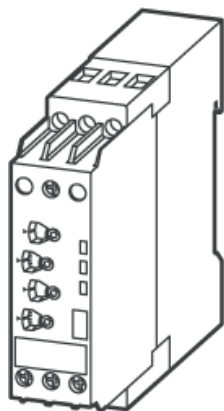


Type: **EMR4-AWN170-1-E**

Article No.: **290245**

Sales text **Multifunction phase monitoring relay**

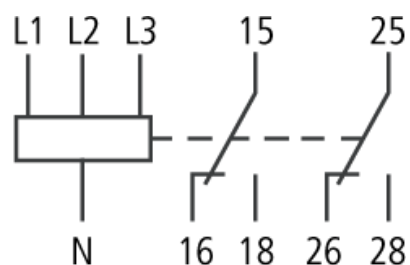


- Three-phase monitoring
 - Phase sequence
 - Phase failure
 - Overvoltage
 - Undervoltage
 - Asymmetry 2...15 %
- ON-delay or OFF-delay 0.1 – 10 s
- Power supply from the measuring circuit
- EMR4-AWN... with neutral monitoring

Ordering information

Description			multi-functional
Monitoring voltage			90 – 170 V 50/60 Hz
Threshold value			$U_{\min.}$ 90 – 120 V AC $U_{\max.}$ 120 – 170 V AC
Supply voltage			90 – 170 V 50/60 Hz

Contact sequence



General

Standards			IEC/EN 60255–6, IEC255–6, UL, CE
Lifespan, mechanical	Operations	$\times 10^6$	30
Climatic proofing			Damp heat, cyclical to IEC 60068–2–30: 24 h cycle, 55° C, 93% relative humidity, 96 h
Ambient temperature			
Open		°C	... 20...+60
Storage		°C	... 20...+60
Mounting position			As required
Shock resistance			IEC/EN 60255–21–12, Class 2
Degree of protection			
Terminals			IP 20
Enclosures			IP 50
Weight		kg	0,14
Terminal capacities			
Solid		mm ²	2 × 2.5
Flexible with ferrule		mm ²	2 × 2.5/2 × AWG14
Standard screwdriver		mm	5.5 × 0.8
Tightening torque		Nm	0,5 – 0,8
Fixing			Snap fixing, top–hat rail IEC/EN 60715

Contacts

Rated impulse withstand voltage	U_{imp}	V AC	4000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V AC	600

Power supply

Supply voltage		V AC	160 ... 300
Voltage tolerance		$\times U_c$	0,85 – 1,1
Power consumption		VA	20
Rated frequency		Hz	50 – 60
Duty factor		% DF	100

Timing cycle

Response delay time		s	Adjustable 0.1 – 10
Reset delay/Off–delay time		s	Adjustable 0.1 – 10
Time error within supply voltage		%	0,5
Time error within temperature range		%/°C	0,06

Measuring circuits

Response range for undervoltage	U_{min}	V AC	160...220
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Response range for overvoltage	$U_{\max}$	V AC	220...300
Hysteresis		%	0...5
Frequency		Hz	50/60 $\pm$ 10 %
Phase imbalance level adjustable		%	2 – 15, from mean value of the phase voltage
Measuring cycle		ms	50
Temperature error		%/°C	0,06
Error within supply voltage		%	0,5

Status indication

Supply voltage			LED green: R on
Output relay energized			LED green: R flashes
Overvoltage			LED red: F1 on
Undervoltage			LED red: F2 on
Phase failure			LED red: F1 on, F2 flashes
Phase sequence error			LED red: F1, F2 flashing

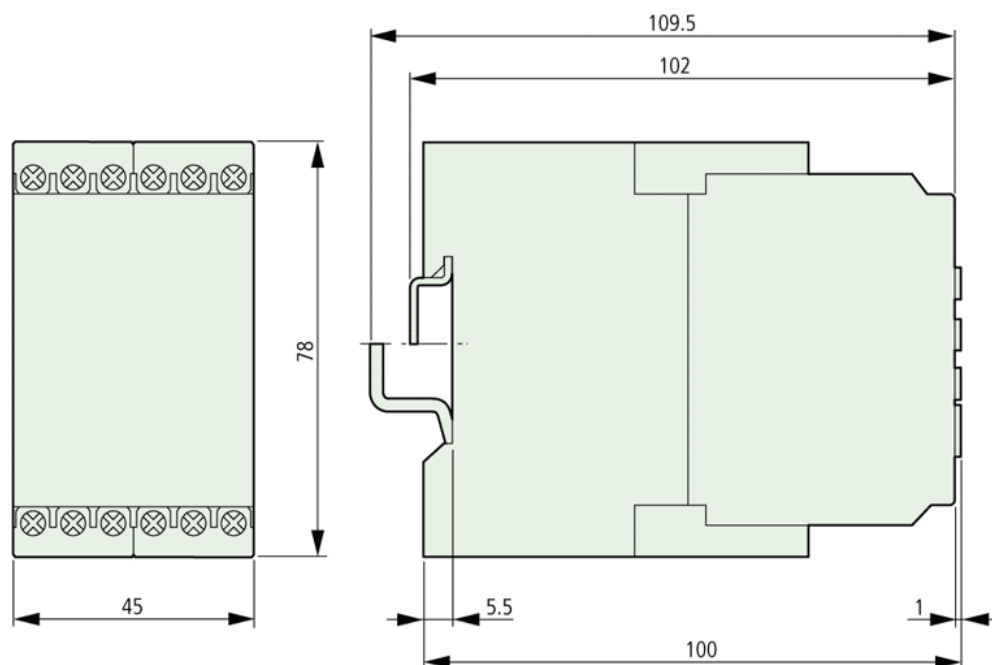
Relay output contacts

Rated operational voltage	U_e	V AC	250
Rated operational current			
AC–12 at 230 V	I_e	A	4
AC–15 with 230 V	I_e	A	3
DC–12 at 24 V	I_e	A	4
DC–13 at 24 V	I_e	A	2
Lifespan, electrical (AC–12/230 V/5 A)	Operations	$\times 10^6$	0,1
Short-circuit rating			
max. fuse	Fast/gL	A	10

Electromagnetic compatibility (EMC)

Electromagnetic compatibility			IEC/EN 60947–6–2
ESD			IEC/EN 61000–4–2 level 3
HF–immunity to radiation			IEC/EN 61000–4–3 level 3
Burst			IEC/EN 61000–4–4 level 3
Surge			IEC/EN 61000–4–5 Level 4
HF–immunity to line–conducted interference			IEC/EN 61000–4–6 level 3

Dimensions



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