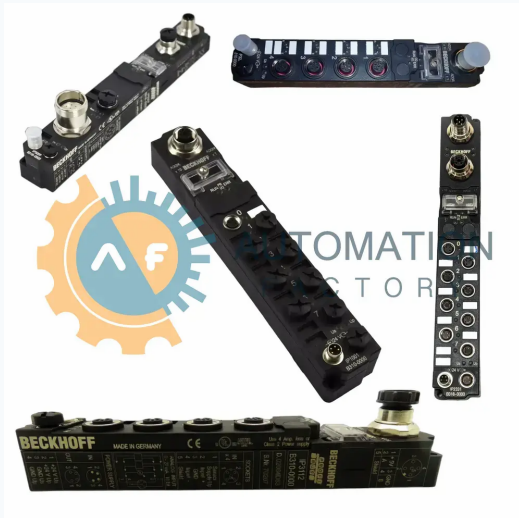


Beckhoff — IP Compact Box Units

IP2301-B520

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The **IP2301-B520** is a compact digital I/O module produced by Beckhoff for the IP Compact Box Units series. It attaches directly to a machine frame and exchanges data over a rugged fieldbus, allowing PLCs to collect input states and drive actuators without a control-cabinet terminal strip. By integrating sensing and switching points in one enclosure, the unit streamlines decentralized installations in material-handling, packaging, and assembly cells.

The module communicates through the **DeviceNet** bus and publishes a process image that carries **4 digital inputs** and **4 digital outputs**. Each input conforms to EN 61131-2 Type 2, draws only **6 mA**, and uses a **3.0 ms filter** to reject contact chatter. The outputs switch loads connected to a nominal **24 VDC** supply and can source up to **0.5 A per channel** for solenoids or indicator lamps. A matching 0.5 A sensor supply is available, allowing proximity switches to share the same feed as the actuators. The internal electronics isolate the fieldbus from the power layer to prevent electrical noise from affecting network communication. The device accepts reverse-polarity connections without damage, and short-circuit monitoring activates when current rises above 1.5 A.

Power is daisy-chained through **M8 4-pin input and output connectors**, while signals reach the channels through **M8 screw-in connectors** that resist loosening under vibration. The load circuit draws 20 mA per channel when idle, conserving the 24-volt supply for other network nodes. An isolated fieldbus transceiver shields network communication from disturbances generated by switched loads. When an output exceeds the short-circuit limit, protective monitoring allows it to trip without pulling down adjacent devices. Reverse-polarity protection prevents wiring errors from damaging the module or propagating through the power trunk. Discrete LEDs beside each port

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indicate channel activity and provide immediate visual feedback during operation and troubleshooting.

Specifications

Bus System:	DeviceNet	Continuous Drain Current (id):	6A	Device Type:	N-Channel MOSFET
Digital Inputs:	4	Digital Outputs:	4	Drain-source On-resistance (rds(on)):	<=33m? @ Vgs=4.5V, <=42m? @ Vgs=2.5V, <=65m? @ Vgs=1.8V
Drain-source Voltage (vds):	20V	Esd Protection:	2000V (Human Body Model)	Fieldbus Isolation:	Yes
Gate Threshold Voltage (vgs(th)):	1.0V to 3.0V	Gate-source Voltage (vgs):	±8V	Input Capacitance (ciss):	540pF
Input Current:	6 mA	Input Filter:	3.0 ms	Input Type:	EN61131-2 Type 2
Inverse Polarity:	Yes	Load Supply Draw:	20 mA Per Channel	Max Output Current:	0.5 A Per Channel
Maximum Junction Temperature (tj):	150°C	Module Type:	Compact Box	Operating Temperature Range:	-55°C to 150°C
Output Capacitance (coss):	160pF	Power Connection:	M8 4-Pin In, M8 4-Pin Out	Power Dissipation (pd):	1.25W
Process Image:	4 Input Bits, 4 Output Bits	Pulsed Drain Current (id, Pulse):	20A	Rated Load Voltage:	24 VDC
Reverse Transfer Capacitance (crss):	95pF	Sensor Supply:	0.5 A Per Channel	Short-circuit Current:	1.5 A
Signal Connection:	M8 Screw-In	Last Verified:	10/25/2026 9:29 AM		

Contact Us

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Shipping Options



Payment Methods



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