



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



1 NO 1 NC



2 NO 2 NC



3 NO



4 NC



4 NO

Nominal current	Contact combination	Coil voltage	AC/DC	Number of modules	Cat. No.	Ref. No.	Pack.
20A	2NO	12V	AC	1	VI2020J5	666786	12
20A	2NO	24V	AC	1	VI2020B5	666788	12
20A	2NO	48V	AC	1	VI2020E5	666789	12
20A	2NO	230V	AC	1	VI2020M5	666787	12
24A	2NO 2NC	24V	AC/DC	2	VI224BU	666791	5
24A	2NO 2NC	230V	AC/DC	2	VI224MU	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
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
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



2 NO

6A	1NO 1NC	-	-	0.5	VI1106	666810	1
6A	2NO	-	-	0.5	VI2006	666811	1



Spacer

-	-	-	-	0.5	VIFS	666809	12
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Sealing piece

-	-	-	-	2	VIPK2	666808	12
-	-	-	-	3	VIPK3	666807	12

Contactors

Auxiliary contact

