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# PCS-519 DUO

## TIMING RELAYS

### 10 function



5 9 0 8 3 1 2 1 5 9 3 9 3 5 1 >

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#### PURPOSE

Time relay is used to temporarily control in automation and home systems (for example, ventilation, heating, lighting, signaling, etc.)

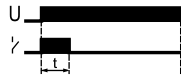
#### ATTENTION!

- With the power supply ON, the system does not respond to time range setting modifications.
- The newly set time range is active after the power supply has been turned OFF and ON.
- With the power supply on, it is possible to regulate the preset time freely within the selected time range.

#### DELAY ACTIVATION

After the power voltage is supplied (green LED "U" is shining), the joint remains in position 11-10 and the timing of the preset value  $t$  is commenced. After the preset time  $t$  has been counted down, the joint is shifted to position 11-12 (red LED is shining). The working sequence of the relay may be repeated after turning the power supply OFF and ON.

(B)



#### DELAY DEACTIVATION

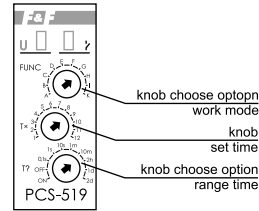
Until the relay is activated, the joint remains in the 11-10 position. After the power voltage is supplied (green LED "U" is shining), the contact is shifted to position 11-12 and the countdown of the preset value  $t$  is commenced (red LED is shining). The working sequence of the relay may be repeated after turning the power voltage OFF and ON.

(C)



#### DELAY ACTIVATION - CYCLIC

The DA operational mode is triggered in equal interruption/work cycles according to preset time values of work and break.



#### WORK TIME SETTINGS

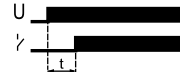
By time range switch  $T$  set one of chosen range and by time knob  $T^x$  set value on the scale from 1 to 12. Product of this values equal work time  $t$  (e.g.  $t=1 \times 7=7$  min).

#### SETTINGS OF WORK MODE

By choose option knob FUNC set one of functions (e.g. function A - delay activation).

#### WORK FUNCTIONS:

(A)



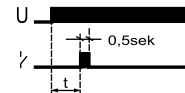
(D)



#### DELAY DEACTIVATION - CYCLIC

The DD operational mode is triggered in equal interruption/work cycles according to preset time values of work and break.

(E)



Generate impulse 0,5s. after set time  $t$

(F)

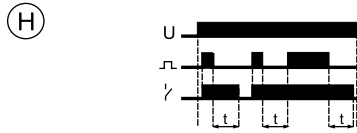


Generation of a single impulse of  $t$  time by the START signal eading edge. During preset time countdown, the system does not respond to START impulses.

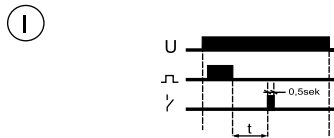
(G)



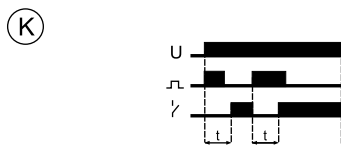
Generation of a single impulse of  $t$  time by the START signal trailing edge. During preset time countdown, the system does not respond to START impulses.



Delay in deactivation with support function enabled. The leading edge of the START signal results in relay activation, where as the trailing edge of the same signal triggers the time countdown. The supply of the START signal during countdown results in an extension of the cycle by another  $t$  time value along the trailing edge.

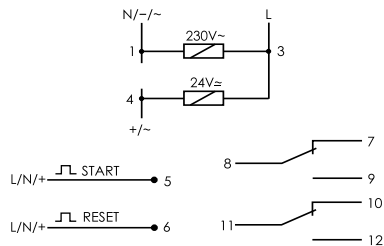


Generating a single pulse 0.5 seconds after time  $t$  triggered by trailing edge of START signal



5. Cable of RESET signal connect to joint 6
6. Circuits of switched ON receivers connect in series to joints 8-9 and 11-12.

#### INPUT/OUTPUT description



#### SUPPLY

- 1-3 power relay: 230V
- 3-4 power relay: 24V

#### CONTROL INPUTS

- 5 input of signal START
- 6 input of signal RESET

#### JOINT 1

- 8 input of joint power
- 7 output: open joint (passive)
- 9 output: close joint (active)

#### JOINT 2

- 11 input of joint power
- 10 output: open joint (passive)
- 12 output: close joint (active)

Turning OFF the relay for a specified period of time along the leading edge of the START signal. During the preset time countdown the system does not respond to START signals.

If the RESET voltage is applied during the execution of:  
 \*A, B, C, D, F functions the selected work mode is restarted  
 \*F, G, H, I functions the relay returns to the initial condition and awaits the START signal;  
 \*K function the relay's joint is closed permanently in the 8-9 and 11-10 position.

#### TIME RANGE

<b>0,1s:</b> 0,1÷1,2 sec	<b>10m:</b> 10÷120min
<b>1s:</b> 1÷12 sec	<b>2h:</b> 2÷24godz
<b>10s:</b> 10÷120 sec	<b>1d:</b> 2÷12dni (24÷288godz.)
<b>1m:</b> 1÷12 min	<b>2d:</b> 2÷24dni (48÷576godz.)

- **ON** - position with power supply activated results in the permanent closure of the joint in position 8-9 and 11-10.
- **OFF** - position (power supply activated) causes the contact to be permanently closed in the position 8-7 and 11-12.

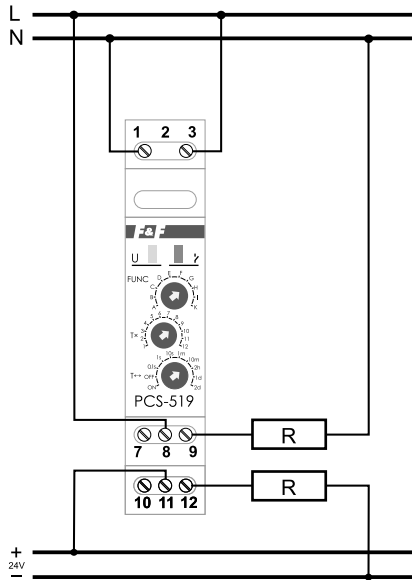
#### ASSEMBLY

1. Take OFF the power.
2. Put on the relay on the rail in the switchgearbox.
3. Cables of power connect with diagram with marks: voltage 230V to joints 1-3, voltage 24V to joints 3-4. **ATTENTION!** Connect only one of choosen volatges!
4. Cable of START signal connect to joint 5.

#### TECHNICAL DATA

supply	230VAC/24VAC/DC
current load	2×(<8A)
joints	2P
work time	0,1s÷24h
activation lag delay gunction	<50msec
power supply inductor	green LED
work mode indicator	red IED
power consumption	0,8W
working temperature	-25÷50°C
connection dimensions	screw terminals 2,5mm,
fixing	1 module (18 mm) on rail TH-35

**WIRING DIAGRAM**



*An example of the power supply system by 230V of relay which control the receiver powered by 230V and 24 V*

A100522

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