IP1502-B518 | Fieldbus Box, 2-channel digital input, CANopen, counter, 24 V DC, 100 kHz, M12, integrated T-connector
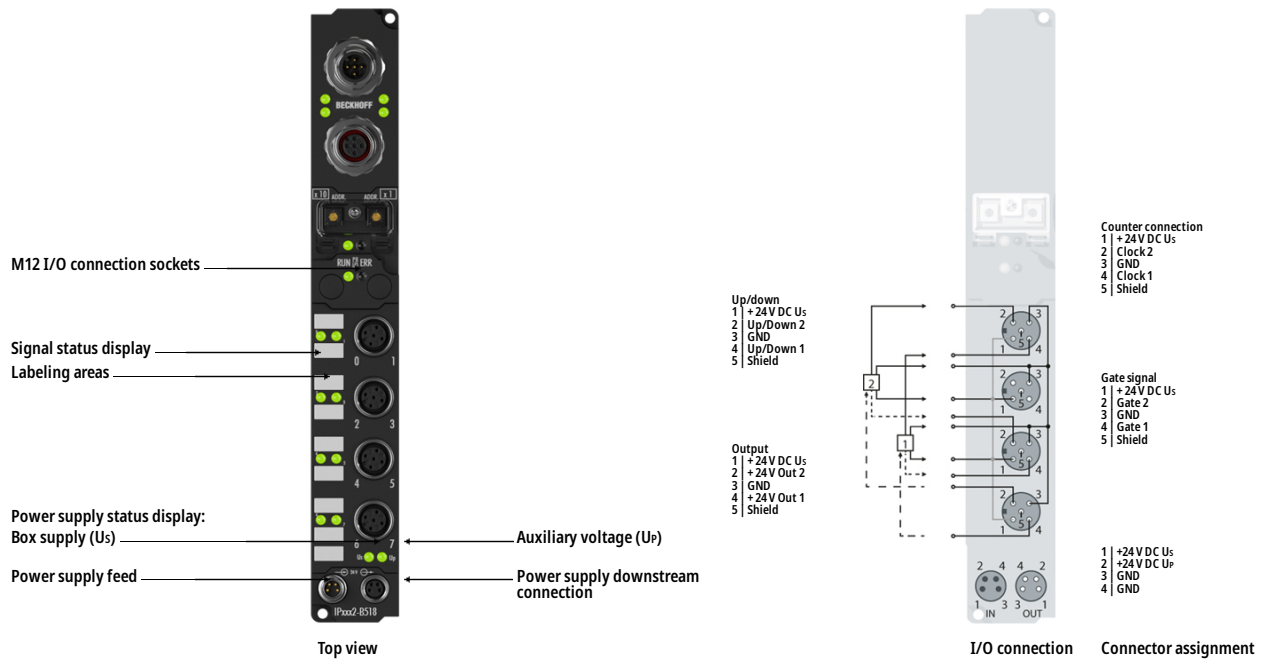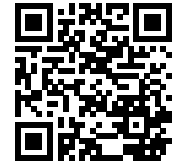
M12 I/O connection sockets

Signal status display

Labeling areas

Power supply status display:
Box supply (U$_S$)

Power supply feed

Auxiliary voltage (U$_P$)

Power supply downstream connection

Top view

Up/down
1 | + 24 V DC U$_S$
2 | Up/Down 2
3 | GND
4 | Up/Down 1
5 | Shield

Output
1 | + 24 V DC U$_S$
2 | + 24 V Out 2
3 | GND
4 | + 24 V Out 1
5 | Shield

Counter connection
1 | + 24 V DC U$_S$
2 | Clock 2
3 | GND
4 | Clock 1
5 | Shield

Gate signal
1 | + 24 V DC U$_S$
2 | Gate 2
3 | GND
4 | Gate 1
5 | Shield

1 | +24 V DC U$_S$
2 | +24 V DC U$_P$
3 | GND
4 | GND

IN   OUT

I/O connection   **Connector assignment**

Product status: Regular delivery

The counter module has two fast counters running at up to 100 kHz. It counts binary pulses, and transmits the counter state to the higher-level automation unit. The up/down input allows the counters to be switched between upwards and downwards counting (in 32 bits). The gate signals (gate inputs) allow the counters to be triggered: depending on the level at the gate input, the counting function is halted or enabled. The outputs can be switched according to the counter state and therefore be used as fast control signals for field devices. From the controller it is possible to set the counter state, to start or halt the counter function, and to set the outputs. The module shows the states of the input and output signals by means of light emitting diodes.

Product information

Technical data

System data	CANopen | IPxxxx-B51x, IL230x-B51x
Number of I/O stations	63, with repeater: 99
Number of I/O points	depending on controller
Data transfer medium	shielded copper cable, 2 x signal, 1 x CAN ground (recommended)
Distance between stations	5,000 m 2,500 m 1,000 m 500 m 250 m 100 m 50 m 25 m
Data transfer rates	10 kbaud 20 kbaud 50 kbaud 125 kbaud 250 kbaud 500 kbaud 800 kbaud 1 Mbaud
I/O communication types	event driven, cyclic, synchron, polling

BECKHOFF New Automation Technology

Technical data digital inputs	IP1502-Bxxx
Specification	EN 61131-2, type 2
Number of inputs	2 counter inputs + 2 gate inputs + 2 up/down switches
Number of counters	2, each with a depth of 32 bits
Counting frequency	100 kHz (2 kHz for switching between up and down)
Signal connection	M12, screw type
Nominal input voltage	24 V DC (-15 %/+20 %)
Input filter	–
"0" signal voltage	-3...+5 V (EN 61131-2, type 2)
"1" signal voltage	11...30 V (EN 61131-2, type 2)
Number of outputs	2 x 24 V DC, 0.5 A, individually short-circuit-proof
Sensor supply	from control voltage, max. 0.5 A, short-circuit proof in total
Power supply connection	feed: 1 x M8 male socket, 4-pin; downstream connection: 1 x M8 female socket, 4-pin
Bit width in the process image	80 inputs/outputs: 2 x 32 bit data (2 x 8 bit control/status)
Current consumption from U_s (without sensor current)	see documentation
Electrical isolation	channels/control voltage: no, between the channels: no, control voltage/fieldbus: depends on the bus system

Technical data	IP1502-B518
Extension modules	–
Digital peripheral signals	according to I/O type
Analog peripheral signals	according to I/O type
Number of PDOs (CANopen)	16 send and 16 receive process data objects
Additional CANopen features	life, node guarding, emergency object, variable mapping, store/restore
Configuration possibility	through KS2000 or the controller (service data objects)
Data transfer rates	automatic detection of 10 kbaud up to 1 Mbaud
Bus interface	1 x M12 plug, 5-pin, 1 x M12 socket, 5-pin (tee-connector integrated)
Power supply	control voltage: 24 V DC (-15 %/+20 %); 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	45 mA + current consumption of sensors, max. 0.5 A
Auxiliary power current	according to I/O type
Electrical isolation	control voltage/fieldbus: 500 V, control voltage/inputs or outputs: according to I/O type
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. rating/installation pos.	IP65/66/67 (conforms to EN 60529)/variable
Approvals/markings	CE, UL

BECKHOFF New Automation Technology

Housing data	XXL housing
Dimensions (W x H x D)	30 mm x 210 mm x 26.5 mm
Material	PA6 (polyamide)
Installation	2 fixing holes 3.5 mm diameter for M3

Accessories

Accessories	
ZK1020-0101-0xxx	pre-assembled IP-Link cable, drag-chain suitable
ZK2000-6100-0xxx	M12, plug, straight, male, 4-pin, A-coded – open end
ZK2000-6162-0xxx	M12, plug, straight, male, 4-pin, A-coded – M12, socket, straight, female, 4-pin, A-coded
ZK2020-3200-0xxx	M8, socket, straight, female, 4-pin – open end
ZK2020-3132-0xxx	M8, plug, straight, male, 4-pin – M8, socket, straight, female, 4-pin
ZS1020-0010	IP-Link plug, 1 piece, plug for IP-Link system
ZS2000-2610	Plug field assembly, Sensor, IP65/67, M12, straight, male, 4-pin, A-coded, 0.14... 1.5 mm², Ø 4...8 mm
ZS2000-2710	Plug field assembly, Sensor, IP65/67, M12, straight, male, 5-pin, A-coded, 0.25... 1.5 mm², Ø 4...8 mm
ZS2000-2310	Plug field assembly, Sensor and Power, IP65/67, M8, straight, male, 4-pin, A-coded, 0.14...0.5 mm², Ø 4...5.5 mm
ZS2000-2320	Socket field assembly, Sensor and Power, IP65/67, M8, straight, female, 4-pin, A-coded, 0.14...0.5 mm², Ø 4...5.5 mm
ZS5300-0011	Mounting plate for 14 small or 7 wide EtherCAT-/ EtherCAT P box modules, stainless steel, 500 mm x 130 mm x 1.5 mm
ZS5000-0014	blanking plug, plastic (IP65/67), for M8 socket, green, packaging unit = 50 pieces
ZS5000-0020	blanking plug, plastic (IP67), for M12 socket, packaging unit = 50 pieces
ZB8801-0000	torque wrench for hexagonal plugs, adjustable
ZB8801-0001	torque cable key, M8/wrench size 9, for ZB8801-0000
ZB8801-0002	torque cable key, M12/wrench size 13, for ZB8801-0000

BECKHOFF New Automation Technology