

Annunciator Relays



MR 10 and MRE 10
MR 20 and MRE 20



The products described in this brochure are intended for industrial use and meet the requirements laid down by the EU directive 73 /23/ EU (issued by the Council for Coordination of the Regulations of EU Member Countries regarding the electrical equipment for use within certain voltage limits, revised by directive 93/68/ EU issued by the Council).

The contents may be subject to modification for the purpose of technical improvement. The general regulations applicable to installation and commissioning must be observed. No warranty can be accepted.

Contents	Page
Annunciator relay MR 10	
Application	4
Construction	4
Function	4
Features	4
Mounting	4
Relay banks	4
Ground fault annunciator relay MRE 10	
Application	4
Construction	4
Mounting	4
Annunciator relay MR 20	
Application	4
Construction	4
Mounting	4
Ground fault annunciator relay MRE 20	
Application	5
Construction	5
Mounting	5
Technical data	5
Diagrams MR 10	6
Legend plate	6
Diagrams MRE 10	7
Screw positions from normally energized or de-energized	7
Legend plate	7
Diagrams MR 20	8
Diagrams MRE 20	8
Legend plate	8
Dimension prints for individual relays	
Surface mounting	9
Flush mounting	9
Plug-in type	9
Dimension prints for relay banks	
Housing for flush mounting	10
Annunciator relay views	11

Application

The annunciator relay MR 10 is used for indication of fault and operating conditions in control rooms, switchboards as well as mimic diagrams. Because of its large indicating area and the rigid design, this relay is ideally suited for any environmental condition. A large number of annunciator relays can be assembled in banks.

Construction

The annunciator relay MR 10 is a semi-automatic relay that can be activated optionally by NO or NC input contacts. The required control is adjusted by simply changing the position of two operating screws on the bell crank. For the optical display no additional auxiliary voltage is necessary beside the coil energizing voltage. This is especially important for applications where the relay is used for the supervision of voltages.

Function

In the normal condition the indicating area is black. With the action of the relay the indicating flag (a white area with legend) becomes visible. Simultaneously the auxiliary contacts are actuated. By pressing the reset button below the indicating flag the message is acknowledged. The indicating flag remains visible but with an additional area of red/white hatched lines. Simultaneously the contacts are restored to their normal position. After clearance of the fault the indicating flag returns to its normal position automatically.

In addition to the operation described above the relay is also available with contacts directly driven by the armature. This type is used mainly in remote control stations.

Diagrams: pages 6 and 7

Features

Easily exchangeable legend plate. Operational in any position. Heavy duty contacts. Tropicalized version is available, if desired.

Mounting

Individual relays

Panel surface mounting

Accessories: mounting screws with nuts

Dimension print: page 9

Panel flush mounting

Accessory: brace

Dimension print: page 9

Panel flush mounting plug-in type

Accessories: socket, mounting brackets

Dimension print: page 9

Relay banks

Up to 100 annunciator relays can be installed in one bank.

Dimension print: page 10

Banks of annunciator relays can be installed in steel cabinets for panel surface mounting, wall surface mounting, wall flush mounting or for mounting on the floor. Bus-wiring of the relay banks can be neatly achieved using conducting angles of different heights and special connecting wires. Relay banks in housings for surface mounting can be wired in the factory, or by the client.

Supplementary type: Ground fault annunciator relay MRE 10

Application

The annunciator relay MRE 10 is a semi-automatic relay which is used for ground fault indication in three-phase systems.

Function

The relay is equipped with two coils and must be connected to the open delta winding of a voltage transformer. The relay responds at 30 V AC. With the responding the second coil is connected in series with the first to allow operating voltages up to 100 V AC. The ground fault indication relay can also be supplied for other voltage ranges. The further functions correspond to relay MR 10.

Diagram: page 7

Mounting

Similar to annunciator relay MR 10

Supplementary type: Annunciator relay MR 20

Application

Similar to annunciator relay MR 10

Function

The annunciator relay MR 20 operates fully-automatically. A manual reset and a possibility for the adjustment from normally de-energized to normally energized are not provided. Upon response the contacts are actuated and the legend becomes visible. With the clearance of the fault the legend disappears automatically and the contacts return to their normal position.

Diagram: page 8

Mounting

Similar to annunciator relay MR 10

Supplementary type: Ground fault annunciator relay MRE 20

Application

The annunciator relay MRE 20 is an automatic relay for indicating ground faults in three-phase systems.

Function

Similar to annunciator relay MRE 10 but without manual reset and without the possibility of subsequent adjustment from normally de-energized to normally energized.

Diagram: page 8

Mounting

Similar to annunciator relay MR 10

Technical data

Relay coils	
Current type	DC or AC (50 c/s or 60 c/s)
Voltage rating (U_r)	up to 150 V DC or 230 V AC
Voltage rating with resistor	up to 220 V DC
Overvoltage continuous	$1,2 \times U_r$
Response voltage	$\leq 0,8 \times U_r$
Current rating (I_r) (current coil)	up to 6 A DC or AC
Response time	12 to 25 ms
Power consumption at U_r	
at DC	0.5 to 1.5W
with series resistor	1 to 2.5 W
at AC	
Armature closed	1.4 to 1.8 VA
Armature open	2.8 to 3.6 V A

Contacts

Rush current	10 A DC or AC
Continuous current	6 A DC or AC
Breaking current	
220 V DC, L/R = 40 ms	0.3 A
230 V AC $\cos \varphi = 0,4$	6 A
Max. switching voltage	220 V DC or 230 V AC
Momentary contact, closure	appr. 60 ms

General data

Protection type (DIN 40050)	IP 40, connections IP 00
Insulation group and series voltage	group C, 250 V DC/AC (VDE 0110/11.72)
Test voltage	2 kV 50 c/s (VDE 0435 a/9.72)
Ambient temperature range	-5 °C to +40 °C
Legend	1- or 2-lines, max. 15 letters per line
Weight	490/680 g normal execution with socket

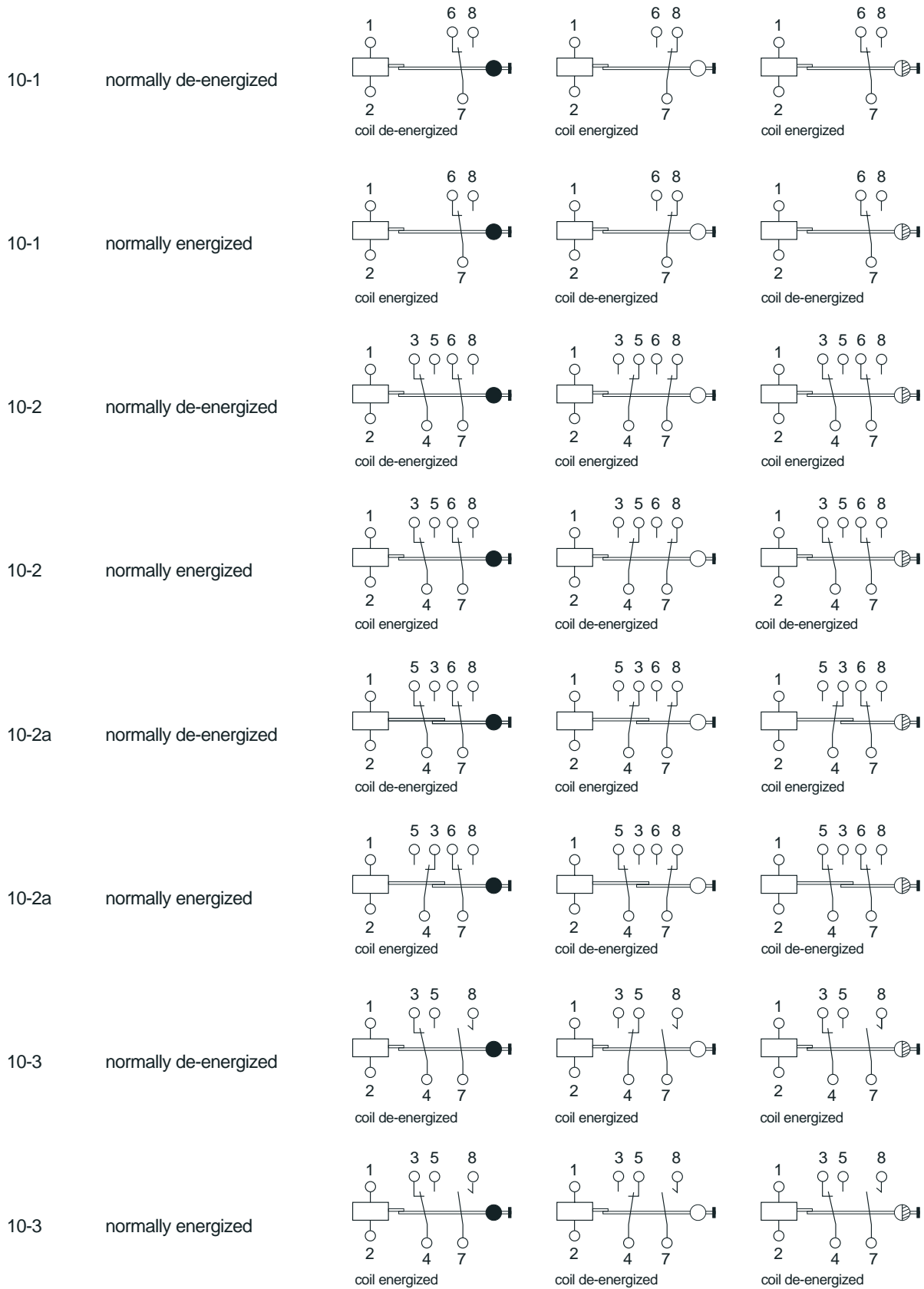
Diagrams MR 10

Diagram-no

Relay position
Normal

Alarm

Acknowledged



Legend plate

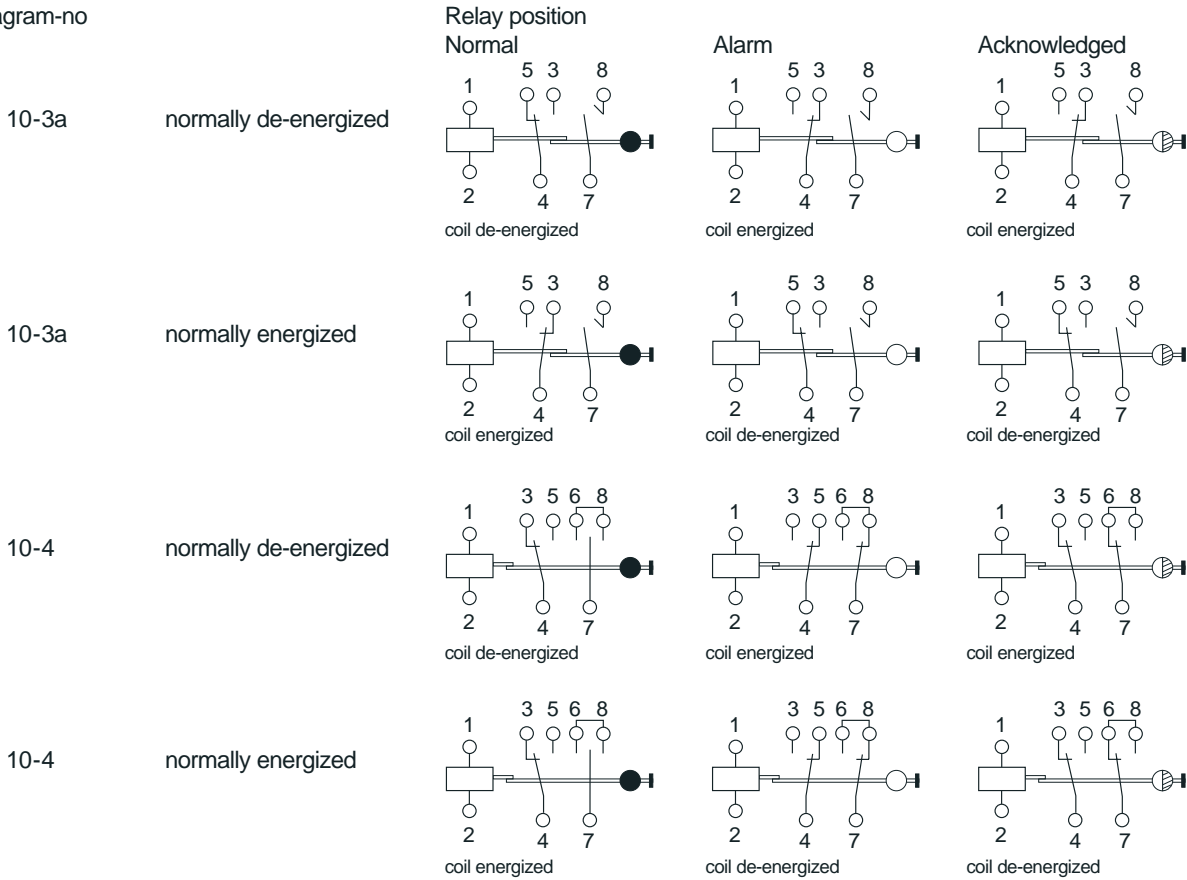
Normal
Black

Alarm
White

Acknowledged
White/Red

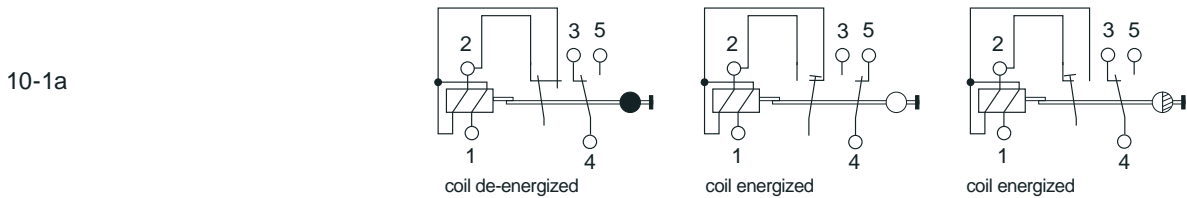
Diagrams MR 10

Diagram-no



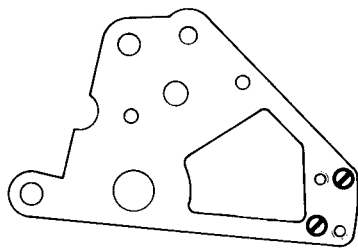
Diagrams MRE 10

Diagram-no

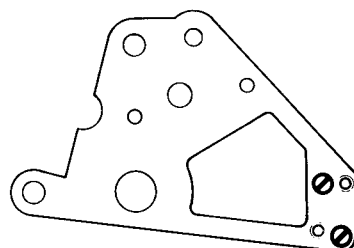


Screw position from normally energized or de-energized

Can be retrospectively changed on site.



Normally de-energized



Normally energized

Legend plate



Normal
Black



Alarm
White



Acknowledged
White/Red

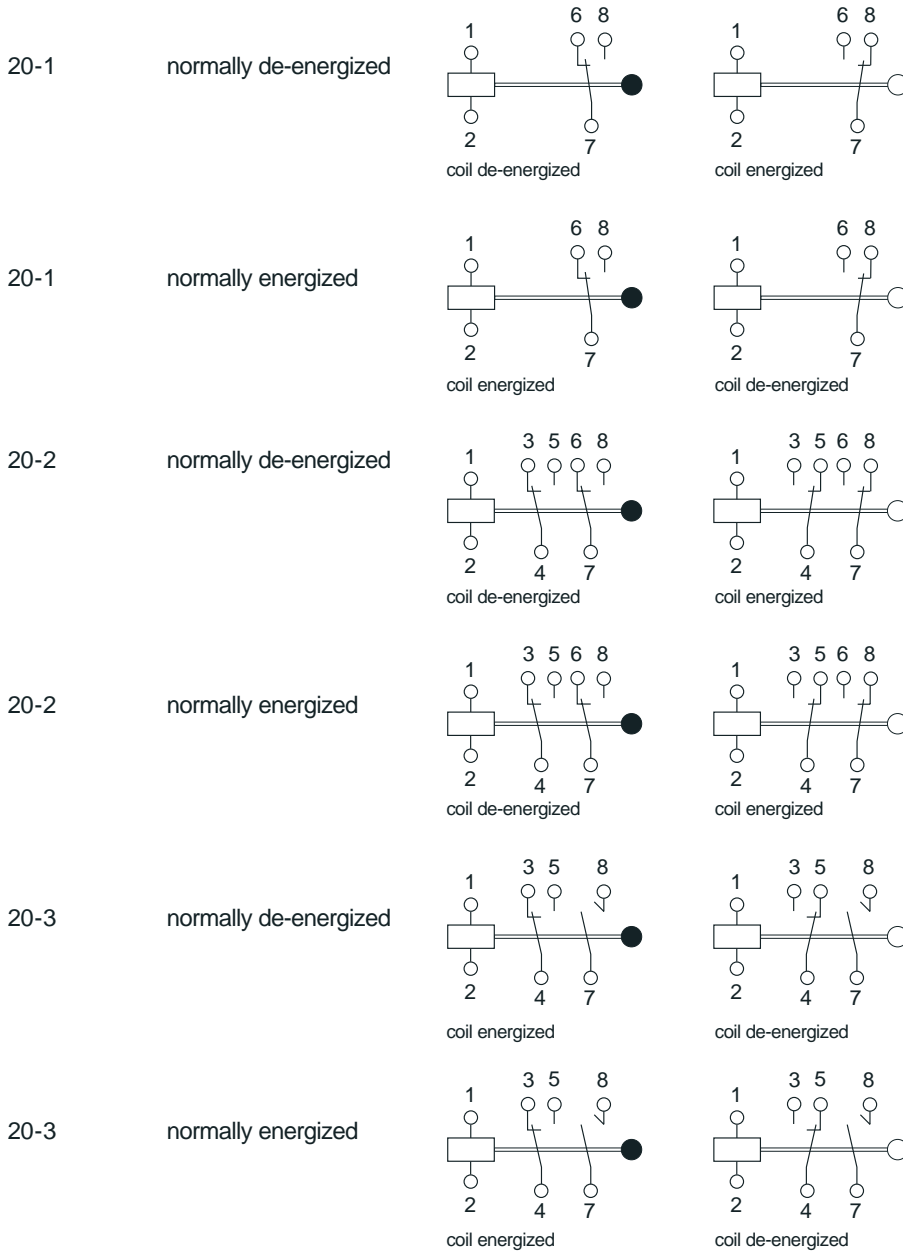
Diagrams MR 20 and MRE 20

Diagrams MR 20

Diagram-no

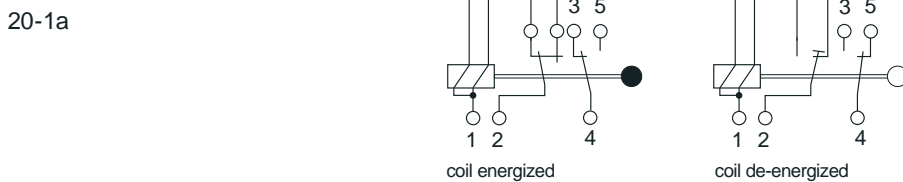
Relay position
Normal

Alarm



Diagrams MRE 20

Diagram-no



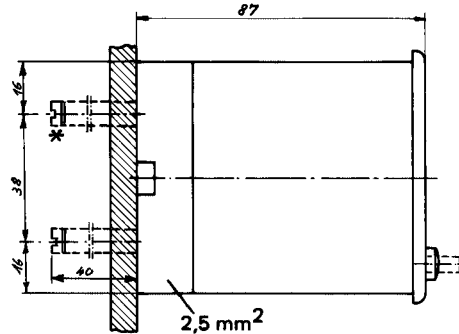
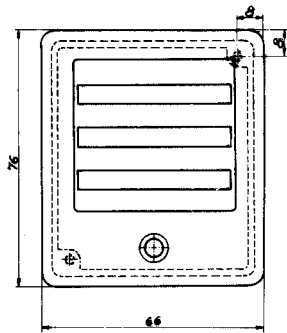
Legend plate

●
Normal
Black

○
Alarm
White

NO/NC contact input adjustment will be done at our works and must be stated at the time of order.
Later re-adjustment is only possible at our works!

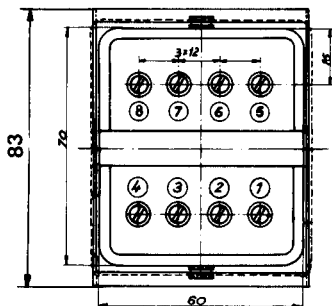
Surface mounting



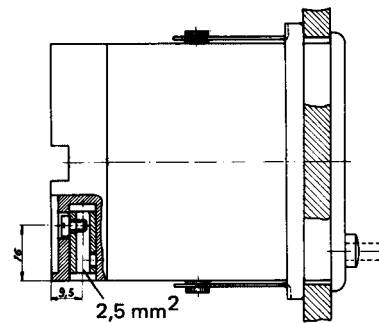
Accessories: 2 cylinder screws M 3 x 25 DIN 84 with nut are supplied for securing.
 *For rear connection 8 insulated connecting bolts are to be ordered separately.

Flush mouting

Rear view



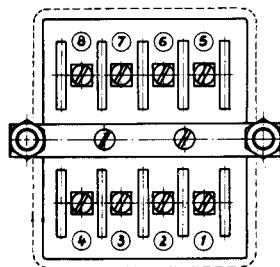
Cutout 61 mm x 71 mm



Accessory: 1 brace

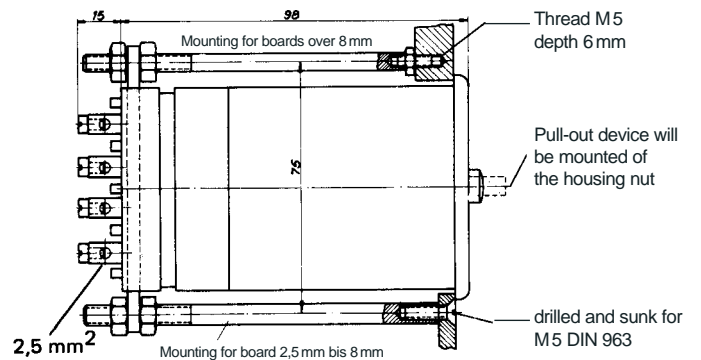
Plug-in type

Rear view

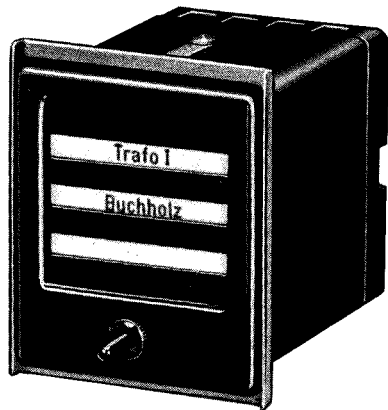


Cutout 61 mm x 71 mm

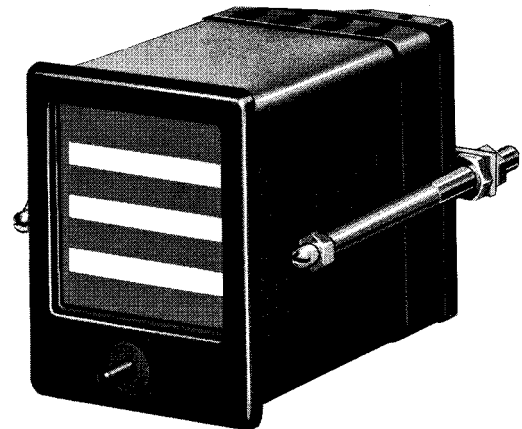
Top view



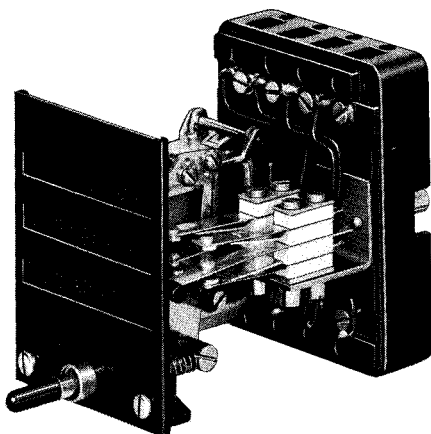
Accessories: socket
 mounting bracket
 pull-out device



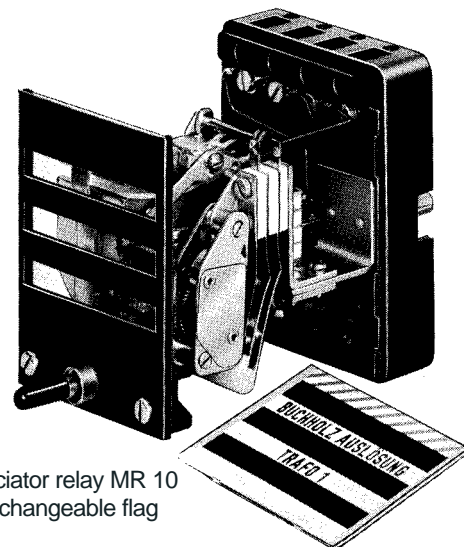
Annunciator relay MR 10
for flush mounting



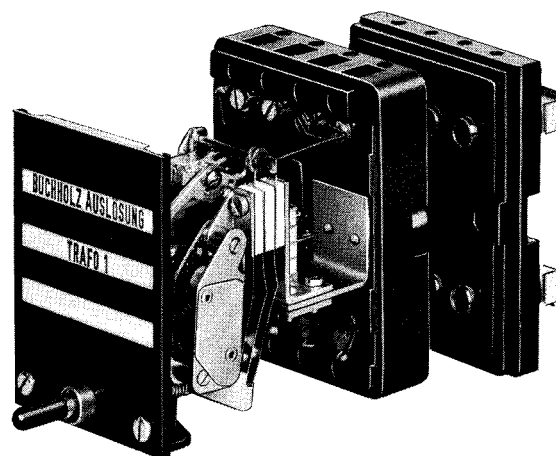
Annunciator relay MR 10
plug-in type



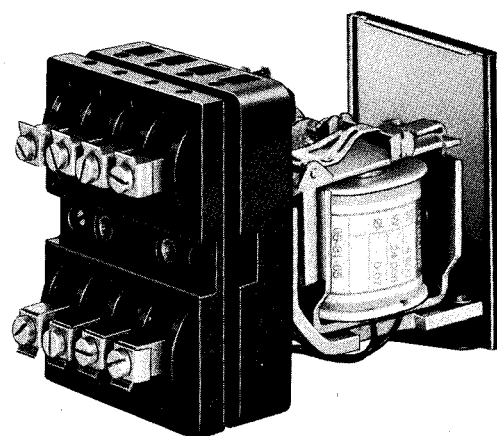
Annunciator relay MR 10
without housing



Annunciator relay MR 10
with exchangeable flag



Annunciator relay MR 10
without housing, with
momentary contact and socket



Annunciator relay MR 10
with socket, rear view

Representatives

Germany

Helmut Mauell GmbH

Am Rosenhügel 1–7

D-42553 Velbert

Tel.: +49 (0)20 53/1 30

Fax.: +49 (0)20 53/1 36 53

Internet: www.mauell.com

E-Mail: info@mauell.com

For an up-to-date list of all our representatives and branch offices, please visit our homepage: www.mauell.com

Representatives and Branch Offices

All Over The World:

Abu Dhabi U.A.E.

Argentina

Austria

Belgium

Brazil

Czech

Republic

Denmark

Finland

France

Great Britain

Hungary

Iran

Korea

Kuwait

Netherlands

Norway

Poland

Singapore

Spain

Sweden

Switzerland

Turkey

USA

mauell
*... your partner
in automation*

