# VEO

TIME RELAY / STAR-DELTA-TIMER

## V2ZS20 12-240V AC/DC

Art.Nr.: 125300

## V2ZS20P 12-240V AC/DC

Art.Nr.: 125310

- 4 time ranges
- 4 transition times
- Supply voltage 12-240V AC/DC
- 2 normally open contacts
- Width 22,5 mm

**Control elements**

- Fine adjustment star contactor
- Setting of time range star contactor
- Transit time

**Status indication**

- LED U/t: Time lapse star / delta contactor
- LED R: Relay status




# TECHNICAL DATA

| SUPPLY CIRCUIT | | |
|---|---|---|
| Terminals | | A1-A2 |
| Supply voltage | | 12 ... 240 V AC/DC |
| Supply voltage tolerance | | -10 / +10 % |
| Rated frequency | | 50 / 60 Hz or DC |
| Rated frequency tolerance | | 48 ... 63 Hz |
| Rated consumption | 230 V AC | typ. 0,3 W / 0,5 VA |
| | 24 V DC | typ. 0,18 W / 0,2 VA |
| Duty-cycle | | 100% |
| Backup power time | | < 30 ms |
| Recovery time | | > 200 ms |
| Drop-out voltage | | ≥ 7 V |

| TIMING CIRCUIT | | |
|---|---|---|
| Time ranges | 4 | 0,5 ... 10 s |
| | | 1,5 ... 30 s |
| | | 3 ... 60 s |
| | | 9 ... 180 s |
| | 4 | 40 ms |
| | | 60 ms |
| | | 80 ms |
| | | 100 ms |

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## RANGE OF FUNCTIONS

| | | |
|---|---|---|
| Functions | 1 | S |

## STATUS INDICATION

| | | |
|---|---|---|
| Supply voltage / time lapse | LED U/t (green) flashes | star contactor is active |
| | LED U/t (green) on | delta contactor is active |
| Relay status | LED R (yellow) on | star contactor is active |

## OUTPUT CIRCUIT

| | | |
|---|---|---|
| Terminals | | 17-18-28 |
| Kind of output | | Relay |
| Number of contacts | normally open contact | 2 |
| Contact material | | AgNi |
| Rated voltage (IEC 60947-5-1) | | 250 V |
| Maximum switching voltage | | 277 V AC |
| Minimum switching voltage / switching current | | 12 V / 10 mA |
| Rated current (IEC 60947-5-1) | AC-1 | 3 A / 250 V |
| | AC-15 | 0,75 A / 240 V (C300) |
| | DC-12 | 5 A / 24 V |
| Endurance | mechanical | 20 x $10^6$ switching cycles |
| | electrical (AC-1) | 100 x $10^3$ switching cycles |
| Rated frequency of operation | with load | 6/min |
| | without load | 1200/min |
| Fuse rating | | 5 A fast acting |

## ACCURACY

| | | |
|---|---|---|
| Base accuracy | | < 1 % (of full scale) |
| Setting accuracy | | < 5 % (of full scale) |
| Repeat accuracy | | < 0,5 % or ±5 ms |
| Temperature influence | | < 0,01 % / °C |
| Voltage influence | | - |
| Frequency influence | | - |

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## ENVIRONMENTAL CONDITIONS

| | | |
|---|---|---|
| Ambient temperature | operation | -25 ... +60 °C |
| | storage | -40 ... +70 °C |
| Relative humidity | | 5 ... 95 % |
| Vibration | EN 61812-1 | 10 ... 60 Hz: 0,15 mm; 60 ... 150 Hz: 20 $m/s^2$ |
| | EN 60947-1 | 2 ... 13,2 Hz: 1 mm; 13,2 ... 100 Hz: 7 $m/s^2$ |
| Shock | EN 60947-1 | ±150 $m/s^2$ 11 ms |

## GENERAL DATA

| | | |
|---|---|---|
| Dimensions | W × H × D | 22,5 × 67 × 76 mm |
| Mounting | | DIN rail (EN60715) |
| Mounting position | | any |
| Housing material | | PA 66, self-extinguishing plastic, class V-0 |
| Degree of protection | housing | IP40 |
| | terminals | IP20 |
| Electrical connection | V2ZS20 | Screw terminal |
| Wire size | flexible with wire end ferrule | 0,5 ... 2,5 $mm^2$ (20 AWG ... 13 AWG) |
| | flexible without wire end ferrule | 0,5 ... 4 $mm^2$ (20 AWG ... 12 AWG) |
| | rigid | 0,5 ... 4 $mm^2$ (20 AWG ... 12 AWG) |
| Stripping length | | 8 mm |
| Tightening torque | | max. 1Nm |
| Electrical connection | V2ZS20P | Push-in terminal |
| Wire size | flexible with wire end ferrule | 0,25 ... 1,5 $mm^2$ (24 AWG ... 16 AWG) |
| | flexible with plastic ferrule | 0,25 ... 0,75 $mm^2$ (24 AWG ... 19 AWG) |
| | flexible without wire end ferrule | 0,2 ... 1,5 $mm^2$ (24 AWG ... 16 AWG) |
| | rigid | 0,2 ... 1,5 $mm^2$ (24 AWG ... 16 AWG) |
| Stripping length | | 8 mm |
| MTTF | | - |
| Weight | | 82 g |

## ISOLATION DATA

| | |
|---|---|
| Pollution degree (IEC 61812-1) | 2 |
| Overvoltage category (IEC 61812-1) | III |

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| ISOLATION DATA | | |
|---|---|---|
| Rated insulation voltage (IEC 61812-1) | supply circuit / output cicuit | 300 V |
| Rated impulse withstanding voltage (IEC 61812-1) | supply circuit / output cicuit | 4 kV |
| Insulation test voltage (IEC 61812-1) | supply circuit / output cicuit | 1600 V |
| Insulation | supply circuit / output cicuit | protective separation |

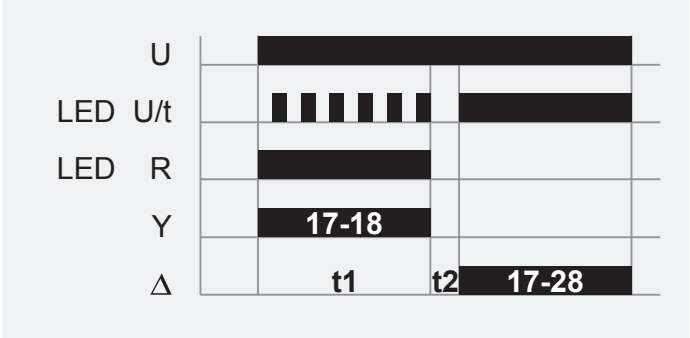
| STANDARDS | | |
|---|---|---|
| Product standard | | IEC 61812-1 |
| Interference immunity | IEC 61812-1 | class A |
| Interference emmision | IEC 61812-1 | class A |
| Approvals | | |

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## FUNCTIONS

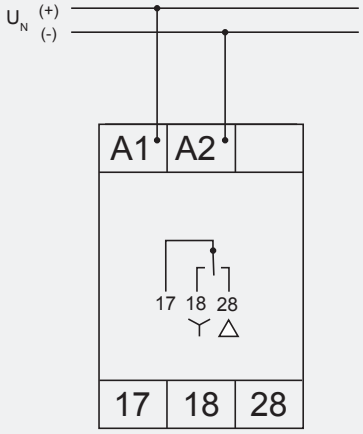
**Star-Delta start-up (S)**
When the supply voltage U is applied, the star-contact switches into onposition (yellow LED illuminated) and the set star-time t1 begins (green LED flashing). After the interval t1 has expired (green LED illuminated) the star-contact switches into off-position (yellow LED not illuminated) and the set transit-time t2 begins. After the interval t2 has expired the delta-contact switches into on-position. To restart the function the supply voltage must be interrupted and re-applied.



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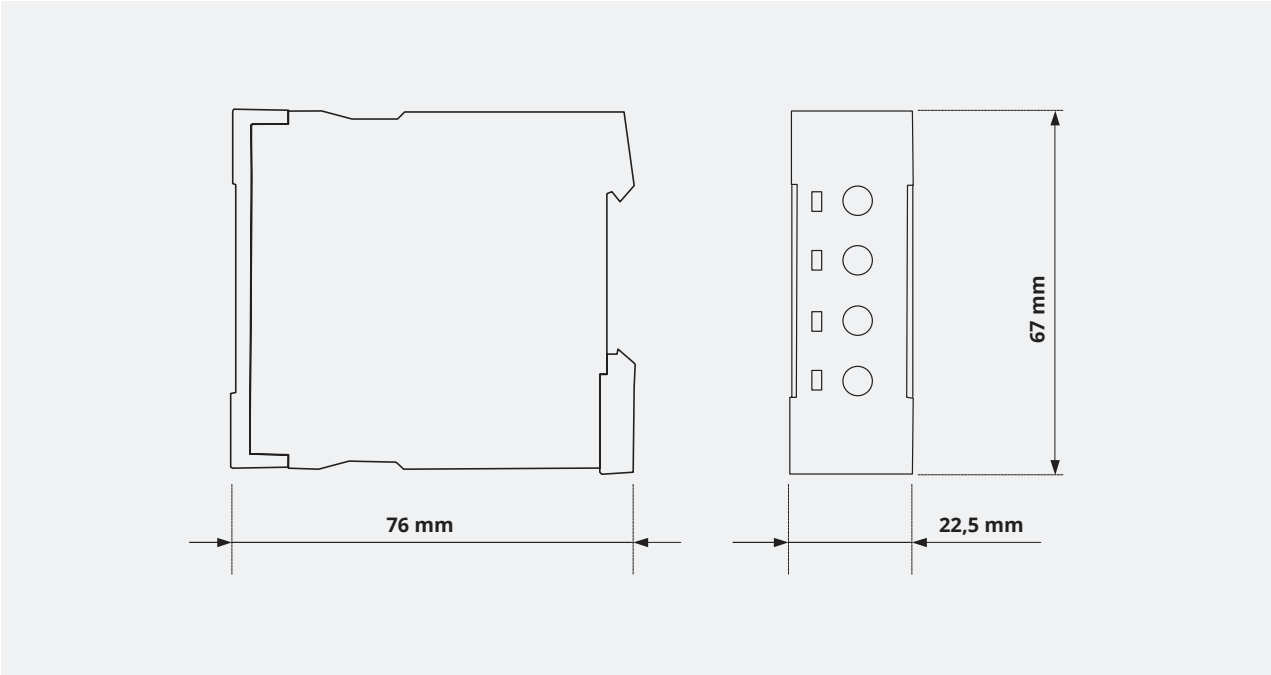
## CONNECTIONS



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## DIMENSIONS




## CONTACT

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