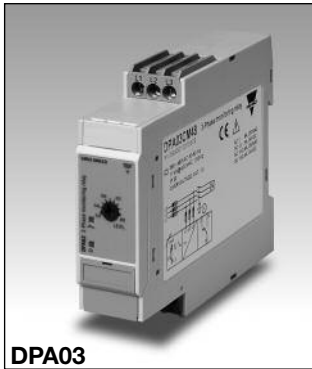


Monitoring Relays

3-Phase Sequence and Phase Loss

Types DPA03, PPA03



DPA03



PPA03

- 3-phase monitoring relay for phase sequence and phase loss
- Detect when all phases are present and have the correct sequence
- Knob-adjustable undervoltage detection
- Measure their own power supply
- Power supply range: 208 to 240, 380 to 480 and 600 to 690 VAC ($\pm 15\%$)
- Output: 8 A SPDT relay normally energized
- For mounting on DIN-rail in accordance with DIN/EN 50 022 (DPA03) or plug-in module (PPA03)
- 22.5 mm Euronorm housing (DPA03) or 36 mm plug-in module (PPA03)
- LED indication for relay and power supply ON

Product Description

3-Phase relay for detection of incorrect phase sequence and phase loss. Using the front knob it can be decided the undervoltage setpoint of the unit.

Supply range from 208 to 240 VAC, 380 to 480 and 600 to 690 VAC covered by three multivoltage relays. For mounting on DIN-rail or plug-in module.

Ordering Key

DPA 03 C M23

Housing _____
 Function _____
 Type _____
 Item number _____
 Output _____
 Power supply _____

Type Selection

Mounting	Output	Supply: 208 to 240 VAC	Supply: 380 to 415 VAC	Supply: 380 to 480 VAC	Supply: 600 to 690 VAC
DIN-rail	SPDT	DPA 03 C M23		DPA 03 C M48	DPA 03 C M69
Plug-in	SPDT	PPA 03 C M23	PPA 03 C M48		

Input Specifications

Input	Terminals
L1, L2, L3	L1, L2, L3 Measure their own supply
Measuring range	
M23	160 to 240 VAC
DPA03C M48	320 to 480 VAC
PPA03C M48	320 to 415 VAC
M69	510 to 690 VAC

Output Specifications

Output	SPDT relay, N.E.
Rated insulation voltage	250 VAC
Contact ratings (AgSnO ₂)	μ
Resistive loads	AC 1 8 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 8 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)

Supply Specifications

Power supply	Rated operational power
Rated operational voltage through terminals:	M23
M23	M48
DPA03C M48	M69
PPA03C M48	
M69	

Overvoltage cat. III (IEC 60664, IEC 60038)
 L1, L2, L3
 208 to 240 VAC $\pm 15\%$, 45 to 65 Hz
 380 to 480 VAC $\pm 15\%$, 45 to 65 Hz
 380 to 415 VAC $\pm 15\%$, 45 to 65 Hz
 600 to 690 VAC $\pm 15\%$, 45 to 65 Hz

7 VA @ 230 VAC, 50 Hz
 11 VA @ 400 VAC, 50 Hz
 17 VA @ 600 VAC, 60 Hz
 Supplied by L1 and L3



General Specifications

Reaction time Alarm ON delay < 100 ms Alarm OFF delay < 300 ms		Housing Dimensions DPA03 PPA03 22.5 x 80 x 99.5 mm 36 x 80 x 94 mm Material PA66 or Noryl
Accuracy (15 min warm-up time) Temperature drift ± 1000 ppm/°C Repeatability ± 0.5% on full scale		
Indication for Power supply ON LED, green Relay ON LED, yellow		Weight Approx. 100 g
Environment Degree of protection IP 20 Pollution degree 2 Operating temperature @ Max. voltage, 50 Hz -20 to +60°C, R.H. < 95% @ Max. voltage, 60 Hz -20 to +50°C, R.H. < 95% Storage temperature -30 to +80°C, R.H. < 95%		Screw terminals Tightening torque Max. 0.5 Nm acc. to IEC 60947
		Product standard EN 60255-6
		Approvals UL, CSA
		CE Marking EMC Immunity L.V. Directive 2006/95/EC EMC Directive 2004/108/EC Emissions According to EN 60255-26 According to EN 61000-6-2 According to EN 60255-26 According to EN 61000-6-3

Mode of Operation

DPA03 and PPA03 monitor their 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 above the adjusted setpoint. The relay releases when one phase-phase voltage drops below the setpoint or when the phase sequence is incorrect.

Example 1
 The relay monitors that the power supply has the correct phase sequence and that all phases are present.

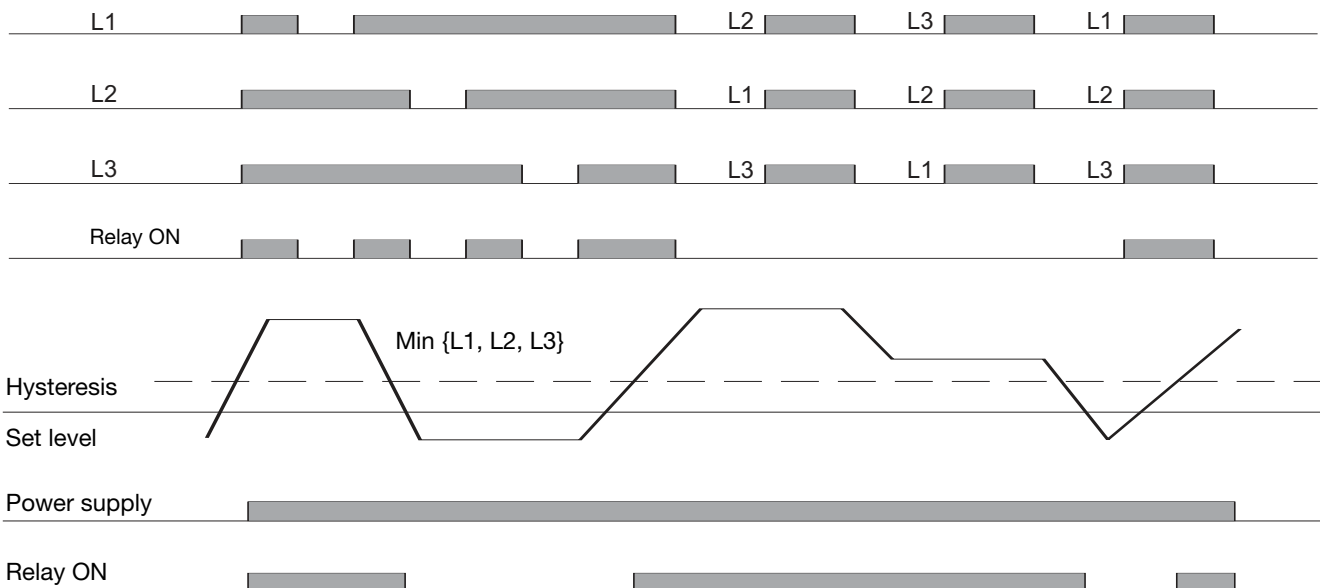
Example 2
 The relay releases in case of interruption of one or more phases, provided that the regenerated voltage does not exceed the set voltage.

Level setting

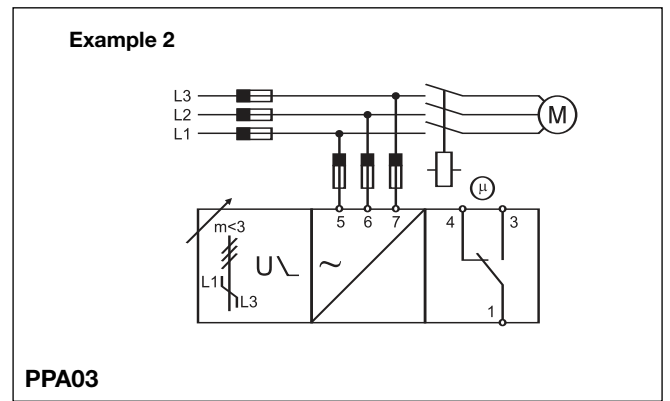
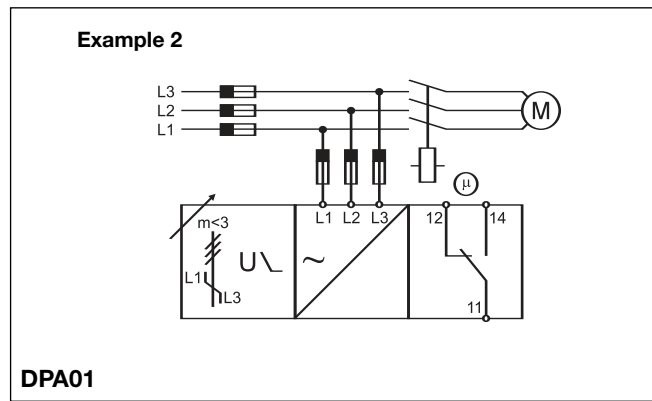
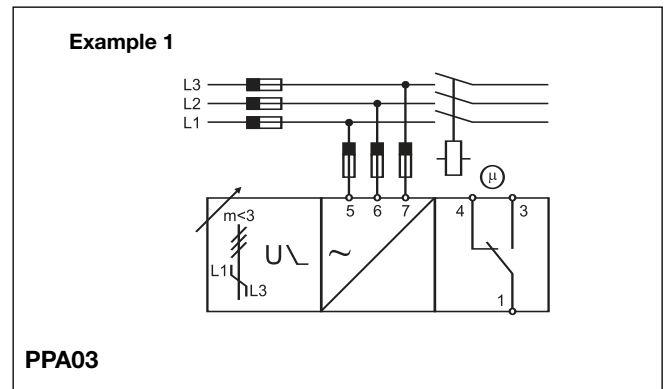
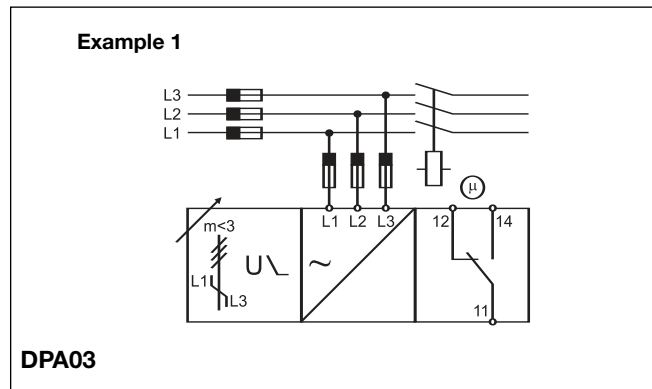
Select the proper undervoltage level using the knob according to the phase-phase voltage and the needed sensitivity.

Centre knob:
 Setting of under level on absolute scale.

Operation Diagrams



Wiring Diagrams



Dimensions

