

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 28A, AC COIL 50/60HZ, 48VAC



Product designation Power contactor Product type designation BF12 Contact characteristics 4 Nr. Number of poles Rated insulation voltage Ui IEC/EN ٧ 690 k√ Rated impulse withstand voltage Uimp 6 Operational frequency min Ηъ 25 max Hz 400 IEC Conventional free air thermal current Ith 28 Α Operational current le AC-1 (≤40°C) Α 28 AC-1 (≤55°C) Α 23 AC-1 (≤70°C) Α 20 AC-3 (≤440V ≤55°C) Α 12 AC-4 (400V) 7.9 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 Α 17 48V 15 75V Α 13 110V Α 6 220V IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V Α 20 48V Α 20 75V Α 18 110V Α 13 220V Α 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series 22 ≤24V Α 48V 22 Α 75V Α 20 110V Α 16 220V 11 IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series ≤24V 20 Α 48V Α 20 75V 20 Α 110V Α 16 220V 12

ENERGY AND AUTOMATION

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 28A, AC COIL 50/60HZ, 48VAC

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	A	_
IEC may ourrent to in	DC2 DC5 with L/D < 15mg with 2 poles in series	220 V		-
IEC max current le in	DC3-DC5 with L/R ≤ 15ms with 2 poles in series	40.4V.		4.5
		≤24V	Α	15
		48V	Α	13
		75V	Α	12
		110V	Α	8
		220V	Α	2
IEC max current le in	DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	·	≤24V	Α	18
		48V	Α	18
		75V	A	15
		110V		
			A	12
150	B00 B05 W 1/B 1/5	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 of	current for 10s (IEC/EN60947-1)		A	150
Protection fuse	difference for the file of Et to to the file of Et to to the file of Et to to the file of Et to the fi			100
FIOLECTION 1036		~C (IEC)	٨	20
		gG (IEC)	Α	32
		aM (IEC)	A	12
Making capacity (RMS value)			Α	120
Breaking capacity at v	oltage			
		440V	Α	96
		500V	Α	96
		690V	Α	94
Resistance per pole (a	average value)		mΩ	2.5
Power dissipation per			11122	2.0
i owei dissipation per	pole (average value)	lth	14/	2
		Ith	W	2
		AC-3	W	0.4
Tightening torque for t	erminals			
		min	Nm	1.5
		max	Nm	1.8
		min	lbin	1.1
		max	lbin	1.5
Tightening torque for o	coil terminal			
3 3 9 6		min	Nm	0.8
		max	Nm	1
		min		0.8
			lbin	
		max	Ibin	0.74
Max number of wires simultaneously connectable			Nr.	2
Conductor section				
	AWG/Kcmil			
		max		10
	Flexible w/o lug conductor section			
	5	min	mm²	1
			* == = *	



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-		max	mm²	6
!	Flexible c/w lug conductor section			
		min	mm²	1
		max	mm²	4
1	Flexible with insulated spade lug conductor			
		min	mm²	1
		max	mm²	4
Power terminal protection	on according to IEC/EN 60529			IP20 when
	Traccoraling to 12-c/211 cocco			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	360
Conductor section				
I	AWG/kcmil conductor section			
		max		10
Operations				
Mechanical life			cycles	20000000
Electrical life			cycles	2000000
Safety related data				
Performance level B10d	according to EN/ISO 13489-1			
	-	rated load	cycles	2000000
		mechanical load	cycles	20000000
Mirror contats according	to IEC/EN 609474-4-1			yes
EMC compatibility	_			yes
AC coil operating				7
Rated AC voltage at 50/6	60Hz		V	48
AC operating voltage				
	of 50/60Hz coil powered at 50Hz			
	pick-up			
	ριοίταρ	_		0.0
		min	%Us	80
		min max	%Us %Us	80 110
	dron-out	min max	%Us %Us	110
	drop-out	max	%Us	110
	drop-out	max min	%Us %Us	110 20
-		max	%Us	110
-	of 50/60Hz coil powered at 60Hz	max min	%Us %Us	110 20
-		max min max	%Us %Us %Us	110 20 55
.	of 50/60Hz coil powered at 60Hz	max min max min	%Us %Us %Us	110 20 55 85
Ţ	of 50/60Hz coil powered at 60Hz pick-up	max min max	%Us %Us %Us	110 20 55
- (of 50/60Hz coil powered at 60Hz	max min max min max	%Us %Us %Us %Us %Us	110 20 55 85 110
-	of 50/60Hz coil powered at 60Hz pick-up	max min max min max min max min	%Us %Us %Us %Us %Us %Us	110 20 55 85 110 20
	of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max min max	%Us %Us %Us %Us %Us	110 20 55 85 110
AC average coil consum	of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max min max min max min	%Us %Us %Us %Us %Us %Us	110 20 55 85 110 20
AC average coil consum	of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max min max min max min max	%Us %Us %Us %Us %Us %Us %Us %Us	110 20 55 85 110 20 55
AC average coil consum	of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max min max min max in-rush	%Us %Us %Us %Us %Us %Us %Us %Us	110 20 55 85 110 20 55
AC average coil consum	of 50/60Hz coil powered at 60Hz pick-up drop-out aption at 20°C of 50/60Hz coil powered at 50Hz	max min max min max min max min max	%Us %Us %Us %Us %Us %Us %Us %Us	110 20 55 85 110 20 55
AC average coil consum	of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max min max min max in-rush holding	%Us	110 20 55 85 110 20 55 75 9
AC average coil consum	of 50/60Hz coil powered at 60Hz pick-up drop-out aption at 20°C of 50/60Hz coil powered at 50Hz	max min max min max min max in-rush holding in-rush	%Us	110 20 55 85 110 20 55 75 9
AC average coil consum	of 50/60Hz coil powered at 60Hz pick-up drop-out aption at 20°C of 50/60Hz coil powered at 50Hz of 50/60Hz coil powered at 60Hz	max min max min max min max in-rush holding	%Us	110 20 55 85 110 20 55 75 9
AC average coil consum	of 50/60Hz coil powered at 60Hz pick-up drop-out aption at 20°C of 50/60Hz coil powered at 50Hz	max min max min max min max in-rush holding in-rush	%Us	110 20 55 85 110 20 55 75 9

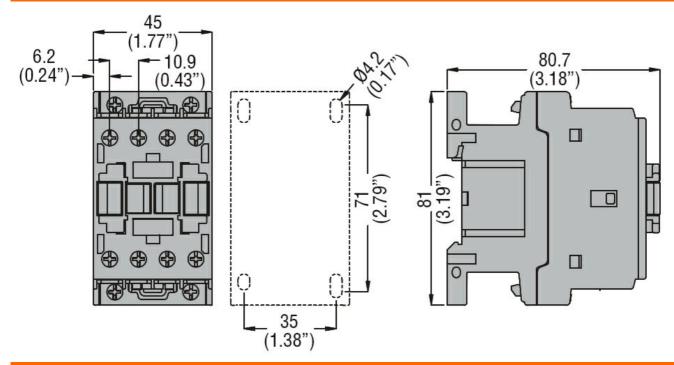


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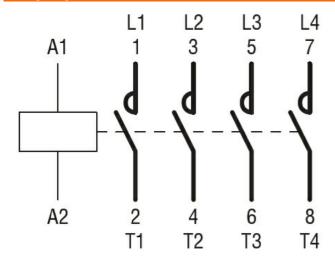
Dissipation at holding ≤20°C 50Hz Max cycles frequency Max dechanical operation Closing NO min ms 8 max ms 24 Opening NO min ms 10 max ms 20 Closing NC min ms 10 max ms 20 Closing NC min ms 14 max ms 28 Opening NC min ms 14 max ms 28 Opening NC min ms 14 max ms 28 Uttechnical data Full-load current (FLA) for three-phase AC motor for single-phase AC motor for three-phase AC motor for three-phase AC motor for three-phase AC motor Closing NC min ms 7 max ms 18 Uttechnical data Full-load current (FLA) for three-phase AC motor for single-phase AC motor for single-phase AC motor for three-phase AC motor Closing NC min ms 7 max ms 18 Uttechnical data Full-load current (FLA) for three-phase AC motor at 480			holding	VA	9
Max cycles frequency Cycles in 3600 Operating times 3600 Average time for Us control min ms 8 8 max ms 24 Closing NO min ms 10 max ms 20 Closing NC min ms 14 max ms 20 Closing NC min ms 7 max ms 28 Opening NC min ms 7 max ms 18 UL technical data max ms 18 Full-load current (FLA) for three-phase AC motor at 4800 A 11 max 11 Yielded mechanical performance for single-phase AC motor 110/120V HP 1 max 12	Dissipation at holding ≤20°C 50Hz				
Closing NO	Max cycles frequency				
Average time for Us control in AC Closing NO	Mechanical operation			cycles/h	3600
in AC Closing NO min ms 8 max ms 24 Opening NO min ms 10 max ms 20 Closing NC min ms 10 max ms 20 Closing NC min ms 14 max ms 28 Opening NC min ms 14 max ms 28 Opening NC min ms 14 max ms 28 Opening NC min ms 7 ms 18 UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 11 at 600V A 11 Yielded mechanical performance for single-phase AC motor 110/120V HP 1 230V HP 2 for three-phase AC motor 110/120V HP 5 220/230V HP 5 220/230V HP 5 460/480V HP 7.5 460/480V HP 7.5 460/480V HP 7.5 575/600V HP 10 General USE Contactor Short-circuit protection fuse, 600V High fault Short circuit current kA 100 Fuse rating A 30 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 5 Fuse class J Standard fault Short circuit current kA 6 Fuse class J Standard fault Short circuit current kA 6 Fuse class S STANDARD R Standard fault Short circuit current kA 6 Fuse class S STANDARD R STA	Operating times				
Closing NO	_				
Max					
Opening NO	Clos	sing NO			0
Opening NO					
Max	One	aning NO	IIIax	1115	24
Closing NC	Оре	aning NO	min	ms	10
Closing NC					
Max	Clos	sina NC	THOX:		
Max		5g . 1 5	min	ms	14
Opening NC					
Min min ms 7 max ms 18 18	Ope	ening NC			
Victor Contactor Contact	·	-	min	ms	7
Full-load current (FLA) for three-phase AC motor at 480V A 11 at 600V A 11 Yielded mechanical performance for single-phase AC motor 110/120V HP 1 230V HP 2 for three-phase AC motor 200/208V HP 5 220/230V HP 5 460/480V HP 7.5 575/600V HP 10 General USE Contactor Contactor AC current A 28 Short-circuit protection fuse, 600V High fault Short circuit current kA 100 Fuse rating A 30 Fuse class J Standard fault Short circuit current kA 5 Fuse rating A 70 Ambient conditions Temperature Operating temperature Operating temperature Min °C -50 max °C 70 Storage temperature Min °C -60 max °C 80 Max altitude Max altitude Max altitude Max altitude Resistance & Protection			max	ms	18
A 480V	UL technical data				
Yielded mechanical performance for single-phase AC motor 110/120V	Full-load current (FLA) for three-phase AC motor				
Yielded mechanical performance for single-phase AC motor 110/120V			at 480V	Α	
For single-phase AC motor 110/120V			at 600V	Α	11
110/120V	Yielded mechanical performance				
Contactor Cont	for single-phase AC motor				
For three-phase AC motor 200/208V HP 5 220/230V HP 5 460/480V HP 7.5 575/600V HP 10 10					
200/208V	-		230V	HP	2
220/230V	for three-phase AC motor				_
A60/480V					
S75/600V HP 10					
Contactor					
Contactor AC current A 28	Conoral LISE		373/0007	пР	10
AC current					
Short-circuit protection fuse, 600V High fault Short circuit current KA 100 Fuse rating A 30 Fuse class J Standard fault Short circuit current KA 5 Fuse rating A 70 Ambient conditions Temperature Min °C -50 max °C 70 Storage temperature min °C -60 max °C 80 Max altitude m 3000 Resistance & Protection Proceedings Proceedings Proceder Proce	Contactor		AC current	۸	28
High fault	Short-circuit protection fuse, 600V		AO current		20
Short circuit current	•				
Fuse rating	i lign iddit		Short circuit current	kΑ	100
Fuse class J					
Standard fault Short circuit current KA 5 Fuse rating A 70			_		
Short circuit current KA 5 Fuse rating A 70	Standard fault				
Fuse rating A 70			Short circuit current	kA	5
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					
Operating temperature	Ambient conditions				
min %C -50 max %C 70 Storage temperature min %C -60 max %C 80 Max altitude m 3000 Resistance & Protection m 3000	Temperature				
Max °C 70 Storage temperature min °C -60 max °C 80 Max altitude m 3000 Resistance & Protection Total control of the con	Operating temperature				
Storage temperature min °C -60 max °C 80 Max altitude m 3000 Resistance & Protection Total color Total color			min		
min °C -60 max °C 80 Max altitude m 3000 Resistance & Protection Total Control Contr			max	°C	70
Max altitude m 3000 Resistance & Protection	Storage temperature				_
Max altitude m 3000 Resistance & Protection			min		
Resistance & Protection			max	°C	
				m	3000
Pollution degree 3					
	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