

Beckhoff — EP Digital Input Modules

EP1809-0042



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The **EP1809-0042** is a distributed I/O device from Beckhoff that belongs to the EP Digital Input Modules series. It acts as a field-mountable block that collects status signals from industrial sensors and forwards them over EtherCAT to a PLC. By integrating digital inputs and power switching in one encapsulated housing, the unit allows machine builders to decentralize wiring in conveyor lines, packaging cells, and other automation equipment that requires fast, deterministic data acquisition.

Each channel uses a control potential and digital input level of **24 V DC**, keeping the sensor supply consistent with the input stage. The module provides **16 discrete inputs** through eight 5-pin, A-coded M12 sockets, while the EtherCAT backbone uses **two 4-pin, D-coded M12 sockets** for line topology or daisy-chain arrangements. A per-channel current draw of **6 mA** limits the load on proximity switches, and an integrated filter time of **3 ms** suppresses contact bounce so the PLC receives clean transitions. The dedicated input connectors use A-coding to distinguish them from the D-coded communication connectors and help prevent incorrect connections during installation.

For power distribution, the block accepts system voltage through a 7/8-inch plug with a 5-pin 16-UN thread and passes it downstream through a matching 7/8-inch socket, supporting trunk-and-drop wiring layouts. Within the housing, the electronics draw **130 mA**, while attached sensors can receive up to **0.5 A total** from the module. The aggregate load on the supply lines must remain below **16 A at 40 °C** to prevent thermal derating during operation. A compact footprint of **60 × 150 × 26.5 mm** allows the unit to fit on machine frames where space is limited, and

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its PA6 polyamide enclosure resists oils and vibration commonly encountered in industrial plants.

Specifications

Bus Interface:	2 x M12 socket, 4-pin, D-coded	Control Voltage:	24 VDC	Digital Input Voltage:	24 VDC
Digital Inputs:	16	Dimensions (w X H X D):	60 x 150 x 26.5 mm	Ethercat Connection:	2 x M12 socket, 4-pin, D-coded, shielded
Input Connection:	8 x M12 socket, 5-pin, A-coded	Input Connector:	M12, 5-pin, A-coded	Input Current:	6 mA
Input Filter:	3 ms	Input Filter Time:	3.0 ms	Installation Position:	variable
Logic-0 Signal Voltage:	-3...+5 V (EN 61131-2, type 3)	Logic-1 Signal Voltage:	11...30 V (EN 61131-2, type 3)	Material:	PA6 (polyamide)
Max Sensor Supply:	0.5 A total	Module Current:	130 mA	Nominal Input Voltage:	24 V DC (-15%/+20%)
Number of Inputs:	16 channels	Operating Temperature:	-25...+60°C	Protection Rating:	IP65/66/67 (EN 60529)
Protocol:	EtherCAT	Sensor Supply:	from control voltage, max. 0.5 A, short-circuit proof	Storage Temperature:	-40...+85°C
Supply Input:	7/8" plug, 5-pin, 16-UN thread	Supply Output:	7/8" socket, 5-pin, 16-UN thread	Us Sum Current:	16 A at 40 °C
Last Verified:	10/25/2026 9:34 PM				

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