

B&R X20AI2437

Analog Input Module

B&R; X20AI2437 measures two current channels over selectable 4 to 20 mA or 0 to 25 mA ranges with 16-bit conversion. Each channel has an isolated sensor supply and supports NetTime measurement timestamps for synchronized acquisition.

BRAND	B&R;	ORIGIN	Austria
MODEL	B&R; X20AI2437	PRODUCT	Analog Input Module
FAMILY	X20 System	SOURCE	B&R; version 1.40, 2025-07-31

MANUFACTURER SOURCE RECORD

Data sheet X20AI2437

B&R; version 1.40, 2025-07-31

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B&R X20AI2437

Product Overview

SYSTEM FUNCTION

B&R; X20AI2437 measures two current channels over selectable 4 to 20 mA or 0 to 25 mA ranges with 16-bit conversion. Each channel has an isolated sensor supply and supports NetTime measurement timestamps for synchronized acquisition.

FUNCTION 1

Acquires two industrial current loops with independent range selection

FUNCTION 2

Supplies each connected transmitter from its own isolated 25 V source

FUNCTION 3

Converts current signals with 16-bit digital resolution

FUNCTION 4

Associates measurement timing with the documented NetTime function

TECHNICAL NOTE

Install B&R; X20AI2437 with X20TB12 and X20BM11 or X20BM15, then configure the range for each channel. Verify sensor-supply polarity, loop current, isolation, timestamp behavior and the configured diagnostic response before release.

Technical Data and Acceptance

PARAMETER	VERIFIED VALUE
Analog inputs	2 current measurement channels
Measurement ranges	4 to 20 mA or 0 to 25 mA
Converter resolution	16 bit
Sensor supply	One isolated supply per channel
Sensor supply voltage	25 V ±2%
Sensor supply current	30 mA maximum per channel
Sensor supply short circuit	Continuous protection with current limiting
Electrical isolation	Channel-to-channel and channel-to-bus
Bus power consumption	0.05 W
Internal I/O power	1.15 W
B&R; ID code	0xB784
Protection rating	IP20

ENGINEERING BOUNDARY

Install B&R; X20AI2437 with X20TB12 and X20BM11 or X20BM15, then configure the range for each channel. Verify sensor-supply polarity, loop current, isolation, timestamp behavior and the configured diagnostic response before release.

Acceptance Path

1 IDENTITY

B&R; X20AI2437 and both channel assignments are recorded.

2 POWER

Both isolated sensor supplies energize the intended transmitters.

3 MEASUREMENT

Known loop currents produce the expected 16-bit scaled values.

4 DIAGNOSTICS

Loop and supply faults are detected, cleared and documented.

Applications and Engineering FAQ

APPLICATION	ENGINEERING CONTEXT
Two-wire transmitter acquisition	B&R; X20AI2437 powers and reads two isolated process transmitters in an X20 station.
Synchronized current measurement	NetTime identifies the measurement instant for controller-side correlation with other signals.
Mixed current-range retrofit	Each channel can use the documented 4 to 20 mA or 0 to 25 mA range required by the installed loop.
Isolated process monitoring	Channel-to-channel isolation limits unwanted coupling between independently powered field loops.

Model-Specific FAQ - Part 1

QUESTION	ANSWER
Which current ranges can B&R; X20AI2437 measure?	Each channel can be configured for either 4 to 20 mA or 0 to 25 mA operation.
How are the two B&R; X20AI2437 channels isolated?	B&R; specifies channel-to-channel isolation and isolation between each channel and the bus; the sensor supply remains associated with its channel.
Can B&R; X20AI2437 power two-wire transmitters directly?	Yes. Each channel includes its own isolated nominal 25 V sensor supply rated up to 30 mA.
What happens if a B&R; X20AI2437 sensor supply is shorted?	The supply is continuously short-circuit proof and limits current, while diagnostics report the sensor-supply condition.

FAQ, Related Products and Source

QUESTION	ANSWER
What does the NetTime function add to B&R; X20AI2437?	It provides the measurement time reference so acquired values can be correlated with other time-aware controller events.
Which accessories are mandatory for B&R; X20AI2437?	The product page requires one X20TB12 terminal block and one X20BM11 or X20BM15 bus module.
What temperature limits apply to B&R; X20AI2437?	Operation is specified from -25 to 60 C horizontally and -25 to 50 C vertically.
How should B&R; X20AI2437 be accepted after replacement?	Inject known currents on both channels, verify range scaling, sensor supplies, diagnostics, channel isolation and the configured timestamp behavior.

Related Products on Apter Power

MODEL	APTER POWER PAGE
GE 8021-CE-LH	View GE 8021-CE-LH page
GE 8810-HI-TX-01	View GE 8810-HI-TX-01 page
GE 8811-IO-DC	View GE 8811-IO-DC page
GE 8851-LC-MT	View GE 8851-LC-MT page
GE DS200TCEAG1BSF	View GE DS200TCEAG1BSF page
GE IC600BF843	View GE IC600BF843 page
GE IC693ALG391	View GE IC693ALG391 page
GE IC693ALG391G	View GE IC693ALG391G page

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