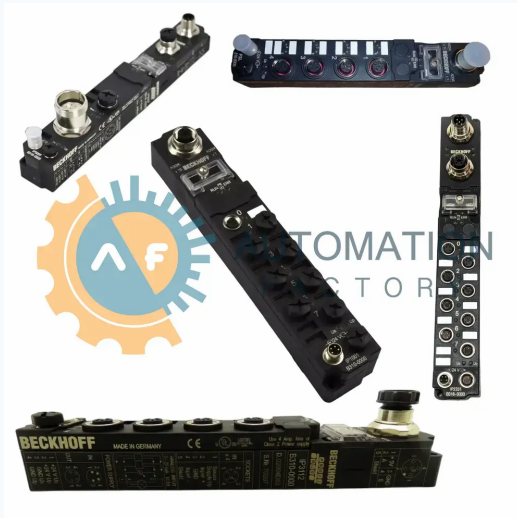


## Beckhoff — IP Compact Box Units

**IP3102-B510-0000** **In-Stock, Ships Today**

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The **IP3102-B510-0000** is an analog voltage input unit produced by Beckhoff as part of the IP Compact Box Units series. The device serves as a decentralized sensor interface that mounts on machinery, collects field-level signals, and forwards them to controllers without routing the signals through a control cabinet. It is intended for industrial automation tasks that require distributed measurement over CANopen while preserving differential signal integrity in electrically noisy areas.

Each of the module's **4** inputs uses a differential topology, allowing the signal pair to reject noise picked up along the cable. A per-channel isolation barrier rated at **500 V** limits ground loops between sensors and the backplane. The permissible span of **±10 V** accommodates many common process transducers, while an input resistance greater than 100 k $\Omega$  keeps signal loading negligible. Conversion accuracy is supported by a resolution of **15 bits plus sign**, providing 32,768 discrete values across the range. With the default sampling profile, the converter completes a cycle in **250 ms**. This setting balances precision with bus bandwidth while updating the process image, which appears to the controller as four 16-bit words.

For time-critical loops, the acquisition rate can be increased because the internal analog-to-digital converter can finish in **5 ms** when the fastest filter is selected. Ten filter options provide different balances between acquisition speed and noise rejection. Data is transferred over **CANopen**, so parameter settings and diagnostic information share the network used for other Beckhoff I/O devices. Field wiring is connected through an **M12 screw-in connector** that helps seal the housing and allows cables to be attached securely. The common-mode window of 35

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V protects the input circuitry from moderate ground offsets. Sensors can be powered directly from the unit through an auxiliary feed that provides up to **30 VDC**.

## Specifications

|                             |                    |                                 |                  |                                      |                     |
|-----------------------------|--------------------|---------------------------------|------------------|--------------------------------------|---------------------|
| <b>Channel Count:</b>       | 4                  | <b>Channel Isolation:</b>       | 500 V            | <b>Common-mode Voltage:</b>          | 35 V Max            |
| <b>Connection:</b>          | M8 Connector       | <b>Current Consumption:</b>     | <= 10 mA         | <b>Default Conversion Time:</b>      | 250 ms              |
| <b>Fieldbus System:</b>     | CANopen            | <b>Filter Variants:</b>         | 10               | <b>Housing Material:</b>             | Nickel-plated Brass |
| <b>Input Connector:</b>     | M12 Screw-In       | <b>Input Range:</b>             | ±10 V            | <b>Input Resistance:</b>             | >100 k?             |
| <b>Input Signal:</b>        | Analog Voltage     | <b>Input Topology:</b>          | Differential     | <b>Installation:</b>                 | Flush               |
| <b>Max Output Current:</b>  | 200 mA             | <b>Minimum Conversion Time:</b> | 5 ms             | <b>Operating Temperature:</b>        | -25°C to +70°C      |
| <b>Operating Voltage:</b>   | 10-30 V DC         | <b>Output Type:</b>             | PNP              | <b>Polarity Reversal Protection:</b> | Yes                 |
| <b>Process Image Input:</b> | 4 x 16 Bits        | <b>Protection Rating:</b>       | IP67             | <b>Resolution:</b>                   | 15 Bits + Sign      |
| <b>Sensing Range:</b>       | 2 mm               | <b>Sensor Supply Max:</b>       | 30 VDC           | <b>Short Circuit Protection:</b>     | Yes                 |
| <b>Switching Output:</b>    | NO (Normally Open) | <b>Type:</b>                    | Proximity Sensor | <b>Last Verified:</b>                | 10/25/2026 7:58 AM  |

## Contact Us

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### Shipping Options



### Payment Methods



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