



Timer  
**ZSD - Star-delta relay with 2 Changeovers**  
 17.5mm housing

### Application

Start-up switching for three-phase motors.

### Description

The **ZSD star-delta relay** may be used with either 24V DC/AC or 230V AC supply. The green LED indicates connection to the power supply.

### Function

Timing begins with the connection of the power supply to the terminals A1 and A2. The timing cycle is selected using the potentiometer and the DIP switches on the front panel of the unit. Upon connection of the power supply, the contact 15/18 closes and the red LED turns on. Upon completion of the selected timing, the contact returns to its rest position and the red LED shuts off. After a set switching time of 100ms, the second contact 25/28 closes. If the power supply is interrupted during the reset time, the relay returns to its original state. This also applies if the supply is disconnected during the timing period (see function diagram).

### Part number

011141	ZSD	0.5...10s	2 Changeovers
011142	ZSD	1.5...30s	2 Changeovers
011143	ZSD	3...60s	2 Changeovers
011220	ZSD	5...100s	2 Changeovers
011221	ZSD	15...300s	2 Changeovers

### Options

Other timing ranges and voltages available upon request.

### Timing ranges

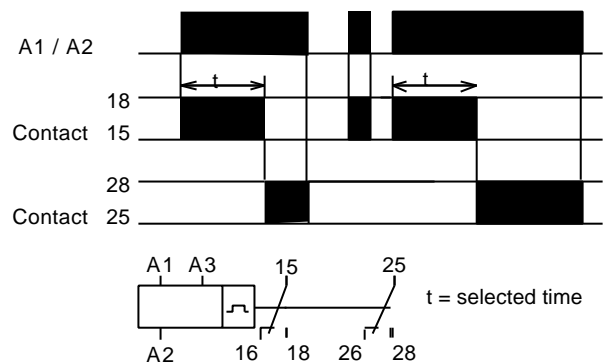
5 timing ranges

Part No. 011141	0.5...10 s
Part No. 011142	1.5...30 s
Part No. 011143	3...60 s
Part No. 011220	5...100 s
Part No. 011221	15...300 s

### Approvals



### Function diagram



### Mounting

Snap-on mounting using a standard DIN rail EN 50022. The unit is designed to allow side-by-side mounting, with an ambient temperature of < 60°C.

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**Technical data**

**Supply**

Supply voltage Part No. 011017 : 24V AC/DC -15 / +10%  
 Part No. 011019 : 230V AC -15 / +10%

Frequency range: 0 / 50 ... 60Hz  
 Power consumption: approx. 1.5W / DC  
 approx. 6VA / AC

Operating mode: continuous  
 Supply voltage influence: < 0.01% over voltage range

Temperature influence: < 0.01% / °C  
 Repetitive accuracy: ± 0.2%  
 Recovery time: < 100ms

**Operation indicators**

Supply voltage: LED, green  
 Relay 1(17 / 18) in work position: LED, red

**Contact**

Number of changeovers: 2  
 Contact material: AgSnO<sub>2</sub>  
 Maximum switching voltage: 250V AC  
 Maximum switching current: 4A  
 Drop-off time of switching element: approx. 20ms  
 Mechanical life: 30 Mio.  
 Electrical (with rated load): 0.8 Mio.

**General data**

Ambient temperature: - 25 ... + 60°C  
 Climate resistance: VDE 0435T.2021  
 Mounting position: any  
 Vibration resistance: VDE 0435T.2021  
 Test voltage: 2.5kV  
 Isolation group: VDE 0110 Group C 250  
 Protection class: Terminals IP 20  
 Housing IP 40

Connection terminals: Crosshead s crews;  
 M3.5 self opening  
 Connection cross section: Multi-strand wire with sleeves 2 x 2.5mm<sup>2</sup>  
 single-wire 2 x 2.5mm<sup>2</sup>

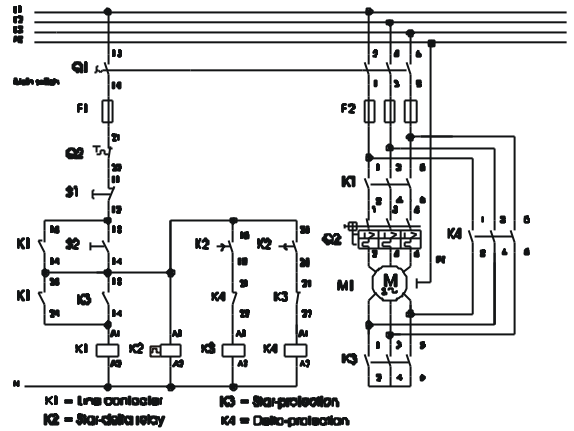
Finger touch protection: VDE 0106T.100 and VBG4

Mounting: Symmetrical rail  
 DIN EN 50022

Dimensions l x w x h: 90mm x 17.5mm x 69.5mm

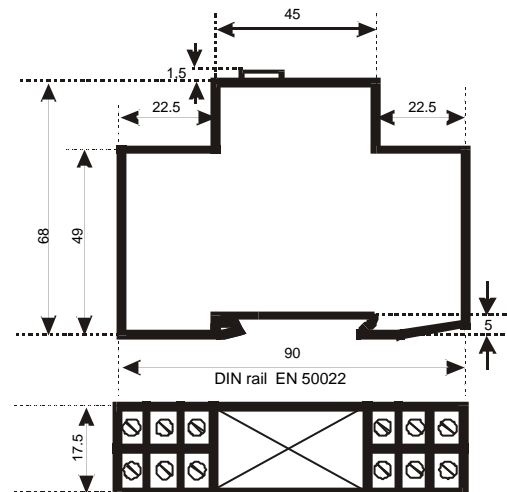
Weight: 104g

**Example**



After actuation of element S2, the timing cycle begins.

**Dimensions**



**Connections**

The terminal assignment for the connections is located on the front panel of the relay. **Reading the front panel from top to bottom**, the connections are in the following order:

LED side	Right:	nc – 26 – A3
	Left:	28 – 25 – A1
Potentiometer side	Right:	nc – 15 – 18
	Left:	nc – A2 – 16

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