

B&R X20AT2222

Temperature Input Module

B&R; X20AT2222 measures two Pt100 or Pt1000 resistance-temperature channels with internal linearization and configurable filtering. Each channel supports direct 2-wire or 3-wire sensor connection for X20 temperature acquisition.

BRAND	B&R;	ORIGIN	Austria
MODEL	B&R; X20AT2222	PRODUCT	Temperature Input Module
FAMILY	X20 System	SOURCE	B&R; version 3.32, 2024-10-08

MANUFACTURER SOURCE RECORD

Data sheet X20AT2222

B&R; version 3.32, 2024-10-08

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B&R X20AT2222

Product Overview

SYSTEM FUNCTION

B&R; X20AT2222 measures two Pt100 or Pt1000 resistance-temperature channels with internal linearization and configurable filtering. Each channel supports direct 2-wire or 3-wire sensor connection for X20 temperature acquisition.

FUNCTION 1

Linearizes two resistance-temperature channels inside the module

FUNCTION 2

Lets each channel select Pt100 or Pt1000 independently

FUNCTION 3

Flags open circuits and range faults through defined diagnostic values

FUNCTION 4

Adapts measurement response with a configurable digital filter

TECHNICAL NOTE

Wire B&R; X20AT2222 with the selected 2-wire or 3-wire scheme and set the sensor type independently for each channel. Verify lead resistance, open-circuit diagnostics, filter time and a controlled temperature point before acceptance.

Technical Data and Acceptance

PARAMETER	VERIFIED VALUE
Temperature channels	2
Sensor types	Pt100 or Pt1000, configurable per channel
Temperature range	-200 to 850 C
Connection	2-wire or 3-wire constant-current measurement
Converter	16-bit sigma-delta
Temperature resolution	0.1 C
Filter time	1 to 66.7 ms configurable
Resistance ranges	0.1 to 4500 ohm or 0.05 to 2250 ohm
Isolation	500 Veff between channel and bus
B&R; ID code	0x1BA6
Required terminal block	X20TB06 or X20TB12
Required bus module	X20BM11 or X20BM15

ENGINEERING BOUNDARY

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Acceptance Path

1 IDENTITY

B&R; X20AT2222 and the two sensor assignments are recorded.

2 CONFIGURATION

Sensor type, lead arrangement and filter time match the project.

3 DIAGNOSTICS

Open-circuit and range states produce the expected codes.

4 MEASUREMENT PROOF

Both channels agree with a traceable resistance or temperature reference.

Applications and Engineering FAQ

APPLICATION	ENGINEERING CONTEXT
Machine bearing temperature	B&R; X20AT2222 converts two installed RTDs into controller temperature values for monitoring.
Heater-zone feedback	Independent sensor selection supports two Pt100 or Pt1000 control points in an X20 station.
Process skid RTD acquisition	Two- or three-wire connections accommodate documented field-sensor wiring.
Temperature diagnostic retrofit	Open-circuit and range codes help distinguish wiring faults from valid process temperatures.

Model-Specific FAQ - Part 1

QUESTION	ANSWER
Can B&R; X20AT2222 mix Pt100 and Pt1000 sensors on the same module?	Yes. B&R; states that the sensor type is configurable per channel, so the two channels can be assigned independently.
Which wiring methods are accepted by B&R; X20AT2222?	The module performs constant-current resistance measurement with either 2-wire or 3-wire connections.
How does B&R; X20AT2222 report an open Pt sensor circuit?	For temperature measurement it returns 0x7FFF; the resistance-measurement format uses 0xFFFF.
What temperature span is linearized inside B&R; X20AT2222?	Both Pt100 and Pt1000 are normalized from -200.0 to 850.0 C according to EN 60751.

FAQ, Related Products and Source

QUESTION	ANSWER
Which filter adjustment controls B&R; X20AT2222 response time?	The filter time is configurable from 1 ms to 66.7 ms, allowing the project to balance noise rejection and response.
How long does B&R; X20AT2222 need for two channels with a 50 Hz filter?	The official data lists 80 ms conversion time for two channels, compared with 20 ms for one channel.
What resistance ranges are available from B&R; X20AT2222?	Gain 1 covers 0.1 to 4500 ohm and gain 2 covers 0.05 to 2250 ohm.
How should B&R; X20AT2222 channel accuracy be checked after rewiring?	Apply traceable resistance values to each configured channel, confirm the 0.1 C resolution, and verify that open-circuit and overrange diagnostics operate correctly.

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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