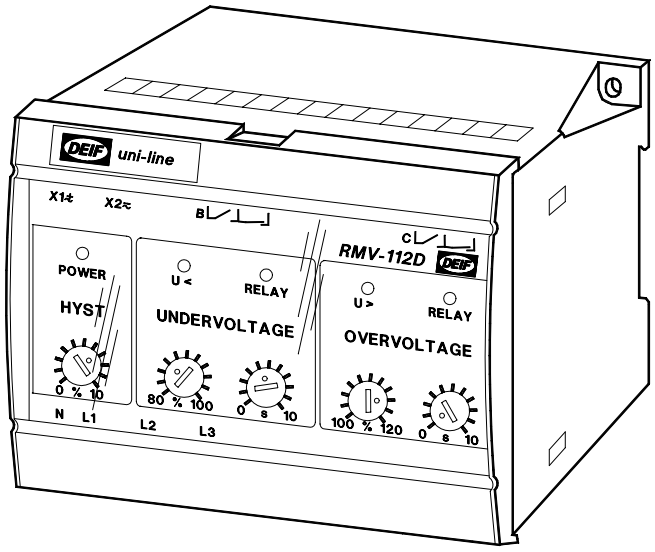
DEIF A/S

Installation and start up instructions

Undervoltage and overvoltage relay type RMV-112D

uni-line

4189340115D (UK)



- *Combined undervoltage and overvoltage: U< + U>*
- *3 phase measurement*
- *LED indication of fault condition*
- *Timer controlled tripping*
- *LED indication for activated relay*
- *35 mm DIN rail or base mounting*

CE

DEIF A/S
Frisenborgvej 33, DK-7800 Skive
Denmark

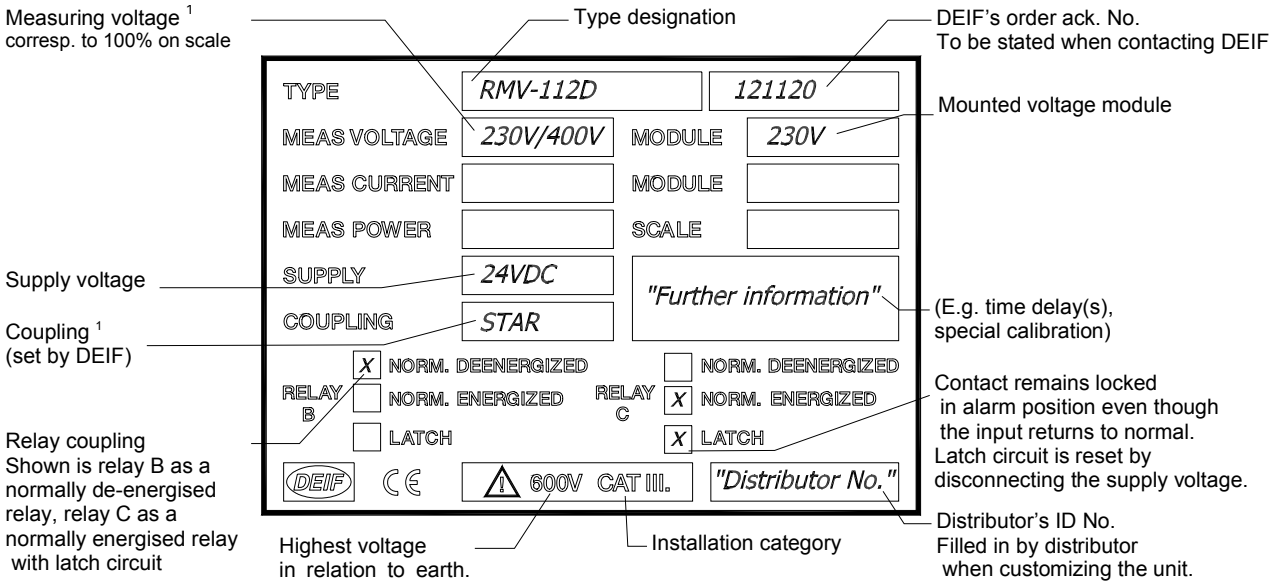
Tel: (+45) 9614 9614
Fax: (+45) 9614 9615
E-mail: deif@deif.com

1. Description

This combined undervoltage and overvoltage relay type RMV-112D 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:

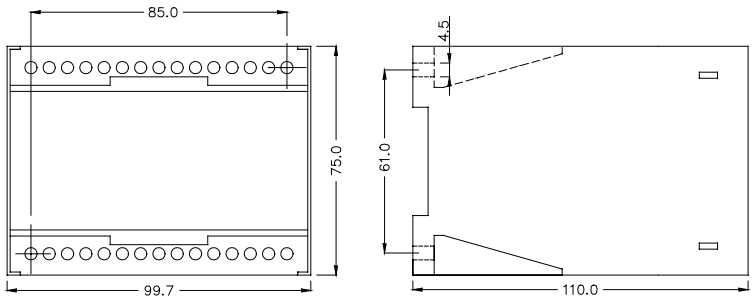


Note 1: Example of a label for an RMV-112D for delta coupling:

MEAS VOLTAGE	*400/230V*	MODULE	*400V*
COUPLING	*DELTA*		

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 RMV-112D is designed for panel mounting, being mounted on a 35 mm DIN rail, or by means of two 4-mm screws.

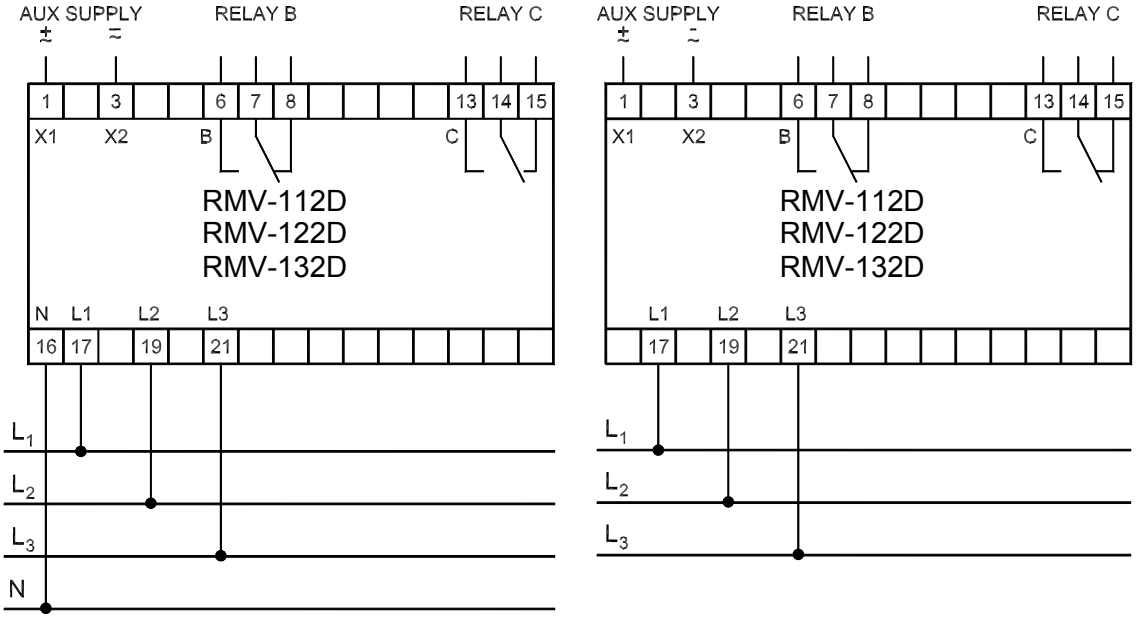
Weight: Approx. 0.650 kg

 Tel. (+45) 9614 9614 • Fax: (+45) 9614 9615 • E-mail: deif@deif.com

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



Star coupling Delta coupling

Please note the difference between relays for delta coupling and for star coupling. The coupling is stated on the label.
A 2A fuse may protect all voltage inputs.
The relay is protected against ESD (electrostatic electricity), and further special protection against this during the mounting of the relay is not necessary.

5. Start up instructions

5.1 Setting and indication

Setting of	LED/relay	
Undervoltage set point: (80…100%) of U_n	”U<”	Yellow LED is lit when the input voltage exceeds the set point, but the output contact has not yet been activated.
Overvoltage set point: (100…120%) of U_n	”U>”	Yellow LED is lit when the input voltage exceeds the set point, but the output contact has not yet been activated.
Time delay: 0…10 s	The contact is activated and the red LED is lit after the timer has expired.	
Hysteresis: (1…10%) of U_n	Relay contact is reset when fault voltage equals or is less than the preset hysteresis.	

The built-in relays of the RMV-112D are activated when the input voltage drops below or exceeds the set points preset on the front of the unit.

A suitable hysteresis is selected in relation to the preset set points, e.g. to ensure, that the relay contacts are not reset, until the input voltage is within its nominal range.

Example: Nominal voltage range: 95…105V
Undervoltage set point: 90% of U_n (90V)
Overvoltage set point: 110% of U_n (110V)
Hysteresis: 5% of U_n (5V)

The relay will now be activated at an undervoltage of 90V and at an overvoltage of 110V, and will be deactivated again when the input voltage is within the range 95…105V.

Note: Hysteresis setting is common to undervoltage and overvoltage contacts.

When setting the set points on the front of the RMV-112D an accuracy of ±10% of the scaling, corresponding to ±2% of U_n, may normally be obtained.

If a higher accuracy is required, the unit (the generator) connected to the relay must be regulated until the required set point value is reached.

When the input voltage drops below/exceeds the set point, the relevant yellow LED of the RMV-112D is lit.

6. Technical specifications

Frequency range: 40…45…65…70Hz

Max. input voltage: 1.2 x U_n, continuously,
2 x U_n for 10 s

Load: 2kΩ/V

Relay contacts: 1 changeover switch per relay

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

Contact voltage: Max. 250V (AC). Max. 150V (DC).

Response time: <100 ms

Galv. separation: Between inputs and outputs: 3250V-50Hz-1 min.

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