

Communication and power supply unit for motorised fire dampers.

- Communicates optionally with BKS24..-1B, ..-9A analogue control modules (SBS control system) or digitally via the BELIMO MP-Bus®
- AC 230 V supply via a Euro plug
- Power is supplied to the actuators via a plug contact (AC 24 V from safety isolation transformer)
- Supply and control are electrically isolated
- Simple integration of a smoke detector with no additional power supply
- A range of suitable actuators is available: BF24..-ST, BFG24..-ST, BFN24..-ST, BFL24..-ST



Technical data

Electrical data	Nominal voltage	AC 230 V, 50/60 Hz
	Nominal voltage range	AC 198 ... 264 V
	Power consumption	In operation: Approx. 3.5 W (Normal position) For wire sizing: 10 VA (inclusive spring-return actuators)
	Connections	See «Connections» on page 2
Safety	Protection class	II Totally insulated <input type="checkbox"/>
	Degree of protection	IP40
	EMC	CE according to 2004/108/EC
	Low voltage directive	CE according to 2006/95/EC
	Mode of operation	Type 1 (EN 60730-1)
	Rated impulse voltage	2.5 kV (EN 60730-1)
	Control pollution degree	2 (EN 60730-1)
	Ambient temperature range	-20° ... +50 °C
	Non-operating temperature	-40° ... +80 °C
Dimensions / Weight	Humidity test	95% r.H., non-condensating (EN 60730-1)
	Maintenance	Maintenance-free
	Dimensions	See «Dimensions» on page 4
	Weight	Approx. 550 g

Safety notes



- The device has been designed for use in stationary ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel.
All applicable legal or institutional installation regulations must be complied with.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

Application The BKN230-24-C-MP is installed together with the motorised fire or smoke extraction damper. This unit facilitates communication with higher-level systems while the built-in safety isolation transformer supplies AC 24 V voltage to the damper actuator.

Communication The unit can communicate either with the BKS24...-1B, ...-9A control modules via an analogue 2-wire system or digitally via a 2-wire connection to a BELIMO MP-Bus system. Switching between analogue operation and the MP-Bus is automatic. MP-Bus commands take priority, i.e. the BKS control module is deactivated as long as data communication is active over the MP-Bus. If MP-Bus communication is faulty, the unit switches over to analogue operation via the BKS after 60 seconds (e.g. as a back-up function); if no BKS is connected, the actuator goes into it's safety position, that means, it will close the damper (timeout function). In MP-Bus mode, the BKN230-24-C-MP processes the standard MP-Bus commands specified by BELIMO for fire damper actuators. The wink button for assigning the bus address is accessible on the outside of the unit. If a bus address is not set, this pushbutton can be used to test the damper at any time. The damper actuator moves in the opposite direction to the current control command as long as the pushbutton remains pressed. The LED displays clearly show the motional sequence and indicate when the limit positions are reached. The damper movement can thus be tested locally without difficulty.

Expansion options A BAE..ST thermoelectrical tripping device and/or an optoelectronic smoke detector can be connected directly without any add-on devices. If a smoke or temperature alarm is tripped, the local damper immediately moves into the safety position and sends a message to the higher-level system. It is also possible to connect more BKN230-24-C-MP (or BKN230-24) slave units. Please note that from actuators operated in parallel there are no position feedback signals available at the master actuator. Therefor this master-slave mode is recommended with certain limitations only.

Electrical installation

- ① Halogen-free power supply cable and plug, AC 230 V
- ② Connecting terminals for
 - 1 External smoke detector, +24 V, max. 50 mA
 - 2 External smoke detector, control input
 - 3 BKN Slave
 - 4 GND
 - 5 MP-Bus
 - 6 a BKS
 - 7 b BKS
- ③ Tab connection for
 - BAE.. thermoelectric tripping device
- ④ Tab connection for
 - BELIMO damper actuator (motor DC 24 V)
- ⑤ Tab connection for
 - BELIMO damper actuator (limit switch)
- ⑥ Test and address pushbutton



LED-indications	Green on	Damper is in the operating position	BSK open, AC 24 V to motor on
	flashes	Damper moves into the operating position	BSK opens, AC 24 V to motor on
	Yellow on	Damper is in the safety position	BSK closed, AC 24 V to motor off
	flashes	Damper moves into the safety position	BSK closes, AC 24 V to motor off
	Red on	Internal fault in the BKN230-24-C-MP	
	flashes	Thermoelectrical tripping device (BAE..) and/or smoke detector has tripped	
	flashes	MP-BUS communication active, i.e. MP commands are being received	
	briefly		

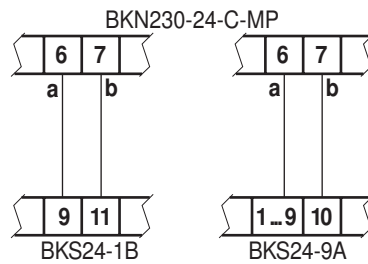
Signalisation	Lower limit position (Damper CLOSED) not reached:	Upper limit position (Damper OPEN) not reached:
	LED red flash	LED red flash
	LED green flash	LED green off
	LED yellow off	LED yellow flash
	Signal via LED after 2:30 min	Signal via LED after 2:30 min

Electrical Installation

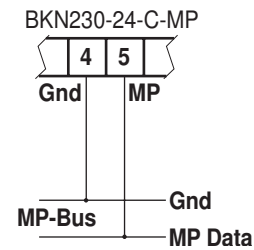
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Connection communication

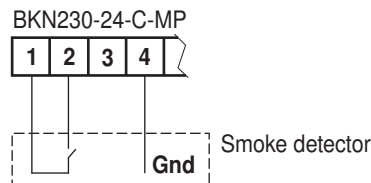
Analogue – SBS Control



Digital – BELIMO MP-Bus



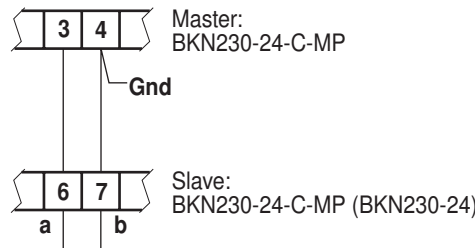
Connection smoke detector



Connection terminals for

- 1 External smoke detector, +24 V, max. 50 mA
- 2 External smoke detector, control input
- 3 BKN Slave
- 4 Gnd

Connection of more BKN230-24-C-MP (or BKN230-24) units

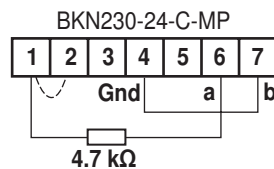


Specification of the set position without the control system or if MP-Buscommunication is faulty

Remark

It is not possible to query the position of the limit switches or monitor them remotely without the control system !

If no control commands are received by the BKN230-24-C-MP or if no communication line is connected, the damper remains in the safety position. However, the damper can still move into the operating position as soon as 230 V AC power supply voltage is applied thanks to the wiring arrangement shown below. The BKN230-24-C-MP can thus be used without a control system, for example if the damper needs to be continuously open without remote monitoring. The local safety function of thermoelectrical tripping devices and smoke detectors, if any are connected, is not affected. The actual damper position is indicated by the LEDs in the unit. The damper can be tested locally using the test pushbutton.



Damper actuators

Belimo BF24...-ST, BFN24...-ST or BFL24...-ST fire protection actuators can be plugged directly on to the module.

Dimensions [mm]

Dimensional drawings

