## 11BF1100024



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 110A, AC COIL 50/60HZ, 24VAC



Contact characteristicsNumber of polesnr.3Rated insulation voltage UiV1000Rated insulation voltage UimpkV8Operating frequencyOperational frequency min Operational frequency maxHz25Operating currentOperational frequency maxHz400Conventional free air thermal current IthA125Operating currentOperational current AC1 (\$40°C)A125Conventional power AC1 (TS40°C)230VkW47Ad00VkW82500VkW108Georational power AC3 (TS55°C)230VkW33400VRated operational power AC3 (TS55°C)230VkW33400VRated operational power AC3 (TS55°C)230VkW801000VProtection fusegG (IEC)A160add (EC)Broacting capacity (RMS value)A1200Breaking capacity 550VA1200Breaking capacity st voltageBreaking capacity 550VA1200Breaking capacity 550VA1200Breaking capacity for pole (average value)mm $0.6$ Power dissipation pole (average value)min $M_{T}$ $A_{T}$ Power dissipation pole (average value)Power dissipation pole (average value)min $M_{T}$ $A_{T}$ Tightening torque for terminalsminMin $A_{T}$ $A_{T}$ Making capacity for terminalsminMin $A_{T}$ Power dissipation per pole (average value)<	Product designation Product type designation			Power contactor 11BF110
Number of poles         nr.         3           Rated insulation voltage Uimp         V         1000           Rated insulation voltage Uimp         kV         8           Operating frequency         Operational frequency min         Hz         25           Operational frequency max         Hz         400         400           Conventional free air thermal current lth         A         125           Operational current AC1 (540°C)         A         125           Coperational power AC1 (T≤40°C)         A         110           Rated operational power AC1 (T≤40°C)         A         128           Rated operational power AC3 (T≤55°C)         A         110           Rated operational power AC3 (T≤55°C)         230V         kW         400           Rated operational power AC3 (T≤55°C)         230V         kW         128           Rated operational power AC3 (T≤55°C)         230V         kW         33           400V         kW         66         440V         kW         70           500V         kW         680         400V         kW         55           690V         kW         880         1000V         kW         5           Forturime allowable current for 10s (IEC/EN60947-1)				
Rated insulation voltage Ui         V         1000           Rated impulse withstand voltage Uimp         kV         8           Operating frequency         Operational frequency min         Hz         25           Operational frequency max         Hz         400         A         125           Operational frequency max         A         125         A         125           Operating current         Operational current AC1 (≤40°C)         A         125           Operational power AC1 (T≤40°C)         A         125         A           Rated operational power AC3 (T≤55°C)         A         110         B           Rated operational power AC3 (T≤55°C)         230V         kW         47           4000         kW         88         B         B           Rated operational power AC3 (T≤55°C)         230V         kW         40           Rated operational power AC3 (T≤55°C)         230V         kW         80           Protection fuse         GG (IEC)         A         880           Protection fuse         gG (IEC)         A         125           Making capacity RMS value)         A         1200         Breaking capacity 440V         A         1200           Breaking capacity at voltage			nr.	3
Operating frequency         Operational frequency min Operational frequency max         Hz         25 Hz           Conventional frequency max         Hz         400           Conventional frequency max         Hz         400           Operational current AC1 (≤40°C)         A         125           Operational current AC3 (≤440V ≤55°C)         A         110           Rated operational power AC1 (T≤40°C)         230V         kW         47           4000V         kW         82         500V         kW         108           690V         kW         128         690V         kW         128           Rated operational power AC3 (T≤55°C)         230V         kW         33         400V         kW         66           440V         kW         66         440V         kW         70         500V         kW         80           Short-time allowable current for 10s (IEC/EN60947-1)         A         880         Protection fuse         gG (IEC)         A         125           Making capacity (RMS value)         A         1200         Breaking capacity 440V         A         1200           Breaking capacity out use         Breaking capacity 500V         A         1050         Breaking capacity 500V         A			V	1000
Operational frequency min Operational frequency max         Hz         25           Conventional free air thermal current lth         A         125           Operational current AC1 (≤40°C)         A         125           Operational current AC3 (≤440V ≤55°C)         A         110           Rated operational power AC1 (T≤40°C)         230V         kW         47           400V         kW         82         500V         kW         82           500V         kW         108         690V         kW         82           690V         kW         128         83         400V         kW         82           690V         kW         128         83         400V         kW         82           690V         kW         18         66         415V         kW         66           440V         kW         70         500V         kW         80           900V         kW         80         690V         kW         80           Protection fuse         gG (EC)         A         180           Breaking capacity (RMS value)         A         1200         Breaking capacity 440V         A         1200           Breaking capacity foorv         A	Rated impulse withstand voltage Uimp		kV	8
Operational frequency max         Hz         400           Conventional free air thermal current Ith         A         125           Operating current         Operational current AC1 (s40°C)         A         125           Conventional power AC1 (Ts40°C)         A         110         A         100           Rated operational power AC1 (Ts40°C)         230V         kW         47         400V         kW         82           S00V         kW         108         690V         kW         108         690V         kW         128           Rated operational power AC3 (Ts55°C)         230V         kW         33         440V         kW         66           440V         kW         66         440V         kW         70         500V         kW         80           Short-time allowable current for 10s (IEC/EN60947-1)         A         880         80         80           Protection fuse         gG (IEC)         A         160         ad (IEC)         4         125           Making capacity (RMS value)         A         1200         Breaking capacity 440V         A         1200           Breaking capacity footy A         800         Resistance per pole (average value)         mQ         0.6	Operating frequency			
Conventional free air thermal current Ith       A       125         Operating current       Operational current AC1 (≤40°C)       A       125         Operational current AC3 (≤440V ≤55°C)       A       110         Rated operational power AC1 (T≤40°C)       230V       kW       47         4000V       kW       82       500V       kW       108         690V       kW       128       690V       kW       128         Rated operational power AC3 (T≤55°C)       230V       kW       61       415V       kW       66         4400V       kW       70       500V       kW       70       500V       kW       70         500V       kW       61       415V       kW       66       440V       kW       70         500V       kW       80       1000V       kW       45       500V       kW       80         Protection fuse       gG (IEC)       A       160       ad (IEC)       A       1200         Breaking capacity (RMS value)       A       1200       Breaking capacity 40V       A       1200         Breaking capacity fo0V       A       1050       Breaking capacity 690V       A       1050         Brea		Operational frequency min	Hz	25
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		Operational frequency max	Hz	400
Operational current AC1 (≤40°C)         A         125           Rated operational power AC1 (T≤40°C)         A         110           Rated operational power AC1 (T≤40°C)         230V         kW         47           4000V         kW         82         500V         kW         108           690V         kW         128         8         890V         kW         128           Rated operational power AC3 (T≤55°C)         230V         kW         33         400V         kW         66           440V         kW         66         440V         kW         70         500V         kW         66           500V         kW         66         440V         kW         70         500V         kW         80           690V         kW         80         1000V         kW         80         1000V         kW         80           Protection fuse         gG (IEC)         A         160         aM (IEC)         A         125           Making capacity (RMS value)         A         1200         Breaking capacity 440V         A         1200           Breaking capacity (RMS value)         M         1050         Breaking capacity 690V         A         1050 <t< td=""><td>Conventional free air thermal current Ith</td><td></td><td>А</td><td>125</td></t<>	Conventional free air thermal current Ith		А	125
Operational current AC3 (≤440V ≤55°C)         A         110           Rated operational power AC1 (T≤40°C)         230V         kW         47           400V         kW         82         500V         kW         108           690V         kW         128         690V         kW         33           400V         kW         61         415V         kW         66           440V         kW         70         500V         kW         70           500V         kW         70         500V         kW         70           500V         kW         70         500V         kW         80           1000V         kW         70         500V         kW         80           1000V         kW         80         690V         kW         80           Protection fuse         gG (IEC)         A         160         aM (IEC)         A         125           Making capacity (RMS value)         A         1200         Breaking capacity 440V         A         1200           Breaking capacity fo0V         A         1200         Breaking capacity 690V         A         1050           Breaking capacity fo0V         A         1200	Operating current			
Rated operational power AC1 (T≤40°C)       230V       kW       47         400V       kW       82       500V       kW       108         690V       kW       128       8       690V       kW       128         Rated operational power AC3 (T≤55°C)       230V       kW       33       400V       kW       66         415V       kW       66       440V       kW       70       500V       kW       80         1000V       kW       59       690V       kW       80       1000V       kW       45         Short-time allowable current for 10s (IEC/EN60947-1)       A       880       800       1000V       kW       45         Short-time allowable current for 10s (IEC/EN60947-1)       A       880       1000V       kW       45         Short-time allowable current for 10s (IEC/EN60947-1)       A       880       1000V       kW       45         Short-time allowable current for 10s (IEC/EN60947-1)       A       800       1000V       kW       400         Breaking capacity (RMS value)       A       1200       Breaking capacity 440V       A       1200         Breaking capacity 440V       A       1050       Breaking capacity 500V       A <td< td=""><td></td><td> ,</td><td>А</td><td>125</td></td<>		,	А	125
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Operational current AC3 (≤440V ≤55°C)	Α	110
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Rated operational power AC1 (T≤40°C)			
$ \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 $				
Rated operational power AC3 (T≤55°C) $230V$ kW33 $400V$ kW61 $415V$ kW66 $440V$ kW70 $500V$ kW59 $690V$ kW80 $1000V$ kW45Short-time allowable current for 10s (IEC/EN60947-1)A880Protection fusegG (IEC)A160aM (IEC)A125Making capacity (RMS value)A1200Breaking capacity at voltageBreaking capacity 440VA1200Breaking capacity 500VA1050Breaking capacity 690VA800Resistance per pole (average value)mΩ0.6Power dissipation per pole (average value)mΩ0.6Power dissipation pole (average value)mΩ0.6Power dissipation pole (average value)mΩ0.6Power dissipation pole (average value)mN4MaxNm5minlbft2.95				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		690V	kW	128
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Rated operational power AC3 (T≤55°C)			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$\begin{array}{c cccc} 690 & k & 80 \\ 1000 & k & 45 \\ \hline \end{array}$				
1000VkW45Short-time allowable current for 10s (IEC/EN60947-1)A880Protection fusegG (IEC)A160aM (IEC)A125Making capacity (RMS value)A1200Breaking capacity at voltageBreaking capacity 440VA1200Breaking capacity 500VA1050Breaking capacity 690VA800Resistance per pole (average value)mΩ0.6Power dissipation per pole (average value)Power dissipation pole (average value) Ith AC3W9.4AC3W7.3Tightening torque for terminalsmin max Nm5 minMinNm5 minIbft2.95				
Short-time allowable current for 10s (IEC/EN60947-1)       A       880         Protection fuse       gG (IEC)       A       160         aM (IEC)       A       125         Making capacity (RMS value)       A       1200         Breaking capacity at voltage       Breaking capacity 440V       A       1200         Breaking capacity 500V       A       1050       Breaking capacity 500V       A       1050         Breaking capacity 690V       A       800       Resistance per pole (average value)       mΩ       0.6         Power dissipation per pole (average value)       Power dissipation pole (average value) Ith       W       9.4         AC3       W       7.3       Tightening torque for terminals       min       Nm       4         max       Nm       5       min       Ibft       2.95				
Protection fuse       gG (IEC)       A       160         aM (IEC)       A       125         Making capacity (RMS value)       A       1200         Breaking capacity at voltage       Breaking capacity 440V       A       1200         Breaking capacity 500V       A       1050       Breaking capacity 500V       A       1050         Breaking capacity 690V       A       800       Resistance per pole (average value)       mΩ       0.6         Power dissipation per pole (average value)       Power dissipation pole (average value) Ith       W       9.4         AC3       W       7.3         Tightening torque for terminals       min       Nm       4         min       Ibft       2.95				
gG (IEC) aM (IEC)A160 AMaking capacity (RMS value)A1200Breaking capacity at voltageBreaking capacity 440V Breaking capacity 500V Breaking capacity 500V Breaking capacity 690VA1200 AResistance per pole (average value)mΩ0.6Power dissipation per pole (average value)Power dissipation pole (average value) 1th AC3W9.4 Y.3Tightening torque for terminalsmin MNm4 M AC3Min MNm5 minIbft2.95		60947-1)	A	880
aM (IEC)       A       125         Making capacity (RMS value)       A       1200         Breaking capacity at voltage       Breaking capacity 440V       A       1200         Breaking capacity 500V       A       1050       Breaking capacity 500V       A       1050         Breaking capacity 690V       A       800       Model       Model       Model       Model         Resistance per pole (average value)       mΩ       0.6       0.6       Model       Model<	Protection fuse			
Making capacity (RMS value)       A       1200         Breaking capacity at voltage       Breaking capacity 440V       A       1200         Breaking capacity 500V       A       1050         Breaking capacity 500V       A       1050         Breaking capacity 690V       A       800         Resistance per pole (average value)       mΩ       0.6         Power dissipation per pole (average value)       Power dissipation pole (average value) Ith AC3       W       9.4         AC3       W       7.3       Tightening torque for terminals       min       Nm       4         min       Ibft       2.95       2.95       Min       1050		- · · · · ·		
Breaking capacity at voltage       Breaking capacity 440V       A       1200         Breaking capacity 500V       A       1050         Breaking capacity 690V       A       800         Resistance per pole (average value)       mΩ       0.6         Power dissipation per pole (average value)       Power dissipation pole (average value) Ith       W       9.4         AC3       W       7.3         Tightening torque for terminals       min       Nm       4         max       Nm       5       min       Ibft       2.95		am (IEC)		
Breaking capacity 440VA1200Breaking capacity 500VA1050Breaking capacity 690VA800Resistance per pole (average value)mΩ0.6Power dissipation per pole (average value)Power dissipation pole (average value) Ith AC3W9.4AC3W7.3Tightening torque for terminalsmin max minNm4 S S min			A	1200
Breaking capacity 500V       A       1050         Breaking capacity 690V       A       800         Resistance per pole (average value)       mΩ       0.6         Power dissipation per pole (average value)       Power dissipation pole (average value) Ith       W       9.4         AC3       W       7.3         Tightening torque for terminals       min       Nm       4         max       Nm       5       min       Ibft       2.95	Breaking capacity at voltage			1000
Breaking capacity 690V       A       800         Resistance per pole (average value)       mΩ       0.6         Power dissipation per pole (average value)       Power dissipation pole (average value) Ith AC3       W       9.4         AC3       W       7.3         Tightening torque for terminals       min Nm 4       4         max       Nm 5       5         min       Ibft       2.95		• • •		
Resistance per pole (average value)       mΩ       0.6         Power dissipation per pole (average value)       Power dissipation pole (average value) Ith       W       9.4         AC3       W       7.3         Tightening torque for terminals       min       Nm       4         max       Nm       5       min       Ibft       2.95				
Power dissipation per pole (average value) Power dissipation pole (average value) Ith W 9.4 AC3 W 7.3 Tightening torque for terminals min Nm 4 max Nm 5 min Ibft 2.95	Registeres per pelo (averago veluo)	Breaking capacity 690 v		
Power dissipation pole (average value) Ith       W       9.4         AC3       W       7.3         Tightening torque for terminals       min       Nm       4         max       Nm       5         min       Ibft       2.95			11112	0.6
AC3 W 7.3 Tightening torque for terminals min Nm 4 max Nm 5 min Ibft 2.95	Power dissipation per pole (average value)	Dower dissinction hale (overage value) Ith	14/	0.4
Tightening torque for terminals min Nm 4 max Nm 5 min Ibft 2.95		,		
min Nm 4 max Nm 5 min Ibft 2.95	Tightoping torque for terminale	AC3	vv	1.5
max Nm 5 min Ibft 2.95			Nm	Δ
min Ibft 2.95				
max Ibft 3.7				

## Tightening torque for coil terminal



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ONTACTOR, IEC OPERATING CURRENT IE (AC3) = 110A, AC COIL 50/60H	ΗZ,
24V.	AC

		min	Nm	0.8
		max	Nm	1
		min	lbft	0.8
		max	lbft	0.74
max number of wires s	simultaneously connectable		nr.	1
Conductor section				
	AWG			
	AWO	min		14
				2/0
		max		2/0
	Flexible w/o lug conductor section			0
		min	mm²	6
		max	mm²	50
	Flexible c/w lug conductor section			
		min	mm²	6
		max	mm²	50
Power terminal protec	tion according to IEC/EN 60529			IP20 front
Auxiliary contact chara	acteristics			
Operational current AC	C1 (≤40°C)		А	125
Operating current DC1				
		110V	А	Screw / DIN rail 35mm
Ambient conditions				3311111
Temperature				
	Operating temperature			
		min	°C	-50
		max	°C	70
	Storage temperature			
		min	°C	-60
		max	°C	80
Max altitude			m	3000
Operating position				
		normal		Vertical plan
		allowable		±30°
				Screw / DIN rail
Mounting				35mm
Weight			g	1.37
Operations			9	1.07
Mechanical life			Cycles	15000000
Electrical life				800000
			Cycles	800000
Safety related data				
Performance level B1	0d according to EN/ISO 13489-1		<b>.</b>	
		rated load	Cicli	800000
		mechanical load	Cicli	15000000
	ng to IEC/EN 609474-4-1			yes
EMC compatibility				yes
AC coil operating				
AC operating voltage				
-	of 50/60Hz coil powered at 50Hz			
	pick-up			
	1	min	%Us	0.8
		max	%Us	1.1
	drop-out	Ших	,	
		min	%Us	0.2
			%Us %Us	
		max	/005	0.55

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	of 50/60Hz coil powered at 60Hz			
	pick-up			
	P.0 4P	min	%Us	0.85
			%Us	1.1
	1	max	/005	1.1
	drop-out			
		min	%Us	0.4
		max	%Us	0.55
	of 60Hz coil powered at 60Hz			
	, pick-up			
	P.0 4P	min	%Us	0.8
			%Us	1.1
		max	%US	1.1
	drop-out			
		min	%Us	0.2
		max	%Us	0.55
AC operating voltage				
	of 50/60Hz coil powered at 50Hz			
		in-rush	VA	200
		holding	VA	18
	of 50/60Hz coil powered at 60Hz			
		in-rush	VA	200
		holding	VA	15
	of 60Hz coil powered at 60Hz	5		
		in-rush	VA	220
<u></u>		holding	VA	18
Dissipation at holding	≤20°C 50Hz		W	6
Max cycles frequency				
Mechanical operations	i		Cycles/h	3600
Operating times				
	ontrol			
	in AC			
	in AC	min	ms	13
	in AC	min max	ms ms	13 28
	in AC Closing NO			
	in AC	max	ms	28
	in AC Closing NO	max	ms ms	28 6
	in AC Closing NO Opening NO	max	ms	28
	in AC Closing NO Opening NO in DC	max	ms ms	28 6
	in AC Closing NO Opening NO	max min max	ms ms ms	28 6 19
	in AC Closing NO Opening NO in DC	max	ms ms	28 6 19 40
	in AC Closing NO Opening NO in DC	max min max	ms ms ms	28 6 19
	in AC Closing NO Opening NO in DC	max min max min	ms ms ms	28 6 19 40
	in AC Closing NO Opening NO in DC Closing NO	max min max min max	ms ms ms ms	28 6 19 40 85
	in AC Closing NO Opening NO in DC Closing NO	max min max min max min	ms ms ms ms ms	28 6 19 40 85 20
Average time for Us c	in AC Closing NO Opening NO in DC Closing NO	max min max min max	ms ms ms ms	28 6 19 40 85
Average time for Us c	in AC Closing NO Opening NO in DC Closing NO Opening NO	max min max min max min	ms ms ms ms ms	28 6 19 40 85 20
Average time for Us c	in AC Closing NO Opening NO in DC Closing NO	max min max min max min max	ms ms ms ms ms ms	28 6 19 40 85 20 55
Average time for Us c	in AC Closing NO Opening NO in DC Closing NO Opening NO	max min max min max min max at 480V	ms ms ms ms ms	28 6 19 40 85 20 55 96
Average time for Us c	in AC Closing NO Opening NO in DC Closing NO Opening NO	max min max min max min max	ms ms ms ms ms ms	28 6 19 40 85 20 55
Average time for Us c UL technical data Full-load current (FLA	in AC Closing NO Opening NO in DC Closing NO Opening NO opening NO opening NO	max min max min max min max at 480V	ms ms ms ms ms ms	28 6 19 40 85 20 55 96
Average time for Us c UL technical data Full-load current (FLA	in AC Closing NO Opening NO in DC Closing NO Opening NO Opening NO of or three-phase AC motor erformance	max min max min max min max at 480V	ms ms ms ms ms ms	28 6 19 40 85 20 55 96
Average time for Us c UL technical data Full-load current (FLA	in AC Closing NO Opening NO in DC Closing NO Opening NO opening NO opening NO	max min max min max min max at 480V at 600V	ms ms ms ms ms A A	28 6 19 40 85 20 55 96 99
Average time for Us c UL technical data Full-load current (FLA	in AC Closing NO Opening NO in DC Closing NO Opening NO Opening NO of or three-phase AC motor erformance	max min max min max min max at 480V at 600V at 600V	ms ms ms ms ms A A A	28 6 19 40 85 20 55 96 99 30
Average time for Us c	in AC Closing NO Opening NO in DC Closing NO Opening NO Opening NO of or three-phase AC motor erformance	max min max min max min max at 480V at 600V at 200/208V at 220/230V	ms ms ms ms ms A A A	28 6 19 40 85 20 55 96 99 99 30 40
Average time for Us c UL technical data Full-load current (FLA	in AC Closing NO Opening NO in DC Closing NO Opening NO Opening NO of or three-phase AC motor erformance	max min max min max min max at 480V at 600V at 220/230V at 220/230V at 460/480V	ms ms ms ms ms A A A	28 6 19 40 85 20 55 96 99 99 30 40 75
Average time for Us c UL technical data Full-load current (FLA	in AC Closing NO Opening NO in DC Closing NO Opening NO Opening NO of or three-phase AC motor erformance	max min max min max min max at 480V at 600V at 200/208V at 220/230V	ms ms ms ms ms A A A	28 6 19 40 85 20 55 96 99 99 30 40

General USE

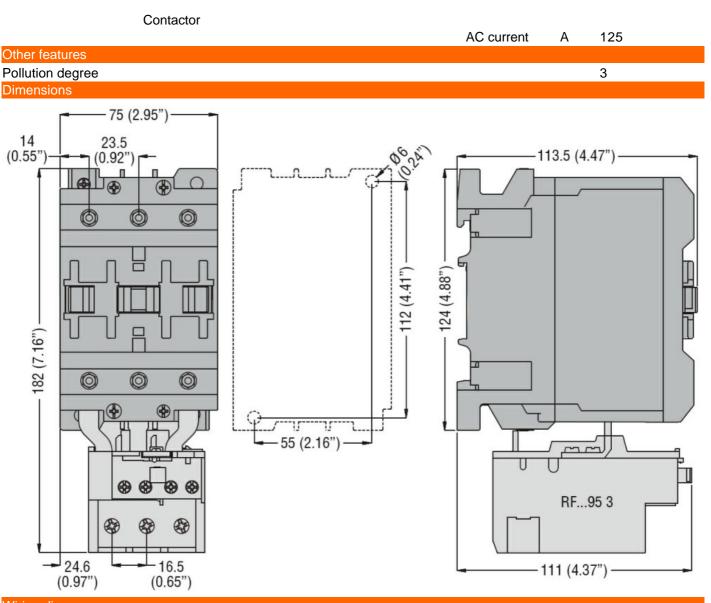
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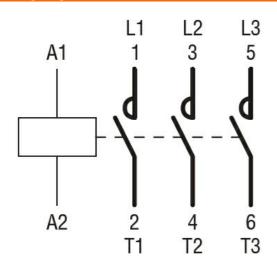


THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 110A, AC COIL 50/60HZ,

24VAC



Wiring diagrams



#### Certifications and compliance

#### Certifications

CSA C22.2 n° 60947-1 CSA C22.2 n° 60947-4-1



# **11BF1100024** THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 110A, AC COIL 50/60HZ, 24VAC

	IEC/EN 60947-1
	IEC/EN 60947-4-1
	UL 60947-1
	UL 60947-4-1
Compliance	
	CCC
	cULus
	EAC

ETIM 6 classification

EC000066 - Power contactor, AC switching

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