



Contactors

Applications



Switching of lighting, heating-equipment, motors for pumps and fans, ... Day and night contactors are used mainly in combination with dual-tariff applications to allow high-energy-loads (i.e. electrical water heaters, accumulation heaters) only to consume energy during the low-tariff period. A forced-on, forced-off, auto-switch allows to overrule the normal operation of the DN-contactor at all times.

Features

Except for the 20A version, all contactors have DC coils, resulting in an absolutely noise-free, real silent operation: 50 or 60Hz noise generation by the contactor is impossible. As all DC coil contactors have an internal diode rectifier bridge, they all can be operated by both DC and AC power supplies. The built-in varistor protects the coil against an overvoltage of up to 5kV. The switch position of the contactor is visualised through an indicator flag. The loss-proof safety terminals are equipped with Pozidriv screws and have IP20 protection degree. Add-on auxiliary contacts as well as spacers and sealing pieces are available.

Standards

IEC 60947-4-1, BS EN 60947-4-1, IEC 61095, BS EN 61095.
Approval VDE

Function








Contactors are electromechanically controlled switches used to control single or multi-phase (high) power loads while the control itself can be (very) low power.

Performance

| Rated switching capacity | 20A | 24A | 40A | 63A |
|---|---|---|---|---|
| Rated insulation voltage | 400V | 500V | 500V | 500V |
| Rated operational voltage | 250V | 440V | 440V | 440V |
| Switching-on capacity | | | | |
| cos φ = 0.65 at 380-400V 3phase | - | 90A | 220A | 300A |
| cos φ = 0.95 at 220-230V 1phase | 100A | - | - | - |
| Switching-off capacity | | | | |
| cos φ = 0.65 at 380-400V 3phase | - | 72A | 176A | 240A |
| cos φ = 0.95 at 220-230V 1phase | 80A | - | - | - |
| Fuse type GL for short-circuit protection | 20A | 35A | 63A | 80A |
| Ohmic loss per contact at In | 1.0W | 1.5W | 3.0W | 6.0W |
| Maximum switching frequency AC1 / AC7a | 300/h | 300/h | 300/h | 300/h |
| Maximum switching frequency AC3 / AC7b | 600/h | 600/h | 600/h | 600/h |
| Mechanical service life | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ |
| Electrical service life AC1 / AC7a | 150000 | 150000 | 150000 | 150000 |
| Electrical service life AC3 / AC7b | 150000 | 500000 | 170000 | 240000 |
| Screws | Pozidriv 1 | Pozidriv 1 | Pozidriv 2 | Pozidriv 2 |
| Terminal capacity: min | 1x1 mm ² | 1x1 mm ² | 1x1.5 mm ² | 1x1.5 mm ² |
| max | 1x10mm ² or 2x4 mm ² | 1x10mm ² or 2x4 mm ² | 1x25mm ² or 2x10 mm ² | 1x25mm ² or 2x10 mm ² |
| Magnetic control system | | | | |
| Control voltage range | 85 ... 110%xUn | 85 ... 110%xUn | 85 ... 110%xUn | 85 ... 110%xUn |
| Rated operating frequency | 50 or 60Hz | DC, 40 ... 450Hz | DC, 40 ... 450Hz | DC, 40 ... 450Hz |
| Operating temperature range | -25 ... +55°C ⁽¹⁾ | -25 ... +55°C ⁽¹⁾ | -25 ... +55°C ⁽¹⁾ | -25 ... +55°C ⁽¹⁾ |
| Maximum pull-in coil power loss | 8.0VA / 5.0W | 4VA / 4W | 5VA / 5W | 65VA / 65W |
| Maximum holding coil power loss | 3.2VA / 1.2W | 4VA / 4W | 5VA / 5W | 4.2VA / 4.2W |
| Switching-on delay | 9 ... 12 ms | < 40 ms | < 40 ms | < 40 ms |
| Switching-off delay | 10 ... 12 ms | < 40 ms | < 40 ms | < 40 ms |
| Screws | Pozidriv 1 | Pozidriv 1 | Pozidriv 1 | Pozidriv 1 |
| Terminal capacity: min | 1x1 mm ² | 1x1 mm ² | 1x1 mm ² | 1x1 mm ² |
| max | 1x4mm ² or 2x2.5 mm ² | 1x4mm ² or 2x2.5 mm ² | 1x4mm ² or 2x2.5 mm ² | 1x4mm ² or 2x2.5 mm ² |

(1) Remark: If several contactors are mounted next to each-other and the time of operation exceeds 1 hour and the ambient temperature rises above 40°C, a 1/2-module spacer must be added every second contactor (i.e. contactor contactor spacer contactor contactor spacer contactor contactor etc.)

Contactors

| Contactor | Nominal current | Contact combination | Coil voltage | AC/DC | Number of modules | Cat. No. | Ref. No. | Pack. |
|--|-----------------|---------------------|--------------|-------|-------------------|----------|----------|-------|
|  1 NO 1 NC | 20A | 2NO | 12V | AC | 1 | VI2020J5 | 666786 | 12 |
| | 20A | 2NO | 24V | AC | 1 | VI2020B5 | 666788 | 12 |
| | 20A | 2NO | 230V | AC | 1 | VI2020M5 | 666787 | 12 |
|  2 NO 2 NC | 24A | 2NO 2NC | 24V | AC/DC | 2 | VI224BU | 666791 | 5 |
| | 24A | 2NO 2NC | 230V | AC/DC | 2 | VI2224MU | 666790 | 5 |
| | 24A | 3NO | 24V | AC/DC | 2 | VI3024BU | 666793 | 5 |
| | 24A | 3NO | 230V | AC/DC | 2 | VI3024MU | 666792 | 5 |
| | 24A | 4NC | 24V | AC/DC | 2 | VI0424BU | 666795 | 5 |
| | 24A | 4NC | 230V | AC/DC | 2 | VI0424MU | 666794 | 5 |
| | 24A | 4NO | 24V | AC/DC | 2 | VI4024BU | 666797 | 5 |
| 24A | 4NO | 230V | AC/DC | 2 | VI4024MU | 666796 | 5 | |
|  3 NO | 40A | 2NO | 24V | AC/DC | 3 | VI2040BU | 666799 | 3 |
| | 40A | 2NO | 230V | AC/DC | 3 | VI2040MU | 666798 | 3 |
| | 40A | 3NO | 24V | AC/DC | 3 | VI3040BU | 666801 | 3 |
| | 40A | 3NO | 230V | AC/DC | 3 | VI3040MU | 666800 | 3 |
| | 40A | 4NO | 24V | AC/DC | 3 | VI4040BU | 666803 | 3 |
| | 40A | 4NO | 230V | AC/DC | 3 | VI4040MU | 666802 | 3 |
| | 4 NC | | | | | | | |
|  4 NO | 63A | 4NO | 24V | AC/DC | 3 | VI4063BU | 666806 | 3 |
| | 63A | 4NO | 230V | AC/DC | 3 | VI4063MU | 666805 | 3 |
| | 63A | 2NO | 230V | AC/DC | 3 | VI2063MU | 666804 | 3 |
| Auxiliary contact  1 NO 1 NC | 6A | 1NO 1NC | - | - | 0.5 | VI1106 | 666810 | 1 |
| | 6A | 2NO | - | - | 0.5 | VI2006 | 666811 | 1 |
|  2 NO | | | | | | | | |
| Spacer  | - | - | - | - | 0.5 | VIFS | 666809 | 12 |
| Sealing piece | - | - | - | - | 2 | VIPK2 | 666808 | 12 |
| | - | - | - | - | 3 | VIPK3 | 666807 | 12 |

Contactors

Auxiliary contact

