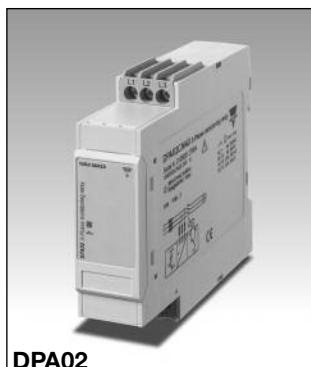


# Monitoring Relays 3-Phase Sequence Types DPA02, PPA02

CARLO GAVAZZI



DPA02



PPA02

- 3-Phase monitoring relays for phase sequence
- Measure their own power supply
- Power supply range: 208 to 240 and 380 to 415 VAC ( $\pm 15\%$ )
- Output 8 A SPDT relay normally energized
- For mounting on DIN-rail in accordance with DIN/EN 50 022 or Plug-in module
- 22.5 mm Euronorm housing (DPA02) or 36 mm Plug-in module (PPA02)
- LED indication for relay ON

## Product Description

3-phase relay for detection of incorrect phase sequence. Supply range from 208 to 240 and 380 to 415 VAC

covered by two multi voltage relays. For mounting on DIN-rail or Plug-in module.

## Ordering Key

**DPA 02 C M40**

Housing \_\_\_\_\_  
Function \_\_\_\_\_  
Type \_\_\_\_\_  
Item number \_\_\_\_\_  
Output \_\_\_\_\_  
Power supply \_\_\_\_\_

## Type Selection

Mounting	Output	Supply: 208-240 VAC	Supply: 380-415 VAC
DIN-rail	SPDT	DPA 02 C M23	DPA 02 C M40
Plug-in	SPDT	PPA 02 C M23	PPA 02 C M40

## Input Specifications

<b>Input</b> L1, L2, L3	DPA02: Terminals L1, L2, L3 PPA02: Terminals 5, 6, 7 Measure their own supply
<b>Measuring ranges</b> 208 to 240 VAC 380 to 415 VAC	177 to 275 VAC 323 to 475 VAC

## Supply Specifications

<b>Power supply</b> Rated operational voltage through terminals: L1, L2, L3 (DPA02) 5, 6, 7 (PPA02)	Overvoltage cat. III (IEC 60664, IEC 60038)
M23:	208 to 240 VAC $\pm 15\%$ , 45 to 65 Hz
M40:	380 to 415 VAC $\pm 15\%$ , 45 to 65 Hz
<b>Rated operational power</b>	5 VA @ 230 VAC, 50 Hz (M23) $\leq 6,5$ VA @ 230 VAC, 60 Hz (M23) 8 VA @ 400 VAC, 50 Hz (M40) $\leq 8,5$ VA @ 400 VAC, 60 Hz (M40) Supplied by L2 and L3

## Output Specifications

<b>Output</b>	SPDT relay, N.E.
<b>Rated insulation voltage</b>	250 VAC
<b>Contact ratings (AgSnO<sub>2</sub>)</b>	$\mu$
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
<b>Mechanical life</b>	$\geq 30 \times 10^6$ operations
<b>Electrical life</b>	$\geq 10^5$ operations (at 8 A, 250 V, $\cos \varphi = 1$ )
<b>Operating frequency</b>	$\leq 7200$ operations/h
<b>Dielectric strength</b>	
Dielectric voltage	$\geq 2$ kVAC (rms)
Rated impulse withstand volt.	4 kV (1.2/50 $\mu$ s)



General Specifications

<b>Reaction time</b> Alarm ON delay Alarm OFF delay		< 100 ms < 100 ms
<b>Indication for</b> Relay ON		LED, yellow
<b>Environment</b> Degree of protection Pollution degree		(EN 60529) IP 20 3 (DPA02), 2 (PPA02) (IEC 60664)
Operating temperature @ Max. voltage, 50 Hz @ Max. voltage, 60 Hz Storage temperature		-20 to 60°C, R.H. < 95% -20 to 50°C, R.H. < 95% -30 to 80°C, R.H. < 95%
<b>Housing</b> Dimensions  Material	DPA02	22.5 x 80 x 99.5 mm
	PPA02	36 x 80 x 94 mm
		PA66 or Noryl

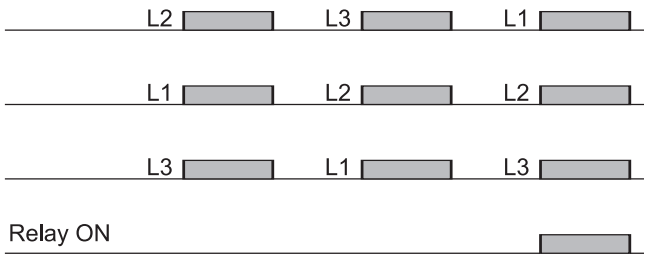
<b>Weight</b>	Approx. 100 g
<b>Screw terminals</b> Tightening torque	Max. 0.5 Nm acc. to IEC 60947
<b>Product standard</b>	EN 60947-5-1
<b>Approval</b>	CSA CCC (GB14048.5) only DPA
<b>CE Marking</b>  EMC Immunity Emissions	L.V. Directive 2006/95/EC EMC Directive 2004/108/EC   According to EN 61000-6-2 According to EN 61000-6-3

Mode of Operation

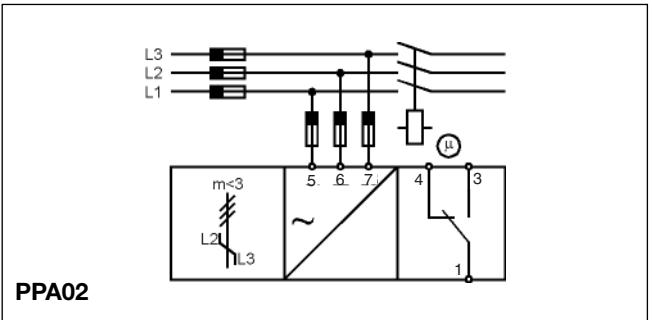
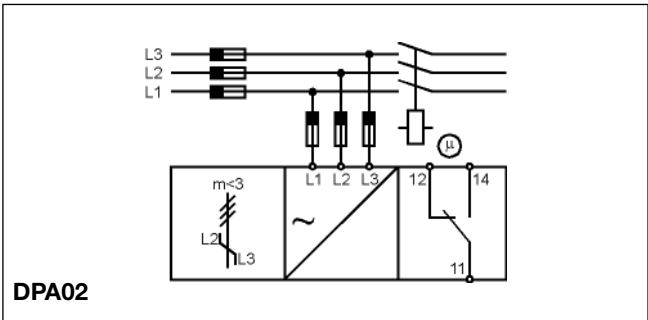
DPA02 and PPA02 monitor their own 3-phase power supply. The relay operates when the phase sequence is correct.

**Example**  
The relay monitors the mains' phase sequence.

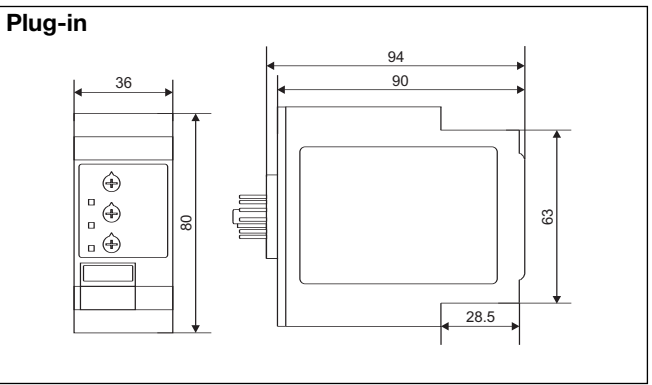
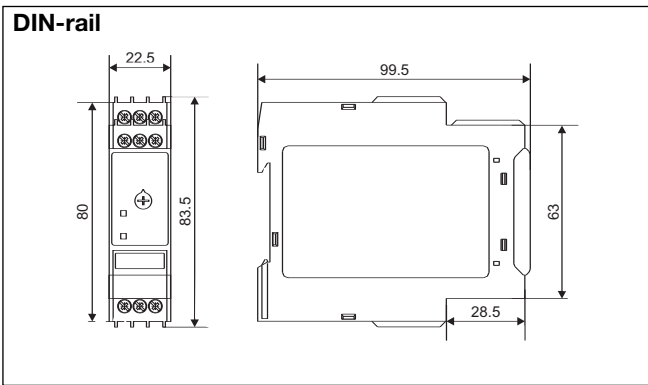
Operation Diagram



Wiring Diagrams



Dimensions



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