

# FAST EARTH FAULT-SIGNALLING RELAY

- Monitoring of .....: Earth fault in 3-phase networks  
 - Response time .....: typ. 30 ms

- No auxiliary voltage required



## Operation

The earth fault signalling relay RUW 130 is specially designed for earth fault monitoring in 3-phase networks. The relay measures the residual voltage in usual transformer circuits (fig. 1).

No auxiliary voltage is required, since the residual voltage is used both as characteristic quantity and supply voltage. The power consumption of the relay may be considered as negligible load for usual residual voltage transformers.

The setting value of the relay is continuously adjustable between 20 V AC and 80 V AC. If the residual voltage is below setting value, contacts 2-4 and 8-10 are closed. In case of overvoltage the red LED lights up and the output contacts will be switched (contacts 4-6 and 10-12 are closed).

The relay is also available with a continuously adjustable time delay.

The RUW 130 relay is enclosed in a plastic case which fits into a special 14 pin plug-in socket. The socket (type U or K) provides 14 screw terminals 2 x 4 mm<sup>2</sup>.

## Specifications

(other values on request)

Rated voltage ..... : 100 / 110 VRMS

Operating time:

a) without time delay ..... : 30 ms typ.

b) with time delay ..... : 0.1-3 s, 1-10 s, 2-30 s

please specify **operating time range** on order

Operating voltage range ..... : 20 - 132 VRMS

Setting range ..... : 20 - 80 VRMS  
 continuously adjustable

Disengaging ratio ..... : 2 - 20 % (Hysteresis)  
 continuously adjustable

Power consumption ..... : 1.3 VA

Maximum continuous overload ... : 132 V<sub>RMS</sub>

Nominal frequency ..... : 50 Hz

Nominal frequency Range ..... : 45 - 60 Hz

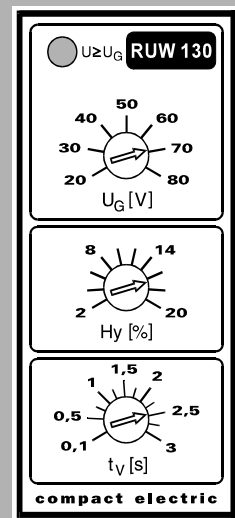
Ambient operating temperature .. : -5 - +60 °C

Storage temperature ..... : -40 - +85 °

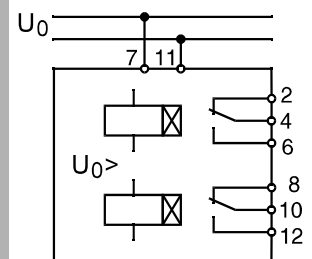
Temperature coefficient ..... : +0.005 % / °C

Frequency coefficient ..... : +0.01 % / Hz

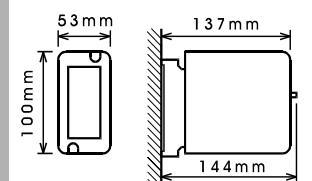
# RUW 130



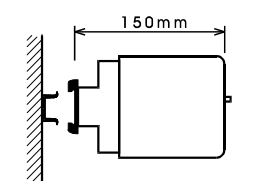
front view



wiring diagram



Socket Type U



Socket Type K

dimensions

# FAST EARTH FAULT-SIGNALLING RELAY

# RUW 130

## Insulation

test voltage ..... : IEC 255-5: 2.5 kV<sub>RMS</sub> 50Hz 1min

impulse test ..... : IEC 255-5: 5 kV 1.2/50 µs

Mechanical resistance ..... : IEC 255-21-1 class 1  
IEC 255-21-2 class 1  
IEC 255-21-3

Operating position ..... : any position

## Output Relay

(2 changeover contacts)

Rated / Max. switching voltage : 250 V / 380 V AC

Rated / Max. switching current : 8 A / 8 A AC

Rated switching power ..... : 2000 VA (cos φ = 1)

Make-break capacity ..... : 250 V / 8 A AC (cos φ = 1)

250 V / 4 A AC (cos φ = 0.4)

250 V / 0.4 A DC (6 \* 10<sup>3</sup> operating cycles)

30 V / 5 A DC (6 \* 10<sup>3</sup> operating cycles)

Electrical endurance ..... : 10<sup>5</sup> operating cycles

Mechanical endurance ..... : 10<sup>6</sup> operating cycles

Contact material ..... : gold flash over silver alloy

## Electromagnetic compatibility

EN50082-2 (Industry)

IEC 255-22-1 1 MHz disturbance / 2.5 kV

IEC 255-22-2 (IEC801-2) ESD / 8 kV

IEC 801-3 HF / 10 V/m

IEC 255-22-4 (IEC801-4) Burst 2 kV

Radiation emission: EN50081-2

## Maximum EMC interference (rated voltage applied):

Set point ..... : <10%

Delay time ..... : <10%

Protection degree ..... : IP 40

Case material ..... : Polycarbonat

Flame retardance ..... : UL 94 V-0

Weight ..... : 0.3 kg

## Installation instruction

- 1) To ensure specified EMC features keep a minimum distance of 1.5 cm to other equipment or metallic parts.
- 2) Lock the case on the socket by the two clamping devices (metal spring clips with two notches). To lock the case push down the spring clips with a screwdriver positioned in the notches near the outside of the case. To unlock the case push down the spring clips using the notches near the inside of the case.

## Connection diagram

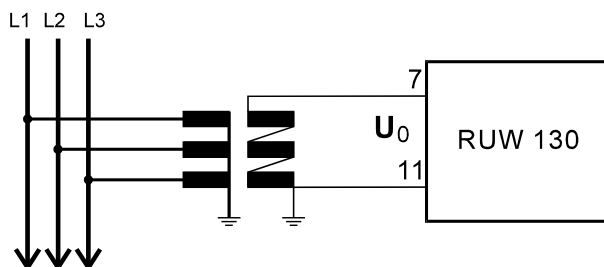
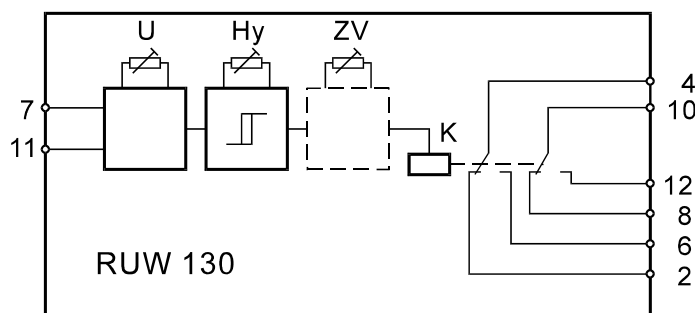


fig. 1

## Block diagram



Specifications are subject to change without notice.



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