

Modular Contactors for Lighting, Heating & PV Solar

Series R20, R25, R40 & R63 (20 to 63A)



Modular Contactors, low noise

| Rated Current | Heating Power AC1 at | Type | coil voltage | | Pack pcs. | Weight kg/pc. | Wiring Diagram |
|---------------|----------------------|-----------------|------------------------------|-------------|-----------|---------------|----------------|
| | | | 24 | 230 | | | |
| 400V A | 1-phase 230V kW | 3-phase 400V kW | 24 | 24V 50/60Hz | ↓ | | |
| | 230 | | 220-240V 50Hz, 230-264V 60Hz | | | | |



One-pole 1 module (17,5mm), AC-operated (low noise)

| | | | | | | |
|----|-----|---|-------------------|----|------|--|
| 20 | 4,6 | - | R20-10 24 | 12 | 0,12 | |
| 20 | 4,6 | - | R20-10 230 | 12 | 0,12 | |

Two-pole 1 module (17,5mm), AC-operated (low noise)

| | | | | | | |
|----|-----|---|-------------------|----|------|--|
| 20 | 4,6 | - | R20-20 24 | 12 | 0,12 | |
| 20 | 4,6 | - | R20-20 230 | 12 | 0,12 | |

| | | | | | | |
|----|-----|---|-------------------|----|------|--|
| 20 | 4,6 | - | R20-11 24 | 12 | 0,12 | |
| 20 | 4,6 | - | R20-11 230 | 12 | 0,12 | |

| | | | | | | |
|----|-----|---|-------------------|----|------|--|
| 20 | 4,6 | - | R20-02 24 | 12 | 0,12 | |
| 20 | 4,6 | - | R20-02 230 | 12 | 0,12 | |



| | | | | | | |
|----|-----|---|-------------------|----|------|--|
| 25 | 5,5 | - | R25-20 24 | 12 | 0,14 | |
| 25 | 5,5 | - | R25-20 230 | 12 | 0,14 | |

| | | | | | | |
|----|-----|---|-------------------|----|------|--|
| 25 | 5,5 | - | R25-11 24 | 12 | 0,14 | |
| 25 | 5,5 | - | R25-11 230 | 12 | 0,14 | |

| | | | | | | |
|----|-----|---|-------------------|----|------|--|
| 25 | 5,5 | - | R25-02 24 | 12 | 0,14 | |
| 25 | 5,5 | - | R25-02 230 | 12 | 0,14 | |



Four-pole 2 modules (35mm)¹⁾, AC-operated (low noise)

| | | | | | | |
|----|-----|----|-------------------|---|------|--|
| 25 | 5,7 | 17 | R25-40 24 | 6 | 0,21 | |
| 25 | 5,7 | 17 | R25-40 230 | 6 | 0,21 | |

| | | | | | | |
|----|-----|----|-------------------|---|------|--|
| 25 | 5,7 | 17 | R25-31 24 | 6 | 0,21 | |
| 25 | 5,7 | 17 | R25-31 230 | 6 | 0,21 | |

| | | | | | | |
|----|-----|----|-------------------|---|------|--|
| 25 | 5,7 | 17 | R25-13 24 | 6 | 0,21 | |
| 25 | 5,7 | 17 | R25-13 230 | 6 | 0,21 | |

| | | | | | | |
|----|-----|---|-------------------|---|------|--|
| 25 | 5,7 | - | R25-22 24 | 6 | 0,21 | |
| 25 | 5,7 | - | R25-22 230 | 6 | 0,21 | |

| | | | | | | |
|----|-----|----|-------------------|---|------|--|
| 25 | 5,7 | 17 | R25-04 24 | 6 | 0,21 | |
| 25 | 5,7 | 17 | R25-04 230 | 6 | 0,21 | |

Modular Contactors for Lighting, Heating & PV Solar

Series R20, R25, R40 & R63 (20 to 63A)



Modular Contactors, hum free



| Rated Current | Heating Power AC1 at | | Type | coil voltage | | Pack pcs. | Weight kg/pc. | Wiring Diagram |
|---------------|----------------------|---------|------|---------------------|---------------------------|-----------|---------------|----------------|
| | 1-phase | 3-phase | | 24VM | 230VM | | | |
| 400V | 230V | 400V | | 24V 50/60Hz, 24V DC | 220-240V 50/60Hz, 220V DC | | | |
| A | kW | kW | | ↓ | | | | |

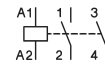
One-pole 1 module (17,5mm), AC-operated (hum free)

| | | | | | |
|----|-----|---|---------------------|----|------|
| 20 | 4,6 | - | R20-10 24VM | 12 | 0,12 |
| 20 | 4,6 | - | R20-10 230VM | 12 | 0,12 |

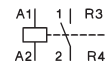


Two-pole 1 module (17,5mm), AC-operated (hum free)

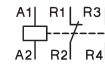
| | | | | | |
|----|-----|---|---------------------|----|------|
| 20 | 4,6 | - | R20-20 24VM | 12 | 0,12 |
| 20 | 4,6 | - | R20-20 230VM | 12 | 0,12 |



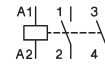
| | | | | | |
|----|-----|---|---------------------|----|------|
| 20 | 4,6 | - | R20-11 24VM | 12 | 0,12 |
| 20 | 4,6 | - | R20-11 230VM | 12 | 0,12 |



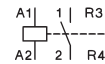
| | | | | | |
|----|-----|---|---------------------|----|------|
| 20 | 4,6 | - | R20-02 24VM | 12 | 0,12 |
| 20 | 4,6 | - | R20-02 230VM | 12 | 0,12 |



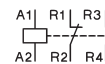
| | | | | | |
|----|-----|---|---------------------|----|------|
| 25 | 5,5 | - | R25-20 24VM | 12 | 0,14 |
| 25 | 5,5 | - | R25-20 230VM | 12 | 0,14 |



| | | | | | |
|----|-----|---|---------------------|----|------|
| 25 | 5,5 | - | R25-11 24VM | 12 | 0,14 |
| 25 | 5,5 | - | R25-11 230VM | 12 | 0,14 |

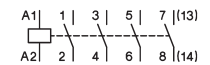


| | | | | | |
|----|-----|---|---------------------|----|------|
| 25 | 5,5 | - | R25-02 24VM | 12 | 0,14 |
| 25 | 5,5 | - | R25-02 230VM | 12 | 0,14 |

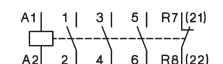


Four-pole 2 modules (35mm)¹⁾, AC-operated (hum free)

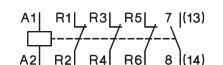
| | | | | | |
|----|-----|----|---------------------|---|------|
| 25 | 5,7 | 17 | R25-40 24VM | 6 | 0,21 |
| 25 | 5,7 | 17 | R25-40 230VM | 6 | 0,21 |



| | | | | | |
|----|-----|----|---------------------|---|------|
| 25 | 5,7 | 17 | R25-31 24VM | 6 | 0,21 |
| 25 | 5,7 | 17 | R25-31 230VM | 6 | 0,21 |



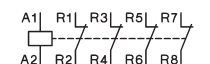
| | | | | | |
|----|-----|----|---------------------|---|------|
| 25 | 5,7 | 17 | R25-13 24VM | 6 | 0,21 |
| 25 | 5,7 | 17 | R25-13 230VM | 6 | 0,21 |



| | | | | | |
|----|-----|---|---------------------|---|------|
| 25 | 5,7 | - | R25-22 24VM | 6 | 0,21 |
| 25 | 5,7 | - | R25-22 230VM | 6 | 0,21 |



| | | | | | |
|----|-----|----|---------------------|---|------|
| 25 | 5,7 | 17 | R25-04 24VM | 6 | 0,21 |
| 25 | 5,7 | 17 | R25-04 230VM | 6 | 0,21 |



Modular Contactors, low noise

| Rated Current | Heating Power AC1 at | Type | coil voltage | Pack pcs. | Weight kg/pc. | Wiring Diagram |
|---------------|----------------------|------------|------------------------------|-----------|---------------|----------------|
| AC1 | 1-phase 3-phase | 24 | 24V 50/60Hz | | | |
| 400V | 230V 400V | 230 | 220-240V 50Hz, 230-264V 60Hz | | | |
| A | kW kW | ↓ | | | | |

Two-pole 2 modules (35mm), AC-operated (low noise)



| | | | | | | |
|-----------|------|---|-------------------|---|------|--|
| 40 | 9 | - | R40-20 24 | 6 | 0,23 | |
| 40 | 9 | - | R40-20 230 | 6 | 0,23 | |
| 40 | 9 | - | R40-02 24 | 6 | 0,23 | |
| 40 | 9 | - | R40-02 230 | 6 | 0,23 | |
| 63 | 14,3 | - | R63-20 24 | 6 | 0,23 | |
| 63 | 14,3 | - | R63-20 230 | 6 | 0,23 | |
| 63 | 14,3 | - | R63-02 24 | 6 | 0,23 | |
| 63 | 14,3 | - | R63-02 230 | 6 | 0,23 | |

Four-pole 3 modules (52,5mm)¹⁾, AC-operated (low noise)



| | | | | | | |
|-----------|------|------|-------------------|---|------|--|
| 40 | 9 | 27,5 | R40-40 24 | 4 | 0,35 | |
| 40 | 9 | 27,5 | R40-40 230 | 4 | 0,35 | |
| 40 | 9 | 27,5 | R40-31 24 | 4 | 0,35 | |
| 40 | 9 | 27,5 | R40-31 230 | 4 | 0,35 | |
| 40 | 9 | - | R40-22 24 | 4 | 0,35 | |
| 40 | 9 | - | R40-22 230 | 4 | 0,35 | |
| 40 | 9 | 27,5 | R40-04 24 | 4 | 0,35 | |
| 40 | 9 | 27,5 | R40-04 230 | 4 | 0,35 | |
| 63 | 14,3 | 43 | R63-40 24 | 4 | 0,36 | |
| 63 | 14,3 | 43 | R63-40 230 | 4 | 0,36 | |
| 63 | 14,3 | 43 | R63-31 24 | 4 | 0,36 | |
| 63 | 14,3 | 43 | R63-31 230 | 4 | 0,36 | |
| 63 | 14,3 | - | R63-22 24 | 4 | 0,36 | |
| 63 | 14,3 | - | R63-22 230 | 4 | 0,36 | |
| 63 | 14,3 | 43 | R63-04 24 | 4 | 0,36 | |
| 63 | 14,3 | 43 | R63-04 230 | 4 | 0,36 | |

Auxiliary Contact Block 1/2 module (8,8mm)²⁾ for contactor R25, R40, R63 (4p.) max. 1 piece for contactor R40 and R63 (2p.) max. 1 piece



| Rated current | AC15 | AC15 | AC1 | Type | Pack pcs. | Weight kg/pc. | Wiring Diagram |
|---------------|------|------|------------------------------|---------------|-----------|---------------|----------------|
| 230V | 400V | 400V | | | | | |
| A | A | A | for contactor | | | | |
| 3 | 2 | 10 | R25 ³⁾ , R40, R63 | RH11 | 3 | 0,026 | |
| 3 | 2 | 10 | R25-..VM (4p.) | RH11-1 | 3 | 0,026 | |

Accessories



| Type | Pack pcs. | Weight kg/pc. |
|---|-----------------|---------------|
| RC-unit 2x for R20.. to R63.. for 12V to 250V AC 220nF / 100 Ohm not for R20-.., R25-..VM | RC-R 230 | 2 0,05 |
| Spacing piece 1/2 module (8,8mm) for R20.. to R63.. for ambient temperature >40°C | P730 | 10 0,012 |
| Sealing cover for R25.. (4p.) | P721 | 10 0,002 |
| Sealing cover for R40.., R63.. | P690 | 10 0,003 |

- 1) Sealable with Sealing Cover P690, available aux. contact block RH11
- 2) Contacts suitable for electronic circuits, according to IEC60947-5-4 for rated voltage 24V DC (test ratings 17V DC, 5mA Mirror contacts acc. IEC60947-4-1 Annex F.
- 3) AC-operated R25-.., 4-pole

Modular Contactors

Switching of lamps

| Lamp Type | Power W | Current A | Capacitors μF | Max. lamps per pole at 230V 50Hz and max. 60°C | | | |
|--|---|--------------|------------------|--|---------|---------|---------|
| | | | | R20.. | R25.. | R40.. | R63.. |
| Incandescent lamps | 60 | 0,27 | - | 36 | 50 | 92 | 129 |
| | 100 | 0,45 | - | 21 | 30 | 55 | 77 |
| | 200 | 0,91 | - | 10 | 15 | 27 | 38 |
| | 300 | 1,36 | - | 7 | 10 | 19 | 26 |
| | 500 | 2,27 | - | 4 | 6 | 11 | 16 |
| | 1000 | 4,5 | - | 2 | 3 | 6 | 8 |
| Fluorescent lamps uncompensated or serial compensated | 11 | 0,16 | 1,3 | 60 | 75 | 210 | 310 |
| | 18 | 0,37 | 2,7 | 25 | 30 | 90 | 140 |
| | 24 | 0,35 | 2,5 | 25 | 30 | 90 | 140 |
| | 36 | 0,43 | 3,4 | 20 | 25 | 70 | 140 |
| | 58 | 0,67 | 5,3 | 14 | 17 | 45 | 70 |
| | 65 | 0,67 | 5,3 | 13 | 16 | 40 | 65 |
| | 85 | 0,8 | 5,3 | 11 | 14 | 35 | 60 |
| | Fluorescent lamps dual-connection | 11 | 0,07 | - | 2 x 100 | 2 x 110 | 2 x 220 |
| 18 | | 0,11 | - | 2 x 50 | 2 x 55 | 2 x 130 | 2 x 200 |
| 24 | | 0,14 | - | 2 x 40 | 2 x 44 | 2 x 110 | 2 x 160 |
| 36 | | 0,22 | - | 2 x 30 | 2 x 33 | 2 x 70 | 2 x 100 |
| 58 | | 0,35 | - | 2 x 20 | 2 x 22 | 2 x 45 | 2 x 70 |
| 65 | | 0,35 | - | 2 x 15 | 2 x 16 | 2 x 40 | 2 x 60 |
| 85 | | 0,47 | - | 2 x 10 | 2 x 11 | 2 x 30 | 2 x 40 |
| Fluorescent lamps parallel compensated | | 11 | 0,09 | 2 | 33 | 43 | 67 |
| | 18 | 0,13 | 2 | 25 | 32 | 50 | 80 |
| | 24 | 0,16 | 3 | 25 | 32 | 50 | 80 |
| | 36 | 0,27 | 4 | 22 | 32 | 50 | 80 |
| | 58 | 0,45 | 7 | 14 | 18 | 36 | 46 |
| | 65 | 0,5 | 7 | 14 | 18 | 36 | 46 |
| | 85 | 0,6 | 8 | 12 | 16 | 33 | 44 |
| | Fluorescent lamps with electronic fluorescent lamp ballast | 18 | 0,09 | - | 40 | 40 | 100 |
| 36 | | 0,16 | - | 20 | 20 | 52 | 75 |
| 58 | | 0,25 | - | 15 | 15 | 30 | 55 |
| 80 | | 0,4 | - | 7 | 10 | 20 | 30 |
| 2 x 18 | | 0,17 | - | 20 | 20 | 50 | 60 |
| 2 x 28 | | 0,25 | - | 15 | 15 | 37 | 45 |
| 2 x 36 | | 0,32 | - | 10 | 10 | 25 | 30 |
| 2 x 58 | | 0,49 | - | 7 | 7 | 15 | 20 |
| 2 x 80 | | 0,7 | - | 4 | 4 | 8 | 10 |
| Transformers for metal halid low voltage lamps | | 20 | 0,09 | - | 40 | 52 | 110 |
| | 50 | 0,22 | - | 20 | 24 | 50 | 80 |
| | 75 | 0,33 | - | 13 | 16 | 35 | 54 |
| | 100 | 0,43 | - | 10 | 12 | 27 | 43 |
| | 150 | 0,65 | - | 7 | 9 | 19 | 29 |
| | 200 | 0,87 | - | 5 | 5 | 14 | 23 |
| | 300 | 1,3 | - | 3 | 4 | 9 | 14 |
| Mercury-vapour lamps (high-pressure lamps), uncompensated e. g. H ₁ , HPL | 50 | 0,61 | - | 16 | 21 | 38 | 55 |
| | 80 | 0,8 | - | 12 | 16 | 29 | 40 |
| | 125 | 1,15 | - | 8 | 11 | 20 | 28 |
| | 250 | 2,15 | - | 4 | 6 | 11 | 15 |
| | 400 | 3,25 | - | 3 | 4 | 7 | 10 |
| | 700 | 5,4 | - | 1 | 2 | 4 | 6 |
| | 1000 | 7,5 | - | 1 | 1 | 3 | 4 |
| Mercury-vapour lamps (high-pressure lamps), compensated e. g. H ₂ , HPL | 50 | 0,28 | 7 | 14 | 18 | 36 | 50 |
| | 80 | 0,41 | 8 | 12 | 16 | 31 | 44 |
| | 125 | 0,65 | 10 | 10 | 13 | 25 | 35 |
| | 250 | 1,22 | 18 | 5 | 7 | 14 | 19 |
| | 400 | 1,95 | 25 | 4 | 5 | 10 | 14 |
| | 700 | 3,45 | 45 | 2 | 3 | 6 | 8 |
| | 1000 | 4,8 | 60 | 1 | 2 | 4 | 6 |

Modular Contactors

Switching of lamps

| Lamp Type | Power W | Current A | Capacitors μF | Max. lamps per pole at 230V 50Hz and max. 60°C | | | | |
|--|--|--------------|------------------|---|-------|-------|-------|----|
| | | | | R20.. | R25.. | R40.. | R63.. | |
| Metal halide lamps uncompensated e. g. HQI, HPI, C | 35 | 0,53 | - | 22 | 24 | 57 | 65 | |
| | 70 | 1 | - | 12 | 14 | 30 | 35 | |
| | 150 | 1,8 | - | 6 | 8 | 17 | 18 | |
| | 250 | 3 | - | 4 | 5 | 10 | 12 | |
| | 400 | 3,5 | - | 3 | 4 | 8 | 10 | |
| | 1000 | 9,5 | - | 1 | 1 | 3 | 4 | |
| | 2000 | 16,5 | - | - | - | 2 | 2 | |
| | 400V per pole | 2000 | 10,5 | - | - | 2 | 2 | |
| | | 3500 | 18 | - | - | 1 | 1 | |
| | Metal halide lamps compensated e. g. HQI, HPI, C | 35 | 0,25 | 6 | 16 | 21 | 42 | 58 |
| 70 | | 0,45 | 12 | 8 | 11 | 21 | 29 | |
| 150 | | 0,75 | 20 | 5 | 7 | 13 | 18 | |
| 250 | | 1,5 | 33 | 3 | 4 | 9 | 11 | |
| 400 | | 2,1 | 35 | 2 | 4 | 9 | 10 | |
| 1000 | | 5,8 | 95 | 1 | 1 | 3 | 4 | |
| 2000 | | 11,5 | 148 | - | - | 2 | 2 | |
| 400V per pole | | 2000 | 6,6 | 58 | - | - | 3 | 4 |
| | | 3500 | 11,6 | 100 | - | - | 2 | 3 |
| Metal halide lamps with electronic fluorescent with electronic fluorescent lamp ballast (e. g.: PCI) 50-125 x I _{n lamp} for 0,6ms | | 20 | 0,1 | integrated | 9 | 9 | 18 | 20 |
| | 28 | 0,15 | integrated | - | - | - | 18 | |
| | 35 | 0,2 | integrated | 6 | 6 | 11 | 13 | |
| | 70 | 0,36 | integrated | 5 | 5 | 10 | 12 | |
| | 150 | 0,7 | integrated | 4 | 4 | 8 | 10 | |
| Sodium-vapour lamps (low pressure lamps), uncompensated | 35 | 1,5 | - | 7 | 9 | 22 | 30 | |
| | 55 | 1,5 | - | 7 | 9 | 22 | 30 | |
| | 90 | 2,4 | - | 4 | 6 | 13 | 19 | |
| | 135 | 3,3 | - | 3 | 4 | 10 | 14 | |
| | 150 | 3,3 | - | 3 | 4 | 10 | 14 | |
| | 180 | 3,3 | - | 3 | 4 | 10 | 14 | |
| | 200 | 3,3 | - | 3 | 4 | 10 | 14 | |
| Sodium-vapour lamps (low pressure lamps), compensated | 35 | 0,31 | 20 | 5 | 6 | 15 | 18 | |
| | 55 | 0,42 | 20 | 5 | 6 | 15 | 18 | |
| | 90 | 0,63 | 30 | 3 | 4 | 10 | 12 | |
| | 135 | 0,94 | 45 | 2 | 3 | 7 | 8 | |
| | 150 | 1 | 40 | 2 | 3 | 8 | 9 | |
| | 180 | 1,16 | 40 | 2 | 3 | 8 | 9 | |
| | 200 | 1,32 | 25 | - | - | 10 | 12 | |
| Sodium-vapour lamps (high pressure lamps), uncompensated | 150 | 1,8 | - | 5 | 8 | 17 | 22 | |
| | 250 | 3 | - | 4 | 5 | 10 | 13 | |
| | 330 | 3,7 | - | 3 | 4 | 8 | 10 | |
| | 400 | 4,7 | - | 2 | 3 | 6 | 8 | |
| | 1000 | 10,3 | - | 1 | 1 | 3 | 4 | |
| Sodium-vapour lamps (high pressure lamps), compensated | 150 | 0,83 | 20 | 5 | 7 | 20 | 25 | |
| | 250 | 1,5 | 33 | 3 | 4 | 12 | 15 | |
| | 330 | 2 | 40 | 2 | 3 | 10 | 13 | |
| | 400 | 2,4 | 48 | 2 | 2 | 8 | 12 | |
| | 1000 | 6,3 | 106 | 1 | 1 | 4 | 6 | |
| Sodium-vapour lamps (high pressure lamps) with serial electronic (e. g.: PCI) 50-125 x I _{n lamp} for 0,6ms | 20 | 0,1 | integrated | 9 | 9 | 18 | 20 | |
| | 35 | 0,2 | integrated | 6 | 6 | 11 | 13 | |
| | 70 | 0,36 | integrated | 5 | 5 | 10 | 12 | |
| | 150 | 0,7 | integrated | 4 | 4 | 8 | 10 | |
| LED-Lamps consider the inrush current of the lamp ballast and the cosφ of the lamp | max. inrush current of contactor [A] | | | 195A | 233A | 424A | 565A | |
| | $\frac{\text{inrush current of contactor}}{\text{inrush current of lamp/EVG}} =$ | | | max. lamps per pole at 230V 50Hz and max. 60°C ($I_{nLED} \leq I_{nI}$) | | | | |

Modular Contactors

Data according to IEC60 947-4-1, IEC 60947-5-1, VDE 0660-5-1

| Type | 2-pole | | | | 4-pole | | | RH11 | |
|--|---|------------------------|----------------------|------------|------------------------|---------------------|---------------|-------------------------|-----|
| | R20 (VM) ⁷⁾ | R25 (VM) ⁷⁾ | R40 | R63 | R25 (VM) ⁷⁾ | R40 | R63 | | |
| Main Contacts ^{4) 5) 6)} | | | | | | | | | |
| Rated insulation voltage U_i ¹⁾ | | | | | | | | | |
| | V~ | 440 | 440 | 440 | 440 | 440 | 440 | 440 | |
| Rated operation voltage U _e | V~ | 440 | 440 | 440 | 440 | 440 | 440 | 440 | |
| Frequency of operations z AC1, AC3 | 1/h | 300 | 300 | 600 | 600 | 300 | 600 | 600 | |
| Mechanical life | S x 10 ⁶ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Utilization category AC1 / AC7a | | | | | | | | | |
| Switching of resistive load | | | | | | | | | |
| Rated operational current I _e (=I _{th}) open | A | 20 | 25 | 40 | 63 | 25 | 40 | 63 | |
| at 60°C | A | 20 | 25 | 40 | 63 | 25 | 40 | 63 | |
| Contact life | S x 10 ⁶ | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | - | |
| Minimum Switch Voltage | V/mA | 24/100 | 24/100 | 24/100 | 24/100 | 24/100 | 24/100 | 24/100 | |
| Short time current | 10s-current | A | 72 | 72 | 216 | 240 | 72 | 216 | 240 |
| Power loss per pole at I _e /AC1 | W | 2 | 3 | 3 | 7 | 2 | 3 | 7 | |
| Utilization category AC2 and AC3 / AC7b | | | | | | | | | |
| Switching of three-phase motors | | | | | | | | | |
| Rated operational current I _e | A | - | - | - | - | 9 | 27 | 30 | |
| Rated operational power of three-phase motors | 220V kW | - | - | - | - | 2,2 | 7,5 | 8 | |
| 50-60Hz | 230-240V kW | - | - | - | - | 2,5 | 8 | 8,5 | |
| | 380-415V kW | - | - | - | - | 4 | 12,5 | 15 | |
| 2-pole motors | 230V kW | 1,1 ²⁾ | 1,3 | 2,6 | 5 | - | - | - | |
| Contact life | S x 10 ⁶ | 0,15 | 0,15 | 0,15 | 0,15 | 0,15 | 0,15 | 0,15 | |
| Power consumption of coils | | | | | | | | | |
| AC operated | inrush VA | 7 - 9 | 7 - 9 | 20 - 25 | 20 - 25 | 20 - 25 | 33 - 45 | 33 - 45 | |
| | sealed VA | 2,2 - 4,2 | 2,2 - 4,2 | 4 - 6 | 4 - 6 | 4 - 6 | 6 - 8 | 6 - 8 | |
| | W | 0,8 - 1,6 | 0,8 - 1,6 | 1,5 - 2,5 | 1,5 - 2,5 | 1,5 - 2,5 | 2,6 | 2,6 | |
| AC and DC-operated | W | 2 - 3 | 2 - 3 | - | - | 3 - 4 | - | - | |
| Operation range of coils | | | | | | | | | |
| in multiples of control voltage U _s (-40° - +40°C) | | 0,85 | 0,85 | 0,85 | 1,1 | 0,85 | 0,85 - | 0,85 | |
| Noise level (operation) | | | | | | | | | |
| acc. to EN ISO 3744 | | | | | | | | | |
| from front, distance 0,5 m | dB | 16 (0) ⁷⁾ | 16 (0) ⁷⁾ | 8 | 8 | 8 (0) ⁷⁾ | < 4 | < 4 | |
| Type | | R20 | R25 (2p.) | R25 (4p.) | R25-..VM | R40 (2p./4p.) | R63 (2p./4p.) | RH11 | |
| Maximum ambient temperature | | | | | | | | | |
| Operation | open °C | | | | -40 to + 60 | | | | |
| | enclosed °C | | | | -40 to + 40 | | | | |
| Storage | °C | | | | -50 to + 90 | | | | |
| Short circuit protection | | | | | | | | | |
| max. fuse Coordination-type "1"gL (gG) | A | 35 | 35 | 35 | 35 | 63 | 80 | - | |
| Rated short circuit current | "I _r " kA | 3 | 3 | 3 | 3 | 3 | 3 | - | |
| | "I _q " kA | 3 | 3 | 10 | 10 | 10 | 10 | - | |
| Switching time at control voltage U _s ±10% | | | | | | | | | |
| | make time ms | 7 - 16 | 7 - 16 | 9 - 15 | 17 - 50 | 11 - 15 | 11 - 15 | - | |
| | release time ms | 6 - 12 | 6 - 12 | 4 - 8 | 17 - 23 | 6 - 13 | 6 - 13 | - | |
| | arc duration ms | 10 - 15 | 10 - 15 | 10 - 15 | 10 - 15 | 10 - 15 | 10 - 15 | - | |
| Cable cross-sections | | | | | | | | | |
| Main connector | solid or stranded mm ² | 1,5 - 10 | 1,5 - 10 | 1,5 - 10 | 1,5 - 10 | 2,5 - 25 | 2,5 - | 0,5 - 2,5 ³⁾ | |
| | flexible mm ² | 1,5 - 6 | 1,5 - 6 | 1,5 - 6 | 1,5 - 6 | 2,5 - 16 | 2,5 | 0,5 - 2,5 ³⁾ | |
| | flexible with multicore cable end mm ² | 1,5 - 6 | 1,5 - 6 | 1,5 - 6 | 1,5 - 6 | 2,5 - 16 | 2,5 - 16 | 0,5 - 1,5 | |
| Clamps per pole | | 1 | 1 | 1 | 1 | 1 | 1 | 2 | |
| Magnetic coil | solid or stranded mm ² | 0,75 - | 0,75 - | 0,75 - | 0,75 - | 0,75 - | 0,75 - | - | |
| | flexible mm ² | 0,5 - 2,5 | 0,5 - 2,5 | 0,5 - 2,5 | 0,5 - 2,5 | 0,5 - 2,5 | 0,5 - 2,5 | - | |
| | flexible with multicore cable end mm ² | 0,5 - 1,5 | 0,5 - 2,5 | 0,5 - 1,5 | 0,5 - 1,5 | 0,5 - 1,5 | 0,5 - 1,5 | - | |
| Clamps per pole | | 1 | 1 | 1 | 1 | 1 | 1 | - | |
| Auxiliary Contacts ^{4) 5) 6)} | | | | | | | | | |
| Rated insulation voltage U_i ¹⁾ | | | | | | | | | |
| | V AC | - | - | 440 | 440 | 440 | 440 | 440 | |
| Thermal rated current I_{th} | 40°C A | - | - | 25 | 25 | 40 | 63 | 10 | |
| Ambient temperature | 60°C A | - | - | 25 | 25 | 40 | 63 | 6 | |

1) Suitable for: earthed-neutral systems, overvoltage category I to II pollution degree 3 (standard-industry): U_{imp} = 4kV.

2) AC7b motor 2-pole 230V 1,1kW

3) Maximum cable cross-section with prepared conductor

4) Rated frequency 50/60Hz

5) Max. occ. switching overvoltage <4kV

6) Duty cycle: 100%

7) 0 dB for contactors type "VM" (AC/DC operated)

Modular Contactors

Data according to IEC60 947-4-1, IEC 60947-5-1, VDE 0660-5-1

| Type | R20 | R25 (2p.) | R25 (4p.) | R25-..VM | R40 (2p./4p.) | R63 (2p./4p.) | RH11 |
|---|------------|-----------|-----------|----------|---------------|---------------|------|
| Utilization category AC15 | | | | | | | |
| Rated operational current I_e | 220-240V A | - | 3 | 3 | 3 | 3 | 3 |
| | 380-415V A | - | 2 | 2 | 2 | 2 | 2 |
| | 440V A | - | 1,6 | 1,6 | 1,6 | 1,6 | 1,6 |
| Utilization category DC13 | | | | | | | |
| Rated operational current I_e | 24-60V A | - | 2 | 2 | 2 | 2 | 2 |
| per pole | 110V A | - | 0,4 | 0,4 | 0,4 | 0,4 | 0,4 |
| | 220V A | - | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 |
| Short circuit protection | | | | | | | |
| short-circuit current 1kA, contact welding not accepted | | | | | | | |
| max. fuse size | gL (gG) A | - | 10 | 10 | 10 | 10 | 10 |

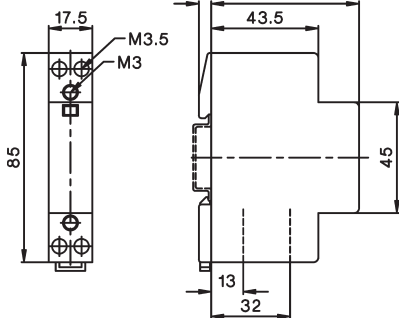
Data according to UL508



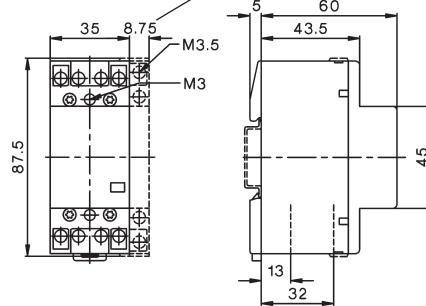
| Main Contacts (cULus) | Type | R20 | R25 (2p.) | R25 (4p.) | R40 (2p./4p.) | R63 (2p./4p.) | RH11 |
|--|---------------------|------|-----------|-----------|---------------|---------------|------|
| Rated operational current "General Use" | A | 20 | 25 | 25 | 40 | 63 | 10 |
| Rated operational power of three-phase motors at 60Hz (3ph) | 110-120V hp | - | - | 1 | 2 | 3 | - |
| | 200-208V hp | - | - | 2 | 5 | 7½ | - |
| | 220-240V hp | - | - | 3 | 7½ | 10 | - |
| | 265-277V hp | - | - | 3 | 7½ | 10 | - |
| Rated operational power of AC motors at 60Hz (1ph) | 110-120V hp | ½ | ½ | ½ | 1 | 1½ | - |
| | 200-208V hp | 1 | 1 | 1 | 2 | 3 | - |
| | 220-240V hp | 1½ | 1½ | 1½ | 3 | 5 | - |
| | 265-277V hp | 1½ | 2 | 2 | 3 | 5 | - |
| Fuses Suitable for use on a capability of delivering not more than | A | 40 | 40 | 40 | 80 | 80 | - |
| | rms A | 5000 | 5000 | 5000 | 5000 | 5000 | - |
| | V | 300 | 300 | 300 | 300 | 300 | 300 |
| Rated operation voltage | V~ | 300 | 300 | 300 | 300 | 300 | 300 |
| Auxiliary Contacts (cULus) | heavy pilot duty AC | - | - | - | - | - | C300 |

Dimensions

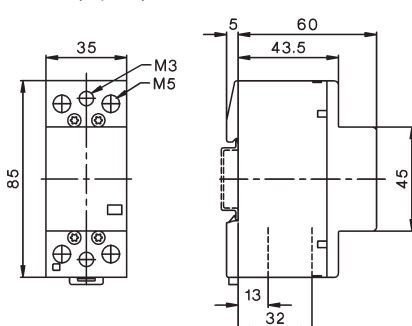
R20-..., R25-... (2-pole)
RC-R 230



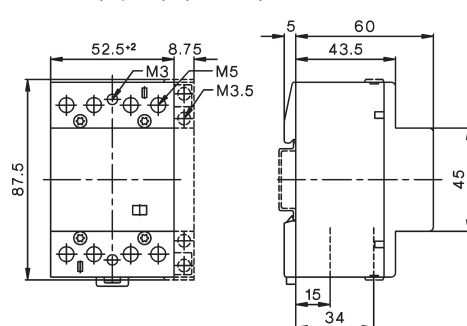
R25-... (4-pole) (+RH11)
R25-..VM (+RH11-1)



R40-... (2-pole)
R63-... (2-pole)



R40-... (4-pole) (+RH11)
R63-... (4-pole) (+RH11)



Aux. contact block
RH11, RH11-1

