electric THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL, 48VDC, 1NC **AUXILIARY CONTACT ENERGY AND AUTOMATION**



Nr. 3 Rated instructions Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Uimp K V 6 Rated insulation voltage Uimp Rated Operational frequency Rated Operational frequency Rated C-1 (≤40°C) A 25 AC-1 (≤40°C) A 25 AC-1 (≤55°C) A 20 AC-1 (≤70°C) A 18 AC-3 (≤55°C) A 20 AC-1 (≤70°C) A 18 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4.9 AC-4 (400V) A 4.9 AC-4 (400V) Rated Operational power AC-3 (T≤55°C) A 20 AC-4 (400V) Rated Operational power AC-3 (T≤55°C) A 20 AC-4 (400V) Rated Operational power AC-1 (T≤40°C) AC-4 (400V) AC-4 (400V	Product designation Product type designation			Power contactor BF09
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 25 Operational current Ie AC-1 (≤40°C) A 25 AC-1 (≤55°C) A 20 AC-1 (≤70°C) A 18 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4.9 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.2 440V kW 4.2 440V kW 4.2 440V kW 4.2 440V kW 4.5 440V kW 4.5 440V kW 5.5 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 1.6 500V kW 2.1 1.5 48V A 1.5 48V A 1.5 48V A				
Rated impulse withstand voltage Uimp	Number of poles		Nr.	3
Rated impulse withstand voltage Uimp			V	690
Department Frequency Similar Hz 25 25 25 25 25 25 25 2			kV	6
EC Conventional free air thermal current Ith	Operational frequency			
EC Conventional free air thermal current lth		min	Hz	25
Operational current le AC-1 (≤45°C) A 25 AC-1 (≤55°C) A 20 AC-1 (≤70°C) A 18 AC-3 (≤4400 ≤55°C) A 9 AC-4 (4000V) A 4.9 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 9.5 400V kW 9.5 400V kW 9.5 400V kW 21 690V kW 27 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 18 48V A 18 48V A 18 48V A 12 110V A 12 220V A		max	Hz	400
AC-1 (≤40°C)	IEC Conventional free air thermal current Ith		Α	25
AC-1 (≤55°C) A 20 AC-1 (1570°C) A 18 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4.9 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.2 415V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 2.2 410V kW 4.8 500V kW 5.5 690V kW 2.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 27 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 15 48V A 13 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 6 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series	Operational current le			
AC-1 (≤70°C) A 18 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4.9 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 415V kW 4.5 415V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 21 690V kW 21 690V kW 27 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 15 48V A 13 75V A 12 110V A 6 220V A 7 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 12 110V A 18 48V A 18 75V A 17 110V A 12 220V A 1 110V A 12 220V A 1 110V A 2 220V A 1 110V A 12 220V A 1 110V A 12 220V A 1 110V A 2 220V A 1 110V A 2 220V A 1 110V A 12 220V A 1 110V A 12 220V A 1		AC-1 (≤40°C)	Α	25
AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4.9 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.2 415V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 690V kW 16 500V kW 27 EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 15 48V A 13 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 18 48V A 18 75V A 17 110V A 12 220V A 1		AC-1 (≤55°C)	Α	20
AC-4 (400V)		AC-1 (≤70°C)	Α	18
Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.2 415V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5 Rated operational power AC-1 (T≤40°C) Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 27 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 15 48V A 13 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		AC-3 (≤440V ≤55°C)	Α	9
230V kW 2.2 400V kW 4.2 415V kW 4.5 446V kW 4.5 446V kW 4.8 500V kW 5.5 690V kW 7.5		AC-4 (400V)	Α	4.9
A00V KW 4.2 415V KW 4.5 446V KW 4.8 4.5 446V KW 5.5 690V KW 5.5 690V KW 7.5	Rated operational power AC-3 (T≤55°C)			
A15V		230V	kW	2.2
A40V kW 4.8 500V kW 5.5 690V kW 7.5		400V	kW	4.2
Soov kW 5.5 690V kW 7.5		415V	kW	4.5
Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 27 230V		440V	kW	4.8
Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 27 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 15 48V A 13 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 18 48V A 18 75V A 17 110V A 12 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 20		500V	kW	5.5
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		690V	kW	7.5
A00V kW 16 500V kW 21 690V kW 27	Rated operational power AC-1 (T≤40°C)			
Soov kW 21 690V kW 27 27		230V	kW	9.5
EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V		400V	kW	16
Section Sec		500V	kW	21
		690V	kW	27
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
T5V A 12 110V A 6 220V A -		≤24V	Α	15
110V A 6 220V A -		48V	Α	13
EC max current le in DC1 with L/R \leq 1ms with 2 poles in series \leq 24V A 18 48V A 18 75V A 17 110V A 12 220V A 1			Α	12
EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V				6
		220V	Α	
	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
IEC max current le in DC1 with L/R \leq 1ms with 3 poles in series $ \leq 24V \qquad A \qquad 20 \\ 48V \qquad A \qquad 20 \\ 75V \qquad A \qquad 20 $				
≤24V A 20 48V A 20 75V A 20		220V	Α	
48V A 20 75V A 20	IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
75V A 20				
110V A 15				
		110V	Α	15



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electric THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL, 48VDC, 1NC **AUXILIARY CONTACT ENERGY AND AUTOMATION**

	220V	Α	10
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	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	11
	75V	Α	10
	110V	Α	7
	220V	Α	2
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	Α	15
	48V	Α	15
	75V	Α	13
	110V	Α	11
	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	12
	220V	Α .	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse	0 ((=0)	_	
	gG (IEC)	A	25
Malian and (DMO all a)	aM (IEC)	A	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage	4.401.4		70
	440V	A	72 72
	500V	A	72 71
Desigtance normale (everges value)	690V	A	71
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)	1414	14/	1.6
	Ith AC-3	W	1.6
Tightoning targue for terminals	AU-3	VV	0.2
Tightening torque for terminals	min	Nm	1.5
	min	Nm	1.8
	max min	Ibin	1.8
	max	lbin	1.5
Tightening torque for coil terminal	IIIAX	ווטו	1.0
nghiening torque for contentinal	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8



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ENERGY AND AUTOMATION

Managed Anna	No. Record Constitution	max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	A1A1C/1/amil			
	AWG/Kcmil	may		10
	Florible w/e lug conductor coetien	max		10
	Flexible w/o lug conductor section	min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section	IIIax	111111	0
	Trexible C/W rug corrudctor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section	max		<u> </u>
	r lexible with insulated space lag conductor section	min	mm²	1
		max	mm²	4
		max		IP20 when
Power terminal proted	ction according to IEC/EN 60529			properly wired
Mechanical features				, , , , ,
Operating position				
. 51		normal		Vertical plan
		allowable		±30°
Elistin a				Screw / DIN rail
Fixing				35mm
Weight			g	493
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact char	acteristics	max		10
	acteristics	max	A	10
Thermal current Ith		max	A	
Thermal current Ith IEC/EN 60947-5-1 de	esignation	max	A	10
Thermal current Ith IEC/EN 60947-5-1 de	esignation	230V	A	10
Thermal current Ith IEC/EN 60947-5-1 de	esignation			10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	esignation	230V	A	10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation 15	230V 400V	A A	10 A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V	A A	10 A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V	A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V	A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V	A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Auxiliary contact char Thermal current lth IEC/EN 60947-5-1 de Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	esignation 15 12 13	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 15 12 13 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	esignation 15 12 13 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accord	esignation 15 12 13 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	esignation 15 12 13 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000

electric THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL, 48VDC, 1NC AUXILIARY CONTACT

ENERGY AND AUTOMATION

DC rated control voltage	ge			V	48
DC operating voltage					
	pick-up			0/116	70
			min	%Us	70 425
	drop out		max	%Us	125
	drop-out		min	%Us	10
			max	%Us	40
Average coil consump	tion <20°C		max	7003	+0
Avorago con concump	11011 = 20 0		in-rush	W	5.4
			holding	W	5.4
Max cycles frequency			g		
Mechanical operation				cycles/h	3600
Operating times					
Average time for Us co	ontrol				
· ·	in AC				
		Closing NO			
		-	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
	1. 00		max	ms	18
	in DC	Clasing NO			
		Closing NO	min	me	54
			max	ms ms	66
		Opening NO	Παλ	1115	00
		Opening NO	min	ms	14
			max	ms	17
		Closing NC	max	1110	• •
		5.55mg 115	min	ms	24
			max	ms	30
		Opening NC		-	
		. •	min	ms	47
			max	ms	57
UL technical data					
Full-load current (FLA)	for three-phase A	C motor			
			at 480V	Α	7.6
			at 600V	Α	0.375
Yielded mechanical pe					
	for single-phase	AC motor			
			110/120V	HP	0.75
			230V	HP	2
	for three-phase A	AC motor			
			200/208V	HP	3
			220/230V	HP	3
			460/480V	HP	5
			575/600V	HP	7.5

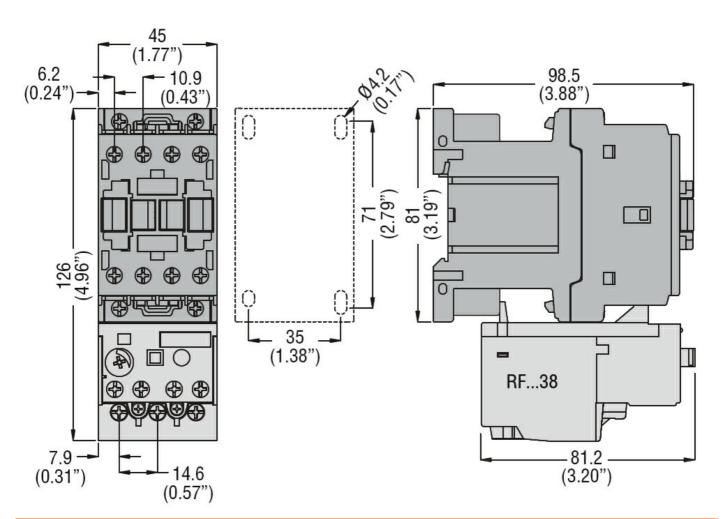


electric THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL, 48VDC, 1NC AUXILIARY CONTACT

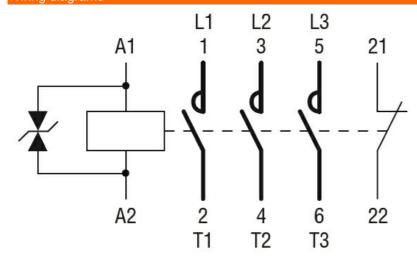
ENERGY AND AUTOMATION

General USE				
General GGL	Contactor			
	Contactor	AC current	Α	25
	Auxiliary contacts			
	,	AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protecti	on fuse, 600V			
	High fault			
		Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	60
	ciliary 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 & Protect	tion			
Impact resistance				1111
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION



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



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CCC				
cULus	_	_		
EAC				

ETIM classification

ETIM 8.0

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EC000066 -Power contactor, AC switching