**The timer DDC triggers a star-delta contactor combination to control the run-up of threephase current motors.**




- *Adjustable run-up time for star mode*
- *Adjustable dwell period*
- *Compact design*
- *High breaking capacity*
- *Internal interlock for delta contact*
- *2 operating voltages: AC 230V (AC 115V) and DC 12-30V*

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## Function

When the operating voltage is applied to A1-A2 (B1-B2 for DC 12-30V) the instantaneous contact switches to 17-18 (star-mode) for **t1**. At the end of the transit time **t2** (dwell time) the time lag contact switches permanently to 17-28 (delta mode). The relay remains in this condition as long as the operating voltage is applied to A1-A2 (B1-B2).

**Time range for run-up time t1: 3-90s (star-mode)**

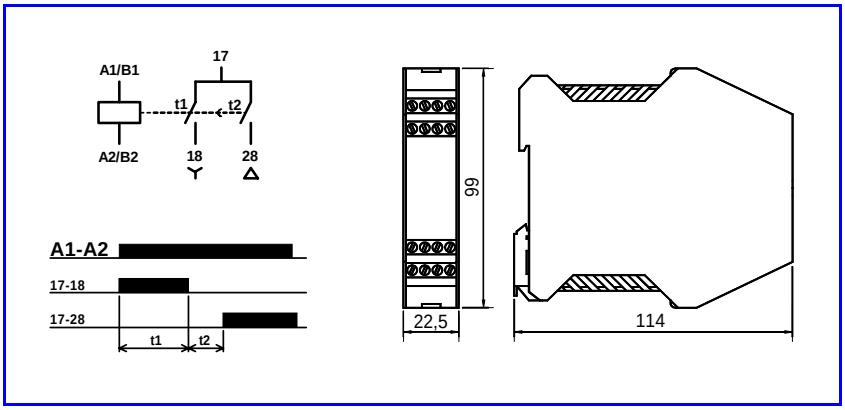
**Time range for dwell time t2: 30-75ms**

The respective time ranges are set at the two potentiometers on the front. A1-A2 are operating voltage connections for AC 230V (or AC 115V), B1-B2 for DC 12-30V.

## Delta contact interlock

The **DDC** has two separate internal relays to trigger the star and delta modes.

The delta contact is hereby run through the normally closed contact of the star relay to that delta operation is only possible after the star contact has been opened safely. If the star contact is welded the delta switch-over is thus prevented in any case.




| Order-No | Type |
|---|---|
| 417000 | DDC AC230V/DC12-30V |
| 417010 | DDC AC115V/DC12-30V |

| Specifications | |
|---|---|
| Operating voltage $U_N$ | AC 230V, 50-60Hz und DC 12-30V,<br>AC 115V, 50-60Hz und DC 12-30V |
| Voltage tolerance | 90..110% of $U_N$ |
| Power consumption | AC 2VA bei 230V, DC <3W |
| LED´s | yellow: star contact 17-18 switched<br>green: delta contact 17 –28 switched |
| Protection | IP20 |
| Time range star mode | 3 - 90s |
| Dwell time | 30 – 75ms |
| Repeat accuracy | +/- 0.5% |
| Reclose readiness | < 60ms |
| Switching capacity | AC 250V: max. 8A, max. 2000VA<br>DC: 2A bei 24VDC |
| Contact life | mechanical $2x10^7$ operations |
| Temperature range | $-20^0$ - + $60^0$C (dew-free) |
| Dielectric strength | 4kV DIN VDE 0110-1:1997-04 |
| Weight: approx | approx. 160g |
| Installation position | any, DIN-rail mounting |



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