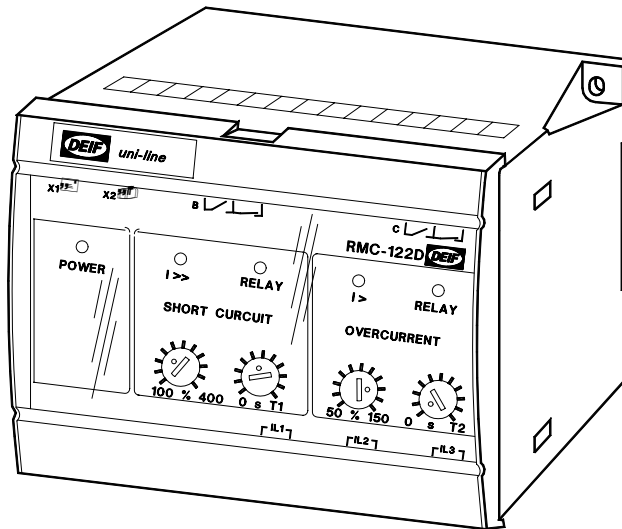


## Short circuit and overcurrent relay type RMC-122D

uni-line

4189340120E (UK)



- Combined short circuit and overcurrent:  $I >> + I >$
- 3 phase measurement
- LED indication of fault condition
- Timer controlled tripping
- LED indication for activated relay
- 35 mm DIN rail or base mounting



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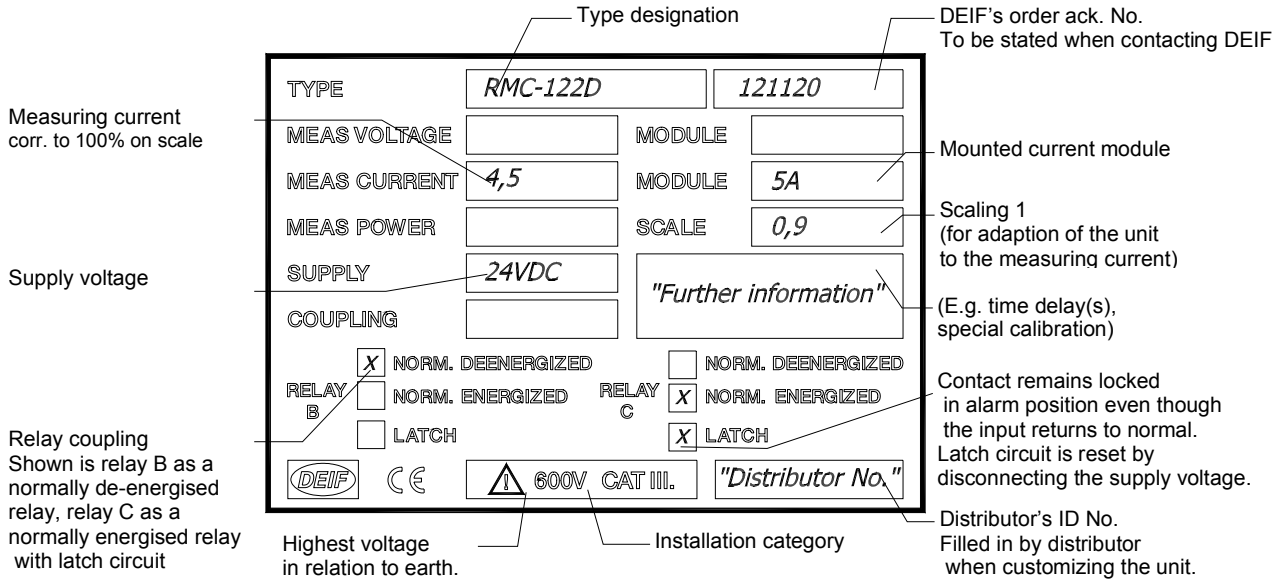


## 1. Description

This combined short circuit and overcurrent relay type RMC-122D forms part of a complete DEIF series (the *uni-line*) of relays for protection and control of generators.

## 2. Label

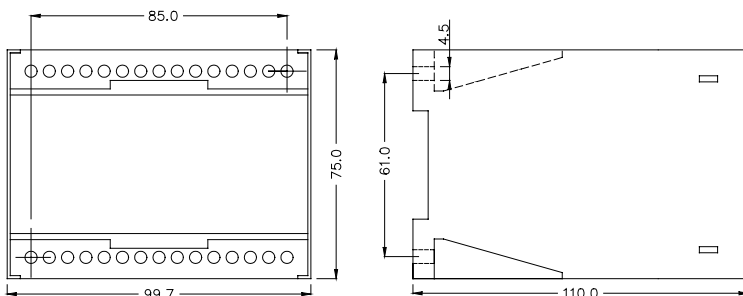
The relay is provided with a label with the following data:



**Note 1:** Calculation of measuring current: module x scale = meas. current.

**Note:** The relay is provided with a 200 ms power-up relay, ensuring correct function of the relay on connection of the auxiliary voltage. Normally energised contacts ("NE") are not activated (contact does not open/close) until 200 ms after connection of the auxiliary voltage. Likewise, the relay is provided with a 200 ms power-down circuit, ensuring supervision and maintenance of any set point exceeding for 200 ms after disconnection of the auxiliary voltage.

## 3. Mounting instructions



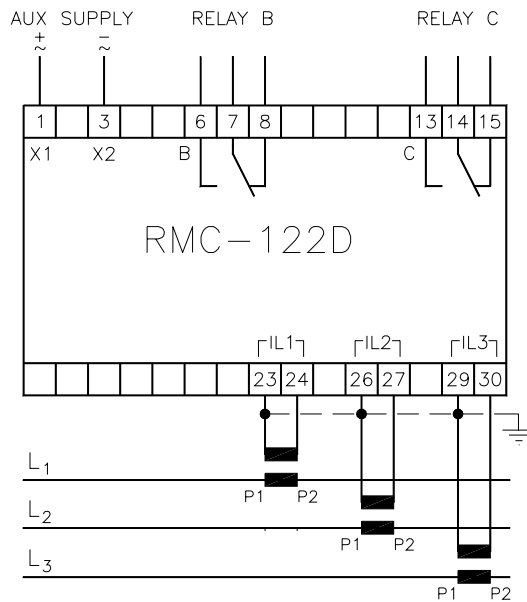
The RMC-122D is designed for panel mounting, being mounted on a 35 mm DIN rail, or by means of 2 off 4 mm screws.

Weight: ca. 0.650 kg

The design of the relay makes mounting of it close to other *uni-line* units possible, however make sure there are min. 50 mm between the top and bottom of this relay and other relays/units.

The DIN rail must always be placed horizontally when several relays are mounted on the same rail.

#### 4. Connection diagram



The auxiliary supply connection may be protected by a 2A fuse.

The relay is protected against ESD (electrostatic electricity), and further special protection against this during the mounting of the relay is not necessary.

When connected to 1 or 2 phases, unused inputs of the relay must be left open.

#### 5. Start up instructions

##### 5.1 Setting and indication

Setting of	LED/relay	
<b>Short circuit current set point:</b> (100...400%) of $I_n$	" >>"	Yellow LED is lit when the set point has been exceeded, but the output contact has not yet been activated.
<b>Time delay:</b> (0...T1) 0...1 s/0...5 s/0...10 s		The contact is activated and the red LED is lit after the timer has expired.
<b>Overcurrent set point:</b> (50...150%) of $I_n$	" >"	"Yellow LED is lit when the set point has been exceeded, but the output contact has not yet been activated.
<b>Time delay:</b> (0...T2) 0...20 s/0...60 s/0...120 s		The contact is activated and the red LED is lit after the timer has expired.

At the factory the time delays are set according to the order specifications.



If selective disconnection is required, a suitable time delay for the RMC-122D must be selected, taking the time delays of other relays into consideration. If shortest possible time delay is selected (for  $I \gg 50$  ms, for  $I > 500$  ms), unwanted disconnection may occur during synchronisation caused by a pulse signal which may be transmitted on closing of the generator circuit breaker.

To avoid this, connection of the auxiliary voltage to the relay via an auxiliary contact on the generator circuit breaker is recommended. The built-in power-up circuit (200 ms) will then ensure that the relay is not activated until 200 ms after closing of the generator circuit breaker.

The time delay of the overcurrent relay is set according to the thermal time constant of the unit to be protected (normally 10...20 s).

When setting the set points on the front of the RMC-122D an accuracy of  $\pm 5\%$  of the scaling may normally be obtained. If a higher accuracy is required, the unit (the generator) connected to the relay must be loaded using a load bank. On exceeding of the set point, the yellow LED of the RMC-122D is lit.

For RMC-122D relays connected to generators the following method is likewise applicable:

1. Reduce the excitation current of the generator to 0.
2. Short-circuit the generator
3. Slowly increase the excitation current, until the set point is exceeded

## 6. Technical specifications

Frequency range: 40...45...65...70Hz

Max. Input current:  $4 \times I_n$ , continuously,  
 $20 \times I_n$  for 10 s (max. 75A)  
 $80 \times I_n$  for 1 s (max. 300A)

Load: Max. 0.3VA per phase

Relay contacts: 1 changeover switch per relay

Contact rating: 250V-8A-2000A (AC), 24V-8A-200W (DC)

Response time: <50 ms (short circuit currents), <500 ms (over currents)

Galv. separation: Between input, output and aux. supply: 3250V-50Hz-1 min.

Consumption: (Aux. supply) 3.5VA/2W