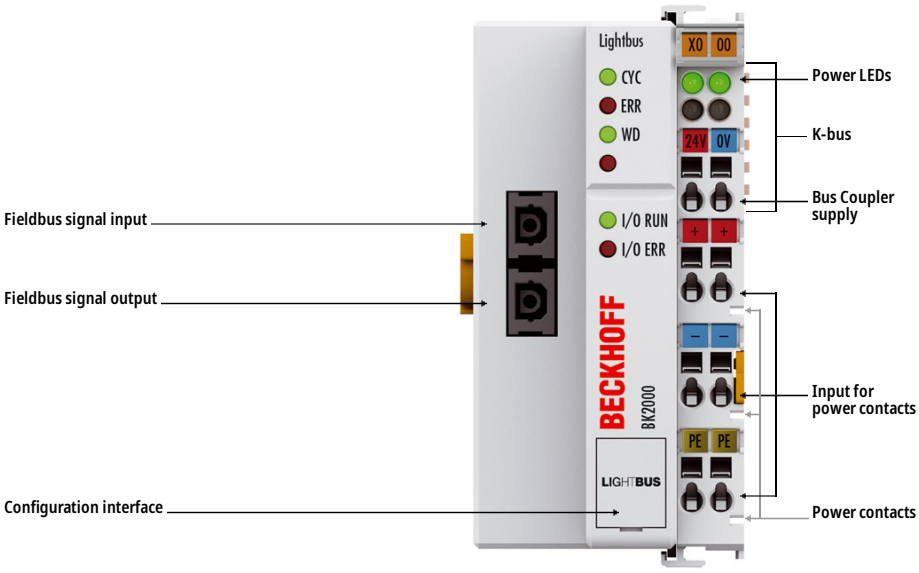
BK2000 | Lightbus Bus Coupler



Product status: Regular delivery (not recommended for new projects) | recommended alternative: BK2020

The BK2000 Bus Coupler connects the Lightbus system to the electronic terminal blocks, which can be expanded in modular fashion. One unit consists of one Bus Coupler, any number of up to 64 terminals and one end terminal.

The Bus Coupler recognizes the connected terminals and automatically generates the affiliations of the inputs/outputs to the bytes of the process image. The first input/output signal is inserted in the first bit of one byte (LSB), beginning from the left. The Bus Coupler inserts further signals in this byte. Inputs and outputs are clearly separated. The Bus Coupler automatically begins a further byte if the number of inputs or outputs exceeds 8 bits.

The Lightbus System is a rapid and safe serial fieldbus system. The Lightbus has a ring structure; up to 254 stations can be operated in a ring. Easy-to-operate standard fiber optic technology is used for data transmission, which represents excellent value. Thanks to an optimized, efficient telegram structure, the Lightbus achieves a very high user data transmission rate. For the exchange of 32 bit information 25 µs transmission time is required.

Thanks to the high-speed access method employed by the Lightbus, it is possible to access specific peripheral data and to read or write the required data only. Data is exchanged with the required priorities without producing any overhead.

Product information

Technical data

System data	Lightbus | BK2000
Number of I/O stations	254
Number of I/O points	16,192
Data transfer medium	fiber-optic conductor: APF (plastic) fiber (1,000 µm) or HCS fiber (200 µm)

Distance between stations	45 m for APF fibre, 300 m HCS fibre
Data transfer rates	2.5 Mbaud
Data transfer time	0.26 ms in the case of 10 modules for 32 bit inputs and outputs each (without K-bus runtime)

Technical data	BK2000
Number of Bus Terminals	64
Max. number of bytes fieldbus	512 byte input and 512 byte output
Digital peripheral signals	512 inputs/outputs
Analog peripheral signals	128 inputs/outputs
Configuration possibility	via KS2000 or the controller
Bus interface	2 x standard fiber-optic connector Z1000 (plastic fiber), Z1010 (HCS fiber)
Power supply	24 V DC (-15 %/+20 %)
Input current	70 mA + (total K-bus current)/4, 500 mA max.
Starting current	approx. 2.5 x continuous current
Recommended fuse	≤ 10 A
Current supply K-bus	1750 mA
Power contacts	max. 24 V DC/max. 10 A
Electrical isolation	500 V (power contact/supply voltage)
Distance between stations	45 m for APF fibre, 300 m HCS fibre
Weight	approx. 150 g
Operating/storage temperature	0...+55 °C/-25...+85 °C
Relative humidity	95 %, no condensation
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.	IP20/variable
Approvals/markings	CE, UL, ATEX
Ex marking	II 3 G Ex nA IIC T4 Gc

Housing data	BKxxxx, BCxxxx
Design form	compact terminal housing with signal LEDs
Material	polycarbonate
Dimensions (W x H x D)	51 mm x 100 mm x 69 mm
Installation	on 35 mm DIN rail, conforming to EN 60715 with lock
Side by side mounting by means of	double slot and key connection
Marking	labeling of the BZxxx series
Wiring	solid conductor (e), flexible conductor (f) and ferrule (a): spring actuation by screwdriver

Connection cross-section	s*: 0.08...2.5 mm², st*: 0.08...2.5 mm², f*: 0.14...1.5 mm²
Stripping length	8...9 mm
Current load power contacts	I_{max}: 10 A

*s: solid wire; st: stranded wire; f: with ferrule