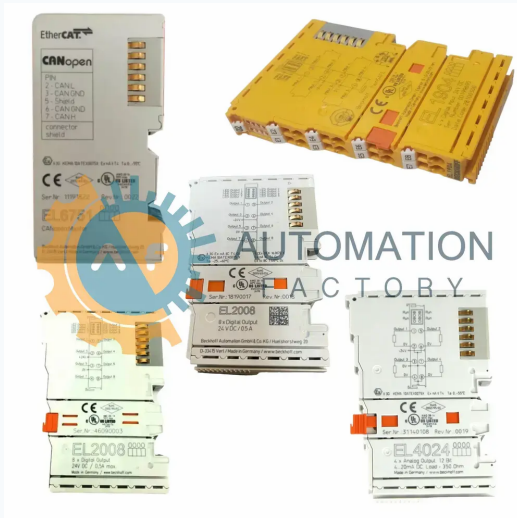




Beckhoff — EL EtherCAT Terminals

ELX3204



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The **ELX3204** is an RTD input module produced by Beckhoff within the EL EtherCAT Terminals series. As a DIN-rail device, it installs alongside other EtherCAT I/O slices and feeds temperature data from resistance sensors directly into the fieldbus. The terminal accepts resistance thermometers through a two-wire connection and converts the sensor signals into a digital process image that upstream controllers can use for closed-loop temperature regulation in industrial automation systems.

The module offers **4 differential inputs**, allowing four separate RTDs to be monitored without channel-to-channel interference. Each conversion uses **16-bit resolution**, providing a fine temperature step size of **0.1 °C/digit** across the measurement range. A default conversion interval of **270 ms** balances update speed with noise filtering, while the integrated digital filter attenuates unwanted signal components up to its cutoff of **1 kHz**. Sensor data are placed in the EtherCAT process image as four 32-bit words, so control programs can read the raw values without additional parsing. Physical dimensions of 15 mm × 100 mm × 70 mm keep the slice width narrow, and the E-bus draws only 70 mA from the backplane.

Backplane electronics are energized by the E-bus at **5 VDC**; separate power contacts supply field wiring with **24 VDC**, isolating sensor excitation from communication power. The measurement front end is galvanically separated from the logic circuitry by an isolation barrier rated at **1500 V**, preventing ground loops between sensors and the controller. An enclosure rating of **IP20** provides protection against finger contact and limits the terminal to control-cabinet environments. Cabinet placement also helps protect the exposed connections from moisture, conductive

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debris, and accidental disturbance during machine operation.

Specifications

Analog Inputs:	4 (Differential)	Bit Resolution:	16 bit	Connection method:	2-wire
Conversion time:	10...3300 ms adjustable (default 270 ms)	Current consumption:	10 mA (typ.)	Default Conversion Time:	270 ms
Dimensions:	15 mm x 100 mm x 70 mm	E-bus Current:	70 mA	E-bus Supply:	5 VDC
Filter Frequency:	1 kHz	Filter limit frequency:	1 kHz (typ.)	Input resistance:	>= 10 k? (differential)
Input Type:	RTD	Isolation Voltage:	1500 V	Measurement range:	-200...+850°C (Pt sensors); -60...+250°C (Ni sensors)
Measurement uncertainty:	< ±0.3% FS	Measuring current:	< 1 mA	Number of inputs:	4 (differential)
Operating temperature:	-25...+60°C	Power Contact Supply:	24 VDC	Power supply:	E-bus or 24 V DC (power contacts/ELX9560)
Process Image:	4 x 32 bit	Protection Class:	IP20	Resistance measurement range:	10 ?...4 k?
Resolution:	up to 0.01°C per digit (preset 0.1°C)	Storage temperature:	- 40...+85°C	Supported Ni sensors:	Ni100, Ni120, Ni1000
Supported Pt sensors:	Pt100, Pt200, Pt500, Pt1000	Temperature Resolution:	0.1°C/digit	Thermocouple types:	KT, KTY
Last Verified:	10/24/2026 4:51 PM				

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Shipping Options



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