

# BKN230-24MP

Communication and Power Supply Unit for Top-Line Fire & Smoke Actuators for MP-Bus applications



## Communication and power supply unit for Top-Line Fire & Smoke Actuators for MP-Bus applications

### Application

The BKN230-24MP unit is suitable for:

- power supplies
- interconnection
- MP-Bus interfacing

with Top-Line Fire & Smoke Actuators (e.g. BF24TL-T-ST)

### Mode of operation

The BKN230-24MP unit provides a distributed source of power for Top-Line Fire & Smoke Actuators (e.g. BF24TL-T-ST) which allows the MP-Bus conductor to be up to 800 m long.

Up to 8 MP-Bus nodes can be controlled and monitored by one master control unit (DDC with MP-Interface).

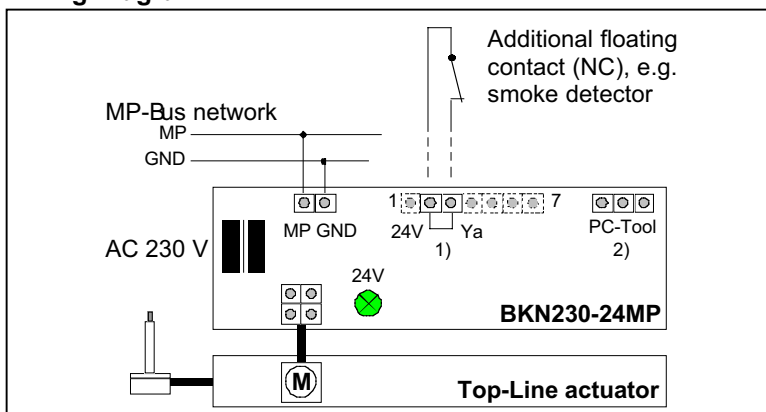
### Features

- Power status LED (green)
- Terminal strip for incorporating additional triggering devices, such as smoke detectors with a floating contact
- Plug connector for Top-Line F & S PC-Tool
- Plug connector for Top-Line Fire & Smoke Actuators

### Accessories

- Top-Line F & S PC-Tool (TL5W1.1) for diagnostics, service and OEM set-up. Only the OEM may change parameter settings ! Plugging in the PC-Tool overrides communication between MP-Bus and actuator.
- ZIP-RS 232 (PC interfacing) and ZN230-24 (power supply)

## Wiring Diagram



- 1) Factory-fitted jumper. Can be removed if necessary to be replaced by an external floating contact (NC), e.g. smoke detector. The safety function will be triggered if terminals 2 and 3 are not linked.
- 2) Plug-in contact for connecting a PC via a ZIP-RS232 module.

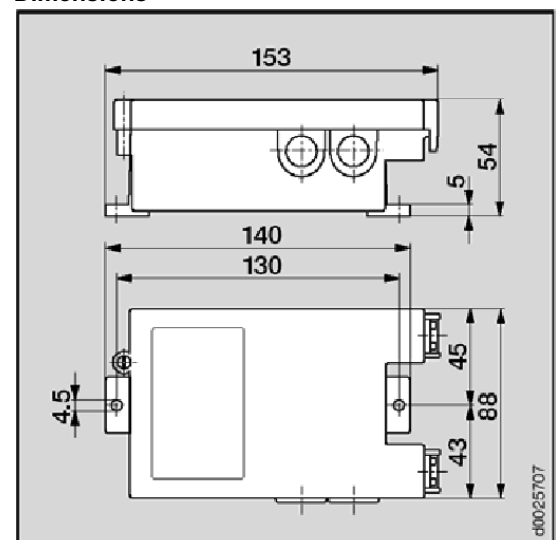
Note:

The unit does not contain any parts that can be repaired or exchanged by the user.

**Always disconnect the 230 V AC power lead before opening the device !**

Technical Data	BKN230-24MP
Nominal voltage	AC 230 V 50/60 Hz
Nominal voltage range	AC 198...264 V
For wire sizing	13 VA (with actuator)
Power consumption	11 W (with actuator)
Connections	
- Mains power	1 m long lead with Euro-plug Type 26
- Actuator (Top-Line)	4-pin plug connector
- MP-Bus	screw terminals, 2 poles
- Additional triggering device (optional)	screw terminals, 2 poles (2 x 1.5 mm <sup>2</sup> )
- Top-Line F&S PC-Tool via ZIP-RS232	3-pin plug connector
Protection Class	II (all-insulated)
Degree of protection	IP40
Ambient temperature range	
- normal duty	-30...+50°C
Non-operating temperature	-40...+80°C
Humidity test	to EN 30730-1
EMC	CE to 89/336/EEC
Mode	Type 1 (EN 60730-1)
Low-Voltage Directive	CE to 73/23/EEC
International certificate	CB to IEC 60730-1 / -2-14
Maintenance	Maintenance free
Weight	550 g

## Dimensions

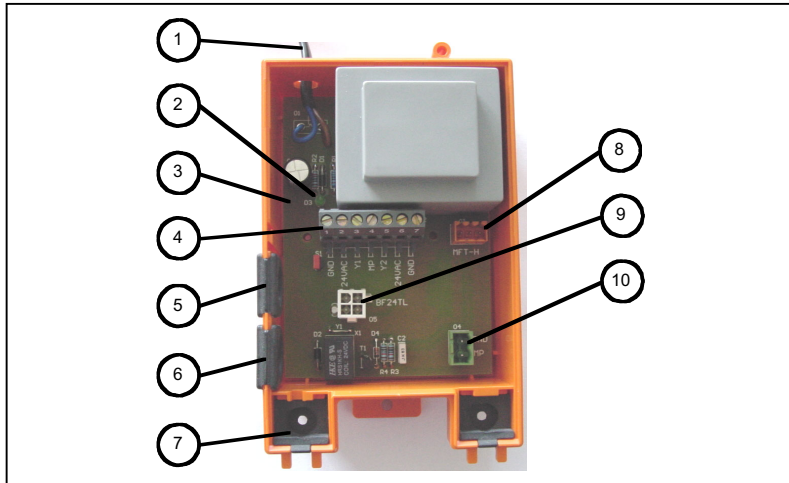


# BKN230-24MP

Communication and Power Supply Unit for Top-Line Fire & Smoke Actuators for MP-Bus applications

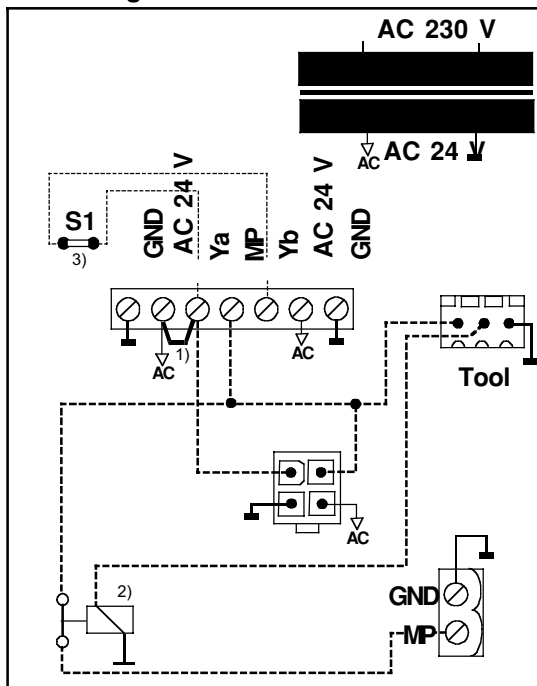


## Signalling and Device Overview



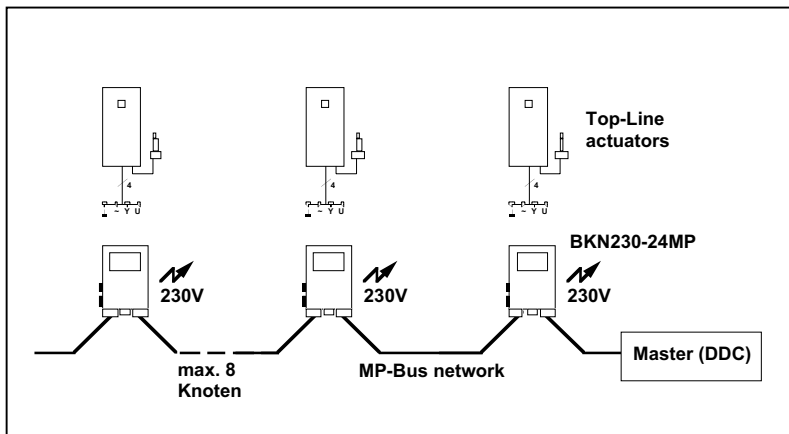
- 1 Mains power input, 230 V AC
- 2 Power status LED, green
- 3 Jumper S1 (must always be fitted for fire and smoke applications)
- 4 Terminal strip for additional tripping device (NC), e.g. smoke detector
- 5 Cable entry, e.g. for smoke detector
- 6 Cable entry, e.g. for MP-Bus network
- 7 Cable entry for Belimo actuator
- 8 Connector for Top-Line F&S PC-Tool
- 9 Connector for Belimo Top-Line Fire & Smoke Actuator
- 10 Connector for MP-Bus network

## Block Diagram



- 1) Jumper  
Factory-fitted jumper.  
Can be removed if necessary to be replaced by an external floating contact (NC), e.g. smoke detector. The safety function will be triggered if terminals 2 and 3 are not linked.
- 2) MP-Bus disconnect relay  
As soon as the Top-Line F&S PC-Tool is connected this relay disconnects the actuator from the MP-Bus. The purpose is to prevent data collisions in the MP-Bus network.
- 3) Jumper S1  
Factory-fitted jumper. This jumper must always be fitted for fire and smoke applications.

## Typical Installation



### Note

#### Topology:

Each actuator has its own power supply so only a 2-core communication cable is needed. The 2-core cable does not have to fulfil any special requirements and no special end terminations or shielding are required. The maximum permitted length of MP-Bus cable in this configuration is 800 m.

For safety reasons Belimo recommends that motorized fire and smoke dampers only be used on separate networks.

#### Addressing:

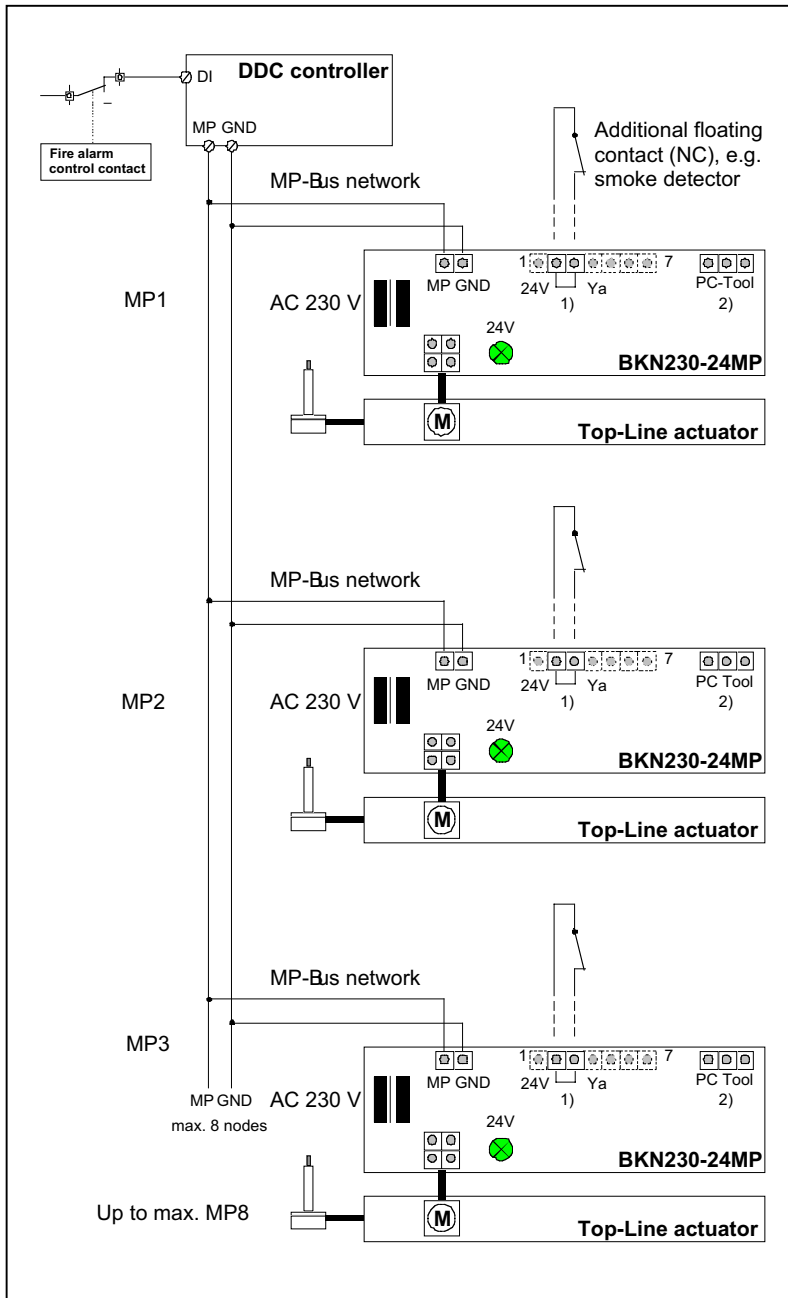
Addressing can be carried out manually with the hand crank of the actuator or by entering the serial number of the appropriate actuator into the DDC integration tool. The address is stored in the Top-Line actuator.

# BKN230-24MP

Communication and Power Supply Unit for Top-Line Fire & Smoke Actuators for MP-Bus applications



## Example 1: Fire alarm via digital input DI



### Key features of the application

Top-Line Fire & Smoke Actuators are connected to the DDC controller with an MP-Bus interface via the BKN-230-24MP unit and the MP-Bus system. The signal from the fire alarm control contact is fed to the DDC controller through a digital input.

### Note:

If necessary, external smoke detectors can be connected to the BKN230-24MP unit by means of a floating contact (NC).

### Recommended application concept

Even after the emergency-close command has been issued over the MP-Bus system the status of the fire dampers can still be monitored from the MP-Bus. This is a very useful feature with the following application, Example 2, where communication is no longer possible after a close command has been issued.

### Addressing:

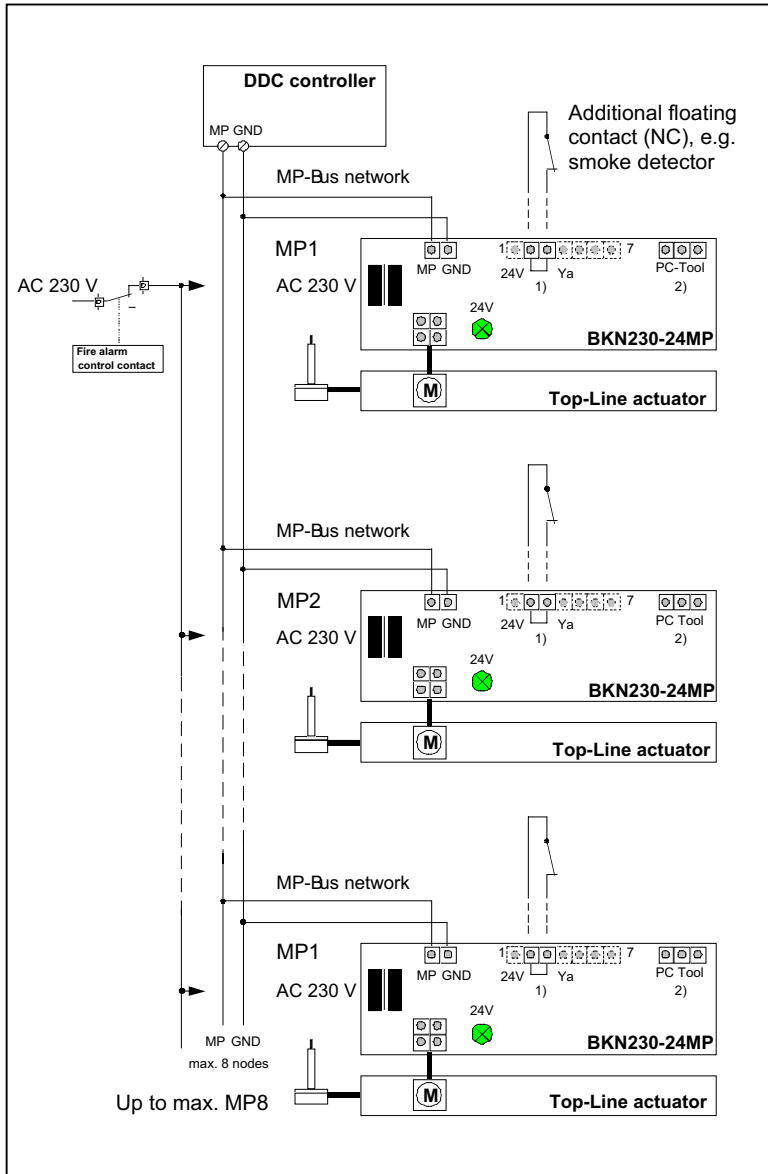
Addressing can be carried out manually with the hand crank of the actuator or by entering the serial number of the appropriate actuator into the DDC integration tool. The address is stored in the Top-Line actuator.

# BKN230-24MP

Communication and Power Supply Unit for Top-Line Fire & Smoke Actuators for MP-Bus applications



## Example 2: Fire alarm by mains interruption



### Key features of the application

Top-Line Fire & Smoke Actuators are connected to a DDC controller with an MP interface via the BKN230-24MP unit and the MP-Bus system. The fire alarm control contact effects direct interruption of the local mains power supply feeding the BKN230-24MP units.

### Note:

If necessary, external smoke detectors can be connected to the BKN230-24MP unit by means of a floating contact (NC).

### Limitations of the recommended application concept

Emergency closure is initiated by interrupting the local mains power supply. Remember that communication with the actuators is then no longer possible.

### Addressing:

Addressing can be carried out manually with the hand crank of the actuator or by entering the serial number of the appropriate actuator into the DDC integration tool. The address is stored in the Top-Line actuator.