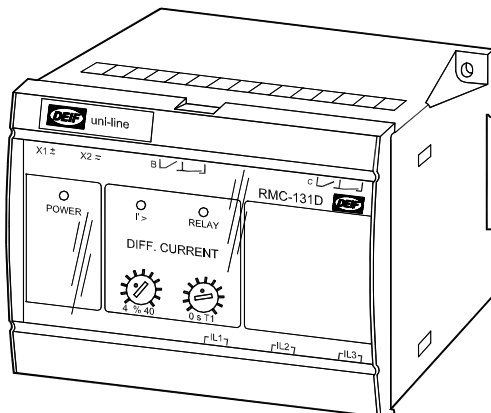


Differential current relay type RMC-131D

uni-line
4189340121G (UK)



- *Measurement of 3 phase currents*
- *Non-stabilised measurement*
- *LED indication of fault condition*
- *Timer controlled tripping*
- *LED indication for activated relay*
- *Extra change-over relay contact for signalling*
- *35 mm DIN rail or base mounting*



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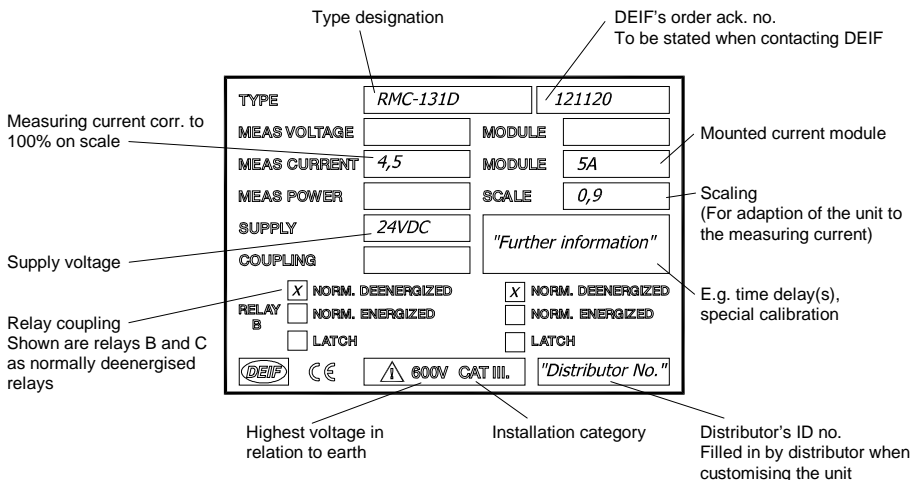


1. Description

This differential current relay type RMC-131D forms part of a complete DEIF series (the *uni-line*) of relays for protection and control of generators.

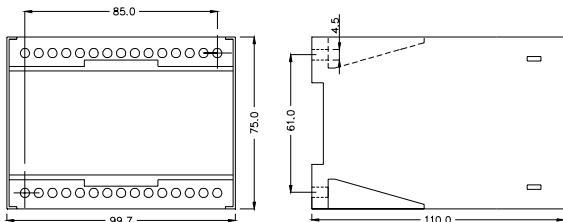
2. Label

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



Note: 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



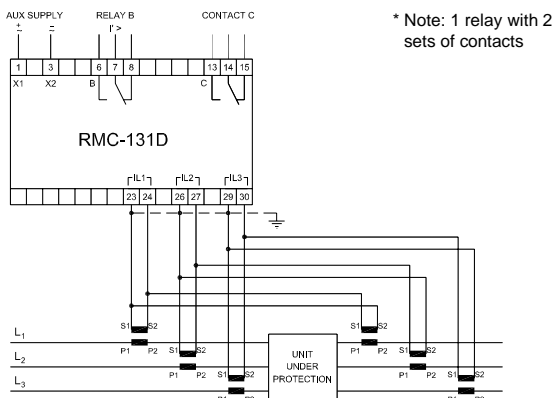
The RMC-131D is designed for panel mounting, being mounted on a 35 mm DIN rail, or by means of two 4-mm screws.

Weight: Approx. 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



A 2A fuse may protect the auxiliary supply connection.

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

The CTs on the line side of the unit under protection must have the same characteristics as those on the neutral side of the unit under protection (applying fully identical CTs is recommended), and the length (the burden) of the connection wires must likewise be the same. These CTs should be applied for the differential protection only (no other function allowed), as unequal secondary loading may occur.

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	
Differential current set point: (4...40%) of I_n	"I>"	Yellow LED is lit when the set point has been exceeded, but the output contact has not yet been activated.
Time delay: (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.

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



The settings of the RMC-131D are normally selected to ensure optimum protection of the generating set, however without causing unwanted disconnections.

Unwanted disconnections may occur if the disconnection limit is very low and an unbalance occurs in the applied CTs (saturation) in case of short circuits.

To avoid this, the disconnection limit must be selected with due consideration of the characteristics of the applied CTs.

If shortest possible time delay is selected (50 ms), unwanted disconnection may occur during synchronisation caused by a pulse signal which may be transmitted on closing of the generator circuit breaker and by unbalance in the applied CTs.

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.

6. Technical specifications

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

Max. input current: 4 x I_n , continuously,
20 x I_n for 10 s (max. 75A)
80 x I_n for 1 s (max. 300A)

Load: Max. 0.3VA per phase

Relay contact: 1 relay with 2 change-over switches
(Galvanic separation between contacts: 2500V AC; between coil and contacts: 3200V AC)

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

Response time: <50 ms

Galvanic separation: Between inputs, outputs and aux. supply: 3250V-50Hz-1 min.

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