

Timers

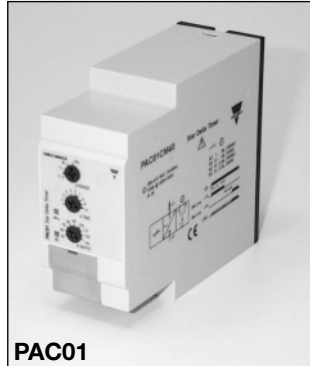
Star Delta

Types DAC01, PAC01

CARLO GAVAZZI



DAC01



PAC01

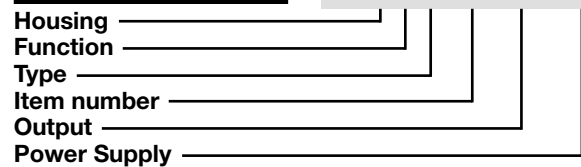
- Time range (Star): 0.1 to 600 s
- Time range (Star to Delta): 50 to 130 ms
- Knob selection of star time range
- Knob adjustable time setting
- Automatic start
- Repeatability: $\leq 0.2\%$
- Output: 8 A SPDT relay with neutral centre position
- For mounting on DIN-rail in accordance with DIN/EN 50 022
- 22.5 mm Euronorm housing or 36 mm Plug-in module housing
- LED indication for relay status and power supply ON

Product Description

Star-delta control relay with two adjustable time ranges: Star function (0.1 to 600 s) and star to delta function (50 to 130 ms). For mounting on DIN-rail (DAC 01) on Plug-in (PAC01).

Ordering key

DAC 01 C M24



Type Selection

Mounting	Output	Housing	Supply: 24 to 240 VAC/DC	Supply: 380 to 415 VAC
For DIN-rail Plug-in	1 x SPDT	D - 22.5 mm P - Housing	DAC 01 C M24 PAC 01 C M24	DAC 01 C M40 PAC 01 C M40

Time Specifications

Time ranges (star) Knob selectable	0.1 to 1 s 1 to 10 s 6 to 60 s 60 to 600s
Star to delta delay Neutral centre position	50 to 130 ms between star and delta position
Setting accuracy	$\leq 5\%$
Repeatability	$\leq 0.2\%$
Time variation Within rated power supply Within ambient temperature	$\leq 0.05\%$ $\leq 0.2\%$
Reset Time and relay	Power supply interruption ≥ 200 ms

Output Specifications

Output	SPDT relay with neutral centre position
Rated insulation voltage	250 VAC (RMS)
Contact Ratings (AgSnO₂)	μ
Resistive loads	AC 1 DC 12
Small inductive loads	AC 15 DC 13
Mechanical life	$\geq 30 \times 10^6$ operations
Electrical life	$\geq 10^5$ operations (at 8 A, 250 V, $\cos \phi = 1$)
Operating frequency	< 7200 operations/h
Dielectric strength	
Dielectric voltage	2 kVAC (RMS)
Rated impulse withstand voltage	4 kV (1.2/50 μ s)



Supply Specifications

Power supply	Overvoltage cat. III
Rated operational voltage through terminals:	(IEC 60664, IEC 60038)
A1 and A2 (DAC01)	24 to 240 VAC/DC +10% -15%, 45 to 65 Hz
2, 10 (PAC01)	
M24	
M40:	380 to 415 VAC +10% -15%, 45 to 65 Hz
Voltage interruption	≤ 10 ms
Rated operational power	
M24	AC Supply: 4 VA DC Supply: 1.5 W
M40	AC Supply: 13 VA @ 400 VAC, 50 Hz

Time Setting

Upper knob:	scale: 1 to 10 with respect to the chosen range.
Setting of star time range	
Lower knob:	Star to delta time setting (50 to 130 ms)
Centre knob:	Star time setting on relative

General Specifications

Power ON delay	≤ 100 ms
Power OFF delay	≤ 100 ms
Indication for	
Power supply status	LED, green
Output status	LED, yellow (flashing when timing)
Environment	(EN 60529)
Degree of protection	IP 20
Pollution degree	3 (DAC01), 2 (PAC01) (IEC 60664)
Operating temperature	-20 to 60 °C, R.H. < 95%
Storage temperature	-30 to 80 °C, R.H. < 95%
Weight	Approx 110 g
Screw terminals	DAC01
Tightening torque	Max 0.5 Nm according to IEC 60947
CE Marking	Yes
EMC	Electromagnetic Compatibility
Immunity	According to EN 61000-6-2
Emission	According to EN 50081-1
Timer Specifications	According to EN 61812-1

Mode of Operation

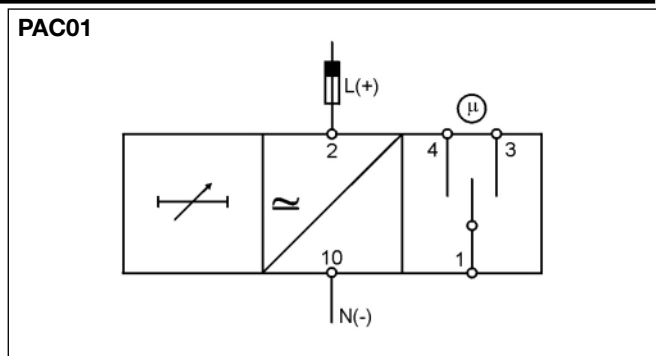
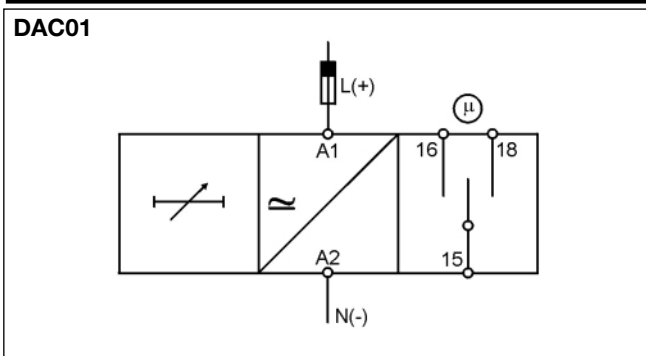
The output relay is normally in the neutral centre position. When the power supply is applied, the relay switches to star position (pin 16 or 4) and the star period starts.

At the end of the set time period, the relay returns to the neutral centre position and the set delay between star and delta position starts. At the end of the star to delta delay (adjustable from

50 to 130 ms), the relay switches in delta position (pin 18 or 3) and does not release until the power supply is interrupted for at least 200 ms. If the power supply is inter-

rupted for more than 200 ms before the star time period has expired, the relay does not operate and the time circuit is set to zero. The relay is ready for a new time period.

Wiring Diagrams



Operation Diagram

