

3-phase or single-phase monitoring relay for phase failure and voltage level control

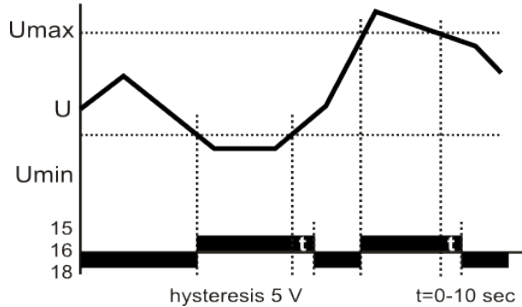
1. Device description

MRG1P is designed to control phase failure and set minimum and maximum voltage level of all three phases L1, L2, L3. Relay has one output double-throw contact 8 A.

Terminal description:	Terminal placement:	Connection diagram:
<ol style="list-style-type: none"> 1 Supply / controlled voltage 2 Output indication 3 Supply voltage indication 4 Umax setting 5 Time delay T setting 6 Without usage 7 Umin setting 8 Outputs 		

2. Function

Monitoring of Umax / Umin voltage levels



If the voltage in any phase is under the set level, red LED is Off and output relay is opened. If voltage in all three phases goes over set Umax or below the set Umin, red LED turns On and output relay will be closed.

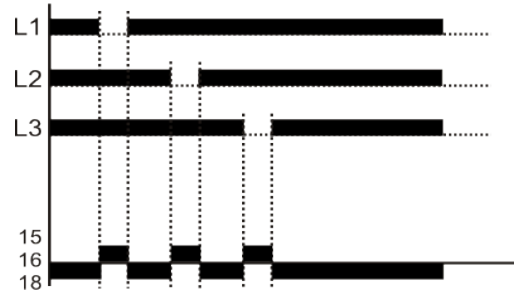
When voltage goes in between the Umin and Umax levels and after the set time T elapses, output relay will be opened (red LED turns Off).

There is fix hysteresis of 5% from measured value.

If Umax is set on OFF, relay controls only under voltage

If Umin is set on OFF, relay controls only over voltage

Monitoring of phase failure



If all three phases are present, yellow LED is Off and output relay is open. If any of phase is missing, red LED turns On and output relay is closed. As a phase failure the voltage drop under 165 V, at any phase, is considered. Detection and reaction of failure is shorter than 100 ms.

3. LED signalization

Green LED on	Presence of supply voltage.
Green LED off	Supply voltage is not present.
Red LED blinking 1x	Phase 1 failure or exceeded Umin / Umax level. Contact No.15 - 16 closed.
Red LED blinking 2x	Phase 2 failure or exceeded Umin / Umax level. Contact No.15 - 16 closed.
Red LED blinking 3x	Phase 3 failure or exceeded Umin / Umax level. Contact No.15 - 16 closed.
Red LED off	Error condition not detected. Contact No. 15 - 18 closed.

4. Technical features

Parameter	Value
Supply / controlled terminals	L1, L2, L3, N
Supply terminals	L, N
Supply / controlled voltage	3 x 400 / 230 V AC (+10%,-15%)
Power consumption	max. 1,5 VA
Supply voltage indication	green LED
Failure indication	red LED
Umax range (phase voltage, N)	225 ... 265 V or Off
Umin range (phase voltage, N)	180 ... 220 V or Off
Hysteresis	fix 5%
Time delay T (adjustable)	1 ... 10 sec or Off
Output parameters	
Number and type of contacts	1 x changeover contact
Nominal current	8 A
Switching power	max. AC 2000 VA
Trigger current	30 A
Nominal voltage / max. switching voltage	250 VAC / 440 VAC
Mechanical lifetime	3 x 10 ⁷
Electrical lifetime	1 x 10 ⁵ 250 VAC, 8 A
Others	
Working temperature	-20 ... +55 °C
Storage temperature	-40 ... +70 °C
Working position	any
Mounting	IEC 60715 (DIN 35)
Protection degree	IP 40 on panel / IP 20 terminals
Electrical strength	4 kV
Input wire diameter with/without cavern	max. 2x1,5mm ² ; 1x2,5mm ² / max. 2x1,5mm ² ; 1x2,5mm ²
Weight	78 g
Dimensions	90 x 18 x 65 mm
Standards	IEC 60255-6, IEC 61010