



BK2010 | Lightbus Bus Coupler

LIGHTBUS The BK2010 "Economy" 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 "Economy" variant permits particularly economical creation of peripheral interfacing connections. Up to 64 digital input/output terminals can be connected.

The Bus Coupler recognises 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 fibre optic technology is used for data transmission, which represents excellent value. Thanks to an optimised, efficient telegram structure, the Lightbus achieves a very high user data transmission rate. For the exchange of 32 bit information 25 μ s 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.

System data	Lightbus BK2010
Number of I/O stations	254
Number of I/O points	16,192
Data transfer medium	fibre optic conductor: APF (plastic fibre (1,000 μ m) or HCS fibre (200 μ m)
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 run-time)

Technical data	BK2010
Number of Bus Terminals	64
Max. number of bytes fieldbus	32 byte input and 32 byte output
Digital peripheral signals	512 inputs/outputs
Analog peripheral signals	–
Configuration possibility	via KS2000 or the controller
Bus interface	2 x standard fibre optic connector Z1000 (plastic fibre), Z1010 (HCS fibre)
Power supply	24 V DC (-15 %/+20 %)
Input current	70 mA + (total K-bus current)/4, 200 mA max.
Starting current	approx. 2.5 x continuous current
Recommended fuse	\leq 10 A
Current supply K-bus	500 mA
Power contacts	24 V DC max./10 A max.
Electrical isolation	500 V (power contact/supply voltage)
Distance between stations	45 m for APF fibre, 300 m HCS fibre
Weight	approx. 130 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. class/installation pos.	IP 20/variable
Approvals	CE, UL, Ex

Accessories	
KS2000	configuration software for extended parameterisation
Z1xxx	Fibre optics and accessories
FC200x-0000	Lightbus PCI fieldbus cards
C1xxx	PC Fieldbus Cards with ISA, VME bus, S5 interface

Related products	
BK2000	Lightbus Bus Coupler for up to 64 Bus Terminals
BK2020	Lightbus "Economy plus" Bus Coupler for up to 64 Bus Terminals (255 with K-bus extension)

System	
Lightbus	For further Lightbus products please see the system overview