

Star Delta



Description

The unit is designed to enable star-delta starters to switch between star and delta safely. The star-make period can be adjusted with the front potentiometer. A set pause time of $\pm 80\text{ms}$ prevent contractors operating simultaneously.

FEATURES

- Oscillator control time circuit
- Potentiometer adjustable time setting
- Failsafe operation
- Repeatable deviation: $< 1\%$
- LED indication for STAR and DELTA outputs
- Output 10A SPDT

Time Specifications

Time Ranges 1 - 30 sec
3 - 60 sc
10 - 180 secs

Delay between $\pm 80\text{ms}$
Star & Delta Outputs

Range Accuracy $\leq 0.5\%$

Scale Accuracy $\pm 5\%$

Repeat Accuracy $\pm 1\%$

Time Variation $\leq 0.05\% / V$
within rated power
supply and ambient
temperature $\leq 0.2\% / ^\circ\text{C}$

Reset Time 500 ms

Output Specifications

Output Specifications SPDT

Rated Isolation 6000 VAC
(contact / electric)
Voltage 1000 VAC
(contact / contact)

Nominal Rate in AC1 1500 VA
(Ag-Ni)

Rated Current 10A

Rated Voltage 250V

Mechanical Life 10×10^6 cycles

Electrical Life 110×10^3 cycles (at max load)

Operation Frequency ≤ 1800 cycles/h

Supply Specifications

Power Supply AC Type 110, 230, 400V
(Galvanic) 525V $\pm 10\%$
50 / 60 Hz $\pm 5\text{Hz}$

Isolation 4kV

Consumption $\pm 3\text{VA}$

$\pm 6\text{VA}$ 525 V

Power Supply DC Types 12,24,48 V $\pm 10\%$
(Non-galvanic)

Isolation None

Consumption ± 100 mA

General Specifications

Power ON Delay ≤ 300 ms

Power OFF Delay ≤ 200 ms

Indication for

Star ON LED green

Delta ON LED green

Environment

Degree Of Protection IP 20

Operating Temperature -10 to $+ 50^\circ\text{C}$

Storage Temperature -50 to $+ 85^\circ\text{C}$

Weight 200g

Star Delta

Mode of Operations

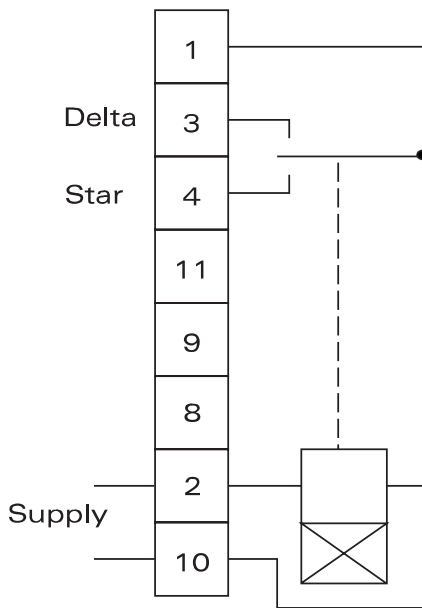
Function: Star Delta

On applying supply, contact 1 & 4 is made and the set STAR time period begins. On expiry of time period contacts 1 & 4 opens and remains in a neutral position for $\pm 80\text{ms}$, after which DELTA connection is made between contacts 1 & 3. The relay remains in this position until supply is removed at which time it will de-energize to a center-off position.

Example

Timed switching on a Star/Delta starter to prevent simultaneous operating of the contactors.

Wiring Diagram



Operations Diagram

