

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, BLF24...-ST, BR24...-ST



### Technical data

<b>Electrical data</b>	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
<b>Safety</b>	Protection class	II Totally insulated <input type="checkbox"/>
	EMC	CE according to 89/336/EEC
	Low voltage directive	CE according to 73/23/EEC
	Mode of operation	Type 1 (according to EN 60730-1)
	Rated impulse voltage	2.5 kV (EN 60730-1)
	Control pollution degree	3 (according to EN 60730-1)
	Ambient temperature range	-20° ... +50 °C
	Non-operating temperature	-40° ... +80 °C
	Humidity test	95% r.H., non-condensating (to EN 60730-1)
	Maintenance	Maintenance-free
<b>Dimensions / Weight</b>	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 BKN230-24-1MP 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). In MP-Bus mode, the BKN230-24-1MP 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 ORS142K 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 BKN230-24-1MP (or BKN230-24) slave units if other actuators without a built-in limit monitoring function need to be controlled in parallel (e.g. for very large dampers).

## Electrical Installation

- Connections**
- ① Halogen-free power supply cable and plug
  - ② Terminals, 7 poles, for
    - communication, analogue or MP-Bus
    - smoke detector
    - another BKN230-24 operated in parallel
  - ③ AMP-plug-in contact, 2 poles, for
    - BAE.. thermoelectrical tripping device
  - ④ AMP-plug-in contact, 3 poles, for
    - BELIMO-damper actuator (Motor AC 24 V)
  - ⑤ AMP-plug-in contact, 6 poles, for
    - BELIMO-damper actuator (limit switch)
  - ⑥ Test and address pushbutton



<b>LED-indications</b>	<b>Green on</b>	Damper is in the operating position	BSK open, AC 24 V to motor on
	<b>flashes</b>	Damper moves into the operating position	BSK opens, AC 24 V to motor on
<b>Yellow on</b>	<b>flashes</b>	Damper is in the safety position	BSK closed, AC 24 V to motor off
	<b>flashes</b>	Damper moves into the safety position	BSK closes, AC 24 V to motor off
<b>Red on</b>	<b>flashes</b>	Internal fault in the BKN230-24-1MP	
	<b>flashes</b>	Thermoelectrical tripping device (BAE..) and/or smoke detector has tripped	
	<b>flashes briefly</b>	MP-BUS communication active, i.e. MP commands are being received	

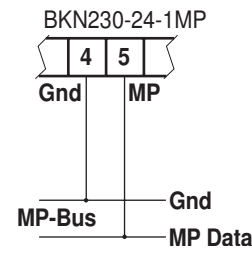
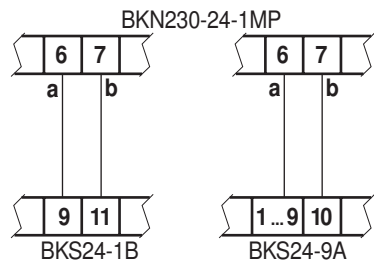
**Electrical Installation**

*(Continued)*

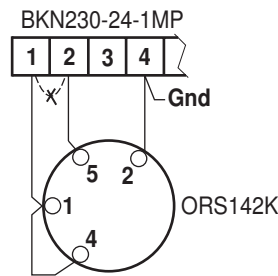
**Connection communication**

**Analogue – SBS Control**

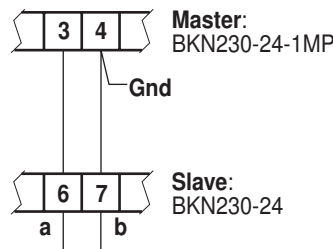
**Digital – BELIMO MP-Bus**



**Connection smoke detector**



**Connection of more BKN230-24 units for parallel operation**

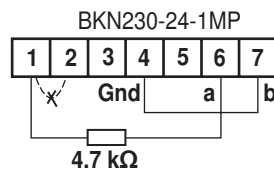


**Specification of the set position without the control system or if MP-Buscommunication is faulty**

**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 BKN230-24-1MP 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 BKN230-24-1MP 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.



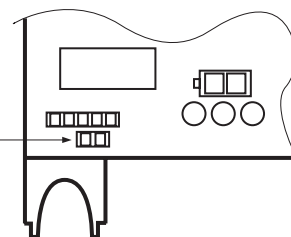
**Damper actuators**

Belimo BF24...-ST or BLF24...-ST fire protection actuators can be plugged directly on to the module. BELIMO BR24...-ST smoke damper actuators cannot be used with the BKS24.. control module! If these actuators are however controlled via the MP-Bus, a 2-pole jumper must be inserted in the BKN230-24-1MP.

**Remark**

BELIMO BE24...-ST (40 Nm) smoke damper actuators cannot be used because the transformer power is not sufficient.

Insert a 2-pole jumper here for BR24...ST actuators



**Dimensions [mm]**

**Dimensional drawings**

