



Contact characteristicsNumber of polesNr. 3Rated insulation voltage UI IEC/ENVRated insulation voltage UI IEC/ENKVOperational frequencyminHz25maxHzHz400IEC Conventional free air thermal current IthASector voltageAContract (s40°C)AAC-1 (s40°C)AAC-3 (s440V s5°C)AAC-3 (s440V s5°C)AAC-4 (400V)AAC-3 (s440V s5°C)AAC-4 (400V)KWRated operational power AC-3 (T≤55°C)230VkW8400VKW17500VkW400VkW415VkW400VkW415VkW8200V88400VkW16500V230VkW230VkW230VkW440VkW440VkW440VkW440VkW440VkW45690V500VkW622210VA8220V10VA8220V10VA8220V10VA8220V10VA8220V10VA8220V10VA10VA	Product designation Product type designation			Power contactor BF32
Number of poles         Nr.         3           Rated insulation voltage Ui IEC/EN         V         690           Operational frequency         min         Hz         25           Operational frequency         max         Hz         400           IEC Conventional free air thermal current lth         A         56           Operational current le         AC-1 (\$40°C)         A         56           Operational current le         AC-1 (\$40°C)         A         56           AC-1 (\$40°C)         A         56         A           AC-3 (\$4400V)         A         32         A           AC-4 (400V)         A         13.5         A           Rated operational power AC-3 (T<55°C)				5, 62
Rated insulation voltage Ui IEC/EN       V       690         Rated inpulse withstand voltage Uimp       KV       6         Operational frequency       min       Hz       25         IEC Conventional frequency       min       Hz       25         Operational current le       A       56         Operational current le       AC-1 (\$40°C)       A       56         AC-1 (\$55°C)       A       40       AC-3 (\$440V \$55°C)       A       32         Rated operational power AC-3 (T\$55°C)       230V       KW       8.8       400V kW       17         Stated operational power AC-1 (T\$40°C)       230V       kW       22       230V       kW       22         Rated operational power AC-1 (T\$40°C)       230V       kW       21       400V       45         690V       kW       22       230V       kW       22       230V       kW       22         Rated operational power AC-1 (T\$40°C)       230V       kW       22       230V       kW       22         IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series       \$24V       A       30       48V       A       32         IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series       \$24V       A <t< td=""><td></td><td></td><td>Nr.</td><td>3</td></t<>			Nr.	3
Rated impulse withstand voltage Uimp         kV         6           Operational frequency         min         Hz         25           max         Hz         400           IEC Conventional free air thermal current lth         A         56           Operational current le         AC-1 (≤40°C)         A         56           AC-1 (≤55°C)         A         45         AC-1 (≤55°C)         A         32           Rated operational power AC-3 (T≤55°C)         Z30V         KW         8.8         400V         16           415V         KW         16         415V         KW         17           500V         kW         20         690V         kW         20           690V         kW         21         440V         kW         17           500V         kW         22         230V         kW         26           75V         A         22         22         24V         A         30           48V         A         26         75V         A         22           IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series         224V         A         32           420V         A         32         240V         A				690
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Rated impulse withstand voltage Uimp		kV	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				
IEC conventional free air thermal current lth A 56 Operational current le $AC-1 (\leq 40^{\circ}C)$ A 56 $AC-1 (\leq 55^{\circ}C)$ A 45 $AC-1 (\leq 70^{\circ}C)$ A 40 $AC-3 (\leq 4400 < \leq 55^{\circ}C)$ A 32 AC-4 (400V) A 13.5 Rated operational power AC-3 (T≤55°C) 230V kW 8.8 400V kW 16 415V kW 17 440V kW 17 440V kW 17 440V kW 20 690V kW 20 690V kW 22 Rated operational power AC-1 (T≤40°C) 230V kW 45 690V kW 45 690V kW		min	Hz	25
Operational current le       AC-1 (≤40°C)       A       56         AC-1 (≤55°C)       A       45         AC-3 (≤440V ≤55°C)       A       32         Rated operational power AC-3 (T≤55°C)       230V       kW       8.8         400V       kW       16         415V       kW       16         415V       kW       17         440V       kW       17         500V       kW       20         690V       kW       21         400V       kW       36         500V       kW       22         Rated operational power AC-1 (T≤40°C)       230V       kW       21         400V       kW       36       500V       kW       36         500V       kW       32       69       kW       42         1EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series       \$24V       A       32         1EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series       \$24V       A       32         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series       \$24V       A       32         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series       \$24V       A       32		max	Hz	
AC-1 (≤40°C)       A       56         AC-1 (≤55°C)       A       45         AC-1 (≤55°C)       A       40         AC-3 (≤440V 555°C)       A       32         AC-4 (400V)       A       13.5         Rated operational power AC-3 (T≤55°C)       230V       kW       8.8         400V       kW       16         415V       kW       17         400V       kW       17         500V       kW       20         690V       kW       21         400V       kW       17         500V       kW       22         Rated operational power AC-1 (T≤40°C)       230V       kW         230V       kW       21         400V       kW       21         400V       kW       22         Rated operational power AC-1 (T≤40°C)       230V       kW         EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series       ≤24V       A         ≤24V       A       30         48V       A       22         110V       A       8         220V       A       32         120V       A       32	IEC Conventional free air thermal current Ith		А	56
	Operational current le			
AC-1 (≤70°C)       A       40         AC-3 (≤440V 55°C)       A       32         AC-4 (400V)       A       13.5         Rated operational power AC-3 (T≤55°C)       230V       kW       8.8         400V       kW       16         415V       kW       17         440V       kW       17         500V       kW       17         500V       kW       20         690V       kW       21         400V       kW       21         400V       kW       21         400V       kW       230V         Rated operational power AC-1 (T≤40°C)       230V       kW         21EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series       ≤24V       A       30         48V       A       26       75V       A       22         110V       A       8       220V       A       -         1EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series       ≤24V       A       32         48V       A       32       75V       A       22         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series       ≤24V       A       32         110V		AC-1 (≤40°C)	А	56
AC-3 (≤440V ≤55°C)       A       32         AC-4 (400V)       A       13.5         Rated operational power AC-3 (T≤55°C)       230V       kW       8.8         400V       kW       16         415V       kW       17         440V       kW       20         690V       kW       20         690V       kW       22         Rated operational power AC-1 (T≤40°C)       230V       kW       21         400V       kW       36       500V       kW       36         500V       kW       45       690V       kW       45         690V       kW       45       690V       kW       62         IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series       22V       A       30         48V       A       26       75V       A       22         IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series       22VV       A       32         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series       22VV       A       32         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series       22VV       A       32         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		AC-1 (≤55°C)	А	45
AC-4 (400V)       A       13.5         Rated operational power AC-3 (T≤55°C)       230V       kW       8.8         400V       kW       16         415V       kW       17         440V       kW       17         500V       kW       20         690V       kW       22         Rated operational power AC-1 (T≤40°C)         230V       kW       21         400V       kW       36         500V       kW       45         690V       kW       45         690V       kW       45         690V       kW       45         690V       kW       42         1EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series       ≤24V       A       30         48V       A       26       75V       A       22         1IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series       ≤24V       A       32         220V       A       32       5       220V       A       32         1IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series       ≤24V       A       32       3         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles i		AC-1 (≤70°C)	А	40
Rated operational power AC-3 (T≤55°C)       230V       kW       8.8         400V       kW       16         415V       kW       17         440V       kW       17         500V       kW       20         690V       kW       22         Rated operational power AC-1 (T≤40°C)         Rated operational power AC-1 (T≤40°C)         230V       kW       21         400V       kW       36       500V       kW       45         690V       kW       46       690V       kW       62         IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series         S24V       A       30         48V       A       26       75V       A       22         110V       A       8       220V       A       -         IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series       ≤24V       A       32         100V       A       3         100V       A       32         24V       A       32         220V       A       3         100V       A <td></td> <td>AC-3 (≤440V ≤55°C)</td> <td>А</td> <td>32</td>		AC-3 (≤440V ≤55°C)	А	32
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		AC-4 (400V)	А	13.5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Rated operational power AC-3 (T≤55°C)			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			kW	8.8
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		400V	kW	16
500V 690VkW20 690VRated operational power AC-1 (T≤40°C)230V 400VkW21 400V230VkW21 400VkW36 500V690VkW45 690V690VkW62IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $\leq 24V$ A30 48VA26 75VA22 110VA8 220VA-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $\leq 24V$ A32 48VA32 75VA28 110VA25 220VA20 2110VA25 220VA32 31EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A32 332 48VA32 332 48VA32 332 48VA32 3IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A32 48VA32 <td></td> <td></td> <td></td> <td></td>				
690V       kW       22         Rated operational power AC-1 (T≤40°C)       230V       kW       21         400V       kW       36         500V       kW       45         690V       kW       62         IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $\leq 24V$ A       30         48V       A       26       75V       A       22         110V       A       8       220V       A       -         IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $\leq 24V$ A       32         48V       A       32       48V       A       32         1EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $\leq 24V$ A       32         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A       32         1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A       32         IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A       32         48V       A       32       3       3         IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A       32         48V <td></td> <td></td> <td>kW</td> <td>17</td>			kW	17
Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 30 48V A 26 75V A 22 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 32 48V A 32 75V A 28 110V A 25 220V A 3 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 32 75V A 28 110V A 25 220V A 3 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 32 75V A 32 48V A 32 75V A 32				
$\begin{array}{c} 230 \lor & k \Downarrow & 21 \\ 400 \lor & k \Downarrow & 36 \\ 500 \lor & k \Downarrow & 45 \\ 690 \lor & k \cr & 62 \end{array}$		690V	kW	22
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Rated operational power AC-1 (T≤40°C)			
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				
690VkW62IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $\leq 24$ VA3048VA2675VA22110VA8220VA-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $\leq 24$ VA3248VA3275VA28110VA25220VA3IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24$ VA32110VA25220VA3IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24$ VA32IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24$ VA32120VA333IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24$ VA32120VA3233IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24$ VA32120VA3233120VA3233120VA3233120VA3233120VA3233120VA3233120VA3233120VA3233120VA3233120VA3233120VA32<				
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $\leq 24V$ A30 $48V$ A26 $75V$ A22 $110V$ A8 $220V$ A-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $\leq 24V$ A32 $48V$ A32 $75V$ A28 $110V$ A25 $220V$ A3IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A32IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A32 $48V$ A32 $48V$ A32 $75V$ A32 $48V$ A32 $48V$ A32 $48V$ A32 $75V$ A32 $75V$ A32				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		690V	kVV	62
$ \begin{array}{cccc} 48V & A & 26\\ 75V & A & 22\\ 110V & A & 8\\ 220V & A & -\\ \end{array} \\ \hline \begin{tabular}{lllllllllllllllllllllllllllllllllll$	IEC max current le in DC1 with $L/R \le 1$ ms with 1 poles in series	.0.11/		
$\begin{array}{c cccc} 75 & A & 22 \\ 110 & A & 8 \\ 220 & A & - \end{array}$ IEC max current le in DC1 with L/R $\leq$ 1ms with 2 poles in series $\begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				
$220V$ A-IEC max current le in DC1 with L/R < 1ms with 2 poles in series				
IEC max current le in DC1 with L/R < 1ms with 2 poles in series				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	IFC may autrent lo in DC1 with L/D < 1mg with 2 notes in series	2200	A	_
$ \begin{array}{cccc} 48 \lor & A & 32 \\ 75 \lor & A & 28 \\ 110 \lor & A & 25 \\ 220 \lor & A & 3 \end{array} $ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $ \begin{array}{cccc} \leq 24 \lor & A & 32 \\ 48 \lor & A & 32 \\ 75 \lor & A & 32 \end{array} $	The contrast current le in DCT with $L/R \leq 100$ with 2 poles in series	<241/	٨	22
$\begin{array}{cccc} 75 \lor & A & 28 \\ 110 \lor & A & 25 \\ 220 \lor & A & 3 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{array}{cccc} \leq 24 \lor & A & 32 \\ 48 \lor & A & 32 \\ 75 \lor & A & 32 \end{array}$				
$ \begin{array}{c cccc} 110 V & A & 25 \\ 220 V & A & 3 \end{array} \\ \hline \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \leq 24 V & A & 32 \\ & 48 V & A & 32 \\ & 75 V & A & 32 \end{array} \\ \end{array} $				
220V         A         3           IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series         ≤24V         A         32           48V         A         32           75V         A         32				
IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\leq 24V$ A3248VA3275VA32				
≤24V A 32 48V A 32 75V A 32	IFC max current le in DC1 with L/R < 1ms with 3 notes in series	220 V	~	5
48V A 32 75V A 32		<2/\/	Δ	32
75V A 32				
		110V	A	27



# THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 32A, DC COIL, 12VDC

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	220V	А	23
IEC max current le in DC1 with L/R $\leq$ 1ms with 4 poles in series			
	≤24V	А	-
	48V	А	-
	75V	А	_
	110V	A	_
	220V	A	-
IEC max current le in DC3-DC5 with L/R $\leq$ 15ms with 1 poles in series			
	≤24V	A	20
	48V	A	17
	75V	A	15
	110V	A	2,5
	220V	A	-
IEC max current le in DC3-DC5 with L/R $\leq$ 15ms with 2 poles in series	-0 A) (		0.5
	≤24V	A	25
	48V	A	22
	75V	A	20
	110V	A	15
	220V	A	3
IEC max current le in DC3-DC5 with L/R $\leq$ 15ms with 3 poles in series	-0.07		
	≤24V	A	30
	48V	A	28
	75V	A	28
	110V	A	20
	220V	A	23
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 4 poles in series	(O.1) /	•	
	≤24V	A	-
	48V	A	-
	75V	A	-
	110V	A	-
	220V	<u>A</u>	
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
Protection fuse		۸	<u></u>
	gG (IEC)	A	63
Malina and aits (DMO status)	aM (IEC)	A	32
Making capacity (RMS value)		A	320
Breaking capacity at voltage	4 4 0 1 /	۸	250
	440V	A	256
	500V	A	240
	690V	A	192
Resistance per pole (average value)		mΩ	2
Power dissipation per pole (average value)	146	14/	0
	Ith	W	6
Tightoning torque for terminels	AC-3	W	2
Tightening torque for terminals		Nina	2.5
	min	Nm Nm	2.5
	max	Nm Ibin	3
	min	lbin Ibin	1.8
Tightoning targue for coil terminal	max	lbin	2.2
Tightening torque for coil terminal		Nine	0.0
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8

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Conductor section

Max number of wires simultaneously connectable

AWG/Kcmil

#### THREE-POLE CONTACTOR

R, IEC OPERATING CURREN	T IE (AC	3) = 32A	<b>BF3200D012</b> A, DC COIL, 12VDC	
	max	Ibin	0.74	
		Nr.	2	
	max		6	
ection				
	min	mm²	2.5	
	max	mm²	16	
ation				

		moor		•
	Flexible w/o lug conductor section			
		min	mm²	2.5
		max	mm²	16
	Flexible c/w lug conductor section			
		min	mm²	1
		max	mm²	10
	Flexible with insulated spade lug conductor section			
		min	mm²	1
		max	mm²	10
Bower terminal prote	ation according to IEC/EN 60520			IP20 when
Power terminal prote	ction according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fiving				Screw / DIN rail
Fixing				35mm
Weight			g	562
Conductor section				
	AWG/kcmil conductor section			
		max		6
Operations				
Mechanical life			cycles	2000000

Electrical life		cycles
Safety related data		
Performance level B10d according to EN/ISO 13489-1		
	rated load	cycles
	mechanical load	cycles
Mirror contats according to IEC/EN 609474-4-1		
EMC compatibility		

0			2
EMC compatibility			yes
DC coil operating			
DC rated control voltage		V	12
DC operating voltage			
pick-up			
	min	%Us	70
	max	%Us	125
drop-out			
	min	%Us	10
	max	%Us	40
Average coil consumption ≤20°C			
	in-rush	W	5.4
	holding	W	5.4
Max cycles frequency			
Mechanical operation		cycles/h	3600

**Operating times** 

Average time for Us control

in AC

**Closing NO** 

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1600000

1600000

2000000

yes

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ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 32A, DC COIL, 12VDC

		min	ms	8
		max	ms	24
	Opening N			
		min	ms	5
		max	ms	15
	Closing N			
		min	ms	9
		max	ms	20
	Opening N			
		min	ms	9
		max	ms	17
	in DC			
	Closing N	0		
		min	ms	54
		max	ms	66
	Opening I	NO		
		min	ms	14
		max	ms	17
UL technical data				
Full-load current (FLA	) for three-phase AC motor			
		at 480V	А	27
		at 600V	А	27
Yielded mechanical p	erformance			
	for single-phase AC motor			
		110/120V	HP	3
		230V	HP	7.5
	for three-phase AC motor			
		200/208V	HP	10
		220/230V	HP	10
		460/480V	HP	20
		575/600V	HP	25
General USE				
	Contactor			
	•••••••••	AC current	А	55
Short-circuit protectio	n fuse, 600V			
	High fault			
	····giriadit	Short circuit current	kA	100
		Fuse rating	A	100
		Fuse class	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	J
	Standard fault	1 430 61833		~
	Standard radit	Short circuit current	kA	5
		Fuse rating	A	5 125
Ambient conditions			~	120
Temperature				
remperature	Operating temperature			
	Operating temperature	min	°C	-50
			С О°	-50 70
	Storogo tomocrature	max	U	10
	Storage temperature	<sup>1</sup>	° <b>^</b>	60
		min	°C °C	-60
May altitude		max	°C	80
Max altitude			m	3000
Resistance & Protect	on			2
Pollution degree				3
Dimensions				

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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

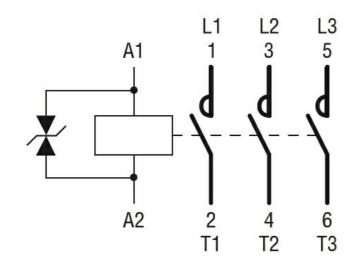


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45 -0A.2 14.6 7.9 107.5 ()3 8 8 0 0 80 06 П 134.8-0 Г 0 刘 AU 35 -RF...38 62 8 

#### Wiring diagrams

7.9-



14.6

### 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

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## **BF3200D012** THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 32A, DC COIL, 12VDC

	cULus	
	EAC	
ETIM classification		
		EC000066 -

ETIM 8.0

EC000066 -Power contactor, AC switching