

WAVESERIES - Voltage monitoring

Relay output

- 3-way isolation
- Monitoring of single-phase systems up to 260 V AC/DC
- 4 input ranges selected by DIP switches
- 1 relay with change-over contact
- Switchable hysteresis
- Switch adjusted via potentiometer
- Reset input

VMR V AC

single-phase

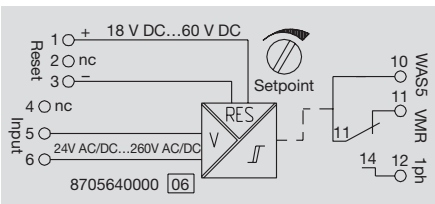


Table of setting options

Input	1	2	3	4	5	6	7	8
24 V AC/DC...70 V AC/DC				■	□	□	□	□
70 V AC/DC...140 V AC/DC			□	□	□	■		
140 V AC/DC...210 V AC/DC			□	□	■	□		
210 V AC/DC...260 V AC/DC			□	■	□	□		

Trip	1	2	3	4	5	6	7	8
High Trip		■						
Low Trip		□						

Memory	1	2	3	4	5	6	7	8
Memory on		□						
Memory out			■					

Hysteresis	1	2	3	4	5	6	7	8
Hysteresis small			□					
Hysteresis large				■				

Input voltage	1	2	3	4	5	6	7	8
AC voltage								■
DC voltage								□

■ = on
□ = out

Status indicator

- ⊗ Set value not exceeded.
- ⊗ Alarm status.
- ⊗ Alarm status can be reset because set value has been exceeded.

Abb.1: Overvoltage monitoring
Alarm set to "high trip"
(Set permanently to closed-circuit principle.)

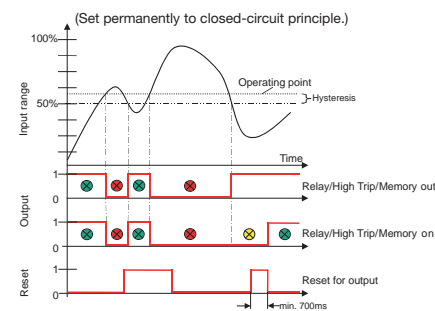
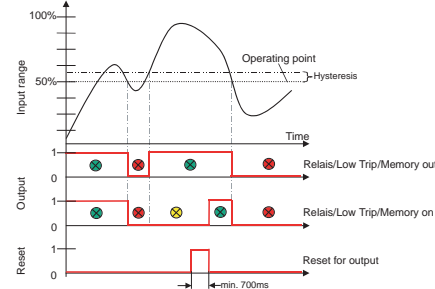


Abb.2: Undervoltage monitoring
Alarm set to "low trip"
(Set permanently to closed-circuit principle.)



Technical data

Input	24...70 / 70...140 / 140...210 / 210...260 V AC / DC
Input voltage	24...70 / 70...140 / 140...210 / 210...260 V AC / DC
Input frequency	50...60 Hz
max. voltage	260 V AC / DC
Output	
Switching voltage, min./max.	/250 V AC
Switching current min./max.	/8 A
Continuous current/AC switching capacity	3 A /1000 VA
Hysteresis	24...70 V AC, small = 5 V / large = 10 V
Temperature coefficient	≤ 250 ppm/K
Step response time	< 300 ms
Repeat accuracy	< 0.3% of set range
Status indicator	LED green = OK / LED red/yellow = alarm status
General data	
Supply voltage	from the measuring circuit
Reset input voltage, min.-max.	18 V DC-30 V DC
Pulse length, min.	700 ms
Default setting	DIP switches: ON = 1,2,5,8 / OFF = 3,4,6,7
Operating temperature	-10°C...+55°C single module
Storage temperature	-20 °C...+70 °C
Approvals	CE / cULus
Insulation coordination	
Standards	EN 50178
EMC standards	EN 55011, EN 61000-6 /-2, EN 61326
Rated voltage	input/output, input/reset input, reset input/output: 300 V
Impulse withstand voltage	input/output, input/reset input, reset input/output: 4 kV
Isolation voltage input, output	2 kV _{eff}
Surge category	III
Pollution severity	2
Clearance & creepage distance	input/output, input/reset input, reset input/output: 3 mm

Dimensions	Screw connection
Clamping range (rating- / min. / max.)	2.5 / 0.5 / 2.5
Length x width x height	96.5 x 17.5 x 112.5

Note

Ordering data

Type of connection	Type	Qty.	Order No.
Screw connection	WASS VMR 1ph	1	8705640000

Note

Accessories

Note Markers, refer to WAVESERIES accessories

Relay output

- 2-way isolation
- Monitoring of single and 3-phase networks of 80...400 V AC/DC
- Setting via DIP switch
- Under- and overvoltage monitoring
- Phase-failure detection
- 2 relays with changeover contact

VMR V AC

3-phase

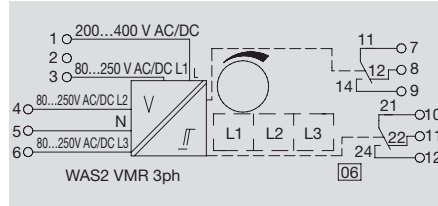


Table of setting options

Input	1	2	3	4
3 phases 80 V AC/DC...250 VAC/DC		■		
1 phase 200 V AC/DC...400 VAC/DC			□	
Limit value				
Setting to upper switching point		■		
Setting to lower switching point			□	
Hysteresis				
Hysteresis, small			■	
Hysteresis, large				□
Fault tolerance				
Operating current method				■
Closed-circuit current method				□

■ = on
□ = off

Status indicator

⊗ Voltage is in set range

Fig. 1: Overvoltage and undervoltage monitoring, example of setting

- 3-phase monitoring
- Setting limit value to upper operating point: 230 V Hysteresis 5% = -12,5 V
- Lower operating point 10% less 230 V - 25 V = 205 V Hysteresis 5% = +12,5 V
- The device operates with the operating current principle.
- All 3 phases monitored in parallel

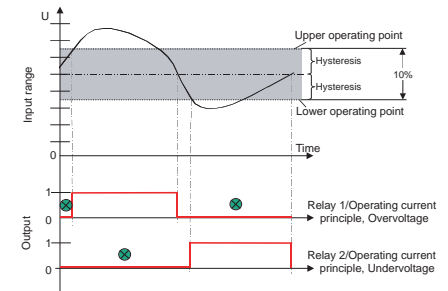
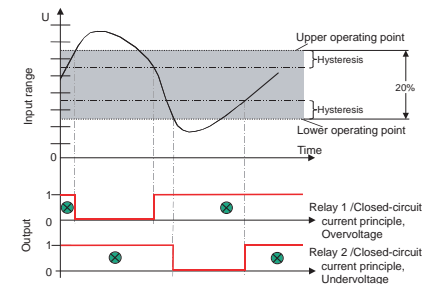


Fig. 2: Overvoltage and undervoltage monitoring, example of setting

- 3-phase monitoring
- Setting limit value to lower operating point: 150 V Hysteresis 5% = +12,5 V
- Upper operating point 20% greater 150 V + 50 V = 200 V Hysteresis 5% = -12,5 V
- The device operates with the closed-circuit current principle.
- All 3 phases monitored in parallel



Technical data

Input	
Input voltage 3~	80...250 V AC/DC
Input voltage 1~	200...400 V AC/DC
Input current	< 15 mA AC / < 10 mA DC
Output	
Switching voltage, min./max.	/250 V AC
Continuous current/AC switching capacity	3 A /750 VA
Hysteresis	5% of final value
Temperature coefficient	≤ 300 ppm/K
Step response time	< 300 ms
Repeat accuracy	< 0.3% of set range
Status indicator	green LED
General data	
Supply voltage	from the measuring circuit
Reset input voltage, min.-max.	-
Pulse length, min.	-
Default setting	DIP switches: ON = 1,2,4 / OFF = 3
Operating temperature	0 °C...+50 °C
Storage temperature	-25 °C...+85 °C
Approvals	CE;cULus;
Insulation coordination	
Standards	EN 50178
EMC standards	EN 55011, EN 61000-6 /-2, EN 61326
Rated voltage	600 V
Impulse withstand voltage	6 kV
Isolation voltage input, output	4 kV _{eff} / 1 min.
Surge category	III
Pollution severity	2
Clearance & creepage distance	Output circuit: 1.8 mm; input circuit, output circuit 1/output circuit 2: 3 mm; input/output: 5.5 mm

Dimensions	
Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm
Note	

Ordering data

Type of connection	Type	Qty.	Order No.
Screw connection	WAS2 VMR 3ph	1	8705630000
Note			

Accessories

Note
Markers, refer to WAVESERIES accessories