

Monitoring Relays 3-Phase Voltage Protection Type DPA55CM44



Product Description

3-Phase relay for detection of incorrect mains voltage. Also detecting incorrect phase sequence and phase loss. This unit allows to stop incorrect power supply voltage when different from the desired one.

Power supply range from 208 to 480 VAC plus selection of the different possible nominal voltages. For mounting on DIN-rail. Housing 17.5 mm wide suitable both for back and front panel mounting.

Property

- 3-phase monitoring relay for phase sequences
- Detects if voltage is at the desired level ($\pm 10\%$ or $\pm 15\%$)
- Measures its own power supply
- Wide power supply range: 208 to 480 VAC ($\pm 15\%$)
- Output: 5 A SPDT relay normally energized
- For mounting on DIN-rail in accordance with DIN/EN 50022
- 17.5 mm DIN-rail housing (DIN 43880)
- LED indication for relay and power supply ON



Type Selection

Mounting	Output	Supply: 208 to 480 VAC
DIN-rail	SPDT	DPA 55 C M44

Input Specifications

Input	
L1, L2, L3	Terminals L1, L2, L3 Measures its own supply
Measuring range	177 to 550 VAC
Hysteresis	< 3V

Supply Specifications

Power supply	Overvoltage cat. III (IEC 60664, IEC 60038)
Rated operational voltage through terminals: L1, L2, L3	208 to 480 VAC $\pm 15\%$, 45 to 65 Hz
Rated operational power	18 VA @ 400 VAC, 50 Hz Supplied by L1 and L3

General Specifications

Reaction time	
Alarm ON delay	< 100 ms
Alarm OFF delay	< 300 ms
Accuracy	(15 min warm-up time)
Temperature drift	± 1000 ppm/ $^{\circ}$ C
Repeatability	$\pm 0.5\%$ on full scale
Indication for	
Power supply ON	LED, green
Relay ON	LED, yellow
Environment	
Degree of protection	IP 20
Pollution degree	2
Operating temperature	
@ Max. voltage, 50 Hz	-20 to $+60^{\circ}$ C, R.H. < 95%
@ Max. voltage, 60 Hz	-20 to $+50^{\circ}$ C, R.H. < 95%
Storage temperature	-30 to $+80^{\circ}$ C, R.H. < 95%

Output Specifications

Output	SPDT relay, N.E.
Rated insulation voltage	250 VAC
Contact ratings (AgSnO ₂)	μ
Resistive loads	AC 1 5 A @ 250 VAC DC 12 5 A @ 24 VDC
Small inductive loads	AC 15 2.5 A @ 250 VAC DC 13 2.5 A @ 24 VDC
Mechanical life	$\geq 30 \times 10^6$ operations
Electrical life	$\geq 10^5$ operations (at 5 A, 250 V, $\cos \varphi = 1$)
Operating frequency	≤ 7200 operations/h
Dielectric strength	
Dielectric voltage	≥ 2 kVAC (rms)
Rated impulse withstand volt.	4 kV (1.2/50 μ s)

Housing	
Dimensions	17.5 x 81 x 67.2 mm
Material	PA66 or Noryl
Weight	Approx. 80 g
Screw terminals	
Tightening torque	Max. 0.5 Nm acc. to IEC 60947
Product standard	EN 60255-6
Approvals	UL, CSA
CE Marking	L.V. Directive 2006/95/EC EMC Directive 2004/108/EC
EMC	
Immunity	According to EN 60255-26 According to EN 61000-6-2
Emissions	According to EN 60255-26 According to EN 61000-6-3



Mode of Operation

DPA55 monitors its own 3- phase power supply. The relay operates when all the phases are present, the phase sequence is correct, and each phase-phase voltage is within the desired tolerance ($\pm 10\%$ or $\pm 15\%$).

The relay releases in case of incorrect phase sequence or when the voltage is out of the set limits.

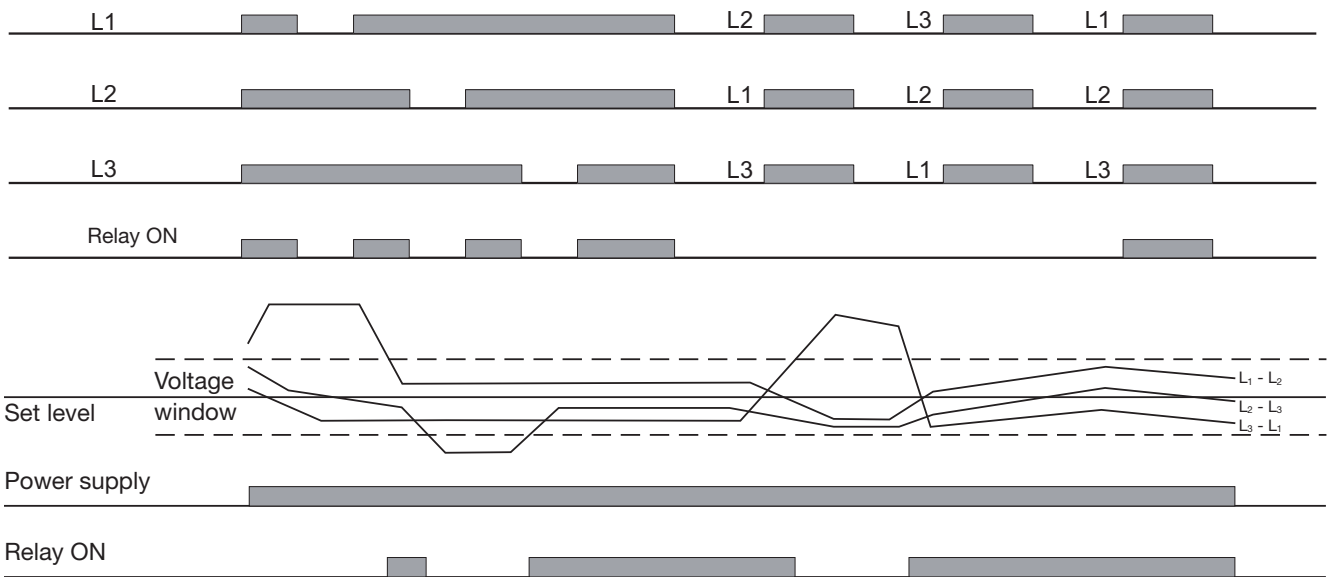
Range setting

Select the proper nominal voltage level using DIP-switches as shown below.

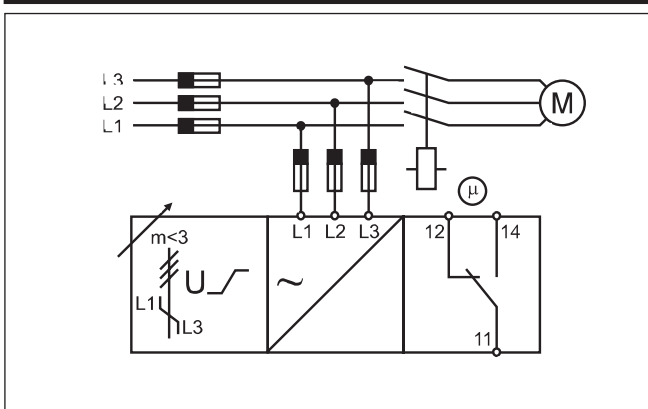
Voltage window
 ON: $\pm 15\%$
 OFF: $\pm 10\%$

	SW2	SW3	SW4
208 VAC	OFF	OFF	OFF
220 VAC	OFF	OFF	ON
230 VAC	OFF	ON	OFF
240 VAC	OFF	ON	ON
380 VAC	ON	OFF	OFF
400 VAC	ON	OFF	ON
415 VAC	ON	ON	OFF
480 VAC	ON	ON	ON

Operation Diagrams



Wiring Diagrams



Dimensions

