Power LEDs

K-bus

Bus Coupler supply

Fieldbus signal input

Fieldbus signal output

Input for power contacts

Configuration interface

Power contacts

# BK2000 | Lightbus Bus Coupler

**LIGHTBUS** 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 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 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.

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

| 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 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, 500 mA max. |
| **Starting current** | approx. 2.5 x continuous current |
| **Recommended fuse** | ≤ 10 A |
| **Current supply K-bus** | 1750 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. 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. 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 | |
|---|---|
| BK2010 | Lightbus Bus Coupler for up to 64 digital 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 |

| Protect. class/installation pos. | |
|---|---|
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