



Contact characteristics Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤70°C) A 20 AC-3 (≤440∨ ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 500V kW 1.0 40V kW 6.2 500V kW 10 40V kW 1.0 40V	Product designation Product type designation			Power contactor BF12
Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Uimp kV 6 Operational frequency min Hz 25 max Hž 400 400 IEC Conventional free air thermal current Ith A 28 Operational current Ie AC-1 (≤40°C) A 28 AC-1 (55°C) A 23 AC-1 (57°C) A 23 AC-1 (57°C) A 20 AC-3 (5400V 55°C) A 23 AC-1 (57°C) A 20 AC-3 (5400V 55°C) A 23 AC-1 (57°C) A 20 AC-3 (5400V 55°C) A 22 AC-4 (400V) A 7.9 AC-3 (5400V 55°C) A 23 AC-1 (55°C) A 23 AC-1 (55°C) A 23 AC-1 (55°C) A 20 AC-3 (5400V 55°C) A 23 AC-1 (55°C) A 20 AC-3 (540V 56°C) A 20 AC-3 (540V 56°C) AC-2 (50°C) AC-2 (50°C)	T, T			DI 12
Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 IEC Conventional free air thermal current Ith A 28 Operational current Ie AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤70°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 5.7 4.15V kW 5.7 415V kW 5.7 4.15V kW 6.2 5.00V kW 7.5 6.90V kW 1.0 6.2 6.00V kW 7.5 6.2 6.00V kW 1.0 6.2 6.00V kW 1.0 6.2 6.00V kW 1.0 6.2 6.00V kW 1.0 6.0 2.0 kW 1.0 6.0 2.0 kW 1.0 4.0 2.0 kW 1.			Nr	3
Rated impulse withstand voltage Uimp				
Operational frequency min max by max Hz hz hz 25 max IEC Conventional free air thermal current Ith A 28 Operational current Ie AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤55°C) A 20 AC-3 (≤4400 ≤55°C) A 12 AC-4 (4000) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 AC-4 (400V) kW 5.7 A15V kW 6.2 A40V kW 7.5 A40V kW				
Min				
EC Conventional free air thermal current lth	operational modulonoy	min	Hz	25
EC Conventional free air thermal current lth				
Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤70°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 500V kW 7.5 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 440V kW 10 40V kW 10 440V kW 10 40V kW 10 440V kW 10 40V kW 13 500V kW 23 22 24V A 17 48V A 15 75V A 13 110V A 6 220V A - 110V A 6	IEC Conventional free air thermal current Ith	max		
AC-1 (≤40°C)				
AC-1 (≤55°C) A 23 AC-1 (≤70°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 A400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 17 48V A 15 75V A 13 110V A 6 220V A 7 AV A 20 48V A 20 75V A 18 110V A 6 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series 524V A 20 48V A 20 75V A 18 110V A 6 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series 524V A 20 48V A 20 48V A 20 48V A 20 48V A 22 75V A 20 48V A 22 48V A 20 48V A 22 48V A 20 48V A 20 48V A 20 48V A 20 48		AC-1 (≤40°C)	Α	28
AC-1 (≤70°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series				
AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		,		
AC-4 (400V)		,		
Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 230V kW 10 400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 48V A 20 75V A 18 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		•		
230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10 7.5 690V kW 18 500V kW 23 690V kW 32 7.5	Rated operational power AC-3 (T≤55°C)	- (/		
400V kW 5.7 415V kW 6.2 440V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10	1 1 2 2 (2 2 2)	230V	kW	3.2
415V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10				
A40V kW 6.2 500V kW 7.5 690V kW 10				
Soov kW 7.5				
Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 2 24V A 15 75V A 13 110V A 6 220V A 20 48V A 20 75V A 13 110V A 13 110V A 13 110V A 13 110V A 15 110V A 10V				
	Rated operational power AC-1 (T≤40°C)			
400V kW 18 500V kW 23 690V kW 32	,	230V	kW	10
S00V kW 23 690V kW 32		400V	kW	18
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 75V A 18 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		500V	kW	
		690V	kW	32
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
T5V A 13 110V A 6 220V A -		≤24V	Α	17
110V A 6 220V A -		48V	Α	15
EC max current le in DC1 with L/R \leq 1ms with 2 poles in series \leq 24V A 20 48V A 20 75V A 18 110V A 13 220V A 1		75V	Α	13
Section Sec		110V	Α	6
		220V	Α	_
	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
		≤24V	Α	20
		48V	Α	20
		75V	Α	18
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 22 48V A 22 75V A 20		110V	Α	13
≤24V A 22 48V A 22 75V A 20		220V	Α	1
48V A 22 75V A 20	IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
75V A 20		≤24V	Α	22
		48V	Α	22
110V A 16				
		110V	Α	16



	220V	Α	11
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
·	≤24V	Α	12
	48V	Α	11
	75V	Α	10
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	220 V		
The max current le in boo-boo with bit 2 forts with 2 poles in series	≤24V	Α	15
	48V	A	13
	46 V 75 V		13
		A	
	110V	A	8
150	220V	A	2
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	.= :		4.0
	≤24V	Α	18
	48V	Α	18
	75V	Α	15
	110V	Α	12
	220V	Α	6
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	16
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	32
	aM (IEC)	Α	12
Making capacity (RMS value)		Α	120
Breaking capacity at voltage			
J. Safe stand of the stands	440V	Α	96
	500V	A	96
	690V	A	94
Resistance per note (average value)	090 v	mΩ	2.5
Resistance per pole (average value)		11177	۷.ن
Power dissipation per pole (average value)	141	147	2
	Ith	W	2
Till to die teen et te teen de	AC-3	W	0.4
Tightening torque for terminals			4 =
	min	Nm	1.5
	max	Nm	1.8
	min	Ibin	1.1
	max	lbin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8



		max	Ibin	0.74
	s simultaneously connectable		Nr.	2
Conductor section	A1410 // C 11			
	AWG/Kcmil			40
	Flavible w/s live appelietor agation	max		10
	Flexible w/o lug conductor section	min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section	IIIax	111111	U
	Tiexible 6/W lug conductor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			'
	Tronible Will inculated opade rag confederal coolier	min	mm²	1
		max	mm²	4
D (IP20 when
Power terminal prote	ection according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	487
Auxiliary contact cha	racteristics			
Thermal current Ith			Α	10
IEC/EN 60947-5-1 d				A600 - P600
Operating current AC	215	0001/		
		230V	A	3
		400V	A	1.9
Operating ourrent DO	242	500V	Α	1.4
Operating current DO	512	110V	٨	5.7
Operating ourrent DO	212	1100	A	5.7
Operating current DO	513	24V	Α	5.7
		48V	A	2.9
		60V	A	2.3
		110V	A	1.25
		125V	A	1.1
		220V	A	0.55
		600V	A	0.2
Operations				
Mechanical life			cycles	20000000
Electrical life			cycles	2000000
Safety related data				
•	10d according to EN/ISO 13489-1			
		rated load	cycles	2000000
		mechanical load	cycles	20000000
EMC compatibility				yes
DC coil operating				
DC rated control volt	age		V	24
DC operating voltage	e			
	pick-up			
		min	%Us	70

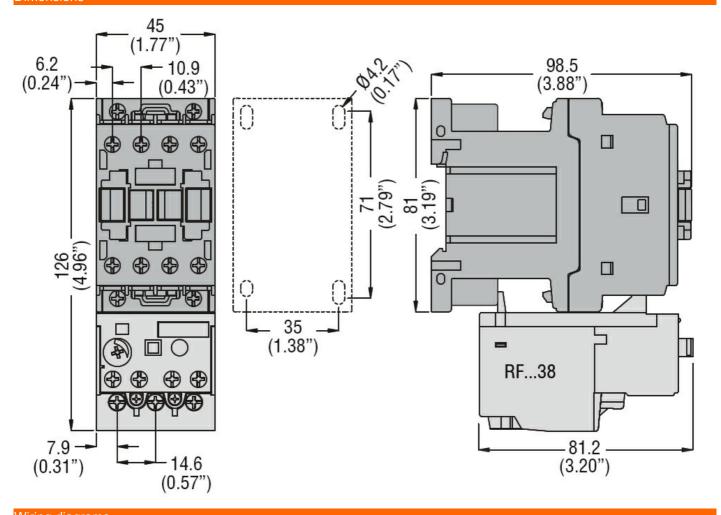




				0/11-	405
	duana anat		max	%Us	125
	drop-out		min	0/116	10
			min	%Us %Us	10
Average coil consump	tion <20°C		max	7005	40
Average con consump	11011 > 20 C		in-rush	W	5.4
			holding	W	5.4
Max cycles frequency			rioiding	VV	J. 1
Mechanical operation				cycles/h	3600
Operating times				0,0100/11	0000
Average time for Us co	ontrol				
	in AC				
		Closing NO			
		S	min	ms	8
			max	ms	24
		Opening NO			
		. •	min	ms	10
			max	ms	20
		Closing NC			
			min	ms	14
			max	ms	28
		Opening NC			
			min	ms	7
			max	ms	18
	in DC				
		Closing NO			
			min	ms	54
			max	ms	66
		Opening NO			
			min	ms	14
			max	ms	17
UL technical data					
Rated operational volta	<u> </u>			V	600
Full-load current (FLA)	for three-phase	AC motor		_	
			at 480V	A	11
V. 11. 1			at 600V	Α	11
Yielded mechanical pe		. 10			
	for single-phas	e AC motor	440/4001		4
			110/120V	HP	1
	for these selection	AC mater	230V	HP	2
	for three-phase	S AC MOTOL	200/2001	UD	E
			200/208V	HP	5
			220/230V 460/480V	HP HP	5 7.5
			575/600V	HP	7.5 10
General USE			373/0000	1 11	10
General USL	Contactor				
	Contactor		AC current	Α	28
	Auxiliary contact	nte .	AC current		20
	Auxiliary Coritat	, io	AC voltage	V	600
			AC current	V A	10
			DC voltage	V	250
			DC current	A	1
Short-circuit protection	fuse 600V		DO OUTTOTIC		•
2.1011 Girodit protootion					

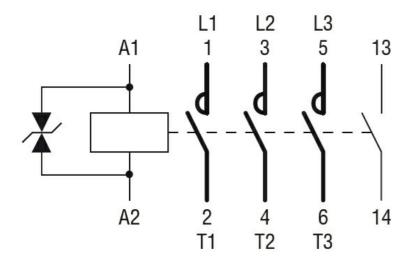


High fault			
•	Short circuit current	kA	100
	Fuse rating	Α	30
	Fuse class		J
Standard fault			_
	Short circuit current	kA	5
	Fuse rating	Α	70
Contact rating of auxiliary contacts according to UL			A600 - P600
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			_
	min	°C	-60
	max	°C	80
Max altitude		m	3000
Resistance & Protection			
Pollution degree			3
Dimensions			



Wiring diagrams





Certifications and compliance

Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN/BS 60947-1

IEC/EN/BS 60947-4-1

UL 60947-1

UL 60947-4-1

Certificates

CCC

cULus

EAC

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching