



Contact type designation SP 19	Product designation			Power contactor
Number of poles	Product type designation			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 25 Operational current le AC-1 (≤40°C) A 25 A 20 AC-1 (≤55°C) A 20 AC-1 (≤70°C) A 18 AC-1 (≤70°C) A 9 AC-1 (≤70°C) A 4.9 AC-1 (≤40°V) A 4.9 Rated operational power AC-3 (T≤55°C) 230V kW 4.2 440V kW 4.2 440V kW 4.5 440V kW 4.5 440V kW 5.5 440V kW 5.5 690V kW 7.5 5 Rated operational power AC-1 (T≤40°C) 230V kW 2.2 400V kW 16 500V kW 2.1 690V kW 2.1 690V kW 2.1 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 1 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 48V A 20 48V A 20 48V A 20 75V A 20 48V A 20 48V A 20 75V A 20			Nir	2
Rated impulse withstand voltage Uimp				
Deprational frequency				
Min Hz 25 Max Hz 400 EC Conventional free air thermal current Ith A 25 Operational current Ie AC-1 (≤40°C) A 25 AC-1 (≤55°C) A 20 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 440V kW 4.8 500V kW 5.5 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 2.2 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 2.1 690V kW 16 500V kW 21 690V kW 21 690V kW A 13 75V A 12 110V A 6 220V A - IEC max current Ie in DC1 with L/R ≤ 1ms with 2 poles in series S24V A 18 48V A 18 48V A 18 75V A 17 110V A 12 220V A 20 48V A 20 48V			ΚV	0
EC Conventional free air thermal current Ith	Operational frequency	min	Нz	25
EC Conventional free air thermal current lth				
AC-1 (≤40°C)	IFC Conventional free air thermal current Ith	max		
AC-1 (≤40°C)				
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 415V kW 4.5 440V kW 4.8 500V 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 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 − IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 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 12 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 outron to	AC-1 (<40°C)	Α	25
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 440V 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 7.5 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 1 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 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 12 110V A 6 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		•		
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 4415V kW 4.5 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 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				
AC-4 (400V)				
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 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		,		
230V kW 4.2 440V kW 4.5 440V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5	Rated operational power AC-3 (T≤55°C)	()		
400V	· · · · · · · · · · · · · · · · · · ·	230V	kW	2.2
A15V				
A440V				
Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 27 27 220V A 12 110V A 6 220V A 18 48V A 18 48V A 18 48V A 18 48V A 17 110V A 12 220V A 17 110V A 12 220V A 12 110V A 18 48V A 12 220V A 1 10V A 20 48V A 20		440V	kW	
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 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 48V A 20 75V A 20		500V	kW	
		690V	kW	7.5
400V kW 16 500V kW 21 690V kW 27	Rated operational power AC-1 (T≤40°C)			
Soov kW 21 690V kW 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		≤24V	Α	15
110V A 6 220V A -			Α	
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				
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V			Α	6
		220V	Α	
	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
EC max current le in DC1 with L/R \leq 1ms with 3 poles in series \leq 24V				
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 48V A 20 75V A 20				
≤24V A 20 48V A 20 75V A 20	150	220V	А	1
48V A 20 75V A 20	IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series	40.01	Δ.	00
75V A 20				
11UV A 15				
		1100	А	10





	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	A	10
	110V	A	7
	220V	A	2
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	22U V		
TEC max current le in DO3-DO3 with E/R > 13ms with 3 poles in series	~2A\/	۸	15
	≤24V 48V	A	15 15
		A	15
	75V	A	13
	110V	A	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			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			
. The storpasson por polo (arolago raido)	lth	W	1.6
	AC-3	W	0.2
Tightening torque for terminals	7.0 0	V V	V. <u>~</u>
rightening torque for terminals	min	Nm	1.5
		Nm	1.8
	max		
	min	lbin Ibin	1.1
Tightonian tour to favority to	max	lbin	1.5
Tightening torque for coil terminal	·		0.0
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8





		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	N. 10 11 11 11 11 11 11 11 11 11 11 11 11			
	AWG/Kcmil			40
	Florible w/s has possible socials	max		10
	Flexible w/o lug conductor section	min	mama ²	4
		min	mm² mm²	1 6
	Flexible c/w lug conductor section	max	111111	0
	r lexible c/w lug corludator section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	r to the control of t	min	mm²	1
		max	mm²	4
D (IP20 when
Power terminal protec	ction according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	362
Conductor section				
	AWG/kcmil conductor section			
A 111		max		10
Auxiliary contact chara	acteristics			
The amount of the			Λ.	4.0
Thermal current Ith	oignation		Α	10 A600 B600
IEC/EN 60947-5-1 de	•		A	10 A600 - P600
IEC/EN 60947-5-1 de	•	2201/		A600 - P600
IEC/EN 60947-5-1 de	•	230V	A	A600 - P600 3
IEC/EN 60947-5-1 de	•	400V	A A	A600 - P600 3 1.9
IEC/EN 60947-5-1 de Operating current AC	15		A	A600 - P600 3
IEC/EN 60947-5-1 de Operating current AC	15	400V 500V	A A A	3 1.9 1.4
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V	A A	A600 - P600 3 1.9
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V	A A A	3 1.9 1.4 5.7
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V	A A A	A600 - P600 3 1.9 1.4 5.7
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V	A A A	3 1.9 1.4 5.7
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V 48V	A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V 48V 60V	A A A A A	3 1.9 1.4 5.7 5.7 2.9 2.3
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V 48V 60V 110V	A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC	12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC	12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operations Mechanical life Electrical life	12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	12	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	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
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	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
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi	12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	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 yes
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	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



Rated AC voltage at 5	50/60Hz		V	24
AC operating voltage				_
	of 50/60Hz coil powered at 50Hz			
	pick-up			
		min	%Us	80
		max	%Us	110
	drop-out			
		min	%Us	20
		max	%Us	55
	of 50/60Hz coil powered at 60Hz			
	pick-up		0/11	
		min	%Us	85
	I	max	%Us	110
	drop-out		0/11-	00
		min	%Us	20
A O		max	%Us	55
AC average coil cons	•			
	of 50/60Hz coil powered at 50Hz	الماسية	VA	75
		in-rush		75
	of FO/COLLE and provinced at COLLE	holding	VA	9
	of 50/60Hz coil powered at 60Hz	in much	١/٨	70
		in-rush	VA VA	70 6.5
	of 60Uz poil powered at 60Uz	holding	VA	0.5
	of 60Hz coil powered at 60Hz	in-rush	VA	75
		holding	VA VA	9
Dissipation at holding	<20°C 50H-7	Holding	W	2.5
Max cycles frequency			VV	2.0
Max by olds irequerity				
Mechanical operation			cycles/h	3600
Mechanical operation Operating times			cycles/h	3600
Operating times			cycles/h	3600
	ontrol		cycles/h	3600
Operating times	ontrol in AC)	cycles/h	3600
Operating times	ontrol			
Operating times	ontrol in AC	min	ms	8
Operating times	ontrol in AC	min max		
Operating times	ontrol in AC Closing NO	min max	ms	8
Operating times	ontrol in AC Closing NO	min max O	ms ms	8 24
Operating times	ontrol in AC Closing NO	min max IO min max	ms ms	8 24 10
Operating times	ontrol in AC Closing NO Opening N	min max IO min max	ms ms	8 24 10
Operating times	ontrol in AC Closing NO Opening N	min max IO min max	ms ms ms	8 24 10 20
Operating times	ontrol in AC Closing NO Opening N	min max IO min max C min max	ms ms ms ms	8 24 10 20 14 28
Operating times	ontrol in AC Closing No Opening No Closing No	min max IO min max C min max	ms ms ms ms	8 24 10 20 14 28
Operating times Average time for Us of	ontrol in AC Closing No Opening No Closing No	min max IC	ms ms ms ms	8 24 10 20 14 28
Operating times Average time for Us of the control	ontrol in AC Closing No Opening No Closing No Opening No Opening No	min max O min max C min max C min max C min max C min max	ms ms ms ms ms	8 24 10 20 14 28
Operating times Average time for Us of the control	ontrol in AC Closing No Opening No Closing No	min max O min max C min max IC min max IC min max	ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us of the control	ontrol in AC Closing No Opening No Closing No Opening No Opening No	min max C at 480V	ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us of the control	ontrol in AC Closing NC Opening N Closing NC Opening N Opening N Opening N	min max O min max C min max IC min max IC min max	ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us of the control	ontrol in AC Closing NC Opening N Closing NC Opening N	min max C at 480V	ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us of the control	ontrol in AC Closing NC Opening N Closing NC Opening N Opening N Opening N	min max C min max C min max C min max C at 480V at 600V	ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us of the control	ontrol in AC Closing NC Opening N Closing NC Opening N	min max C min max C min max C min max C at 480V at 600V	ms ms ms ms ms A A	8 24 10 20 14 28 7 18 7.6 0.375
Operating times Average time for Us of the control	ontrol in AC Closing NC Opening NC Closing NC Opening NC	min max C min max C min max C min max C at 480V at 600V	ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us of the control	ontrol in AC Closing NC Opening N Closing NC Opening N	min max O min max C min max C min max C min max C 110/120V 230V	ms ms ms ms ms ms HP	8 24 10 20 14 28 7 18 7.6 0.375
Operating times Average time for Us of the control	ontrol in AC Closing NC Opening NC Closing NC Opening NC	min max C min max C min max C min max C at 480V at 600V	ms ms ms ms ms A A	8 24 10 20 14 28 7 18 7.6 0.375

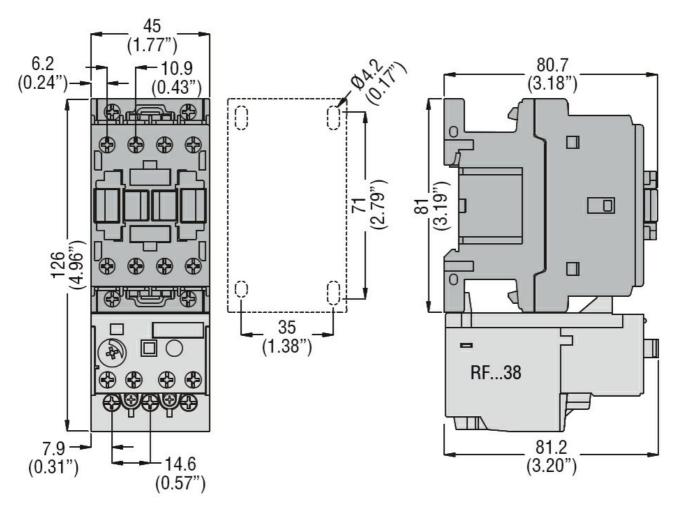




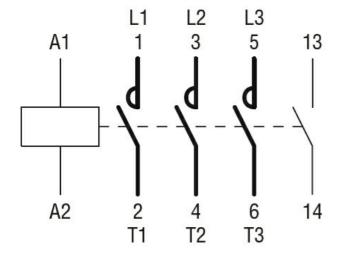
		220/230V	HP	3
		460/480V	HP	5
		575/600V	HP	7.5
General USE				
	Contactor			
		AC current	Α	25
	Auxiliary contacts			
	•	AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	A	1
Short-circuit protect	tion fuse, 600V			
Chart and an protoco	High fault			
	i ligit iddi.	Short circuit current	kA	100
		Fuse rating	A	30
		Fuse class	,,	J
	Standard fault	1 400 01400		
	Claridard radit	Short circuit current	kA	5
		Fuse rating	A	60
Contact rating of au	xiliary contacts according to UL	r use raining		A600 - P600
Ambient conditions				A000 - P000
Temperature				
remperature				
	Operating temperature		°C	5 0
		min	°C	-50 -70
	<u> </u>	max	٠.	70
	Storage temperature			
		min	°C	-60
		max	°C	80
Max altitude			m	3000
Resistance & Prote	ction			
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 24VAC, 1NO AUXILIARY CONTACT



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



BF0910A024

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 24VAC, 1NO AUXILIARY CONTACT

cULus			
EAC			

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching