BKN230-24LON

Communication and Power Supply Unit for Top-Line Fire & Smoke Actuators
for LONWORKS® applications

BELIMO®

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 1 and 2 are not linked.
2) Plug-in contacts for connecting a PC via the ZIP-RS232 module

Note:

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

Technical Data	BKN230-24LON
Nominal voltage	AC 230 V 50/60 Hz
Nominal voltage range	AC 198...264 V
For wire sizing	16 VA (with actuator)
Power consumption	14 W (with actuator)
Connection	
- Mains	1 m long lead with Euro-plug Type 26
- Actuator	4-pin plug connector
- LonWorks®	screw terminals, 2 poles
- Additional triggering device (optional)	screw terminals, 2 poles
- Top-Line F&S PC-Tool (via ZIP-RS232)	3-pin plug connector
Protection Class	II (all-insulated)
Degree of protection	IP 40
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
Low-Voltage Directive	CE to 73/23/EEC
Mode	Type 1 (EN60730-1)
Software Class	A (EN60730-1)
Transceiver	FTT-10A
International certificate	CB according to IEC 60730-1 / -2-14
Maintenance	Maintenance free
Weight	680 g

Communication and power supply unit for Top-Line Fire & Smoke Actuators for LONWORKS® applications

Application
The BKN230-24LON unit is suitable for:
- power supplies
- interconnection
- LONWORKS® interfacing

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

Mode of operation
The BKN230-24LON unit adds extra functionality to the safety functions that are already an integral part of the actuator, converting the actuator's digital MP-Bus protocol to LonTalk® and vice versa.

LonMark® Functional Profile
The BKN230-24LON unit is LonMark® certified. All functions of Top-Line Fire & Smoke Actuators are made available to the LonWorks® network in the form of standard network variables (SNVT) conforming to LonMark® requirements The objects "Node", "FSDA" and "Open Loop Sensor" are implemented.

Features
- Built-in test function for checking the actuator and the BKN unit independently of the bus network
- Terminal strip for incorporating additional triggering devices, such as smoke detectors with a floating contact
- Power supply to the damper actuator via a plug connector (24 V AC from a safety isolating transformer)
- Built-in 'watchdog' for triggering a safety function in the event of bus malfunction
- Visual indicators for actuator position, status and maintenance

Accessories
- Top-Line F&S PC-Tool (SWTL1.1) for diagnostics, service and OEM set-up.
  Only the OEM may change parameter settings! Plugging in the PC-Tool overrides communication between LonTalk® and actuator.
- ZIP-RS232 (PC interfacing) and ZN230-24 (power supply)
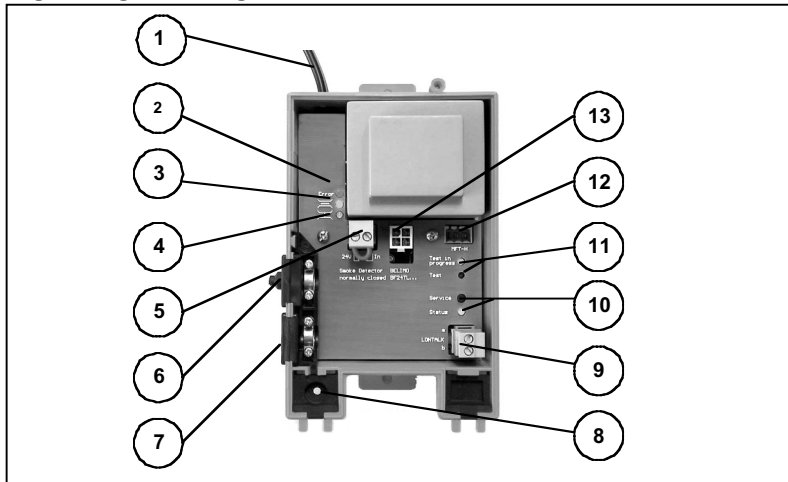
Dimensions

BKN230-24LON

Communication and Power Supply Unit for Top-Line Fire & Smoke Actuators
for LONWORKS® applications

BELIMO®

Signalling and Diagnostic Functions

1 Mains power input, 230 V AC
2 LED Error (red)
3 LED Damper open (green)
4 LED Damper closed (yellow)
5 Terminal for additional contact (NC), e.g. smoke detector
6 Cable entry, e.g. for smoke detector
7 Cable entry, e.g. for LONWORKS® network
8 Cable entry for Belimo actuator
9 Connector for LONWORKS® network
10 Status LED, yellow; Service button (LONMARK®)
11 Test button and Test LED, yellow
12 Connector for Top-Line F&S PC-Tool
13 Connector for Belimo Top-Line Fire & Smoke Actuator

Signalling

Display	Colour	Status	Function
(green symbol)	green	flashing	Damper OPENING
		on	Damper OPEN
(yellow symbol)	yellow	flashing	Damper CLOSING
		on	Damper CLOSED
Error	red	flashing	Existing fault
		on	MP communication fault
Status LED (LONMARK)	yellow	on	No user software loaded
		flashing	Not configured (factory setting)
		off	Configured (normal operation)
Test	yellow	on	Test in progress

Test Function
Holding the test button depressed for at least 3 seconds will initiate a test sequence. The test button is accessible through a hole and can be pressed with the aid of a thin tool.

Service
If the LonWorks® node has not been configured the actuator can be opened and closed by pressing the test button.
In the configured state, however, pressing the test button will always initiate a test sequence.
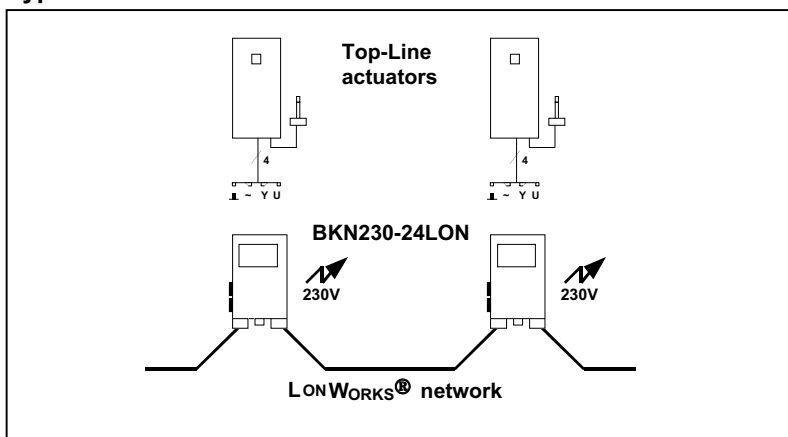
Flashing
The LED's for error, damper open and damper closed flash for approximately 7 seconds when necessary. Repeated flashing does not extend the flashing time.

Factory Settings
The BKN230-24LON unit is not configured before delivery.
The unit can be configured manually by applying mains power and pressing the service button for 3 to 10 seconds.

Typical Installation

Note
Topology:
The FTT 10-A transceiver is suitable for all forms of topology (bus, star, ring, etc.).
For safety reasons Belimo recommends that motorized fire and smoke dampers only be used on separate networks (channels).

Addressing:
The bus node address (fixed) is stored in the BKN230-24LON unit. This means that no re-addressing or system resetting is necessary when replacing a Top-Line actuator.