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## PCG-417 DUO

Time controller  
STAR/TRIANGLE



519083121595502

**Do not dispose of this device in the trash along with other waste!**

According to the Law on Waste, electro coming from households free of charge and can give any amount to up to that end point of collection, as well as to store the occasion of the purchase of new equipment (in accordance with the principle of old-for-new, regardless of brand). Electro thrown in the trash or abandoned in nature, pose a threat to the environment and human health.



### Purpose

The PCG-417 DUO time controller is designed to control the contactor **STAR/TRIANGLE** switch system.

### Functioning

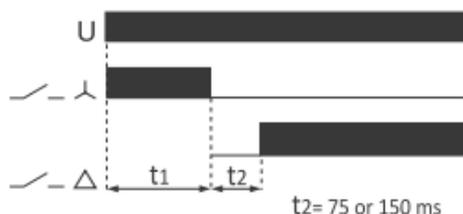
The controller is equipped with two electromagnetic relays controlling the coils of contactors that switch on the motor connected in a **STAR** or **TRIANGLE** system.

After the power supply has been switched on (green LED is on), the **STAR** contact ( $\sphericalangle$ ) is switched on to position 7-9, activating the S ( $\sphericalangle$ ) contactor, which starts the motor with windings connected in the star layout. After the preset time  $t_1$  has elapsed, the **STAR** contact is switched off to position 7-8, disconnecting the S ( $\sphericalangle$ ) contactor and the motor power supply for the selected time  $t_2$  (75 or 150 ms). After the time  $t_2$  has elapsed, the **TRIANGLE** contact ( $\triangle$ ) is switched on to position 10-12, activating the S ( $\triangle$ ) contactor which starts the motor with windings connected in the triangle layout.



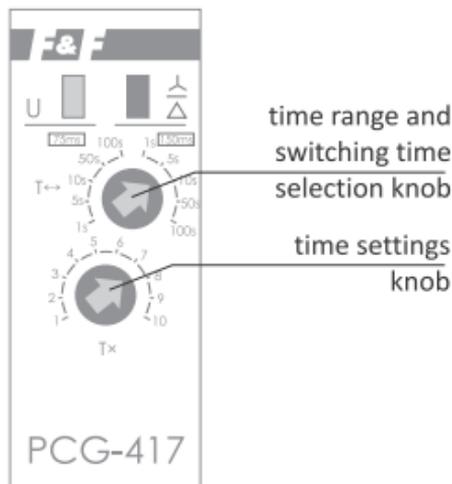
The PCG-417 relay is equipped with software protection preventing simultaneous activation of the **STAR** and **TRIANGLE** contacts.

Execution of time **t1** (operating time in the **STAR** system) is indicated by pulsating red LED. Activation of the **TRIANGLE** system (after time **t2**) is indicated by red LED being continuously on.



### Setting of start-up time and switch-on delay

Use the time range selection knob **T** ↔ to set the selected time range (for the switch delay option  $t_2 = 75 \text{ ms}$  on the left side of the scale, for the switch delay option  $t_2 = 100 \text{ ms}$  on the right side). Use the **Tx** time setting knob to set the selected value on a scale from 1 to 10. The product of these values is equal to the start-up time **t1** (for example  $t_1 = 1 \text{ s} \times 7 = 7 \text{ s}$ ).



## Mounting

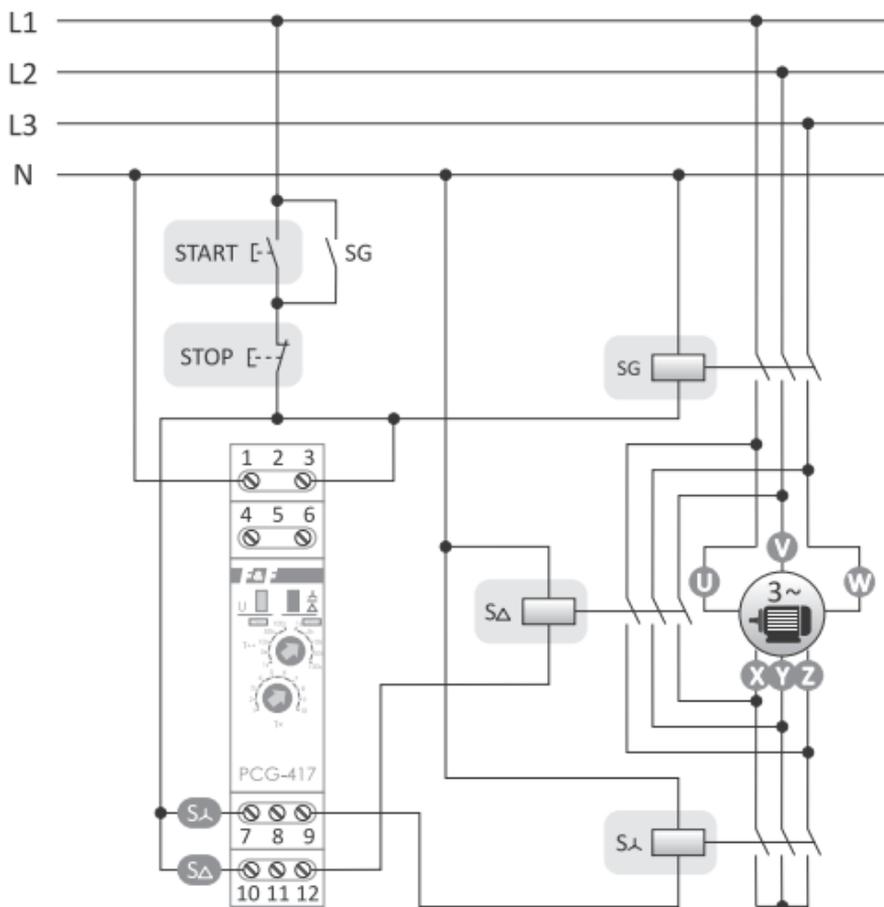
1. Turn off the power supply.
2. Fix the relay on a rail in the control box.
3. Connect the power wires according to the diagram as indicated: 230 V to terminals 1-3 and 24 V to terminals 1-4.



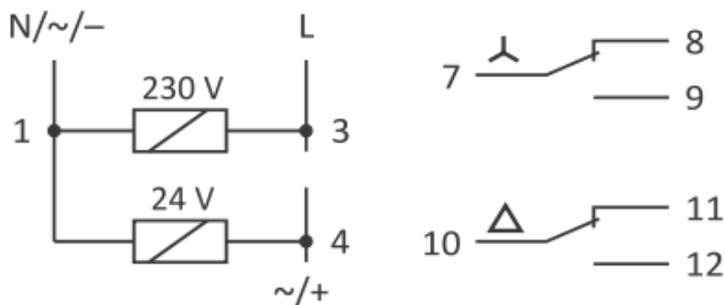
Connect only one of the selected voltages!

4. Connect the coil supply circuit of the contactor that switches on the **STAR** system in series with pin 7-9.
5. Connect the coil supply circuit of the contactor that switches on the **TRIANGLE** system in series with pin 10-12.
6. Set the operating range and time using the rotary knobs.

## Wiring diagram



- SG            main contactor  
 S $\Delta$         **DELTA** system contactor  
 S $\lambda$         **STAR** system contactor



- 1-3      230 V AC relay power supply
- 1-4      24 V AC/DC relay power supply
- 7-9      **STAR** system control relay
- 10-12    **DELTA** system control relay

### Technical data

power supply	195÷253 V AC 21÷27 V AC/DC
maximum load current (AC-1)	2×8 A
contact	2×NO/NC (switching terminals)
"star" activation time	1÷10 s
switching time (adjustable)	75 lub 150 ms
activation delay	<50 ms
power supply indication	green LED
contacts state indication	red LED
power consumption	0.8 W
terminal	2,5 mm <sup>2</sup> screw terminals
tightening torque	0.4 Nm
working temperature	-25÷50°C
wymiary	1 module (18 mm)
mounting	on TH-35 rail
protection level	IP20

## Warranty

The F&F products are covered by a warranty of the 24 months from the date of purchase. Effective only with proof of purchase. Contact your dealer or directly with us.

## CE declaration

F&F Filipowski sp. j. declares that the device is in conformity with the essential requirements of The Low Voltage Directive (LVD) 2014/35/EU and the Electromagnetic Compatibility (EMC) Directive 2014/30/UE. The CE Declaration of Conformity, along with the references to the standards in relation to which conformity is declared, can be found at [www.fif.com.pl](http://www.fif.com.pl) on the product page.

**«F&F»<sup>®</sup>**