit because bus isolation does not separate the two field channels.

Current burden	Less than 400 ohms
Voltage impedance	20 megohms
Common-mode range	+/-12 V

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03 Set the analog data interpretation

1 Restore the selected input range

Check the application signal type after restoring wiring. Voltage values use signed INT data, while the current range starts at zero. A positive voltage alone will not expose an incorrect sign interpretation.

2 Keep filter and scale together

Restore each input filter with its engineering-unit scale and sampling cycle. Record these settings with the calibration results so any later change in apparent signal response can be traced to configuration.

Voltage data	Signed INT
Current data	0 to 0x7FFF
Conversion	50 microseconds

04 Prove resolution and range handling

1 Use more than one test point

Apply zero and at least one further in-range signal to both inputs. Compare the raw increments with the engineering-unit conversion while allowing for source accuracy and module measurement error.

2 Check saturation separately

Exercise an approved near-limit signal and confirm range diagnostics and saturation handling. Do not interpret the final raw code alone as a calibrated measurement beyond the +/-10 V or 20 mA range.

Voltage count	305.176 microvolts
Current count	610.352 nanoamps
Overshoot code	0x7FFF

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05 Validate paired process values

1 Compare channel identity at the controller

Move one controlled signal at a time and confirm the correct controller variable changes. This distinguishes channel exchange from a scaling error before both transmitters return to normal operation.

2 Retain the acquisition settings

Save the two filters, scales and sampling settings with the accepted test results. When using recording functions, keep their trigger conditions alongside the captured values so a later trace can be compared meaningfully.

Technical basis: B&R X20AI2632 Data sheet V3.21.

Related product navigation

B&R X20CP1686X

B&R X20CP3585

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