

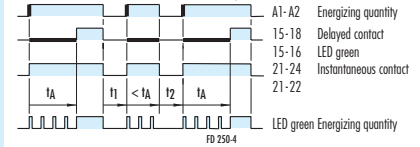
# NGZP 72 - S

## ON-delay multi-range time relay

- Multi-voltage for AC/DC 24 to 240 V
- 1 function, ON-delay
- Setting range from 0.1 s to 300 h divided into 16 switchable time ranges
- Remote potentiometer connection
- 1 instantaneous changeover contact and 1 timed changeover contact
- 2 LEDs for function display

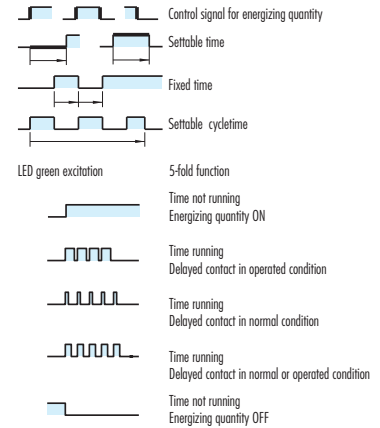
## Functions

### Function code 11-ON = ON-delay



$t_A$  = Operating time  
 $t_1$  = Break time, must be > recovery time 1  
 $t_2$  = Break time, must be > recovery time 2

### Legend



## Time ranges

Setting range from 0.1 s to 300 h divided into:

≤ 0.1 to 1 s	1.5 to 30 min
0.15 to 3 s	3 to 60 min
0.5 to 10 s	5 to 100 min
1.5 to 30 s	0.15 to 3 h
5 to 100 s	0.5 to 10 h
15 to 300 s	1.5 to 30 h
0.5 to 10 min	5 to 100 h
50 to 1000 s	15 to 300 h

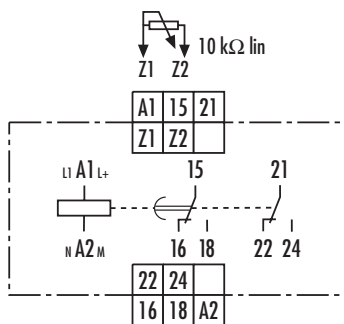
## Features

### Setting the time delay

The time range is set with the RANGE selector switch and displayed in the window next to it. The required delay time is set with a setting wheel.

Connecting a remote potentiometer allows you to set parameters from further away. When a remote potentiometer is used, set the time setting wheel to the right-hand stop above the largest value. Operation without remote potentiometer does not require a jumper on the device.

## Connection diagram



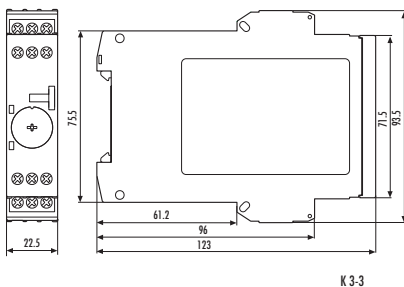
KS 250-6

LEDs show the state of the excitation input and the position of the contacts. You can monitor the countdown on a flashing LED.

## Note

The device is designed for multi-voltage. Connect phase L1 or L+ to terminal A1 and neutral N or M to terminal A2.

## Dimensions



K 3-3

You can change the delay time during operation. The change is effective immediately.

## Ordering designation

**NGZP 72 - S**

Price code: 52.1

## Accessories

**Remote potentiometer FP 10 k**

Price code: 98.1

## Technical data

<b>Device type</b>	<b>NGZP 72 - S</b>																
<b>Product norm</b> (Time relays)	EN 61812 - 1:1999 - 08																
Relay function according to IEC 60050	445 - 01 - 02 + 445 - 01 - 05																
Function diagram	FD 250 - 4																
Function display	2 LEDs green																
Ambient operating temperature range	-25 to + 60 °C																
<b>Input circuit</b>																	
Rated voltage A1 - A2	AC/DC 24 to 240 V																
Rated power AC	3.5 VA/1.7 W																
Rated power DC	1.6 W																
Rated voltage limits	70 to 110 %																
Rated frequency $f_n$	50 to 60 Hz $\pm$ 5 %																
Release value of input voltage (line capacitance approx. 150 pF/m)	$\geq$ AC/DC 10 V; permissible line capacitance 0.2 $\mu$ F																
Parallel load permitted	A1 - A2 yes																
Internal one-way rectifier	A1 - A2 no																
<b>Time circuit</b>																	
Time setting / number of time ranges	analog (internal/external)/16																
Setting ranges for time delay	from $\leq$ 0.1 s to 300 h divided into:																
	<table style="width: 100%; border: none;"> <tbody> <tr> <td><math>\leq</math> 0.1 to 1 s</td> <td>1.5 to 30 min</td> </tr> <tr> <td>0.15 to 3 s</td> <td>3 to 60 min</td> </tr> <tr> <td>0.5 to 10 s</td> <td>5 to 100 min</td> </tr> <tr> <td>1.5 to 30 s</td> <td>0.15 to 3 h</td> </tr> <tr> <td>5 to 100 s</td> <td>0.5 to 10 h</td> </tr> <tr> <td>15 to 300 s</td> <td>1.5 to 30 h</td> </tr> <tr> <td>0.5 to 10 min</td> <td>5 to 100 h</td> </tr> <tr> <td>50 to 1000 s</td> <td>15 to 300 h</td> </tr> </tbody> </table>	$\leq$ 0.1 to 1 s	1.5 to 30 min	0.15 to 3 s	3 to 60 min	0.5 to 10 s	5 to 100 min	1.5 to 30 s	0.15 to 3 h	5 to 100 s	0.5 to 10 h	15 to 300 s	1.5 to 30 h	0.5 to 10 min	5 to 100 h	50 to 1000 s	15 to 300 h
$\leq$ 0.1 to 1 s	1.5 to 30 min																
0.15 to 3 s	3 to 60 min																
0.5 to 10 s	5 to 100 min																
1.5 to 30 s	0.15 to 3 h																
5 to 100 s	0.5 to 10 h																
15 to 300 s	1.5 to 30 h																
0.5 to 10 min	5 to 100 h																
50 to 1000 s	15 to 300 h																
Recovery time 1/2	$\leq$ 50/ $\leq$ 50 ms																
Minimum ON time 1/2	- / - ms																
Setting tolerance	$\leq$ $\pm$ 5 %																
Repeatability (to set value)	$\leq$ $\pm$ 0.01 % + $\pm$ 10 ms																
Influence of temperature (within range)	$\leq$ $\pm$ 0.002 %																
Influence of voltage (within range)	$\leq$ $\pm$ 0.002 %																
<b>Output circuit</b>																	
Contact equipment	1 instantaneous changeover contact and 1 timed changeover contact																
Contact material	AgNi 90/10																
Rated operating voltage	AC/DC 24 to 240 V																
Rated value for limiting continuous current $I_{th}$	5 A																
Minimum contact load	$\geq$ AC/DC 5 V/ $\geq$ 10 mA																
Utilization category according to IEC 60947 - 5 - 1	AC-15 $U_e$ AC 230 V, $I_e$ 3 A DC-13 $U_e$ DC 24 V, $I_e$ 2 A																
Permissible switching frequency	$\leq$ 3600 switching cycles/h																
Mechanical service life	30 x 10 <sup>6</sup> switching cycles																
Electrical service life																	
20/2 A, AC 250 V, $\cos \varphi = 0.3$	0.12 x 10 <sup>6</sup> switching cycles AC-15																
Operate time / release time for excitation A1 - A2	40 ms																
<b>Other data</b>																	
Clearance/creepage distances to IEC 60664 - 1																	
Contamination level	3 outside, 2 inside																
Overvoltage category	III																
Rated voltage	AC/DC 275 V																
Protection class housing / terminals acc. to IEC 60529	IP 40/IP 20																
Interference immunity acc. to IEC 61000 - 4	Test level 3																
Dimensions (housing)	K 3 - 3																
Terminal connection diagram	KS 250 - 6																
Connection cross sections single or fine wire	1 x 0,2 to 6 or 2 x 0,2 to 2,5 mm <sup>2</sup>																
fine wire with connector sleeve	1 x 0,4 to 4 or 2 x 0,2 to 1,5 mm <sup>2</sup>																
Weight	0.14 kg																
Accessories	Remote potentiometer FP 10 k																
<b>General Technical Specification</b>	NGG Catalogue																