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Control and monitoring of up to 6 motorized smoke extraction dampers using the BKNE230-24 unit

Application

The BKSE24-6 unit is designed for mounting in equipment cubicles and indicates operating status and fault signals for the smoke extraction dampers that are linked to it. The auxiliary contacts that are incorporated also allow functions to be signalled or passed on to higher-level control systems.

Mode of operation

The signals from the BKNE230-24 unit are received by the BKSE24-6 unit and evaluated individually. All BKNE230-24 units are triggered simultaneously. Communication is via the 2-wire conductor. Correct operation of the dampers is indicated by means of two LEDs. The operating status of the SBSE-Control system and any faults are also indicated by this LED and the corresponding fault LED.

Control

There are two control options for the BKSE24-6 unit:

Input 1 (terminal 10) controlled through a switch or pushbutton. The commands for SMOKE EXTRACTION (terminals 10/12) or CEASE SMOKE EXTRACTION (terminals 10/11) are handled with Priority 1.

Input 2 (terminals 8/9) controlled through a higher-level system.

The command for SMOKE EXTRACTION is handled with Priority 2 and is only implemented when Input 1 is positioned to AUTO (terminal 10 open).

Command memory

The last control command is retained through-out temporary power failures.

INIT

In the event of a fault, a self-test can be initiated by pressing the SET/INIT pushbutton.

Fault memory

Faults remain stored in the BKSE24-6 unit until the dampers have performed a complete trouble-free cycle.

Factory settings

The BKSE24-6 unit is programmed at the factory for 6 smoke extraction dampers. The control command CEASE SMOKE EXTRACTION is also stored in the memory.

Installation and connection

The BKSE24-6 unit can be clipped directly to a 35 mm DIN mounting rail and connected by means of two 9-pole plug-in terminals.

It is recommended that a fire alarm signal cable suitable for the application be used for the 2-wire conductor.

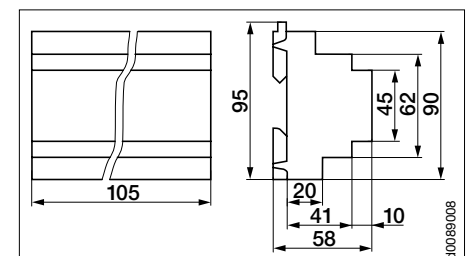
Smoke extraction zoning

The zoning arrangements required for the smoke extraction system can be set up by forming groups and by wiring the BKSE24-6 unit appropriately.

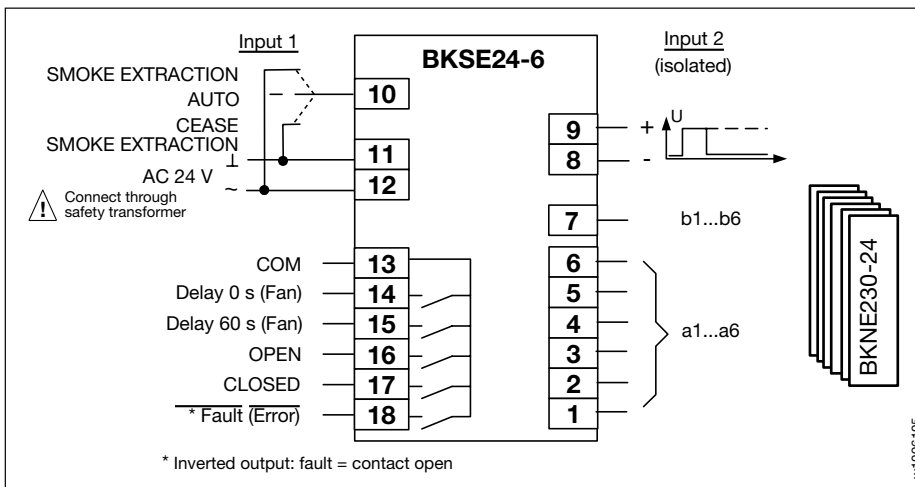
More information

See overleaf and Operating Instructions BKSE24-6.

Dimensions



Wiring diagram



w1096105

Technical data	BKSE24-6
Nominal voltage	AC 24 V 50/60 Hz
Nominal voltage range	AC 19.2...28.8 V
For wire sizing	5.5 VA (Imax. 6.4 A @ 2.5 ms)
Power consumption	3.5 W
Control signals	
• Input 1 (Priority 1)	
- extract smoke	link terminals 10-12
- cease smoke extraction	link terminals 10-11
- Auto	input open (basic position)
- signal duration	tmin = 1 s
- input impedance	R _(terminals10-11) = 66 kΩ; R _(terminals10-12) = 66 kΩ
• Input 2 (Priority 2)	terminals 8 + 9 (isolated from input 1)
- input level DC	U _(high) = DC 18...30 V; U _(low) < DC 12 V
- input current DC	I = 5 ± 0.5 mA
- input level AC	U _(high) = AC 16...30 V; U _(low) < AC 8 V
- input current AC	I = 2.5 ± 0.5 mA
- signal duration	tmin = 0.5 s
Connections	terminals for wire 2 x 1.5 mm ²
Conductor lengths	
• 2-wire conductor a/b	max. 600 m (wire 0.75 mm ²)
• control input	max. 600 m (wire 0.75 mm ²)
Recommended cable	Fire alarm signal cable 2 x 0.8 mm ²
Type	JE-H (St) Bd FE180/E30-E90
Auxiliary contacts	AC 24 V, 0.5 A
Protection class	III Safety extra-low voltage
Degree of protection	IP20
Mode of operation	type 1 (EN 60730-1)
Software class	A (EN 60730-1)
Ambient temperature range	0...+50°C
EMC	CE according to 89/336/EEC
Maintenance	maintenance-free
Weight	160 g

Your monitoring system for smoke extraction - ensuring safe control and tripping

Safe monitoring and tripping with SBSE-Control

In an emergency, Belimo SBSE-Control automatically takes over control and monitoring of the smoke extraction dampers. So, no valuable time is lost in waiting for the fire brigade to arrive. However, SBSE-Control also allows authorized rescue services to intervene manually if necessary.

The advantages for you

For project design:

- Easy compliance with standards and specifications
- Self-contained control system with universal interface to the fire alarm system
- Easy integration into the overall concept of smoke extraction
- Less planning work.

For installation:

- Minimal wiring
- Only two conductors needed to connect damper to control cubicle
- Wiring errors avoided through the use of prewired connectors on the actuator leads.

For operation and maintenance:

- Simple commissioning
- Easy local testing
- Monitoring and functional testing can be performed from a central point
- Continuous monitoring of the dampers improves safety and reduces maintenance.

