

# 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 [A]	UL K5 [A]		
	[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]
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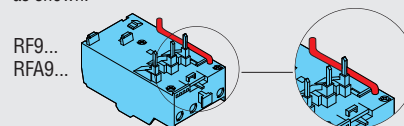
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	0.37
Ⓜ	Ⓜ	Ⓜ	0.37	0.37	0.55
Ⓜ	Ⓜ	0.55	0.55	0.55	0.75
0.37	0.55-0.75	0.75	0.75	1.1	1.1-1.5
0.55	1.1	1.1	1.1-1.5	1.5	2.2
0.75-1.1	1.5	1.5-2.2	2.2	2.2	3-3.7
1.5	2.2-3	3-3.7	3-3.7	3-3.7	4
2.2	3.7-4	4	3.7-4	4-5.5	—
3.2	5.5	5.5-7.5	5.5	—	—

Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	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	—	—

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
11 RFNA9 75	4.5 - 7.5	8	20	25	1	0.123
11 RFNA9 10	6 - 10	10	32	30	1	0.123
11 RFNA9 15	9 - 15	16	40	45	1	0.123

NOTE: 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]
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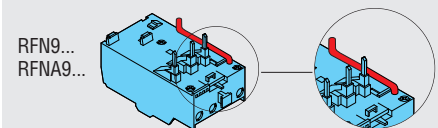
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	0.37
Ⓜ	Ⓜ	Ⓜ	0.37	0.37	0.55
Ⓜ	Ⓜ	0.55	0.55	0.55	0.75
0.37	0.55-0.75	0.75	0.75	1.1	1.1-1.5
0.55	1.1	1.1	1.1-1.5	1.5	2.2
0.75-1.1	1.5	1.5-2.2	2.2	2.2	3-3.7
1.5	2.2-3	3-3.7	3-3.7	3-3.7	4
2.2	3.7-4	4	3.7-4	4-5.5	—
3.2	5.5	5.5-7.5	5.5	—	—

Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	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	—	—

① The indicated powers 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 RFN...9 thermal relay and terminal A2 of the contactor, insert the conductor into the appropriate conduit as shown.



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