B&R X20AI2632

01 Function and selected configuration

Product function

B&R X20AI2632 combines two-channel acquisition with programmable scaling and signal recording, allowing a paired measurement to be evaluated in the controller.

Selected configuration

The module accepts voltage or current through distinct terminal connections. It is designed for the X20TB06 six-pin terminal block; an X20TB12 can also be used when required by the station arrangement.

Functional path

Two analog sources	Selected U/I terminals	50 us conversion	Paired process variables

Input count	2 differential channels
Voltage input	+/-10 V
Current input	0 to 20 mA

Both inputs are converted in 50 microseconds. The nominal voltage increment is 305.176 microvolts and the nominal current increment is 610.352 nanoamps; these conversion increments are not accuracy specifications.

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02 Technical operating envelope

Input count	2 differential channels
Voltage input	+/-10 V
Current input	0 to 20 mA
Conversion interval	50 microseconds, both inputs
Voltage increment	305.176 microvolts/LSB
Current increment	610.352 nanoamps/LSB

Voltage impedance	20 megohms
Current burden	Less than 400 ohms
Common-mode voltage	+/-12 V
Channel-to-bus test	500 Veff
Internal I/O power	1.2 W
Bus power	0.01 W

The technical values apply to this model in the specified installation and configuration.

Signal interpretation

Both inputs are converted in 50 microseconds. The nominal voltage increment is 305.176 microvolts and the nominal current increment is 610.352 nanoamps; these conversion increments are not accuracy specifications.

Interface boundary

A 500 Veff channel-to-bus isolation test rating does not imply isolation between the two channels. Keep signal common-mode voltage within +/-12 V and retain the configured filter, scale and sampling cycle during replacement.

How much burden can X20AI2632 add to a current loop?

The current-input load is less than 400 ohms. Include that burden when checking the transmitter supply and remaining loop voltage.

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03 System integration and applications

Paired measurement signals

Acquire two related analog measurements without reserving a four-channel module.

Current-loop acquisition

Read 0 to 20 mA transmitters after checking loop burden and signal reference.

Low-loading voltage inputs

Measure +/-10 V signals through the 20 megohm voltage inputs.

Recorded signal comparison

Use configurable recording and scaling to compare the behavior of the two inputs.

System and supply context

The analog input module is applied in the Two analog sources / Selected U/I terminals / 50 us conversion / Paired process variables arrangement. Select associated equipment for the actual channel or installation.

Application boundary

The technical values apply to this model in the specified installation and configuration. The examples below address the stated product function.

Does X20AI2632 require a different module for current and voltage?

No. Each input accepts either voltage or current through different terminals; the wiring and configured signal interpretation must agree.

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04 Engineering selection decisions

Which terminal block is intended for X20AI2632?

It is designed for X20TB06. X20TB12 can also be used, but the channel connections must still follow the six-signal input arrangement.

What does one voltage count represent on X20AI2632?

One least-significant count represents 305.176 microvolts in the +/-10 V range. This is resolution, not a guarantee of total measurement accuracy.

Which raw value represents current-range overshoot on X20AI2632?

The converter output reaches 0x7FFF at current-range overshoot; current undershoot produces 0x0000. Interpret these states with the channel diagnostics.

What should be checked before using two differently grounded sensors with X20AI2632?

The inputs are not isolated from each other. Check their common-mode potentials against the +/-12 V range and confirm the shared reference arrangement.

Compare common-mode potentials	Measure the reference relationship between the two signal sources before connecting them.
Restore the selected input range	Check the application signal type after restoring wiring.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of X20AI2632 is unconfirmed.

Replacement assessment

Preserve input count 2 differential channels, voltage input +/-10 V, current input 0 to 20 mA. Check input count and voltage input against the installed configuration.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

B&R X20AI2632 Data sheet V3.21.

Related product navigation

- B&R X20DO8332
- B&R X20CP1483

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

Product enquiries