

Features

- It is used to monitor the value of alternating current, e.g.: motors, heating cables, lamps and other devices.
- Power supply and monitoring circuits are not galvanically isolated.
- Monitors current exceeding the upper current limit (I_{max}) and falling below the lower current limit (I_{min}) – according to the selected function.
- Smooth adjustment of both current limits.
- Adjustable time delay (to eliminate short-term current drops and spikes).
- Option to select functions with fault state memory (Latch).
- Measures true root mean square value of the current - TRUE RMS.
- Possibility to extend the current range using an external current transformer.

RS PRO Monitoring Relay

766917



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

Product Description

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Supply

Supply terminals:	A1-A2
Supply voltage:	AC/DC 24 – 240 V (AC 50-60 Hz)
Consumption (max.):	3.8 VA/0.7 W
Supply voltage tolerance:	-15 %; +10 %

Measuring circuit

Current range:	PRI-34/5A I_n – 5A (AC 50-60 Hz)
Max. permanent current/peak overload (1s):	PRI-34/5A 10A/16A
Current setting (I_{max}):	10 – 100% I_n
Current setting (I_{min}):	5 % – 95% I_n
Times delay (d):	300 ms
Times delay (t):	adjustable, 0.5 – 10 s

Accuracy

Setting accuracy (mech.):	5 %
Repeatable accuracy:	< 1 %
Temperature dependency:	< 0.1 %/°C
Limit values tolerance:	5 %
Hysteresis (fault to OK):	5 % (function O ₁ , U ₁ , W) I _{max} – I _{min} (function O ₂ , U ₂)

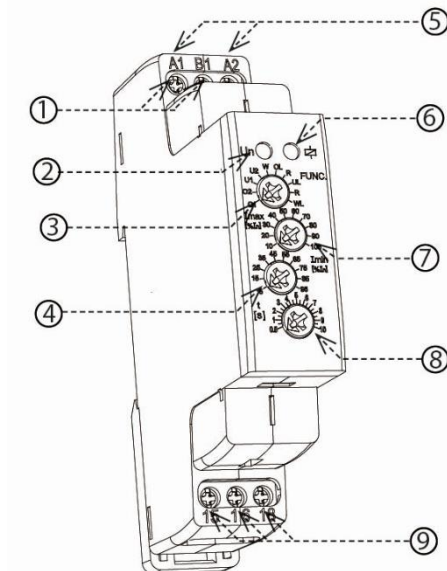
Output

Number of contacts:	1x changeover (AgNi)
Current rating:	16 A/AC ₁
Breaking capacity:	400 VA/AC ₁ , 384 W/DC ₁
Switching voltage:	250 V AC/24 V DC
Power dissipation (max.):	1.2 W
Mechanical life:	10.000.000 ops.
Electrical life: (AC ₁):	100.000 ops

Other information

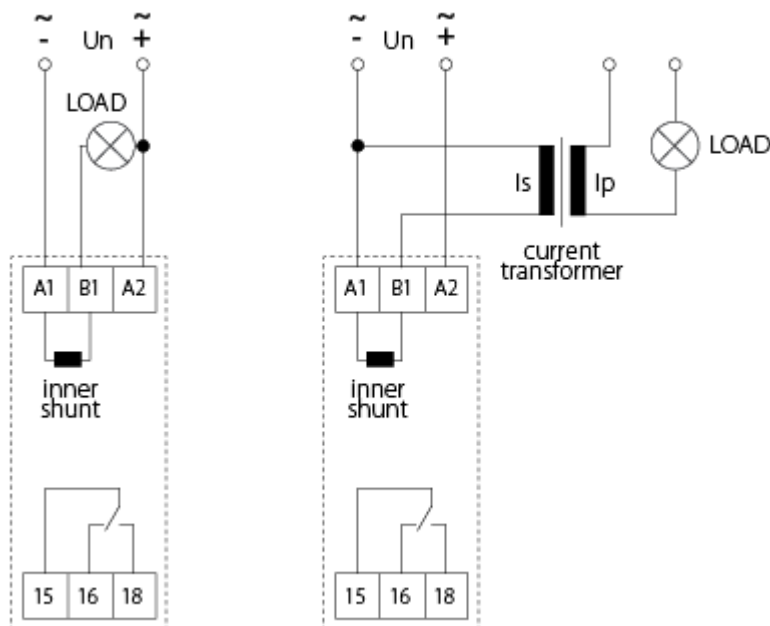
Operating temperature:	–20 .. +55 °C (–4 .. 131 °F)
Storage temperature:	–30 .. +70 °C (–22 .. 158 °F)
Dielectric strength supply - output:	AC 4 kV (supply – output)
Operating position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP40 front panel/IP20 terminals
Overvoltage category:	III.
Pollution degree:	2
Cross-wire section – solid/ stranded with ferrule (mm ²):	max. 1× 2.5, 2× 1.5/ max. 1× 2.5 (AWG 14)
Dimensions:	90 × 17.6 × 64 mm (3.5" × 0.7" × 2.5")
Weight:	60 g (2.15 oz.)
Standards:	EN 60255-1, EN 60255-36, EN 60255-27

Approvals

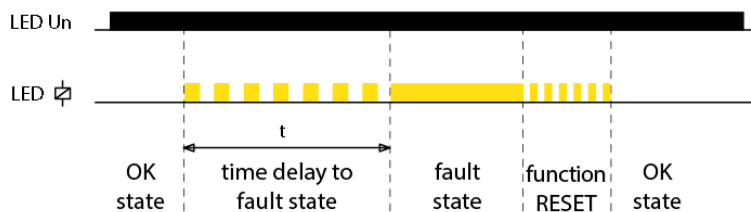


1. Monitored current terminals (A1-B1)
2. Supply voltage indication
3. Function settings
4. Current level setting (Imin)
5. Supply voltage terminals (A1-A2)
6. Indication of operating states
7. Current level setting (Imax)
8. Time delay setting
9. Output contact (15-16-18)

Connection

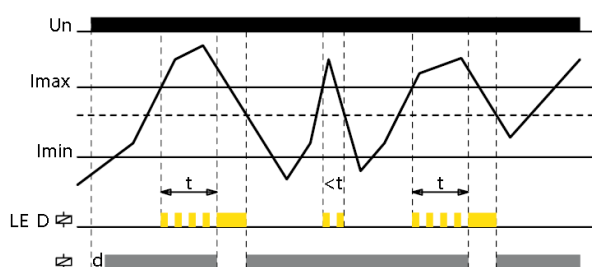


Indication of operating states

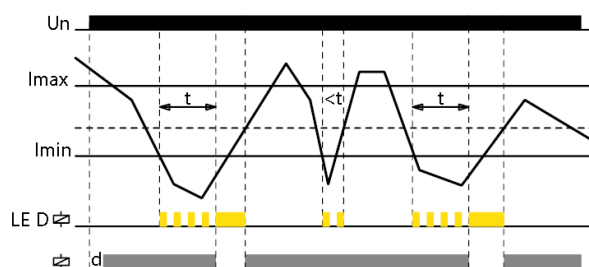


Function

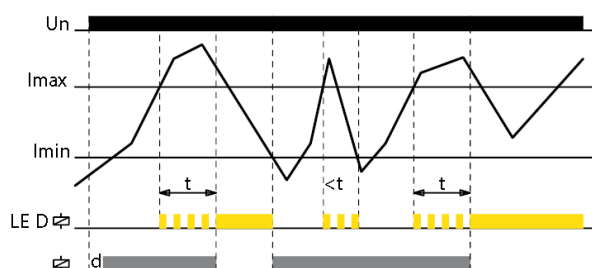
O1 OVER (hysteresis 5%)



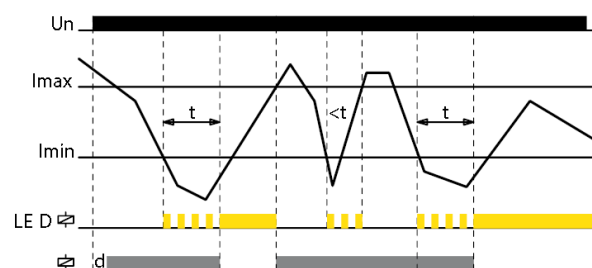
U1 UNDER (hysteresis 5%)



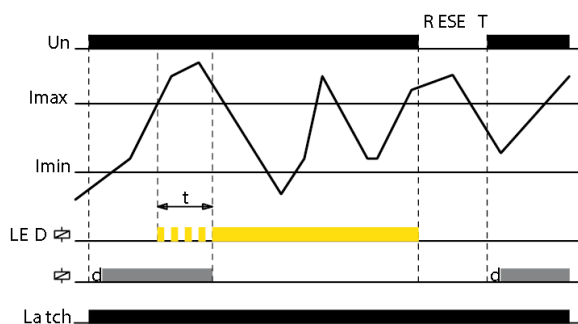
O2 OVER (hysteresis to Imin)



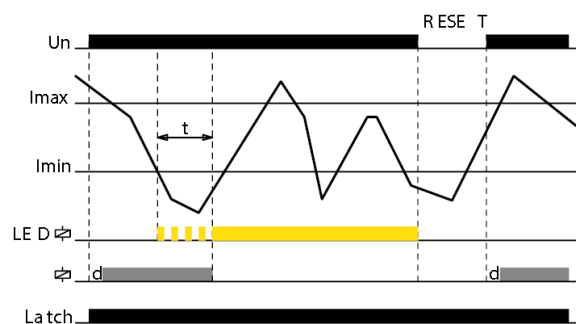
U2 UNDER (hysteresis to Imax)



OL OVER + Latch



UL UNDER + Latch



OVER:

If the amount of the monitored current is lower than the set limit „I_{max}“, the output contact is closed. If the „I_{max}“ is exceeded, the output contact will open after the set delay (fault state).

If the current falls below the fixed hysteresis (function O₁) or the set lower limit (function O₂), the output contact will closes again.

If the OL function (OVER + Latch) is selected, when the current „I_{max}“ is exceeded, the output contact remains open even when the current returns from the fault state.

Fault memory reset can be done in two ways:

Short-term interruption of supply voltage.

By setting the function switch to position R (RESET) or any function without memory fault.

The RESET state lasts for 3 s after switching the function switch from the R position to a function with memory fault (UL, OL, WL).

When moving to any other function from the R position, this delay does not apply.

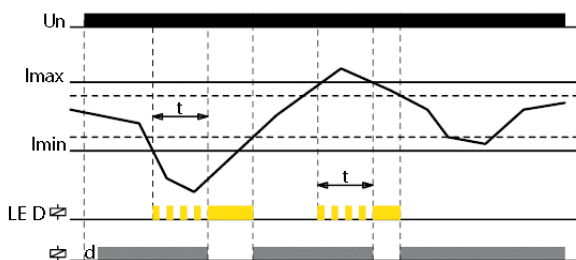
UNDER:

If the amount of the monitored current is higher than the set limit „I_{min}“, the output contact is closed. When the current drops below the „I_{min}“, output contact opens after the set delay (fault state).

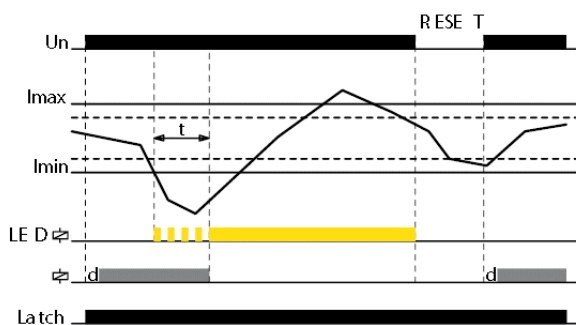
If the current exceeds the fixed hysteresis (function U₁) or the set upper limit (function U₂), the output contact closes again.

If the UL function (UNDER + Latch) is selected, when the current drops below „I_{min}“, the output contact remains open even when returning from the fault state. Fault memory reset can be done as in the previous case.

W WINDOW (hysteresis 5%)



WL WINDOW + Latch



WINDOW:

If the amount of the monitored current is lower than „I_{max}“ and at the same time higher than „I_{min}“, the output contact in closed. If the „I_{max}“ is exceeded or drop below the „I_{min}“, output contact opens after the set delay (fault state).

To return from the fault state, a fixed hysteresis is applied.

If the WL function (WINDOW + Latch) is selected, the fault state is stored in memory again even when returning from the fault state. Fault memory reset can be done as in the previous cases.

Graphs legend:

t = time delay to fault state

d = delay 0.3 s after connection of power supply (Un)