

Motor protection relays

Thermal overload relays for BG series mini-contactors

Phase failure / single phase sensitive Three poles (three phase)

3



11 RF9...



11 RFA9...

| Order code | Adjustment range | Protection fuses | | | Qty per pkg | Wt [kg] |
|------------|------------------|------------------|-----|-------|-------------|---------|
| | | IEC aM | gG | UL K5 | | |
| | [A] | [A] | [A] | [A] | n° | |

MANUAL RESETTING.

Direct mounting on BG06, BG09, BG12 mini-contactors.

| | | | | | | |
|------------|-------------|------|----|----|---|-------|
| 11 RF9 015 | 0.09 - 0.15 | 0.25 | — | — | 1 | 0.116 |
| 11 RF9 023 | 0.14 - 0.23 | 0.5 | — | 1 | 1 | 0.116 |
| 11 RF9 033 | 0.2 - 0.33 | 0.5 | 1 | 1 | 1 | 0.116 |
| 11 RF9 05 | 0.3 - 0.5 | 1 | 2 | 3 | 1 | 0.116 |
| 11 RF9 075 | 0.45 - 0.75 | 1 | 2 | 3 | 1 | 0.116 |
| 11 RF9 1 | 0.6 - 1 | 2 | 4 | 3 | 5 | 0.116 |
| 11 RF9 1V5 | 0.9 - 1.5 | 2 | 4 | 6 | 5 | 0.116 |
| 11 RF9 2V3 | 1.4 - 2.3 | 4 | 6 | 10 | 5 | 0.116 |
| 11 RF9 33 | 2 - 3.3 | 4 | 10 | 10 | 5 | 0.116 |
| 11 RF9 5 | 3 - 5 | 6 | 16 | 15 | 5 | 0.116 |
| 11 RF9 75 | 4.5 - 7.5 | 8 | 20 | 25 | 5 | 0.116 |
| 11 RF9 10 | 6 - 10 | 10 | 32 | 30 | 5 | 0.116 |
| 11 RF9 15 | 9 - 15 | 16 | 40 | 45 | 5 | 0.116 |

AUTOMATIC RESETTING.

Direct mounting on BG06, BG09, BG12 mini-contactors.

| | | | | | | |
|-------------|-------------|------|----|----|---|-------|
| 11 RFA9 015 | 0.09 - 0.15 | 0.25 | — | — | 1 | 0.116 |
| 11 RFA9 023 | 0.14 - 0.23 | 0.5 | — | 1 | 1 | 0.116 |
| 11 RFA9 033 | 0.2 - 0.33 | 0.5 | 1 | 1 | 1 | 0.116 |
| 11 RFA9 05 | 0.3 - 0.5 | 1 | 2 | 3 | 1 | 0.116 |
| 11 RFA9 075 | 0.45 - 0.75 | 1 | 2 | 3 | 1 | 0.116 |
| 11 RFA9 1 | 0.6 - 1 | 2 | 4 | 3 | 1 | 0.116 |
| 11 RFA9 1V5 | 0.9 - 1.5 | 2 | 4 | 6 | 1 | 0.116 |
| 11 RFA9 2V3 | 1.4 - 2.3 | 4 | 6 | 10 | 1 | 0.116 |
| 11 RFA9 33 | 2 - 3.3 | 4 | 10 | 10 | 1 | 0.116 |
| 11 RFA9 5 | 3 - 5 | 6 | 16 | 15 | 1 | 0.116 |
| 11 RFA9 75 | 4.5 - 7.5 | 8 | 20 | 25 | 1 | 0.116 |
| 11 RFA9 10 | 6 - 10 | 10 | 32 | 30 | 1 | 0.116 |
| 11 RFA9 15 | 9 - 15 | 16 | 40 | 45 | 1 | 0.116 |

NOTE: Two-pole (single phase) versions are available on request. Add the letter "S" in the order code e.g. 11RF9015 is three pole; 11RFS9015 two pole.

The appropriate adjustment range of the overload relay should be selected on the basis of the motor nameplate full-load current when across the line starting is considered.

Three-phase IEC motor powers ①

| 230V [kW] | 400V [kW] | 415V [kW] | 440V [kW] | 500V [kW] | 690V [kW] |
|-----------|-----------|-----------|-----------|-----------|-----------|
|-----------|-----------|-----------|-----------|-----------|-----------|

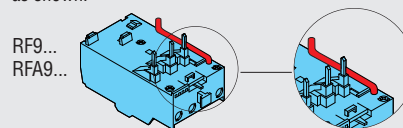
| | | | | | |
|----------|-----------|---------|---------|-------|---------|
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | 0.37 |
| Ⓜ | Ⓜ | Ⓜ | 0.37 | 0.37 | 0.55 |
| Ⓜ | Ⓜ | 0.55 | 0.55 | 0.55 | 0.75 |
| 0.37 | 0.55-0.75 | 0.75 | 0.75 | 1.1 | 1.1-1.5 |
| 0.55 | 1.1 | 1.1 | 1.1-1.5 | 1.5 | 2.2 |
| 0.75-1.1 | 1.5 | 1.5-2.2 | 2.2 | 2.2 | 3-3.7 |
| 1.5 | 2.2-3 | 3-3.7 | 3-3.7 | 3-3.7 | 4 |
| 2.2 | 3.7-4 | 4 | 3.7-4 | 4-5.5 | — |
| 3.2 | 5.5 | 5.5-7.5 | 5.5 | — | — |

| | | | | | |
|----------|-----------|---------|---------|-------|---------|
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | 0.37 |
| Ⓜ | Ⓜ | Ⓜ | 0.37 | 0.37 | 0.55 |
| Ⓜ | Ⓜ | 0.55 | 0.55 | 0.55 | 0.75 |
| 0.37 | 0.55-0.75 | 0.75 | 0.75 | 1.1 | 1.1-1.5 |
| 0.55 | 1.1 | 1.1 | 1.1-1.5 | 1.5 | 2.2 |
| 0.75-1.1 | 1.5 | 1.5-2.2 | 2.2 | 2.2 | 3-3.7 |
| 1.5 | 2.2-3 | 3-3.7 | 3-3.7 | 3-3.7 | 4 |
| 2.2 | 3.7-4 | 4 | 3.7-4 | 4-5.5 | — |
| 3.2 | 5.5 | 5.5-7.5 | 5.5 | — | — |

① The indicated power apply to 4-pole motors; it is advisable to always check that the nameplate motor current is within the relay adjustment range.

Ⓜ No standard power ratings exist; select relay according to current consumption.

NOTE: To facilitate connection between the auxiliary NC contact of the RF...9 thermal relay and terminal A2 of the contactor, insert the conductor into the appropriate conduit as shown.



Certifications and compliance

Certifications obtained:

| Type | cULus | CSA | GOST | CCC |
|------------------|-------|-----|------|-----|
| RF9... - RFA9... | ● | ● | ● | ● |

● Certified products.

cULus – UL Listed for USA and Canada (File E93601) as Auxiliary Devices – Thermal Overload Relays, 600VAC, open type, ambient compensated, 5000 Amps RMS symmetrical short circuit rating; the trip current is 120% FLA.
CSA – CSA certified for Canada (File 54332) as Auxiliary Devices for use with magnetic contactors.

Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-4-1, UL508, CSA C22.2 n° 14.

Motor protection relays

Thermal overload relays for BG series mini-contactors

Non phase failure / non single phase sensitive Three poles (three phase)



11 RFN9...



11 RFNA9...

| Order code | Adjustment range | Protection fuses | | | Qty per pkg | Wt [kg] |
|------------|------------------|------------------|-----|-------|-------------|---------|
| | | IEC aM | gG | UL K5 | | |
| | [A] | [A] | [A] | [A] | n° | |

MANUAL RESETTING.

Direct mounting on BG06, BG09, BG12 mini-contactors.

| | | | | | | |
|-------------|-------------|------|----|----|---|-------|
| 11 RFN9 015 | 0.09 - 0.15 | 0.25 | — | — | 1 | 0.123 |
| 11 RFN9 023 | 0.14 - 0.23 | 0.5 | — | 1 | 1 | 0.123 |
| 11 RFN9 033 | 0.2 - 0.33 | 0.5 | 1 | 1 | 1 | 0.123 |
| 11 RFN9 05 | 0.3 - 0.5 | 1 | 2 | 3 | 1 | 0.123 |
| 11 RFN9 075 | 0.45 - 0.75 | 1 | 2 | 3 | 1 | 0.123 |
| 11 RFN9 1 | 0.6 - 1 | 2 | 4 | 3 | 1 | 0.123 |
| 11 RFN9 1V5 | 0.9 - 1.5 | 2 | 4 | 6 | 1 | 0.123 |
| 11 RFN9 2V3 | 1.4 - 2.3 | 4 | 6 | 10 | 1 | 0.123 |
| 11 RFN9 33 | 2 - 3.3 | 4 | 10 | 10 | 1 | 0.123 |
| 11 RFN9 5 | 3 - 5 | 6 | 16 | 15 | 1 | 0.123 |
| 11 RFN9 75 | 4.5 - 7.5 | 8 | 20 | 25 | 1 | 0.123 |
| 11 RFN9 10 | 6 - 10 | 10 | 32 | 30 | 1 | 0.123 |
| 11 RFN9 15 | 9 - 15 | 16 | 40 | 45 | 1 | 0.123 |

AUTOMATIC RESETTING.

Direct mounting on BG06, BG09, BG12 mini-contactors.

| | | | | | | |
|--------------|-------------|------|----|----|---|-------|
| 11 RFNA9 015 | 0.09 - 0.15 | 0.25 | — | — | 1 | 0.123 |
| 11 RFNA9 023 | 0.14 - 0.23 | 0.5 | — | 1 | 1 | 0.123 |
| 11 RFNA9 033 | 0.2 - 0.33 | 0.5 | 1 | 1 | 1 | 0.123 |
| 11 RFNA9 05 | 0.3 - 0.5 | 1 | 2 | 3 | 1 | 0.123 |
| 11 RFNA9 075 | 0.45 - 0.75 | 1 | 2 | 3 | 1 | 0.123 |
| 11 RFNA9 1 | 0.6 - 1 | 2 | 4 | 3 | 1 | 0.123 |
| 11 RFNA9 1V5 | 0.9 - 1.5 | 2 | 4 | 6 | 1 | 0.123 |
| 11 RFNA9 2V3 | 1.4 - 2.3 | 4 | 6 | 10 | 1 | 0.123 |
| 11 RFNA9 33 | 2 - 3.3 | 4 | 10 | 10 | 1 | 0.123 |
| 11 RFNA9 5 | 3 - 5 | 6 | 16 | 15 | 1 | 0.123 |
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| 11 RFNA9 10 | 6 - 10 | 10 | 32 | 30 | 1 | 0.123 |
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|-----------|-----------|-----------|-----------|-----------|-----------|

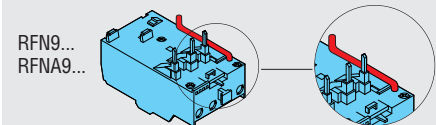
| | | | | | |
|----------|-----------|---------|---------|-------|---------|
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | 0.37 |
| Ⓜ | Ⓜ | Ⓜ | 0.37 | 0.37 | 0.55 |
| Ⓜ | Ⓜ | 0.55 | 0.55 | 0.55 | 0.75 |
| 0.37 | 0.55-0.75 | 0.75 | 0.75 | 1.1 | 1.1-1.5 |
| 0.55 | 1.1 | 1.1 | 1.1-1.5 | 1.5 | 2.2 |
| 0.75-1.1 | 1.5 | 1.5-2.2 | 2.2 | 2.2 | 3-3.7 |
| 1.5 | 2.2-3 | 3-3.7 | 3-3.7 | 3-3.7 | 4 |
| 2.2 | 3.7-4 | 4 | 3.7-4 | 4-5.5 | — |
| 3.2 | 5.5 | 5.5-7.5 | 5.5 | — | — |

| | | | | | |
|----------|-----------|---------|---------|-------|---------|
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ |
| Ⓜ | Ⓜ | Ⓜ | Ⓜ | Ⓜ | 0.37 |
| Ⓜ | Ⓜ | Ⓜ | 0.37 | 0.37 | 0.55 |
| Ⓜ | Ⓜ | 0.55 | 0.55 | 0.55 | 0.75 |
| 0.37 | 0.55-0.75 | 0.75 | 0.75 | 1.1 | 1.1-1.5 |
| 0.55 | 1.1 | 1.1 | 1.1-1.5 | 1.5 | 2.2 |
| 0.75-1.1 | 1.5 | 1.5-2.2 | 2.2 | 2.2 | 3-3.7 |
| 1.5 | 2.2-3 | 3-3.7 | 3-3.7 | 3-3.7 | 4 |
| 2.2 | 3.7-4 | 4 | 3.7-4 | 4-5.5 | — |
| 3.2 | 5.5 | 5.5-7.5 | 5.5 | — | — |

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Ⓜ No standard power ratings exist; select relay according to current consumption.

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Certifications and compliance

Certifications obtained:

| Type | cULus | CSA | GOST | CCC |
|--------------------|-------|-----|------|-----|
| RFN9... - RFNA9... | ● | ● | ● | ● |

● Certified products.

cULus – UL Listed for USA and Canada (File E93601) as Auxiliary Devices – Thermal Overload Relays, 600VAC, open type, ambient compensated, 5000 Amps RMS symmetrical short circuit rating; the trip current is 120% FLA.

CSA – CSA certified for Canada (File 54332) as Auxiliary Devices for use with magnetic contactors.

Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-4-1, UL508, CSA C22.2 n° 14.