



VEO

MONITORING RELAY /

1-PHASE UNDERVOLTAGE
VOLTAGE DROP DETECTOR

V2UF230V10

Art.Nr.: 2100600



- ✓ Continuous voltage monitoring
- ✓ Mains fluctuation detection
- ✓ Detects voltage drop / short interruptions of at least 10ms
- ✓ Prevents undefined states in switching and control systems
- ✓ Generates reset pulse after voltage drop
- ✓ 1 change-over contact
- ✓ Width 22,5 mm

Control elements

- ✓ Response time short voltage interruptions
- ✓ ON-Delay

Status indication

- ✓ LED U/t: Supply voltage / Time lapse ON-Delay
- ✓ LED R: Relay status



TECHNICAL DATA

SUPPLY CIRCUIT (=MEASURING CIRCUIT)

Terminals	F-E
Supply voltage	230 V AC
Supply voltage tolerance	-20 / +10%
Rated frequency	50 / 60 Hz
Rated frequency tolerance	48 ... 63 Hz
Rated consumption	typ. 0,35 W / 0,7 VA
Duty-cycle	100 %
Backup power time	≤ 45 ms
Drop-out voltage	≥ 150 V AC

MEASURING CIRCUIT

Terminals	F-E
Measurand	Voltage 1-phase
Monitoring functions	Undervoltage, voltage drop
Measuring range	180 ... 230V AC
Frequency	see rated frequency
Overload capacity	see supply voltage tolerance
Threshold U_s	Min 165V AC ± 15V
Hysteresis	typ. 6V AC

TIME CIRCUIT

ON-Delay	adjustable	0,5 ... 10s
Response time short voltage interruptions	adjustable	10 ... 40ms



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RANGE OF FUNCTIONS

Functions	2	Undervoltage monitoring (U), voltage interruptions (fast detection)
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STATUS INDICATION

Supply voltage	LED U/t (green) on	supply voltage applied
Voltage monitoring	LED U/t (green) flashes	Indication of time lapse ON-Delay
Relay status	LED R (yellow) on	output relay energized

OUTPUT CIRCUIT

Terminals		15-16-18
Kind of output		Relay
Number of contacts	change-over contact	1
Contact material		AgNi
Rated voltage (IEC 60947-1)		250 V
Maximum switching voltage		400 V AC
Minimum switching voltage / switching current		12 V / 10 mA
Rated current (IEC 60947-5-1)	AC-1	8 A / 250 V
	AC-15	1,5 A / 240 V (B300)
	DC-12	8 A / 24 V
	DC-13	0,1 A / 250 V
Endurance	mechanical	30 x 10 ⁶ switching cycles
	electrical (AC-1)	100 x 10 ³ switching cycles
Rated frequency of operation	with load	6/min
	without load	1200/min
Fuse rating		8 A fast acting

ACCURACY

Setting accuracy	< 5 % (of full scale)
Repeat accuracy	< 2,5 %
Temperature influence	< 0,05 % / °C

ENVIRONMENTAL CONDITIONS

Ambient temperature	operation	-25 ... +60°C
	storage	-40 ... +70°C
Relative humidity		5 ... 95 %
Vibration	EN 60947-1	2 ... 13,2 Hz: 1 mm; 13,2 ... 100 Hz: 7 m/s ²
Shock	EN 60947-1	150 m/s ² 11 ms



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GENERAL DATA

Dimensions	W × H × D	22,5 x 67 x 76 mm
Mounting		DIN rail (EN60715)
Mounting position		any
Housing material		PA 66, self-extinguishing plastic, class V-0
Degree of protection	housing	IP40
	terminals	IP20
Electrical connection		Screw terminal
Wire size	flexible with wire end ferrule	0,5 ... 2,5 mm ² (20 AWG ... 13 AWG)
	flexible without wire end ferrule	0,5 ... 4 mm ² (20 AWG ... 12 AWG)
	rigid	0,5 ... 4 mm ² (20 AWG ... 12 AWG)
Stripping length		8 mm
Tightening torque		max. 1Nm
MTTF		-

ISOLATION DATA

Pollution degree (IEC 60947-5-1)		2
Overvoltage category (IEC 60947-5-1)		III
Rated insulation voltage (IEC 60947-1)	supply circuit / output circuit	300 V
Rated impulse withstanding voltage (IEC 60947-1)	supply circuit / output circuit	6 kV
Insulation test voltage (IEC 60947-1)	supply circuit / output circuit	3780 V
Degree of protection	supply circuit / output circuit	protective separation

STANDARDS

Product standard		IEC 60947-5-1
Interference immunity		IEC 61000-6-2
Interference emission		IEC 61000-6-4
Approvals		



FUNCTIONS

If a supply voltage below the threshold U_s is applied, the output relay R remains in off-position.

Undervoltage monitoring (U)

If the measured voltage falls below the fixed threshold voltage U_s , the output relay R switches into off-position. If the measured voltage exceeds the threshold U_s , the set interval ON-Delay t_2 begins. As soon as the interval t_2 has expired, the output relay switches into on-position again.

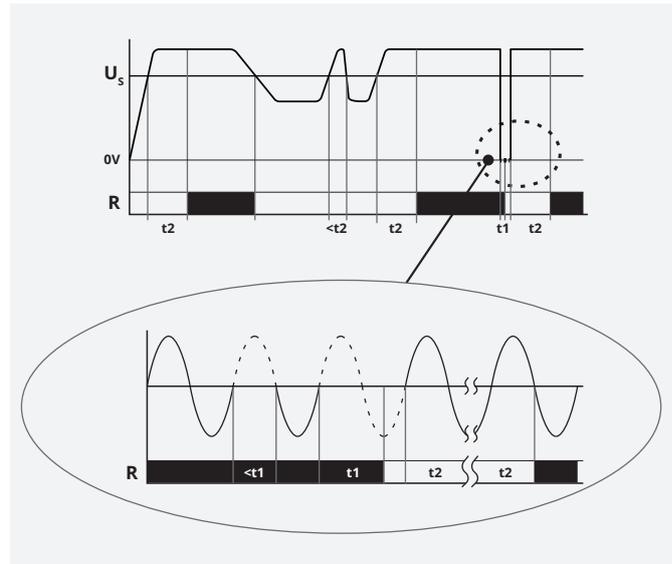
If the measured voltage falls below the threshold U_s during ON-Delay, the elapsed time is ignored and the output relay remains in off-position.

Voltage interruptions (fast detection)

If the supply fails and the measured voltage is interrupted longer than the set response time t_1 , the output relay R switches into off-position.

If the device is getting supplied again, the set interval ON-Delay t_2 begins. As soon as the interval t_2 has expired, the output relay switches into on-position again.

In case the supply fails during the interval t_2 , the elapsed time is ignored and the output relay remains in off-position.





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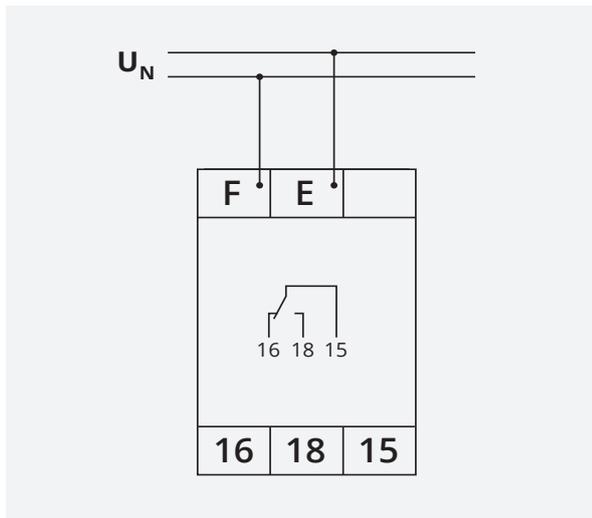
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CONNECTIONS

230 V AC





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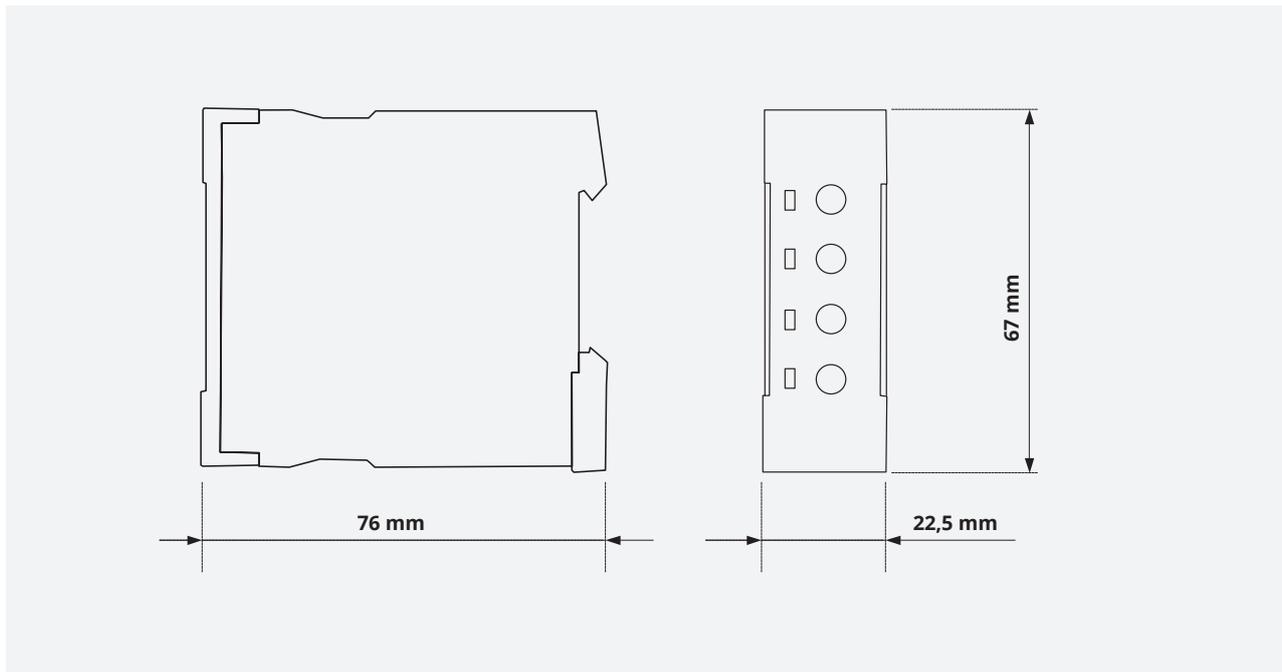
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DIMENSIONS



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