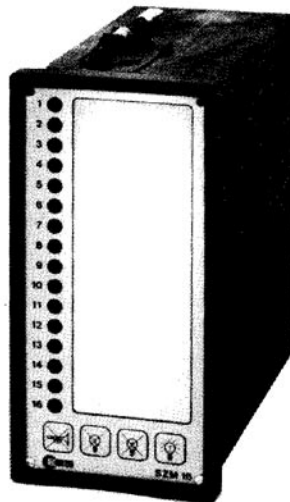


Panel-mounted Standard Fault Annunciator

with 1- or 2-frequency flash light indication
72 x 144 mm housing

SZM 16



Performance data . . .

Compact module for 16 alarms 24 V . . . 250 V AC/DC
connectable directly at voltages up to 250 V DC
16 relay contacts alternatively parallel to inputs/outputs
All circuits are isolated by opto-couplers 4 kV
waterprotect foil-front panel with pushbuttons
clear window for slide-in lable
Functions programmable by DIP-switches
pluggable screw-terminals on rear side
optionally 2-wire interface for long distances up to 15 km
many special functions possible

The fault indicator for high voltage switching areas

General system description:

Especially in high voltage switching areas there is a frequent demand on a compact and completed fault annunciator to be used as universally as possible.

The battery powered supply voltage is mostly 110 or 220 V DC and should be connected directly to the system.

The fault indication is given by 16 red LED's built in the frontpanel and displayed as a 1-frequency standard sequence or 2-frequency (option). The LED's may be labeled by slide-in strip with 40mm text length and 3,5mm height per channel.

The collective report relay contacts are subdivided into 2 priorities (channel 1 . . . 8 Σ 1 and 9 . . . 16 Σ 2). The contacts may be internally changed from n.o. to n.c. types. Furthermore there are 16 relay contacts which are either paralleled to the alarm inputs or lamp outputs so that a parallel lamp tableau may be driven or an annunciation to a central control. The internal push buttons for acknowledge lamp and horn without lamp test may be paralleled by external keys via integrated opto-couplers.

Furthermore the 16 alarm inputs are subdivided into 4 circuits so it's possible to feed in alarms out of different phases or (optionally) voltages. As a furthermore option a 2-wire interface may be installed to drive by use of EES-2-wire system „ZS 8“ a parallel tableau or central control up to a distance of 15km via 2 arbitrary wires.

Programming the functions:

After removing the front panel the following functions may be selected at a DIP-switch installed at the bottom side of the left PCB-board (see drawing).

Attention: Switch of power before opening!

The standard version is: All switches in OFF-position, output relays paralleled to the inputs and contacts in n.o.-function. Other versions and special functions on request.

Programming facilities:

„Make“ switch position: 1 OFF - The alarm inputs are connected as make circuits; i.e. an alarm is detected when a voltage is applied to the inputs.

„Break“ switch position: 1 ON - The alarm inputs are connected as break circuits; i.e. a voltage is supplied to the input in no-alarm condition and is disconnected in fault condition. No used inputs must be supplied!

„Horn retrigger“ switch position: 2 OFF - The horn sounds for each incoming alarm provided it was acknowledged previously.

„Horn no retrigger“ switch position: 2 ON - After the first alarm and its acknowledgement, the horn does not sound for the next incoming alarm. The horn cannot be activated unless all alarms have been eliminated.

„First-up“ switch position: 3 ON - The first alarm is indicated by a flashing LED, all other alarms are indicated by permanent light.

„No first-up“ switch position: 3 OFF - All incoming alarms are indicated by flashing LED's. Faults already eliminated but not yet acknowledged are indicated by flashing in phase opposition.

„Collective report non-inverted“ switch position: 4 OFF - The alarm relay is dropped out in released condition and attracts with an incoming alarm.

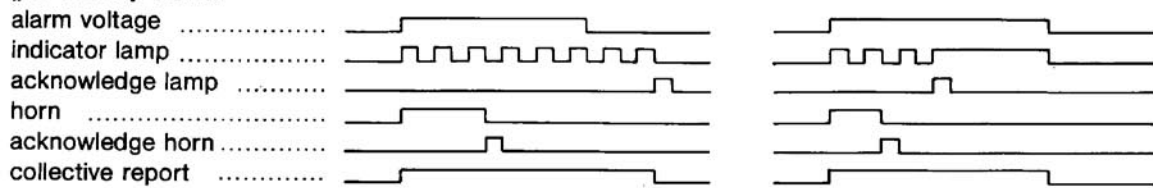
„Collective report inverted“ switch position: 4 ON - The alarm relay is continuously attracted in released condition and drops out on case of an alarm or power failure.

Options:

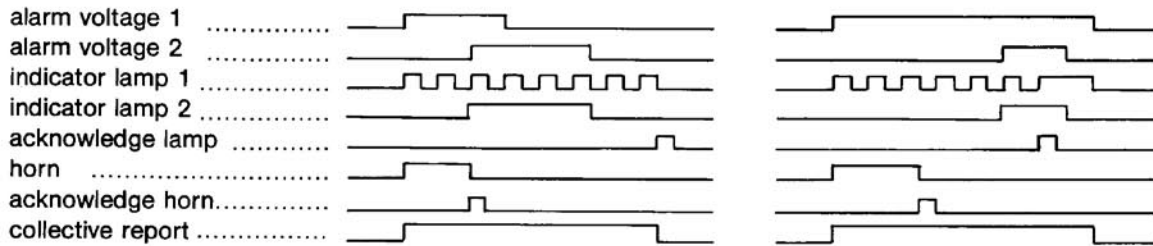
- 2-frequency flash light sequence a fast flash light/steady light/slow flash light.
Alternatively fast flash light/steady light/steady light.
- Instead of collective report Σ 2 a second horn priority. Channel 1 . . . 8 on horn H 1 and channel 9 . . . 16 on horn H2.
- 2-wire interface for transmission of 16 alarms to a tableau or control system up to a distance of 15 km. Exiting paralleled to inputs or flashing LED's.
- All relay outputs wired as n.c.
- Tropicalized version for humidity >75% and harsh climatic conditions.

Alarm sequencea:

„no first up alarm“



„first up alarm“



Electrical data:

| Series | SZM 16/24 | SZM 16/110 | SZM 16/220 V |
|---------------------------------|---|---|--|
| Supply voltage | 24 V DC $\pm 20\%$ | 110 V DC $\pm 20\%$ | 220 V DC $\begin{smallmatrix} +15\% \\ -20\% \end{smallmatrix}$ |
| Nom. input voltage | 24... 60 V AC/DC $\begin{smallmatrix} +10\% \\ -15\% \end{smallmatrix}$ | 85... 125 V DC $\begin{smallmatrix} +10\% \\ -15\% \end{smallmatrix}$ | 185... 230 V DC $\begin{smallmatrix} +10\% \\ -15\% \end{smallmatrix}$ |
| Switch on delay | approx. 100ms | approx. 100 ms | approx. 100 ms |
| Response threshold | approx. 16V | approx. 70V | approx. 160V |
| Max. input current | approx. 4mA | approx. 2,5mA | approx. 1,5mA |
| Surge input voltage | 4kV acc. to IEC-Pub. 60 1,2 us/50 us | | |
| Isolation inputs/supply/outputs | 4kV | | |
| Load of relay contacts | 24... 250 V AC 2 A; 110 V DC 0,5 A; 220 V DC 0,3 A | | |
| Flashing frequency | approx. 1 Hz/0,25 Hz | | |
| Power consumption | max. 10 W | | |

Mechanical data:

| | |
|-------------------|---|
| Panel frame | 72 x 144 mm; max. mounting depth 158 mm |
| Mounting hole | 68 x 138 + 1 mm |
| Mounting position | arbitrary |
| Weight | approx. 1,1 kg |

Ambient conditions:

| | |
|---------------------|--|
| Ambient temperature | - 20° C... + 60° C without condensation |
| Storage temperature | - 20° C... + 70° C without condensation |
| Duty cycle | 100% |
| Protection | IP 50 |
| Terminals | Cross section 1,5mm ² , pluggable |
| Humidity | ≅ 75% mean (group F DIN 40040) |

other values on request

