

**B&R - X20 System****X20AT2402**

## Thermocouple Input Module

**Technical specifications**

|                                   |                                                                    |
|-----------------------------------|--------------------------------------------------------------------|
| Thermocouple inputs               | 2                                                                  |
| Sensor types                      | J, K, N, S, B, and R                                               |
| Type N condition                  | Hardware revision D0 or later                                      |
| Temperature resolution            | 0.1 °C or 0.01 °C                                                  |
| Digital converter resolution      | 16-bit                                                             |
| Conversion procedure              | Sigma-delta                                                        |
| Conversion time                   | 80.4 ms for 1 channel; 120.6 ms for 2 channels with 50 Hz filter   |
| Filter time                       | Configurable from 1 to 66.7 ms                                     |
| Terminal temperature compensation | Integrated                                                         |
| Raw-value range                   | ±65.534 mV                                                         |
| Open-circuit value                | 0x7FFF                                                             |
| Permissible input signal          | Maximum ±5 V                                                       |
| Common-mode range                 | ±15 V                                                              |
| Electrical isolation              | Channels isolated from bus; channels not isolated from one another |

**Documented role**

B&R X20AT2402 is a two-channel thermocouple input module for J, K, N, S, B, and R sensors with integrated terminal-temperature compensation for the X20 System.

**Documented applications**

- Two-channel thermocouple temperature acquisition in X20 control stations
- Temperature-control systems using J, K, N, S, B, or R sensors
- Direct low-level millivolt measurement in distributed I/O systems

**Selection and installation checks**

X20AT2402 supports two thermocouple channels, but type N requires hardware revision D0 or later; verify sensor alloy, polarity, compensation conditions, filter and resolution settings, terminal block, bus module, and saved Automation Studio configuration.