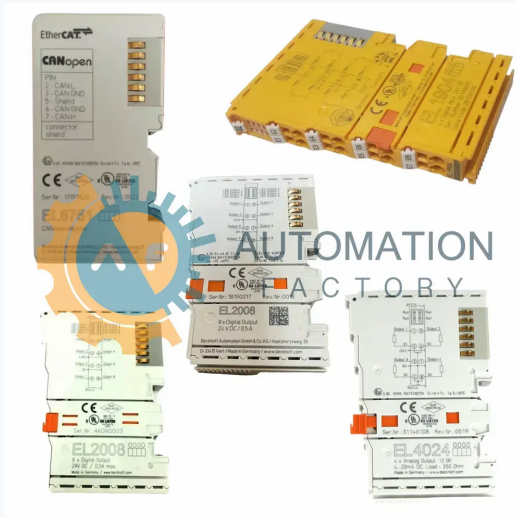


Beckhoff — EL EtherCAT Terminals

EL3151



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The **EL3151** is an analog input terminal manufactured by Beckhoff for the EL EtherCAT Terminals series. It installs on a DIN rail beside other fieldbus devices and feeds voltage measurements directly into the EtherCAT process image, giving controllers real-time access to plant signals for closed-loop control and data acquisition tasks. The digitized value is presented to the controller as a 16-bit process-image word, while an 8-bit status field reports conditions such as an overrange signal or wire break.

This terminal offers **1 single-ended channel** that is converted with a resolution of **16 bits**, so each sample represents one part in 65,536 of the full-scale range. A front-end filter set at **5 kHz** suppresses high-frequency noise before conversion, allowing accurate capture of dynamic signals. The terminal uses **simultaneous sampling**, meaning the analog value is latched when conversion starts rather than being scanned serially. This method eliminates phase error when multiple EL terminals share a synchronization pulse. Electrical isolation withstands a potential difference of up to **30 V** between the signal and internal circuitry, helping protect downstream electronics from modest overvoltage events.

Integration into high-precision motion or measurement networks is aided by distributed clocks, with internal timing jitter below **1 µs**. The input stage can sink up to **40 mA** from the field circuit without exceeding linearity limits, supporting sensors that require modest excitation current. The housing has an **IP20** protection rating, indicating a finger-safe but unsealed enclosure intended for installation inside a cabinet. It clips onto a **35 mm mounting rail** and can be installed in any orientation to accommodate crowded enclosures. Power for the conversion logic is

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supplied through the E-bus backplane, eliminating the need for a separate logic power connection.

Specifications

Analog Inputs:	1	Approvals:	CE, UL	Clock Precision:	<< 1 µs
Common Mode Voltage:	Max. 35 V	Conversion Time:	Approx. 1 ms	Current Consumption E-bus:	Approx. 100 mA
Current Consumption Power Contact:	-	Dielectric Strength:	30 V Max	Dimensions (w X H X D):	12 mm x 100 mm x 68 mm
Distributed Clocks:	Yes	Ground Reference:	Single-Ended	Input Capacity:	40 mA
Input Channels:	1 analog input	Input Filter Frequency:	5 kHz	Input Impedance:	< 85 ?
Input Type:	Current (4-20 mA)	Installation Position:	Variable	Mounting:	DIN rail
Mounting Rail:	35 mm	Operating Temperature:	0...55°C	Power Supply:	From E-bus
Process Image Inputs:	1 x 16 bit	Process Image Status:	1 x 8 bit	Protection Class:	IP20
Resolution:	16 bit	Sampling Type:	Simultaneous	Signal Connection:	2-wire, 3-wire, 4-wire
Supply Source:	E-bus	Last Verified:	10/23/2026 10:49 AM		

Contact Us

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