



DESCRIPTION

A relay for monitoring a 3-phase AC power supply with/without Neutral. When the voltage of the 3 phases U,V,W (L1, L2, L3) are within the range, adjustable on the front, the relay is energised. If one or more of the phase voltages moves outside the limits, the relay de-energises. A LED indicates over or under voltage. When all the voltages are again within the limits the relay will re-energise. There is also a latch function where the relay after de-energising will remain de-energised, regardless of input voltage, until the latch jumper or the operating voltage is disconnected. Typically used in safety circuits. LED indication is still available when latched. With connection of Neutral the measuring abilities are optimal, as Neutral works as a measuring reference. Without Neutral, the phase monitoring relay generates a Neutral reference from the connected phases.

Note: 3x400 gives a nominal voltage between phases of 400VAC. The voltage between Phase and Neutral will be 230V AC.

Features

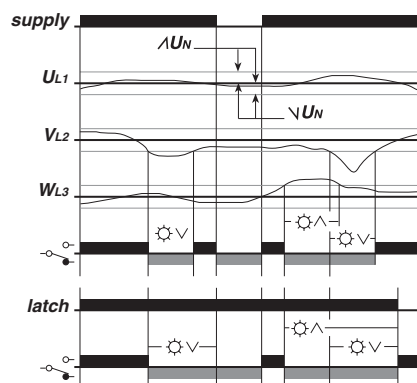
- Monitoring of over and under voltage, on 3 phase power supply with or without Neutral.
- Adjustable upper and lower voltage limits (80-99% / 101-120% of Un).
- Automatic locking (Latch).
- Output SPDT.
- Separate operating voltage 230V AC, or 400V AC.

VERSIONS/ORDERING CODES

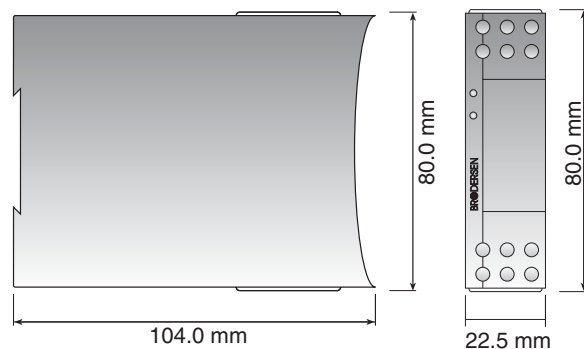
Type: 3-phase voltage relay	MXV-30	MXV-30	230 / 230
Supply voltage 230V AC 400V AC		230 400	
Measurement voltage 3 x 230V AC 3 x 400 V AC	(132V L/N) (230V L/N)	230 400	

OPERATION

Over and under voltage



MECHANICAL DIMENSIONS



TECHNICAL DATA

Input:

Input signal	Impedance	U_{MAX}
3 x 230V AC+N	316kOhm	600V AC
3 x 400V AC+N	560kOhm	600V AC

Frequency:	45-65Hz.
Measuring cycle:	80ms.
Response time:	$\tau = 0,5s$, worstcase $5 \times \tau$.
Temperature drift:	Max.0,05%/°C.
Setting accuracy:	$U_n =$ Typically $\pm 3\%$.
Hysteresis:	Set 2%.

Output:

SPDT relay:	Contact material, AgNi 0,15 with hardened gold plating Au. Max. load AC, 8A/240V AC ($\cos \varphi=1$) Max. breaking capacity 2000VA . Inductive load. See fig. 1. Max. load DC, 8A/24V DC Max. breaking capacity 50-270W. See fig. 2.
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Max. in rush current:	15A (max. 4s/duty cycle less than 10%).
Min. in rush current:	10mA, 24V DC.
Frequency :	Max. 1000 operations pr. hour.
Life time:	Mech. Min. 3×10^7 operations Elect. Min. 1×10^5 operations with full load.
Delay:	<20ms.

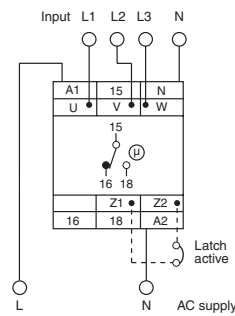
Supply voltage:

230V AC (184-276V).	
400V AC (320-480V).	
Consumption:	3VA.

General data:

Ambient temperature:	-20 to 55°C.
Storage temperature:	-40 to 80°C.
Mounting:	35mm DIN-rail (EN50022).
Terminals:	Screw terminals with dual compartment. Terminal screws are combined crosshead/slotted. Up to $2 \times 2,5mm^2$ wire ($2 \times 1,5mm^2$ inc. ferrule). Recommended torque, 0,5Nm. Max. 0,7 Nm. (VDE0609-1). Terminal identification in accordance with DIN46199/EN50005.
Indicators:	Red LED \wedge = over voltage (failure-relay off). Red LED \vee = under voltage (failure-relay off).
Protection:	IP20.
Electric isolation:	3,75kVAC (1 min.) between input, supply and relay output (EN60950).
Housing:	Noryl (GE), UL94V1.
Terminal block:	Noryl (GE), UL94V0.
Weight:	180 g.

WIRING DIAGRAM



Coding:
Latching: Jumper, Z1-Z2

Phases can be connected in any order, as the phase sequence is not of importance.

SPECIFICATIONS:

MXV-30 is designed and developed with regard to relevant specifications:

- EN60204-1 / VDE0113 electrical material on machines.
- VDE0110 / IEC664 Isolation specifications/creepage and clearance distances.
- Electrical safety in accordance with EN61010.
- IEC414 Safety regulations for control and monitoring equipment.
- EMC: Emission EN50081-1.
Immunity EN50082-2.
- Humidity in accordance with IEC68-2-3; RH=95%, 40°C.
- Vibration in accordance with IEC68-2-6:.
- Shock when mounted, in accordance with IEC68-2-27.

MXV-30 is CE-marked in accordance with EMC-and the Low Voltage Directive.

OUTPUT LOAD DIAGRAMS

Fig. 1

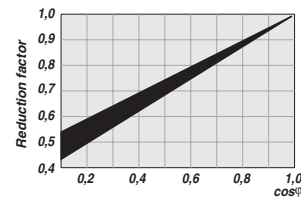


Fig. 2

