For control units and machines

Fault annunciator

www.ees-online.de

info

LSM 8/8 A-1

Combined operating indicator and fault annunciator

Performance characteristics:

- Signal voltage approx. 24V ...250V AC/DC
- 8 operating and 8 fault indications
- Standard LED colours for fault messages red, operating messages green, other colours optional
- 1 frequency flasher
- First up message, make principle, horn control
- Electrical insulation of all circuits using optocoupler
- Pluggable connection terminals
- Compact module in 96 x 96mm housing
- Marker strip connectable to transparent window

System description

In control and monitoring units there is often the requirement for a simple, but as universally applicable as possible fault annunciator unit. Wiring should be kept to the minimum possible, and there is no space for additional control elements.

The **LSM 8/8** module, available as 96x96 mm panel mounting housing, provides for operating indications and fault messages with integrated 5mm LEDs, buttons for lamp test, acknowledgement of the horn and the lamp. 8 operating and 8 fault indications are processed.

The signal voltage can reach up to 250V AC/DC. It is separated electrically from the power supply and can be taken from any phase. The collective report is implemented as a potential-free change-over contact and the horn contact as a NO contact.

The acknowledgement of lamp and horn can be carried out by internal or external buttons. The wiring is carried out by means of pluggable cable connectors. The marking of the LED display is done with push-in marker strips.

Functional description

The input voltages are conducted by AC-optocouplers and resistance dividers to an electronic switching stage each. This ensures that parasitic voltages below the response threshold (hum voltage) does not result in actuation of the horn and LEDs. The LEDs are controlled directly from the switching stage and supplied by the power supply so that a constant brightness is maintained even with high variations of the input voltage.

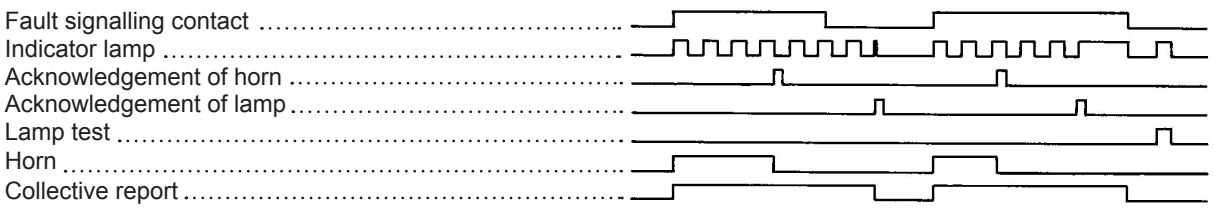
Alarm sequence

Operating messages (contacts 1 – 8):
When a signal voltage is switched on, the corresponding green LEDs light up continuously. A connection to the fault indicator logic exists only through the lamp test button.

Fault messages (contacts 9 -16):
When a message is present for longer than 100ms the corresponding red LED flashes with a 1 frequency flasher. Horn and collective report are activated and message saved. All incoming messages appear with a flashing light. Faults eliminated, but not yet acknowledged are displayed by opposite phase flashing.

If the acknowledgement button for horn and LEDs are actuated, the horn signal goes out and the flashing display changes to constant illumination for as long as the fault exists, otherwise the LED goes out. The collective report is not extinguished until all individual alarms have been acknowledged and eliminated.

Function sequence



Options available:

- **BSV 1** Labelling pattern (10 in a pack)
- **BSV-Soft** Disk with labelling pattern templates for WIN WORD from version 6.0 onwards
- **KST 1** Windows door (IP 42)
- **KSH 1** Protection cover (IP 65)
- **tropical-proof version**

5 types of unit are available in the voltage levels 24V ,60V, 110V, 125V and 230V as standard. The respective signal voltage can basically be AC or DC and vary in wide limits. Other voltages can also be supplied on demand.

Technical data

Type	LSM 8/8 A-1 / 24V AC/DC	LSM 8/8 A-1/60V DC	LSM 8/8 A-1/110V DC
Supply voltage	24V AC/DC± 20%	60V DC ± 20%	110V DC ± 20%
Power consumption	approx. 6 W	approx. 8 W	approx. 10 W
Signal voltage	24 ... 60V AC/DC +10/-15%	48 ... 72V AC/DC +10/-15%	85...125V AC/DC +10/-15%
Response threshold	approx. 16V, max. 70V	approx. 38V, max. 85V	approx. 70V, max. 140V
Max. input current	approx. 4mA	approx. 2.5mA	approx. 2.5mA

Type	LSM 8/8 A-1/125V DC	LSM 8/8 A-1/230V AC
Supply voltage	125V DC ± 20%	230V AC +10/-15%
Power consumption	approx. 5W	approx. 5W
Signal voltage	100 ... 150V AC/DC +10/-15%	185...230V AC/DC +10/-15%
Response threshold	approx. 85V, max.165V	approx. 160V, max. 250V
Max. input current	approx. 2.5mA	approx. 1.5mA

Switch on delay	approx. 100ms
Surge input voltage	2.5kV according to IEC-Pub. 60 1.2µs / 50µs
Load capacity of relay contact	24 ... 250V AC 2A; 110V DC 0.5A; 220V DC 0.3A
Flash frequency approx.	1Hz

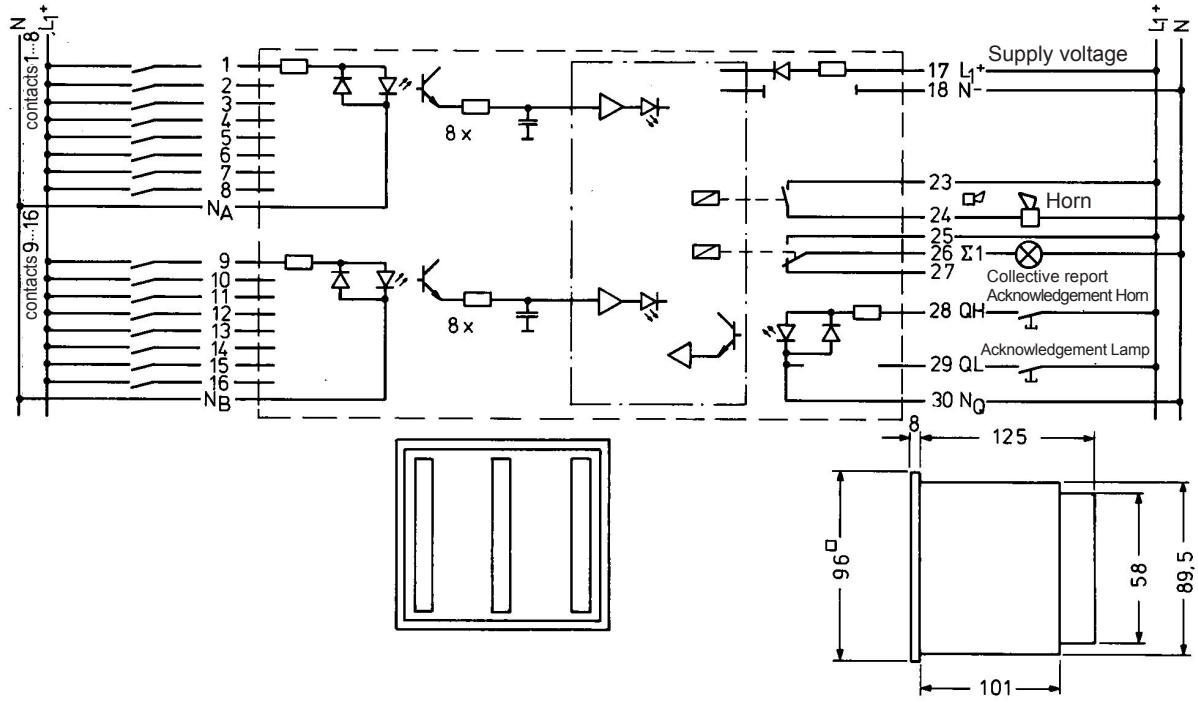
Mechanical data

Panel frame	96 x 96mm; maximum mounting depth 125mm
Mounting hole	91 x 91 $^{+0.5}$mm
Mounting position	arbitrary
Weight	approx. 0.5 kg

Ambient environment

Operating and ambient temperature	-20°C ... +60°C without condensation
Storage temperature	-20°C.... +70°C without condensation
Duty cycle	100%
Type of protection front side	IP 40; IP 42 with window door, IP 65 with protection cover
Type of protection rear side	IP 20
Connection terminals	nominal cross section 0.2 ... 2.5 mm^2
Relative humidity	max. 75% mean (Group F DIN 40040)
Noise immunity	EMC tested according to EN 61000-4-2,4,5

Wiring diagram and housing LSM8/8A-1



The right to make technical changes is reserved

Dimensions in mm

Further accessories and more detailed information may be found in the appropriate product sections in the catalogue.

HOTLINE
+49(0)7191/182-235

INTERNET
www.ees-online.de

Elektra Elektronik GmbH & Co Störcontroller KG

Hummelbühl 7-9 • D-71522 Backnang/Germany • P.O. Box 12 40 • D-71502 Backnang
Phone: +49(0)7191/182-0 • Fax: +49(0)7191/182-200 • e-Mail: info@ees-online.de