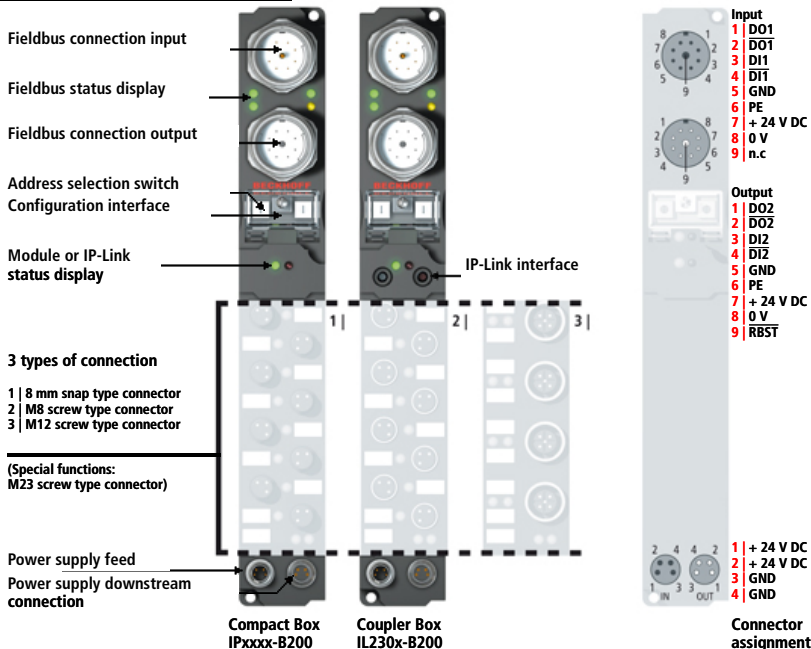


Interbus



IPxxx-, IL230x-B400 | Fieldbus Box modules for Interbus



Interbus was developed specially for use in machine systems and is specified in DIN E19258/EN50170. The Interbus system is based on a ring structure with active coupling between the devices. The bus access process is a straightforward master/slave system. The data from the master loops through the slaves as in a large shift register. The so-called remote bus can support a maximum of 512 devices with a distance between the slaves of up to 400 m. The entire length of the circuit, if constructed in copper cable, can therefore be up to 13 km. Each slave works on the basis of its active coupling like a repeater, refreshing the signal. The remote bus uses a 6-core cable and RS485 physics. The data transmission is 500 kbaud. The Interbus parameterisation is very simple since the Interbus can read in its own connected stations via an identification cycle. The master thereby recognises how many and which devices are connected.

All Interbus device manufacturers are obliged to have developed devices certified by the Interbus Club e.V. That means that the devices can be incorporated into any Interbus systems.

Configuration

Configuration is started with the Interbus via an identification cycle. The master thereby automatically recognises all connected devices. Identification takes place via an identification code, which is stored in each device, and a long code, which contains the length of the transferred data.

Diagnostics

The extensive diagnostic functions of the Beckhoff Interbus devices allow rapid fault localisation. The status of the network connection, the device status, the status of the inputs and outputs and of the power supply are displayed by LEDs.

Compact Box

Compact Box modules for Interbus are available for all relevant industrial signals. In addition to digital and analog input and output modules including thermocouple and RTD inputs, there are also incremental encoder interfaces available for displacement and angle measurement in addition to serial interfaces to solve a large number of communication tasks.

Coupler Box

The Interbus Coupler Box gathers the I/O data from the Extension Box modules over the interference-free IP-Link fibre optic cable. It detects the connected modules and automatically allocates the input and output data to the process image. Both data consistency and a clear separation of input and output data are ensured. The Coupler Box has four digital inputs and four digital outputs. Other kinds of signal are available in the Extension Box.

System data	Interbus IPxxx-B400, IL230x-B400
Number of I/O stations	depending on the master, max. 256
Number of I/O points	depending on the master
Data transfer medium	LiYCY 3 x 2 x 0.22 mm ²
Cable length	max. 400 m between modules
Data transfer rates	500 kBaud
Data transfer time	approx. 1 ms in the case of 10 modules for 32 bit input and output each

Technical data	IPxxxx-B400	IL230x-B400
Extension modules	–	max. 120 with max. 64 byte input and 64 byte output data
Digital peripheral signals	according to I/O type	max. 512 inputs and 512 outputs
Analog peripheral signals	according to I/O type	max. 28 inputs and 28 outputs
Configuration possibility	via KS2000	
Bus interface	1 x M23 female socket 9-pin, 1 x M23 male socket 9-pin	
Power supply	control voltage: 24 V DC (20...29 V DC); load voltage: according to I/O type	
Power supply connection	feed: 1 x M8 male socket, 4-pin; downstream connection: 1 x M8 female socket, 4-pin	
Box supply current	85 mA + current consumption of sensors, max. 0.5 A	
Auxiliary power current	according to I/O type	
Electrical isolation	control voltage/fieldbus: no, control voltage/inputs or outputs: according to I/O type	
Weight	approx. 350 g	
Operating/storage temperature	0...+55 °C/-25...+85 °C	
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27	
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4	
Protect. class/installation pos.	IP 65/66/67 (conforms to EN 60529)/variable	
Approvals	CE, UL	

Accessories	
KS2000	configuration software for extended parameterisation
Cordsets	cordsets and connectors

System	
Interbus	For further Interbus products please see the system overview .

Compact Box

The Compact Box modules for Interbus offer a wide range of I/O functionalities. All relevant industrial signals are supported. The digital inputs and outputs can be connected either with snap type 8 mm diameter plugs, screw type M8 or M12 connectors. For analog signals the M12 version is used.

IPxxxx-B400	Compact Box for Interbus systems	Plug
Digital input		
IP1000-B400	Compact Box, 8 digital inputs 24 V DC, 3.0 ms filter	8 mm
IP1001-B400	Compact Box, 8 digital inputs 24 V DC, 3.0 ms filter	M8
IP1002-B400	Compact Box, 8 digital inputs 24 V DC, 3.0 ms filter	M12
IP1010-B400	Compact Box, 8 digital inputs 24 V DC, 0.2 ms filter	8 mm
IP1011-B400	Compact Box, 8 digital inputs 24 V DC, 0.2 ms filter	M8
IP1012-B400	Compact Box, 8 digital inputs 24 V DC, 0.2 ms filter	M12
IP1502-B400	Compact Box, 2 up/down counter, 24 V DC, 100 kHz	M12
Digital output		
IP2000-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 0.5 A	8 mm
IP2001-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 0.5 A	M8
IP2002-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 0.5 A	M12
IP2020-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	8 mm
IP2021-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	M8
IP2022-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	M12
IP2040-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 12 A)	8 mm
IP2041-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 12 A)	M8
IP2042-B400	Compact Box, 8 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 12 A)	M12
IP2512-B400	Compact Box, 2 digital pulse width outputs 24 V DC, I _{MAX} = 2.5 A	M12
Digital combi		
IP2300-B400	Compact Box, 4 digital inputs 24 V DC, 3 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 0.5 A	8 mm
IP2301-B400	Compact Box, 4 digital inputs 24 V DC, 3 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 0.5 A	M8
IP2302-B400	Compact Box, 4 digital inputs 24 V DC, 3 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 0.5 A	M12
IP2310-B400	Compact Box, 4 digital inputs 24 V DC, 0.2 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 0.5 A	8 mm
IP2311-B400	Compact Box, 4 digital inputs 24 V DC, 0.2 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 0.5 A	M8
IP2312-B400	Compact Box, 4 digital inputs 24 V DC, 0.2 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 0.5 A	M12
IP2320-B400	Compact Box, 4 digital inputs 24 V DC, 3 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	8 mm
IP2321-B400	Compact Box, 4 digital inputs 24 V DC, 3 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	M8
IP2322-B400	Compact Box, 4 digital inputs 24 V DC, 3 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	M12
IP2330-B400	Compact Box, 4 digital inputs 24 V DC, 0.2 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	8 mm
IP2331-B400	Compact Box, 4 digital inputs 24 V DC, 0.2 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	M8
IP2332-B400	Compact Box, 4 digital inputs 24 V DC, 0.2 ms filter, 4 digital outputs 24 V DC, I _{MAX} = 2 A (Σ 4 A)	M12
IP2400-B400	Compact Box, 16 digital combination inputs/outputs 24 V DC, 3 ms filter, I _{MAX} = 0.5 A	8 mm
IP2401-B400	Compact Box, 16 digital combination inputs/outputs 24 V DC, 3 ms filter, I _{MAX} = 0.5 A	M8
Analog input		
IP3102-B400	Compact Box, 4 differential analog inputs ±10 V, 16 bit	M12
IP3112-B400	Compact Box, 4 differential analog inputs 0/4...20 mA, 16 bit	M12
IP3202-B400	Compact Box, 4 analog inputs for resistance thermometer (RTD), PT100...1000, Ni100, 16 bit	M12
IP3312-B400	Compact Box, 4 analog inputs for thermocouple, types J, K, L, B, E, N, R, S, T, U, 16 bit	M12
Analog output		
IP4112-B400	Compact Box, 4 analog outputs 0/4...20 mA, 16 bit	M12
IP4132-B400	Compact Box, 4 analog outputs ±10 V, 16 bit	M12
Special functions		
IP5009-B400	Compact Box, 1 SSI encoder interface	M23
IP5109-B400	Compact Box, 1 incremental encoder interface with complementary inputs, 1 MHz	M23
IP5209-B400	Compact Box, 1 SinCos encoder interface, 1 V _{SS}	M23
IP6002-B400	Compact Box, 1 serial interface RS232C	M12
IP6012-B400	Compact Box, 1 serial interface, 0...20 mA (TTY)	M12
IP6022-B400	Compact Box, 1 serial interface, RS422, RS485	M12

Coupler Box

The Coupler Box for Interbus has four digital inputs and four digital outputs, optionally with snap type 8 mm diameter connectors, screw type M8 or M12 connectors. Up to 120 Extension Box modules can be connected via the IP-Link communication facility.

IL230x-B400	Coupler Box for Interbus systems	Plug
Digital combi		
IL2300-B400	Coupler Box, 4 digital inputs 24 V, 3 ms filter, 4 digital outputs 24 V, 0.5 A	8 mm
IL2301-B400	Coupler Box, 4 digital inputs 24 V, 3 ms filter, 4 digital outputs 24 V, 0.5 A	M8
IL2302-B400	Coupler Box, 4 digital inputs 24 V, 3 ms filter, 4 digital outputs 24 V, 0.5 A	M12

System overview

