

Beckhoff — IL Coupler Box Units

IL2301-B510

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The **IL2301-B510** is a coupler box produced by Beckhoff within the IL Coupler Box Units series. As a decentralized I/O node, the module connects sensors and actuators on a machine frame to a CAN-based control system, so it serves as an interface between field devices and higher-level controllers in industrial automation. The hardware follows the manufacturer's Coupler Box classification and can be mounted in any position without affecting performance, allowing flexible placement alongside conveyors, robots, or tooling fixtures.

The communication layer is based on **CANopen**, enabling straightforward integration with distributed PLC architectures. The box provides **4 digital inputs** for receiving binary signals from field devices. Another set of channels provides **4 digital outputs** for controlling devices such as valves or contactors. An optical link transfers process data to upstream equipment through **optical fiber**, which provides galvanic isolation and supports noise-resistant data transmission across long machine segments. The enclosure has an **IP65/66/67** protection rating, preventing dust and water from compromising operation on exposed production lines. The load circuit is supplied separately from the logic section, allowing independent power distribution for actuators while the sensor supply is taken from the control-voltage rail.

The **bolted M8 I/O connection system** secures cord sets against vibration. The electronics are protected by a **polyurethane casting compound**, which provides mechanical damping and moisture resistance, while the housing is molded from **PA6 polyamide** to keep its weight low and resist oils. Internal contacts are made from copper-zinc alloy with a gold finish, and external metal parts are made from nickel-plated brass to improve corrosion

resistance. Two mounting bosses accept **two M3 screws** for fastening the enclosure to machine panels. The unit is not programmable, and its parameters are managed entirely by the network master. This arrangement centralizes device configuration within the control system while keeping the field-mounted box focused on signal transmission and I/O operation.

Specifications

Box Type:	Coupler Box	Casting Compound:	Polyurethane	Contact Material:	CuZn, Gold-Plated
Degree Of Protection:	IP67	Digital Inputs:	4	Digital Outputs:	4
Electrical Connection:	M12 Connector	Fieldbus:	CANopen	Housing Material:	PA6 (Polyamide)
I/o Connection:	M8 Bolted	Installation:	Flush	Installation Position:	Any
Ip-link Medium:	Optical Fiber	Max Current Consumption:	<= 10 mA	Metal Parts:	Brass, Nickel-Plated
Mounting Holes:	2 x M3	Operating Temperature:	0°C to +55°C	Operating Voltage:	10-30 V DC
Output Load Supply:	Separate	Output Type:	PNP	Programmability:	Not Programmable
Protection Class:	IP65/66/67	Reverse Polarity Protection:	Yes	Sensing Distance:	5 mm
Sensor Supply:	Control Voltage	Short Circuit Protection:	Yes	Switching Frequency:	1000 Hz
Switching Output:	NO (Normally Open)	Type:	Inductive Proximity Sensor	Last Verified:	10/23/2026 9:04 PM

Contact Us

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