## **RFN828200**



MOTOR PROTECTION RELAY, NON PHASE FAILURE/NON SINGLE-PHASE SENSITIVE. THREE-POLE (THREE-PHASE), MANUAL RESETTING. DIRECT MOUNTING ON BF40 - BF94 CONTACTORS, 60...82A



Product type designation     relay       General characteristics     Nr.       Number of poles     Nr.       Overvoltage category     III       Pollution degree     3       Frontal IP degree     IP20       Type of release     Thermal       Protection fuse     gG (IEC)     A     200       aM (IEC)     A     100     K5 (UL)     A     250       Phase failure detection     no     no     Reset mode     Manual       Power circuit characteristics     Manual     Reset mode     V     690       Operational voltage UI IEC/EN     V     690     Operational voltage UINP     KV     8       Rated operational voltage UI IEC/EN     V     690     Operational voltage     V     690       Operational requency     min     Hz     0     0     0       Operational current le     Operational current max     A     82       Tripping class     10A     Yes     10A       Test Button     Yes     Yes     10A       Test Button     Yes     Yes     10A       Test Button     Yes     Yes     10A       Test Button     10A     2.88     2.88       Conductor section     AWG/kcmil max     2	Product designation			RFN82
General characteristics       Nr. 3         Number of poles       Nr. 3         Overvoltage category       III         Pollution degree       3         Frontal IP degree       IP20         Type of release       IP20         Protection fuse       gG (IEC)       A         Protection fuse       gG (IEC)       A         Protection fuse       gG (IEC)       A         Phase failure detection       no       K5 (UL)       A         Reset mode       Manual       Manual         Power circuit characteristics       III       Manual         Rated insulation voltage UII EC/EN       V       690         Operational voltage UII EC/EN       V       690         Operational voltage UII EC/EN       V       690         Operational voltage UI EC/EN       V       690         Operational voltage UI EC/EN       V       690         Operational current min       A       60         Operational current min       A       60         Operational current min       A       82         Tripping class       10A       Yes         Trip indicator       Yes       Yes         Tipi indicator       Yes	Product type designation			Motor protection relay
Overvoltage category     III       Pollution degree     3       Frontal IP degree     IP20       Type of release     Thermal       Protection fuse     gG (IEC)     A     200       aM (IEC)     A     200       aM (IEC)     A     200       aM (IEC)     A     250       Phase failure detection     no       Reset mode     Manual       Power circuit characteristics     No       Rated insulation voltage Uil EC/EN     V     690       Rated insulation voltage Uil EC/EN     V     690       Querational voltage     V     690       Operational requency     min     Hz       Querational voltage     V     690       Operational current le     Operational current min     A       Operational current le     Operational current max     A       Operational current le     Yes     10A       Test Button     Yes     Yes       Triping class     type     Yoke clamp       Screw     M5     width       width     mm     9       tripindicator     yes     Yes       Tiptening torque for terminals     min     Nm       min     Nm     3.9     min       max				
Pollution degree 3 Frontal IP degree IP20 Type of release Thermal Protection fuse gG (IEC) A 200 aM (IEC) A 100 K5 (UL) A 250 Phase failure detection no Reset mode Manual Power circuit characteristics Rated insulation voltage Ui IEC/EN V 690 Rated inpulse withstand voltage Uinp KV 8 Rated operational voltage U V 690 Operational frequency min Hz 0 max Hz 400 Operational current Ie Operational current min A 60 Operational current min A 82 Tripping class 10A Test Button Yes Trip indicator yes Trip indicator yes Trip indicator yes Trip indicator yes Triphening torque for terminals type Yoke clamp Screw M5 width mm 9 tool Phillips 2 Tightening torque for terminals 2 Conductor section X 8 Auxiliary circuit characteristics NO Nr. 1			Nr.	
Frontal IP degree       IP20         Type of release       Thermal         Protection fuse       gG (IEC)       A       200         aM (IEC)       A       100       K5 (UL)       A       250         Phase failure detection       no       no       Reset mode       Manual         Power circuit characteristics       Wanual       Wanual       Wanual         Power circuit characteristics       Wanual       Wanual       Wanual         Power circuit characteristics       V       690       690         Rated insulation voltage Uinp       KV       8       8         Rated operational voltage       V       690       690         Operational current if requency       min       Hz       400         Operational current min       A       82       10A         Test Button       Yes       10A       Yes         Trip indicator       yes       Yes       10A         Test Button       Yes       Yoke clamp       screw         Midator       Yes       Yes       Yes         Tipping iclass       tool       Phillips 2       10A         Test Button       2.88       2.88       max       Nm <t< td=""><td></td><td></td><td></td><td></td></t<>				
Type of release       Thermal         Protection fuse       gG (IEC)       A       200         atM (IEC)       A       100       KS (UL)       A       250         Phase failure detection       no       no       Reset mode       Manual         Power circuit characteristics       mo       No       Reset mode       Manual         Power circuit characteristics       V       690       690         Rated insulation voltage Ui IEC/EN       V       690       690         Operational requency       min       Hz       0         Maxed operational voltage       V       690       690         Operational current max       A       82       10A         Test Button       Yes       10A       142       400         Operational current max       A       82       10A         Test Button       Yes       Yes       10A         Test Button       Yes       Yes       Yes         Trip indicator       yes       Yes       Yes         Terminals       tool       Phillips 2       Phillips 2         Tightening torque for terminals       min       Nm       3.9         min<				
Protection fuse $gG(IEC)$ A 200 aM (IEC) A 100 K5(UL) A 250 Phase failure detection no Reset mode Manual Power circuit characteristics Rated insulation voltage Ui IEC/EN V 690 Rated inpulse withstand voltage Uimp KV 8 Rated operational voltage U V 690 Operational requency W 690 Operational frequency Min Hz 0 max Hz 400 Operational current le Operational current min A 60 Operational current min A 60 Operational current min A 60 Tripping class 10A Tripping class 10A Trip indicator Yes Terminals V Yes Terminals V Yes Terminals Mith mm 9 tool Phillips 2 Tightening torque for terminals min Nm 3.9 max Nm 3.9 min Ibin 2.88 Conductor section AWG/kemil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1	Frontal IP degree			IP20
gG (IEC)         A         200           aM (IEC)         A         100           K5 (UL)         A         250           Phase failure detection         no         Manual           Power circuit characteristics         Wanual           Rated insulation voltage Ui IEC/EN         V         690           Rated inputse withstand voltage Uimp         KV         8           Rated operational voltage         V         690           Operational frequency         min         Hz         0           max         Hz         400         0           Operational current min         A         60         0           Operational current min         A         82         10A           Test Button         Yes         Yes         Yes           Tripping class         10A         Yes         10A           Test Button         Yes         Yoke clamp         Screw         M5           width         mm         9         Yoke clamp         Screw         M5           width         mm         9         Nm         3.9         max         10A           Tightening torque for terminals         min         Nm         3.9         ma				Thermal
A 100 K5 (UL) A 250 Phase failure detection no Reset mode Nanual Power circuit characteristics Rated insulation voltage UI IEC/EN V 690 Rated operational voltage UI IEC/EN V 690 Operational frequency V 690 Operational frequency 0 V 690 Operational frequency 0 V 690 Operational current Ie 0 A 82 Tripping class 10A Test Button Yes Tripp indicator Yes Trip indicator Yes Trip indicator Yes Trip indicator Yes Trip indicator Yes Trip indicator N 9 Trightening torque for terminals 10A Tightening torque for terminals 10A Tightening torque for terminals 20 Conductor section 20 AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1	Protection fuse			
K5 (UL)       A       250         Phase failure detection       no         Reset mode       Manual         Power circuit characteristics       W         Rated insulation voltage Ui IEC/EN       V       690         Rated inpulse withstand voltage Uimp       kV       8         Rated operational voltage       V       690         Operational requency       min       Hz       0         Max       Hz       400       0         Operational current le       Operational current max       A       82         Tripping class       10A       10A       10A         Test Button       Yes       Yes       Yes         Trip indicator       yes       Yes       Yes         Terminals       type       Yoke clamp       Yoke clamp         screw       M5       max       10         Tightening torque for terminals       min       Nm       3.9         max       Ibin       2.88       max       Ibin       2.88         Conductor section       AWG/kcmil max       2       Auxiliary circuit characteristics       Auxiliary contacts       NO       Nr.       1		gG (IEC)	А	200
Phase failure detection       no         Reset mode       Manual         Power circuit characteristics       V         Rated insulation voltage Ui IEC/EN       V       690         Rated insulation voltage Uimp       kV       8         Rated operational voltage       V       690         Operational frequency       min       Hz       0         Max       Hz       0       max       Hz       0         Operational current le       Operational current min Operational current max       A       82         Tripping class       10A       Yes       Tig indicator       Yes         Trip indicator       yes       yes       Yes       Tightening torque for terminals       M5         tool       Phillips 2       Tightening torque for terminals       min       1.0       2.88         Conductor section       AWG/kcmil max       2       Auxiliary circuit characteristics         Auxiliary contacts       NO       Nr.       1			А	
Reset mode       Manual         Power circuit characteristics       V         Rated insulation voltage Ui IEC/EN       V       690         Rated inpulse withstand voltage Uimp       kV       8         Rated operational voltage       V       690         Operational voltage       V       690         Operational frequency       min       Hz       0         Operational current le       Operational current min       A       60         Operational current min       A       60       0         Operational current max       A       82       10.A         Test Button       Yes       Yes       Yes         Trip indicator       yes       Yes       Yes         Terminals       type       Yoke clamp       Screw       M5         width       mm       9       tool       Phillips 2         Tightening torque for terminals       min       Ibin       2.88         Conductor section       AWG/kcmil max       2		K5 (UL)	Α	250
Power circuit characteristics         Rated insulation voltage Ui IEC/EN       V       690         Rated inpulse withstand voltage Uimp       KV       8         Rated operational voltage       V       690         Operational frequency       min       Hz       0         max       Hz       400       0         Operational current le       min       Hz       0         Operational current min       A       60       60         Operational current min       A       60       60         Operational current min       A       60       82         Tripping class       10A       10A       10A         Test Button       Yes       Yes       10A         Tightening torque for terminals       type       Yoke clamp         min       Immodel N       Nm       3.9         min       Immodel N       2.88 <t< td=""><td>Phase failure detection</td><td></td><td></td><td></td></t<>	Phase failure detection			
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       0         Operational current le       max       Hz       400         Operational current min       A       60       60         Operational current max       A       82       10A         Test Button       Yes       10A       Yes         Trip indicator       yes       yes       Yoke clamp         Screw       M5       width       mm       9         tool       Phillips 2       Tightening torque for terminals       min       Nm       3.9         Tightening torque for terminals       min       Nm       3.9       max       Nm       3.9         Conductor section       AWG/kcmil max       2       Auxiliary circuit characteristics       2         Auxiliary contacts       NO       Nr.       1	Reset mode			Manual
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       A       60         Operational current max       A       82         Tripping class       10A       10A         Test Button       Yes       Yes         Trip indicator       yes       yes         Terminals       type       Yoke clamp         screw       M5       width       mm         max       Nm       3.9       min       Nm       3.9         Tightening torque for terminals       min       Nm       3.9       max       Nm       3.9         Max       Nm       3.9       max       Ibin       2.88       2.88         Conductor section       AWG/kcmil max       2       2       Auxiliary circuit characteristics       Auxiliary contacts       NN       1	Power circuit characteristics			
Rated operational voltage       V       690         Operational frequency       min       Hz       0         Max       Hz       400         Operational current le       Operational current min       A       60         Operational current max       A       82         Tripping class       10A       10A         Test Button       Yes       Yes         Trip indicator       yes       Yes         Terminals       type       Yoke clamp         screw       M5       Width       mm         tool       Phillips 2       Tightening torque for terminals       min       Nm       3.9         max       Ibin       2.88       Conductor section       AWG/kcmil max       2         Auxiliary circuit characteristics       NO       Nr.       1	Rated insulation voltage Ui IEC/EN		V	690
Operational frequency       min       Hz       0         max       Hz       400         Operational current le       Operational current min       A       60         Operational current max       A       82       10A         Test Button       Yes       10A       Yes         Trip indicator       yes       Yes       Yes         Terminals       type       Yoke clamp       Screw       M5         width       mm       9       tool       Phillips 2         Tightening torque for terminals       min       Nm       3.9         min       Ibin       2.88         Conductor section       AWG/kcmil max       2         Auxiliary circuit characteristics       NO       Nr.       1	Rated impulse withstand voltage Uimp		kV	8
min     Hz     0       max     Hz     400       Operational current le     Operational current min     A     60       Operational current max     A     82       Tripping class     10A       Test Button     Yes       Trip indicator     yes       Terminals     type     Yoke clamp       screw     M5       width     mm     9       tool     Phillips 2       Tightening torque for terminals     min     Nm       Min     Nm     3.9       max     Nm     3.9       min     Ibin     2.88       Conductor section     AWG/kcmil max     2       Auxiliary contacts     NO     Nr.     1	Rated operational voltage		V	690
maxHz400Operational current leOperational current min Operational current maxA60 ATripping class10ATest ButtonYesTrip indicatoryesTerminalstypeYoke clamp ScrewscrewM5widthmm9toolPhillips 2Tightening torque for terminalsminNmNm3.9 maxNm3.9 maxConductor sectionAWG/kcmil max2Auxiliary contactsNONr.1	Operational frequency			
Operational current le       Operational current min Operational current min A       60 60 60 82         Tripping class       10A         Test Button       Yes         Trip indicator       yes         Terminals       type tool       Yoke clamp Width Phillips 2         Tightening torque for terminals       min m       Nm       3.9 max Nm         Tightening torque for terminals       min Lbin 2.88       Nm       3.9 max Max         Conductor section       AWG/kcmil max       2         Auxiliary circuit characteristics Auxiliary contacts       NO       Nr.       1		min	Hz	0
Operational current min Operational current maxA60Set Button10ATest ButtonYesTrip indicatoryesTerminalstypeYoke clampscrewM5widthmm9toolPhillips 2Tightening torque for terminalsminNmNm3.9minIbin2.88Conductor sectionAWG/kcmil max2Auxiliary circuit characteristicsNN1		max	Hz	400
Operational current max     A     82       Tripping class     10A       Test Button     Yes       Trip indicator     yes       Terminals     type     Yoke clamp screw       width     mm     9       tool     Phillips 2       Tightening torque for terminals     min     Nm       Min     Nm     3.9       min     Nm     3.9       min     Ibin     2.88       Conductor section     AWG/kcmil max     2       Auxiliary circuit characteristics     NO     Nr.     1	Operational current le			
Operational current max         A         82           Tripping class         10A           Test Button         Yes           Trip indicator         yes           Terminals         type         Yoke clamp           screw         M5           width         mm         9           tool         Phillips 2           Tightening torque for terminals         min         Nm           min         Nm         3.9           max         Nm         3.9           min         Ibin         2.88           Conductor section         AWG/kcmil max         2           Auxiliary circuit characteristics         NO         Nr.         1		Operational current min	А	60
Test Button       Yes         Trip indicator       yes         Terminals       type       Yoke clamp         screw       M5       width       mm       9         tool       Phillips 2       tool       Phillips 2         Tightening torque for terminals       min       Nm       3.9         max       Nm       3.9       max       Ibin       2.88         Conductor section       AWG/kcmil max       2       Auxiliary circuit characteristics         Auxiliary contacts       NO       Nr.       1		Operational current max	А	82
Test Button       Yes         Trip indicator       yes         Terminals       type       Yoke clamp         screw       M5       width       mm       9         tool       Phillips 2       Tightening torque for terminals       min       Nm       3.9         Tightening torque for terminals       min       Nm       3.9       max       Nm       3.9         Conductor section       AwG/kcmil max       2       2       2         Auxiliary circuit characteristics       NO       Nr.       1	Tripping class			10A
Terminals type Yoke clamp screw M5 width mm 9 tool Phillips 2 Tightening torque for terminals min Nm 3.9 max Nm 3.9 min Ibin 2.88 Conductor section AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1				Yes
type Voke clamp screw M5 width mm 9 tool Phillips 2 Tightening torque for terminals min Nm 3.9 max Nm 3.9 min Ibin 2.88 max Ibin 2.88 Conductor section AwG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1	Trip indicator			yes
screw M5 width mm 9 tool Phillips 2 Tightening torque for terminals min Nm 3.9 max Nm 3.9 min Ibin 2.88 max Ibin 2.88 Conductor section AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1	Terminals			•
screw M5 width mm 9 tool Phillips 2 Tightening torque for terminals min Nm 3.9 max Nm 3.9 min Ibin 2.88 max Ibin 2.88 Conductor section AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1		type		Yoke clamp
tool       Phillips 2         Tightening torque for terminals       min       Nm       3.9         max       Nm       3.9         max       Nm       3.9         min       Ibin       2.88         Conductor section       aWG/kcmil max       2         Auxiliary circuit characteristics       auxiliary contacts       NO       Nr.       1				•
Tightening torque for terminals min Nm 3.9 max Nm 3.9 min Ibin 2.88 max Ibin 2.88 Conductor section AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1		width	mm	9
min Nm 3.9 max Nm 3.9 min Ibin 2.88 max Ibin 2.88 Conductor section AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1		tool		Phillips 2
min Nm 3.9 max Nm 3.9 min Ibin 2.88 max Ibin 2.88 Conductor section AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1	Tightening torque for terminals			•
min Ibin 2.88 max Ibin 2.88 Conductor section AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1		min	Nm	3.9
min Ibin 2.88 max Ibin 2.88 Conductor section AWG/kcmil max 2 Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1		max		
max       Ibin       2.88         Conductor section       AWG/kcmil max       2         Auxiliary circuit characteristics       Variation       Variation         Auxiliary contacts       NO       Nr.       1				
Conductor section          Auxiliary circuit characteristics       AWG/kcmil max       2         Auxiliary contacts       NO       Nr.       1				
Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1	Conductor section			
Auxiliary circuit characteristics Auxiliary contacts NO Nr. 1		AWG/kcmil max		2
Auxiliary contacts NO Nr. 1	Auxiliary circuit characteristics			
NO Nr. 1				
	,	NO	Nr.	1
NC Nr. 1		NC		
Auxiliary Rated insulation voltage Ui IEC/EN V 690	Auxiliary Rated insulation voltage Lli IEC/EN			

The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding



MOTOR PROTECTION RELAY, NON PHASE FAILURE/NON SINGLE-PHASE SENSITIVE. THREE-POLE (THREE-PHASE), MANUAL RESETTING. DIRECT MOUNTING ON BF40 - BF94 CONTACTORS, 60...82A

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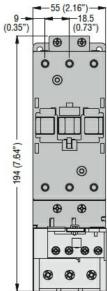
Auxiliary Rated impulse withstand voltage Uimp		kV	6
Auxiliary Rated operational voltage		V	690
Operating current AC15			
	24V	A	3
	120V	A	3
	240V	A	1.5
	380V	A	0.95
	480V	A	0.75
	500V	A	0.72
	600V	A	0.6
Operating current DC13			0.44
	125V	A	0.11
	600V	<u>A</u>	0.22
EC Conventional free air thermal current Ith		А	10
Terminals			
	Auxiliary circuit type		screw and washer
			M3,5
	Auxiliary circuit screw Auxiliary circuit width	mm	1VI3,5 8
	Auxiliary circuit width	111111	o Phillips 1
Conductor section			
	Auxiliary circuit Flexible w/o lug max	mm²	2.5
	Auxiliary circut Flexible c/w lug max	mm²	2.5
Tightening torque for terminals	Advinary circuit riexible c/w lug max		2.0
	Auxiliary circuit min	Nm	1
	Auxiliary circuit max	Nm	1
	Auxiliary circuit max	Ibin	0.74
	Auxiliary circuit max	Ibin	0.74
UL/CSA and IEC/EN 60947-5-1 designation		IOIII	B600-P600
Ambient conditions			B000 1 000
Operating temperature			
oporating temperature	min	°C	-20
	max	°C	55
Storage temperature	Шах	0	
	min	°C	-55
	max	°C	80
Compensation temperature	Шах	0	
	min	°C	-15
	max	°C	55
Max altitude	Шах	 	3000
Mechanical features			
Operating position			
	normal		Vertical plan
	allowable		±30°
Weight		g	365
UL technical data		Э	
Full-load current (FLA) for three-phase AC motor			
	at 480V	А	82
	at 400V	A	82
Dimensions			-

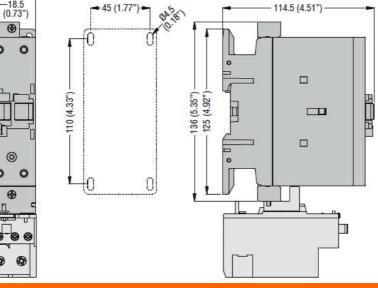
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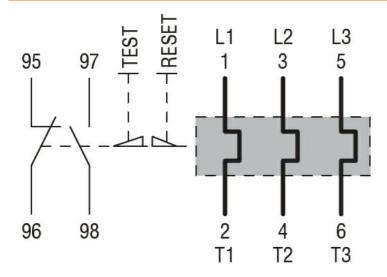


MOTOR PROTECTION RELAY, NON PHASE FAILURE/NON SINGLE-PHASE SENSITIVE. THREE-POLE (THREE-PHASE), MANUAL RESETTING. DIRECT MOUNTING ON BF40 - BF94 CONTACTORS, 60...82A





Wiring diagrams



#### Certifications and compliance

Compliance	
	CSA C22.2 n° 14
	IEC/EN 60947-1
	IEC/EN 60947-4-1
	UL508
0 110 11	UL508

## Certifications

cULus

# ETIM classification

ETIM 8.0

EC000106 -Thermal overload relay

RFN828200