



Power transmission and distribution

Annunciator relays

Annunciator relays

Annunciator relays are used for signaling danger and operating states in control rooms, on control panels, and in mimic diagrams. The Phoenix Contact annunciator relays feature a convenient display area and ensure reliable operation thanks to their robust construction. They are therefore also suitable for use in harsh ambient conditions. Phoenix Contact is your expert partner for annunciator relays.



Your advantages

- ✓ Time-saving commissioning, thanks to preconfigured messages
- ✓ Reliable and durable operation, thanks to robust mechanical construction
- ✓ Individual pre-assembled contact assignments for application flexibility



mauell MR 11 and mauell MR 21 annunciator relays

mauell MR 11

Application

The mauell MR 11 annunciator relay is a semi-automatic relay. Apart from the coil excitation voltage, no other auxiliary voltage is required for the display. This is particularly important in voltage monitoring applications.

Method of operation

The indicator flag area is black during normal operation. The white text field appears when the relay has been triggered. The contacts also switch to the operating position. The message is acknowledged by pressing the reset button on the device front. Once the message has been acknowledged, the text field remains in view, and an additional red-white hatched indicator flag is displayed. The contacts return to the normal position. Once the fault has been cleared, the indicator flag automatically returns to the normal operation position.

In addition to the contact function described, additional contacts can be switched directly. These contacts operate independently of the acknowledge function.

The required switching action – normally open or normally closed – is set at the factory. This can subsequently be changed.



mauell MR 11 annunciator relay flush-mounting version

mauell MR 21

Application

The mauell MR 21 annunciator relay is also used for annunciator danger and operating states. It is fully automatic.

Method of operation

There is no manual reset function. Depending on the switching action, the relay switches to the triggered position when energized/de-energized. This switches the contacts and the indicator flag marking appears. Once the fault has been reset, the indicator flag automatically disappears. The contacts also return to the normal position.

The required switching action – normally open or normally closed – is set at the factory. This cannot subsequently be changed.



mauell MR 21 annunciator relay flush-mounting version

Properties, options, and designs

Features

Properties

The marking fields are easily replaceable for simple adaptations. The function of the relays is not position-sensitive. The annunciator relay coils are available with protection against tropical environments upon request.

Ground fault annunciator relays

This version of the annunciator relays can be used for signaling ground faults in three-phase mains circuits. The ground fault annunciator relay has two windings and is connected to the open delta winding of a displacement transducer.

Annunciator relay options

- Normally open or normally closed operation can be selected.
 - The indicator flag can be marked prior to delivery with one or two rows of text each with up to 15 characters.
 - The indicator flags can be ordered with standard messages.
 - Freewheeling diodes are used as protection against surge voltages when switching off the relay coil under DC voltage.
 - The relays are available with a weighted armature in a shockproof design.
 - The pulse stretching circuit allows the relay to switch reliably at pulse widths greater than 5 ms.
 - Dropout delay: by installing the corresponding components at the factory, the delay time can be adjusted to the respective application.
- Wiper contacts supply a single pulse of the specified duration at the output as a reaction to a pulse at the input.
 - Tropical environment protection: the coil is further optimized for use in tropical climates.

Designs

A general distinction is made between the three designs: surface-mounted, flush-mounted and combination.

Surface-mounted

The relay includes a DIN rail fastener (35 mm) with connector plate and clamp.

Flush-mounted

This design is for switch panel mounting with clamping frame. The contact protection cover conforms to BGV A3.

Combination

Up to 150 annunciator relays can be accommodated in one combination housing.





Rear view of an annunciator relay for flush mounting with protective cap pushed on



Example of front view of an annunciator relay combination with protective cap at the rear

Technical data

		
Versions	mauell MR 11	mauell MR 21
Maximum number of contact sets	2	
Dimensions (W x H x D) Single relay with base / protective cap	39 mm x 53 mm x 126 mm	39 mm x 53 mm x 118 mm
Mounting	Surface (standard profile 35 mm), flush, combination	
Degree of protection	IP40, connections IP00 (DIN EN 60529)	
Insulation coordination	250 V AC/DC (DIN EN 60664-1)	
Test voltage	2 kV, 50 Hz (DIN EN 60255-27)	
Permissible ambient temperature range	-5°C ... +40°C	
Weight	≤370 g (depending on version)	
Coil data		
Nominal voltage AC/DC (U_N)	Up to 230 V AC or 220 V DC	
Mains frequency	50 Hz or 60 Hz	
Continuous surge voltage	1.2 U_N	
Response voltage	≤0.8 U_N	
Power consumption with U_N for DC voltage	0.5 W to 2.5 W	
Power consumption with U_N · for AC voltage with closed magnetic circuit · with open magnetic circuit	1.4 VA to 1.8 VA 2.8 VA to 3.6 VA	
Contact data		
Operating time (minimum pulse duration until relay switched)	Approx. 25 ms	
Switching voltage	Up to 230 V AC or 220 V DC	
Contact arrangement	Configuration possible	
Pulse width of the wiper contacts	Approx. 60 ms	
Contact rating (with 10⁵ switches)		
Inrush current	6 A AC/DC	
Continuous current	4 A AC/DC	
Breaking current at 230 V AC	4 A at $\cos \varphi = 0.4$ (inductive), 4 A (ohmic)	
Breaking current at 220 V DC	0.2 A at L/R = 40 ms (inductive), 0.5 A (ohmic)	

Examples of contact assignments

Relay state / indicator flag

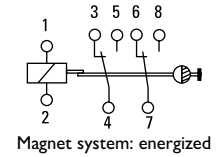
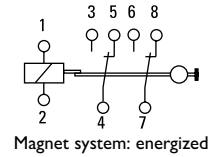
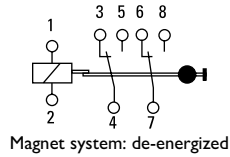
—●— Normal: black

—○— Message: white

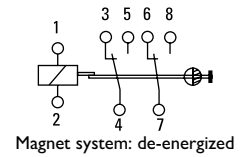
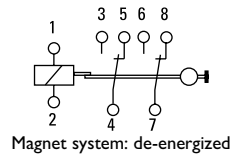
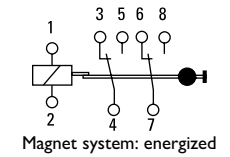
—⊗— Acknowledged: red/white hatching

mauell MR 11 annunciator relay

Open-circuit current

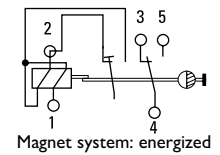
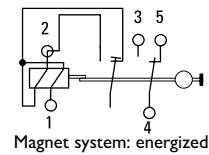
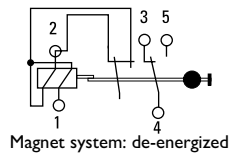


Closed-circuit current



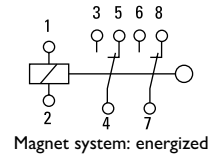
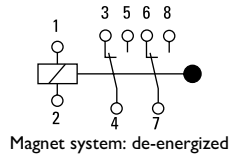
mauell MR 11 annunciator relay as a ground fault annunciator relay

Open-circuit current

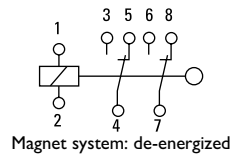
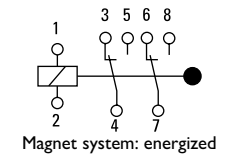


mauell MR 21 annunciator relay

Open-circuit current

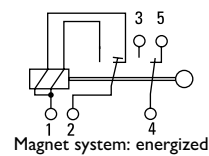
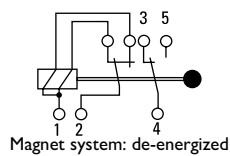


Closed-circuit current



mauell MR 21 annunciator relay as a ground fault annunciator relay

Open-circuit current



In dialog with customers and partners worldwide

Phoenix Contact is a globally present, Germany-based market leader. Our group is synonym for future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation. A global network across more than 100 countries, and 15,000 employees ensure a close proximity to our customers, which we believe is particularly important.

The wide variety of our innovative products makes it easy for our customers to find future-oriented solutions for different applications and industries. We especially focus on the fields of energy, infrastructure, process and factory automation.



You will find our complete product range at:
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