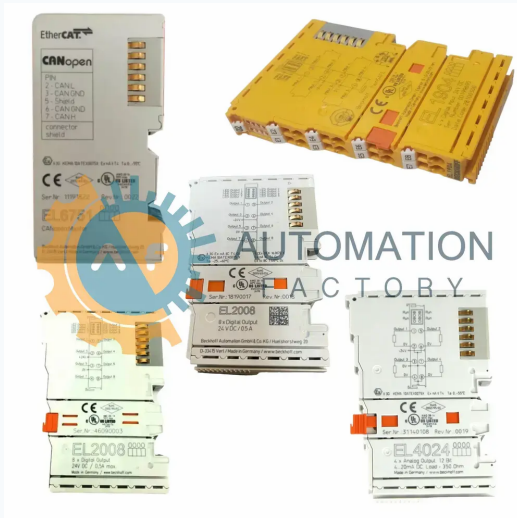




Beckhoff — EL EtherCAT Terminals

EL3042



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The **EL3042** is a two-channel analog input terminal produced by Beckhoff within the EL EtherCAT Terminals series. It digitizes low-level current signals so a control system can monitor process sensors through the EtherCAT fieldbus. By connecting directly to the E-bus in a terminal stack, the unit occupies a 12 mm slice in the I/O row and provides electrical isolation between the backplane and connected transducers. Its compact housing allows the terminal to be installed alongside other EtherCAT I/O modules in an industrial control cabinet.

The terminal accepts **2 single-ended inputs** that are sampled by a multiplex converter every **0.625 ms**. A built-in filter limits the analog bandwidth to **1 kHz**, reducing high-frequency noise before conversion. The module draws **130 mA** of supply current from the E-bus, so its internal electronics do not require a separate power feed. The permitted common-mode voltage between the field wiring and logic circuitry is **30 V**. Internal timing is handled locally because distributed clocks are not supported, so the network master must manage application-level synchronization. Both channels share the converter through a multiplex sampling scheme, and their input signals use a single-ended ground reference. The process image transfers two status bytes and two value bytes for each channel to the controller.

An input impedance of **85 Ω** determines the load placed on the connected signal source. The formatted result has a presentation width of **16 bits** and a measurement resolution of **12 bits**. The housing has an **IP20** protection rating, providing protection against finger contact for cabinet installation while offering no sealing against water. Configuration data can be retained through CoE storage support, allowing stored parameters to remain available to

the control system. Power for the analog section is supplied through the backplane, which reduces external wiring at the terminal. The local conversion architecture provides regular channel updates without adding dedicated clock synchronization hardware.

Specifications

Analog Inputs:	2	Channels:	4 channels	Connection:	Push-in (spring-loaded) terminals
Conversion Time:	0.625 ms	Current Consumption:	Approx. 100 mA	Diagnostics:	LED indicators for channel status
Dielectric Strength:	30 V	Dimensions (w X H X D):	12 mm x 100 mm x 68 mm	Distributed Clocks:	No
E-bus Current:	130 mA	Ground Reference:	Single-Ended	Input Filter Cutoff:	1 kHz
Input Type:	Current (0/4-20 mA)	Internal Resistance:	85 ?	Mounting:	DIN rail
Nocoestorage Support:	Yes	Output Type:	Current (0/4-20 mA)	Permissible Ambient Temperature:	0...55°C
Permissible Storage Temperature:	-25...85°C	Power Supply:	24 V DC (via E-bus)	Power Supply For Electronics:	Via E-bus
Presentation Width:	16 bits	Process Image Width:	2 Bytes Status + 2 Bytes Value/Ch	Protection Class:	IP20
Protection Rating:	IP20	Resolution:	12 bits	Sampling Type:	Multiplex
Signal Isolation:	Yes (galvanic)	Last Verified:	10/24/2026 2:06 PM		

Contact Us

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