ENERGY AND AUTOMATION

MOTOR PROTECTION RELAY, PHASE FAILURE/SINGLE-PHASE SENSITIVE. THREE-POLE **electric** (THREE-PHASE), AUTOMATIC RESETTING. DIRECT MOUNTING ON BG06, BG09, BG12 MINI-CONTACTORS, 4.5...7.5A



Product designation			11RFA9
Product type designation			Motor protection relay
General characteristics			· ·
Number of poles		Nr.	3
Overvoltage category			III
Pollution degree			3
Frontal IP degree			IP20
Type of release			Thermal
Protection fuse			_
	gG (IEC)	Α	20
	aM (IEC)	Α	8
	RK5 (UL)	Α	25
Phase failure detection			yes
Reset mode			Automatic
Power circuit characteristics			
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	8
Rated operational voltage		V	690
Operational frequency			
	min	Hz	0
	max	Hz	400
Operational current le			
•			
	Operational current min	Α	4.5
	Operational current min Operational current max	A A	4.5 7.5
Tripping class	Operational current min Operational current max		
Tripping class Test Button			7.5
Test Button			7.5 10A Yes
Test Button Trip indicator			7.5 10A
Test Button	Operational current max		7.5 10A Yes yes
Test Button Trip indicator			7.5 10A Yes
Test Button Trip indicator	Operational current max		7.5 10A Yes yes
Test Button Trip indicator	Operational current max type		7.5 10A Yes yes screw and washer
Test Button Trip indicator	Operational current max type screw	A	7.5 10A Yes yes screw and washer M4
Test Button Trip indicator	Operational current max type screw width	A	7.5 10A Yes yes screw and washer M4 9.8
Test Button Trip indicator Terminals	Operational current max type screw width	A	7.5 10A Yes yes screw and washer M4 9.8
Test Button Trip indicator Terminals	Operational current max type screw width tool	mm	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2
Test Button Trip indicator Terminals	type screw width tool min	Mm Nm	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2
Test Button Trip indicator Terminals	type screw width tool min max	mm Nm Nm	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2 2.3 2.3
Test Button Trip indicator Terminals	type screw width tool min max min	mm Nm Nm Ibin	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2 2.3 2.3 1.7
Test Button Trip indicator Terminals Tightening torque for terminals	type screw width tool min max min	mm Nm Nm Ibin	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2 2.3 2.3 1.7
Test Button Trip indicator Terminals Tightening torque for terminals	type screw width tool min max min max min max	mm Nm Nm Ibin	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2 2.3 2.3 1.7 1.7
Test Button Trip indicator Terminals Tightening torque for terminals Conductor section	type screw width tool min max min max min max	mm Nm Nm Ibin	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2 2.3 2.3 1.7 1.7
Test Button Trip indicator Terminals Tightening torque for terminals Conductor section Auxiliary circuit characteristics	type screw width tool min max min max min max	mm Nm Nm Ibin	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2 2.3 2.3 1.7 1.7
Test Button Trip indicator Terminals Tightening torque for terminals Conductor section Auxiliary circuit characteristics	type screw width tool min max min max AWG/kcmil max	mm Nm Nm Ibin Ibin	7.5 10A Yes yes screw and washer M4 9.8 Phillips 2 2.3 2.3 1.7 1.7

1/3



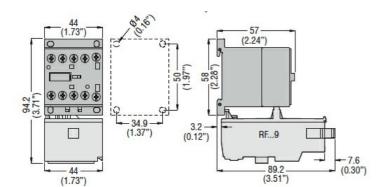
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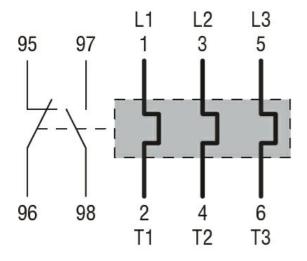
Auxiliary Rated impulse withstand voltage Uimp Auxiliary Rated operational voltage Operating current AC15 24V A 1.5 120V A 1.5 120V A 0.75 IEC Conventional free air thermal current Ith Terminals Auxiliary circuit type Auxiliary circuit max Auxiliary circuit min Aux	Auxiliary Rated insulation voltage Ui IEC/EN		V	690
Auxiliary Rated operational voltage			kV	6
Conductor section			V	690
24V A 1.5 1.5 1.20V A 1.5 1.5 2.40V A 0.75 1.5 2.40V 2.40V 2.5 2				
Recommendation Reco		24V	Α	1.5
EC Conventional free air thermal current Ith Terminals		120V	Α	1.5
Auxiliary circuit type Auxiliary circuit tool Auxiliary circuit min Auxiliary circ		240V	Α	0.75
Auxiliary circuit type Auxiliary circuit screw Auxiliary circuit width Auxiliary circuit width Auxiliary circuit width Auxiliary circuit tool M3,5	IEC Conventional free air thermal current Ith		Α	10
Auxiliary circuit type	Terminals			
Auxiliary circuit width Auxiliary circuit tool Phillips 1		Auxiliary circuit type		
Auxiliary circuit tool Phillips 1		Auxiliary circuit screw		M3,5
Auxiliary circuit tool Phillips 1			mm	8
Auxiliary circuit Flexible w/o lug max Auxiliary circuit Flexible c/w lug max Auxiliary circuit Flexible c/w lug max Auxiliary circuit min Auxiliary circuit max Auxiliary circuit max Ibin 0.74 Auxiliary circuit max Ibin 0.74 Ibin 0.75 I				Phillips 1
Auxiliary circut Flexible c/w lug max mm² 2.5	Conductor section	•		•
Auxiliary circut Flexible c/w lug max mm² 2.5		Auxiliary circuit Flexible w/o lug max	mm²	2.5
Tightening torque for terminals Auxiliary circuit min Nm 1 Auxiliary circuit min Auxiliary circuit min Auxiliary circuit min Auxiliary circuit min Auxiliary circuit min Bin 0.74 Auxiliary circuit max Bin 0.74 Auxiliary circuit max Bin 0.74 Auxiliary circuit max Bin 0.74 C300-R300		•		
Auxiliary circuit min Auxiliary circuit max Ibin 0.74 Ibin 0.75 Ibin 0	Tightening torque for terminals	, ,		
Auxiliary circuit max Auxiliary circuit max Auxiliary circuit min Auxiliary circuit min Auxiliary circuit max Auxiliary circuit max Ibin 0.74		Auxiliary circuit min	Nm	1
Auxiliary circuit min Ibin 0.74 Ibin 0.74 Ibin 0.74 Ibin 0.75				
Auxiliary circuit max		•	Ibin	0.74
UL/CSA and IEC/EN 60947-5-1 designation				
Ambient conditions Operating temperature min °C -20 max °C 55 Storage temperature min °C -55 max °C 70 Compensation temperature min °C -15 max °C 55 Max altitude m 3000 Mechanical features m 3000 Operating position normal allowable Vertical plan ±30° Fixing Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data Total current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5	UL/CSA and IEC/EN 60947-5-1 designation	, ,		
Operating temperature min or C or 20 o				
min or C -20 max or C 55 Storage temperature min or C -55 max or C 70 Compensation temperature min or C -15 max or C 55 Max altitude m 3000 Mechanical features m 3000 Operating position normal allowable Vertical plan ±30° Fixing Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data Tul-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5				
Storage temperature		min	°C	-20
min max °C -55 max -55 max Compensation temperature min °C -15 max -15 max Max altitude m 3000 Mechanical features m 3000 Operating position normal allowable ±30° Fixing Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data TUL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5		max	°C	55
min max °C -55 max -55 max Compensation temperature min °C -15 max -15 max Max altitude m 3000 Mechanical features m 3000 Operating position normal allowable ±30° Fixing Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data TUL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5	Storage temperature			
max °C 70 Compensation temperature min °C -15 max °C 55 Max altitude m 3000 Mechanical features Operating position normal allowable ±30° Fixing Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 480V A 7.5 A 7.5 at 600V A 7.5 A 7.5		min	°C	-55
Compensation temperature min or c max or c statement -15 max or c statement Max altitude m 3000 Mechanical features Operating position normal allowable ±30° Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5				
min max °C 55 Max altitude m 3000 Mechanical features Operating position normal allowable Vertical plan 430° pirect mounting on BG06 Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5	Compensation temperature			
Max altitude m 3000 Mechanical features Operating position normal allowable Vertical plan ±30° Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5	, , , , , , , , , , , , , , , , , , , ,	min	°C	-15
Max altitude m 3000 Mechanical features Operating position normal allowable Vertical plan ±30° Fixing Direct mounting on BG06 BG09 BG12 BG09 BG12 Weight g 116 UL technical data Tull-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5				
Mechanical features Operating position normal vertical plan ±30° allowable ±30° Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5	Max altitude	ax		
Operating position normal Vertical plan allowable ±30° Direct mounting on BG06 BG09 BG12 Weight g 116 UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5				
Normal allowable ±30° Direct mounting on BG06				
Allowable	-1 9	normal		Vertical plan
Fixing Direct mounting on BG06 BG09 BG12 Weight UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5				•
## BG09 BG12 Weight ## UL technical data Full-load current (FLA) for three-phase AC motor ## at 480V A 7.5 ## at 600V A 7.5	Fixing	32.10310		Direct mounting
Weight UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5	i iziliy			
UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5	Weight		n	
Full-load current (FLA) for three-phase AC motor at 480V A 7.5 at 600V A 7.5	3		9	
at 480V A 7.5 at 600V A 7.5				
at 600V A 7.5	Tail load outlone (i Ext) for tilloc phase Ao motor	1/08V te	Δ	7.5
	Dimensions		/\	7.0

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Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 14

IEC/EN 60947-1

IEC/EN 60947-4-1

UL508

Certifications

CCC

CSA

cULus

EAC

ETIM classification

ETIM 8.0

EC000106 -

Thermal overload

relay