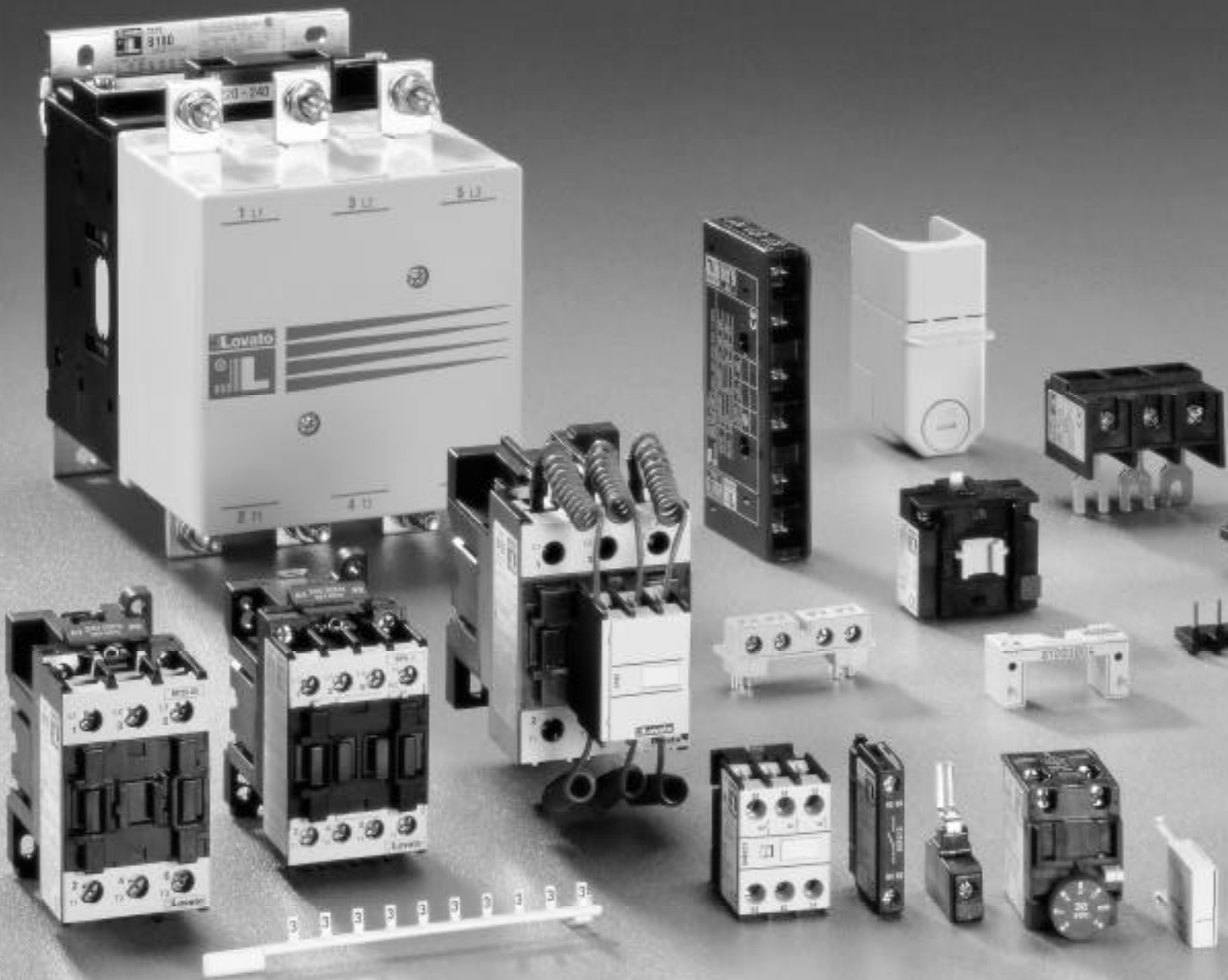


- IEC style contactors - long electrical and mechanical life
- Complete range from mini-contactors to 630 Amp inductive AC3 ratings
- Wide range coils +10% to -30%
- Finger safe terminals
- Four-pole versions available
- 2NO + 2NC and 4NC power pole versions available
- Extensive assortment of add-on blocks and accessories

Distributed by  
**General Safety Company Ltd.**  
(416) 645-0242



# IEC style contactors



## Contactors

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## General information. IEC contactors

Lovato Electric comprehensive line of contactors can be divided in to three basic configurations. Each of these have unique features but all are designed for long life and have finger-safe protection. Lovato Electric facilities, where these contactors are manufactured, work under ISO 9001 quality conditions, per IQNet certification since 1992 and constantly maintained by passing yearly quality assurance audits. The design and manufacture of the contactors and accessories have taken into consideration the most demanding international standards prescriptions.

### BG series 6A/3HP - 12A/7.5HP



- ❑ Highly conductive auxiliary contacts with four contact points
- ❑ AC and DC versions of same size
- ❑ Quick connect - snap on accessory mounting
- ❑ Distinct contact status indication
- ❑ Up to four auxiliary contacts can be mounted
- ❑ Mechanical interlock only 5mm deep
- ❑ Low DC consumption interface version
- ❑ Positively guided contacts (mechanically-linked per IEC)

### BF series 9A/5HP - 80A/60HP

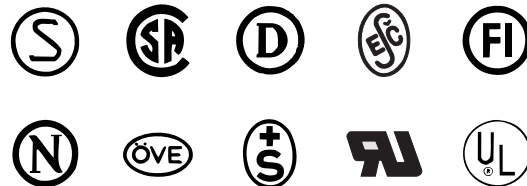


- ❑ 4 different contactor frame sizes up to 60HP
- ❑ Anti-shock magnetic core design
- ❑ Straight through wiring
- ❑ Captive raised terminal screws to reduce wiring time
- ❑ Wide coil operating range
- ❑ Coil removable without disconnecting power wiring
- ❑ Oversized main contacts
- ❑ Easy contact inspection and replacement
- ❑ Special main pole configurations
- ❑ Specific version for power factor correction systems
- ❑ Positively guided contacts (mechanically-linked per IEC)

### B series 110A/75HP - 630A/500HP



- ❑ 3 frame sizes offering 8 different contactors
- ❑ Coil operate indifferently on AC or DC supply voltage
- ❑ Coil with low in-rush and holding
- ❑ Coil removable without disconnecting power wiring
- ❑ Red indicator when contactor is energized
- ❑ Unique right-angle magnet design - limits contact bounce
- ❑ Safety feature prevents contactor to be energized without arc chute in place and locked
- ❑ Convertible auxiliary contact block (2NO + 1NC or 1NO + 2NC), maximum of 4 blocks per contactor for a total of 12 contacts
- ❑ Contactor terminals furnished with bolt, washer and nut
- ❑ Simple horizontal or vertical interlock



## Non-reversing and reversing IEC starters

### Non-reversing and reversing IEC starters

Contactors can be combined with either manual motor starters of the SM series, providing thermal and magnetic protection up to 100A, or single or three-pole thermal bimetallic overload relays, with or without single-phase protection up to 420A, to obtain non-reversing or reversing starters. Equipment can be assembled together or independently mounted through the use of specifically designed accessories.



Non-reversing starter



Non-reversing starter



Reversing contactor

### Certifications, correspondence and compliance of the equipment

Type	U L	C U L u s	C S A	B B J	E Z Ú	Register of shipping					
						R I N A	L R O S	G L	U S S R		
BG06	●	●									
BG09	●	●									
BG12	●	●									
BF9	●		●			●	●	●	●		
BF9C	●		●	●	●						
BF9 40	●		●	●	●						
BF12	●		●	●	●	●	●	●	●		
BF12C	●		●	●	●						
BF16	●		●	●	●		●	●	●		
BF16C	●		●	●	●						
BF16 40	●		●	●	●						
BF20	●		●	●	●	●	●	●	●		
BF20C	●		●	●	●						
BF25	●		●	●	●	●	●	●	●		
BF25C	●		●	●	●						
BF25 40	●		●	●	●						
BF25C 40	●		●	●	●						
BF32	●		●	●	●	●	●	●	●		
BF32C	●		●	●	●						
BF40	●		●	●	●	●	●	●	●		
BF40C	●		●	●	●						
BF40 40	●		●	●	●						
BF40C 40	●		●	●	●						
BF50	●		●	●	●	●	●	●	●		
BF50C	●		●	●	●						
BF50 40	●		●	●	●	●	●	●	●		
BF65	●		●	●	●	●	●	●	●		
BF65C	●		●	●	●						
BF65 40	●		●	●	●						
BF65C 40	●		●	●	●						
BF80	●		●	●	●	●	●	●	●		
BF80C	●		●	●	●						
BF80 40	●		●	●	●						
BF80C 40	●		●	●	●						
BF95	●		●	●	●	●	●	●	●		
BF95C	●		●	●	●						
B115	●		●	●	●	●	●				
B115 4	●		●	●	●						
B145	●		●	●	●	●	●				
B145 4	●		●	●	●						
B180	●		●	●	●	●	●				
B180 4	●		●	●	●						
B250	●		●	●	●	●	●				
B250 4	●		●	●	●						
B310	●		●	●	●						
B310 4	●		●	●	●						
B400	●		●	●	●	●	●				
B400 4	●		●	●	●						
B500											
B500 4											
B630											
B630 4											
BG00	●	●				●	●				
CF4	●		●		●	●	●				

● = Certified equipment.  
 ● = "Recognized": Products having this type of marking are intended for use as components of complete workshop-assembled equipment.  
 Compliant with: CEI (Italy) – IEC (International Electrotechnical Commission) – BS (Great Britain) – UTE (France) – VDE (Germany) – SEV (Switzerland) – ÖVE (Austria) – SJVA (Switzerland)

### Available versions

	3 poles		4 poles	
	AC	DC	AC	DC
BG06	●	●	—	—
BG09	●	●	●	●
BGS09	●	●	●	●
BG12	●	●	—	—
BF9	●	●	●	●
BF12	●	●	—	—
BF16	●	●	●	●
BF20	●	●	●	—
BF25	●	●	●	●
BF32	●	●	—	—
BF40	●	●	●	●
BF50	●	●	●	—
BF63	●	●	●	●
BF80	●	●	●	●
BF95	●	●	—	—
B115	●	●	●	●
B145	●	●	●	●
B180	●	●	●	●
B250	●	●	●	●
B310	●	●	●	●
B400	●	●	●	●
B500	●	●	●	●
B630	●	●	●	●

MINI-CONTACTORS



**BG06  
BG09  
BG12**

**BF9  
BF12  
BF16**

**BF20  
BF25**

**BF32  
BF40**

**BF50-BF65  
BF80-BF95**

**B115-B145-B180  
B250-B310-B400  
B500-B630**

Maximum horsepower ratings						Maximum current		Incorporated auxiliary contacts		Type of termination	Catalog number	Price	Catalog number	Price
Single phase		Three phase				Inductive AC3	Resistive AC1	NO	NC		AC coil	\$	DC coil	\$
115V	230V	200V	230V	460V	575V									
[HP]	[HP]	[HP]	[HP]	[HP]	[HP]	[A]	[A]							

**Mini-contactors.**

1/3	1	1 1/2	2	3	3	6	16	1	0	Clamp-screw	11 BG06 10 A ①	49.00	11 BG06 10 D ①	65.00
											11 BG06 01 A ①	49.00	11 BG06 01 D ①	65.00
1/2	1 1/2	2	3	5	5	9	20	1	0	Clamp-screw	11 BG09 10 A ①⑥	60.00	11 BG09 10 D ①⑥	80.00
											11 BG09 01 A ①⑥	60.00	11 BG09 01 D ①⑥	80.00
1/2	1 1/2	2	3	5	5	9	20	1	0	Clamp-screw	—		11 BG09 10 L ⑤	96.00
											—		11 BG09 01 L ⑤	96.00
1/2	1 1/2	3	3	7 1/2	10	12	20	1	0	Clamp-screw	11 BG12 10 A ①	76.00	11 BG12 10 D ①	93.00
											11 BG12 01 A ①	76.00	11 BG12 01 D ①	93.00

**Contactors.**

3/4	2	3	3	5	7 1/2	9	25	1	0	Clamp-screw	11 BF9 10 ②	81.00	11 BF9C 10 ④	106.00
											11 BF9 01 ②	81.00	11 BF9C 01 ④	106.00
1	2	5	5	7 1/2	10	12	25	1	0	Clamp-screw	11 BF12 10 ②	102.00	11 BF12C 10 ④	131.00
											11 BF12 01 ②	102.00	11 BF12C 01 ④	131.00
1	2	5	5	7 1/2	10	16	25	1	0	Clamp-screw	11 BF16 10 ②	110.00	11 BF16C 10 ④	139.00
											11 BF16 01 ②	110.00	11 BF16C 01 ④	139.00
1 1/2	3	5	5	10	15	20	40	—	—	Clamp-screw	11 BF20 00 ②	117.00	—	—
											11 BF20 10 ②	124.00	11 BF20C 10 ④	147.00
											11 BF20 01 ②	124.00	11 BF20C 01 ④	147.00
2	5	7 1/2	7 1/2	15	20	25	40	1	0	Clamp-screw	11 BF25 00 ②	130.00	—	—
											11 BF25 10 ②	137.00	11 BF25C 10 ④	165.00
											11 BF25 01 ②	137.00	11 BF25C 01 ④	165.00
3	7 1/2	7 1/2	10	20	25	32	55	—	—	Clamp-screw	11 BF32 00 ②	154.00	11 BF32C 00 ④	198.00
											11 BF40 00 ②	188.00	11 BF40C 00 ④	237.00
3	7 1/2	10	15	30	30	40	60	—	—	Clamp-screw	11 BF50 00 ②	216.00	11 BF50C 00 ④	276.00
											11 BF65 00 ②	280.00	11 BF65C 00 ④	347.00
—	—	20	25	50	60	65	110	—	—	Yoke-clamp	11 BF80 00 ②	329.00	11 BF80C 00 ④	405.00
											11 BF95 00 ②	353.00	11 BF95C 00 ④	451.00
—	—	30	30	60	75	95	125	—	—	Yoke-clamp	11 B115 00 ②	—	—	541.00
											11 B145 00 ②	—	—	770.00
—	—	50	50	100	125	150	250	—	—	Screw-nut	11 B180 00 ②	—	—	1008.00
											11 B250 00 ②	—	—	1318.00
—	—	75	100	200	250	265	350	—	—	Screw-nut	11 B310 00 ②	—	—	1859.00
											11 B400 00 ②	—	—	2318.00
—	—	100	125	250	300	320	450	—	—	Screw-nut	11 B500 00 ②	NOT UL LISTED	—	4522.00
											11 B630 00 ②	NOT UL LISTED	—	6390.00

① Complete catalog number with coil digit per following table.

AC coil digit	Voltage range
02460	24V 60Hz
12060	120V 60Hz
23060	200-240V 60Hz
46060	440-480V 60Hz
57560	575V 60Hz

Other coil voltage and frequency values are available on request.  
NOTE: No coil change or replacement is possible.

② Complete catalog number with coil digit per following table.

AC coil digit	Voltage range	
	60Hz	50Hz
02460	24V	22V
12060	120V	110V
23060	200-240V	220V
46060	440-480V	380V
57560	575V	—

Other coil voltage and frequency values are available on request.

③ Complete catalog number with coil digit per following table.

Coil digit	Voltage range	
	AC/DC	
024	24V	
110	110/125V	
220	220/240V	
460	440/480V	

Other coil voltage values are available on request.  
24V type is not possible for B500-B630 contactors.

④ Complete the catalog number with coil digit.

Standard voltages (coil digit) are: 024-110V.  
Other coil voltage values are available on request.

⑤ Low-consumption version.

No additional auxiliary contacts or the mechanical interlock BGX50 00 can be mounted.

Complete the catalog number with coil digit.  
Standard voltages (coil digit) are: 024-048V.  
NOTE: No coil change or replacement is possible.

⑥ Mini-contactors for mounting on printed circuit boards are available on request. Contact Sales & Technical Support for details.

**Certifications:**

- BG mini-contactors:
  - UL listed for USA and Canada, File E93602.
- BF and B contactors:
  - UL listed, File E 93602
  - CSA certified, File LR 54332-1 or LR 54332-26.

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MINI-CONTACTORS



**BG09 T4**



**BF9 40**  
**BF16 40**



**BF25 40**



**BF40 40**



**BF50 40**  
**BF65 40**  
**BF80 40**



**B115 4 - B145 4 - B180 4**  
**B250 4 - B310 4 - B400 4**  
**B500 4 - B630 4**

UL maximum horsepower ratings		horsepower ratings				Maximum current		Type of termination	Catalog number	Price	Catalog number	Price
Single phase	Three phase	200V	230V	460V	575V	Inductive AC3	Resistive AC1					
115V	230V	[HP]	[HP]	[HP]	[HP]	[A]	[A]	AC coil	\$	DC coil	\$	
<b>Mini-contactors.</b>												
1/2	1 1/2	2	3	5	5	9	20	Clamp-screw	<b>11 BG09 T4 A 05</b>	62.00	<b>11 BG09 T4 D 05</b>	82.00
<b>Contactors.</b>												
3/4	2	3	3	5	7 1/2	9	25	Clamp-screw	<b>11 BF9 40 0</b>	90.00	<b>11 BF9C 40 0</b>	114.00
1	2	5	5	7 1/2	10	16	25	Clamp-screw	<b>11 BF16 40 0</b>	113.00	<b>11 BF16C 40 0</b>	142.00
1 1/2	3	5	5	10	15	20	40	Clamp-screw	<b>11 BF20 40 0</b>	141.00	—	—
2	5	7 1/2	7 1/2	15	20	25	40	Clamp-screw	<b>11 BF25 40 0</b>	162.00	<b>11 BF25C 40 0</b>	202.00
3	7 1/2	10	15	30	30	40	60	Clamp-screw	<b>11 BF40 40 0</b>	269.00	<b>11 BF40C 40 0</b>	326.00
5	10	10	15	30	30	50	90	Yoke-clamp	<b>11 BF50 40 0</b>	297.00	—	—
—	—	20	25	50	60	65	110	Yoke-clamp	<b>11 BF65 40 0</b>	398.00	<b>11 BF65C 40 0</b>	456.00
—	—	25	30	60	75	80	125	Yoke-clamp	<b>11 BF80 40 0</b>	463.00	<b>11 BF80C 40 0</b>	512.00
—	—	30	40	75	100	110	160	Screw-nut	<b>11 B115 4 00 0</b>		682.00	
—	—	50	50	100	125	150	250	Screw-nut	<b>11 B145 4 00 0</b>		911.00	
—	—	60	75	150	150	185	275	Screw-nut	<b>11 B180 4 00 0</b>		1398.00	
—	—	75	100	200	250	265	350	Screw-nut	<b>11 B250 4 00 0</b>		1682.00	
—	—	100	125	250	300	320	450	Screw-nut	<b>11 B310 4 00 0</b>		2467.00	
—	—	125	150	350	400	420	550	Screw-nut	<b>11 B400 4 00 0</b>		2841.00	
—	—	150	200	400	500	520	700	Screw-nut	<b>11 B500 4 00 0</b>	NOT UL LISTED	5208.00	
—	—	200	250	500	—	630	800	Screw-nut	<b>11 B630 4 00 0</b>	NOT UL LISTED	7098.00	

1 Complete catalog number with coil digit per following table.

AC coil digit	Voltage range
<b>02460</b>	24V 60Hz
<b>12060</b>	120V 60Hz
<b>23060</b>	200-240V 60Hz
<b>46060</b>	440-480V 60Hz
<b>57560</b>	575V 60Hz

Other coil voltage and frequency values are available on request.  
NOTE: No coil change or replacement is possible.

2 Complete catalog number with coil digit per following table.

AC coil digit	Voltage range	
	60Hz	50Hz
<b>02460</b>	24V	22V
<b>12060</b>	120V	110V
<b>23060</b>	200-240V	220V
<b>46060</b>	440-480V	380V
<b>57560</b>	575V	—

Other coil voltage and frequency values are available on request.

3 Complete catalog number with coil digit per following table.

Coil digit	Voltage range
	AC/DC
<b>024</b>	24V
<b>110</b>	110/125V
<b>220</b>	220/240V
<b>460</b>	440/480V

Other coil voltage values are available on request.  
24V type is not possible for B500-B630 contactors.

4 Complete the catalog number with coil digit.

Standard voltages (coil digit) are: 024-110V.  
Other coil voltage values are available on request.

5 Mini-contactors for mounting on printed circuit boards are available on request. Contact Sales & Technical Support for details.

**Certifications**

BG mini-contactors:

– UL listed for USA and Canada, File E93602.

BF and B contactors:

– UL listed, File E 93602

– CSA certified, File LR 54332-1 or LR 54332-26.

### Special configurations of power poles (2NO+2NC and 4NC)

#### MINI-CONTACTORS



2



11 BF16 22



11 BF25 04

UL maximum horsepower ratings		Single phase				Three phase		Maximum Inductive AC3	Maximum current Resistive AC1	Power pole arrangement		Catalog number	Price
115V	230V	200V	230V	460V	575V	[HP]	[HP]			[A]	[A]		
[HP]	[HP]	[HP]	[HP]	[HP]	[HP]	[A]	[A]						\$

#### AC coil. With terminals: Clamp-screw.

Mini-contactors.												
1/2	1 1/2	2	3	3	5	9	20	2	2	11 BG09 T2 A ①	71.00	
Contactors.												
1	2	5	5	7 1/2	10	16	40	2	2	11 BF16 22 ②	120.00	
2	5	7 1/2	7 1/2	15	20	25	40	2	2	11 BF25 22 ②	175.00	
3	7 1/2	10	15	30	30	40	60	2	2	11 BF40 22 ②③	287.00	
1	2	5	5	7 1/2	10	16	40	0	4	11 BF16 04 ②	120.00	
2	5	7 1/2	7 1/2	15	20	25	40	0	4	11 BF25 04 ②	175.00	

#### DC coil. With terminals: Clamp-screw.

Mini-contactors.												
1/2	1 1/2	2	3	3	5	9	20	2	2	11 BG09 T2 D ④	86.00	
Contactors.												
1	2	5	5	7 1/2	10	16	40	2	2	11 BF16C 22 ⑤	151.00	
2	5	7 1/2	7 1/2	15	20	25	40	2	2	11 BF25C 22 ⑤	212.00	
3	7 1/2	10	15	30	30	40	60	2	2	11 BF40C 22 ⑤⑥	344.00	
1	2	5	5	7 1/2	10	16	40	0	4	11 BF16C 04 ⑤	151.00	
2	5	7 1/2	7 1/2	15	20	25	40	0	4	11 BF25C 04 ⑤	212.00	

① Complete catalog number with coil digit per following table.

AC coil digit	Voltage range
02460	24V 60Hz
12060	120V 60Hz
23060	200-240V 60Hz
46060	440-480V 60Hz
57560	575V 60Hz

Other coil voltage and frequency values are available on request.  
NOTE: No coil change or replacement is possible.

② Complete catalog number with coil digit per following table.

AC coil digit	Voltage range	
	60Hz	50Hz
02460	24V	22V
12060	120V	110V
23060	200-240V	220V
46060	440-480V	380V
57560	575V	—

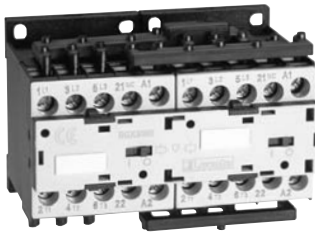
Other coil voltage and frequency values are available on request.

③ No side-mount auxiliary contacts can be added.

④ Complete the catalog number with coil digit.  
Standard voltages (coil digit) are: 024-110V.  
Other coil voltage values are available on request.  
NOTE: No coil change or replacement is possible for BG mini-contactors.

#### Certifications

- BG mini-contactors:  
 - UL listed for USA and Canada, File E 93602.  
 BF contactors:  
 - UL listed, File 93602  
 - CSA certified, File LR 43332-1.



11 BGR09 01A

UL maximum horsepower ratings						Maximum current Inductive AC3	Resistive AC1	Auxiliary contacts (per contactor)		Catalog number AC coil	Price
Single phase 115V 230V		Three phase 200V 230V 460V 575V						NO	NC		
[HP]	[HP]	[HP]	[HP]	[HP]	[HP]	[A]	[A]				\$

**AC coil**

Three-pole reversing mini-contactor assemblies, mechanically interlocked, pre-wired with load and line power and auxiliary wiring. With terminals: clamp screw ①.

1/2	1 1/2	2	3	5	5	9	20	0	1	11 BGR09 01 A ②	148.00
1/2	1 1/2	3	3	7 1/2	10	12	20	0	1	11 BGR12 01 A ②	180.00

Three-pole reversing contactor assemblies, mechanically interlocked, pre-wired with load and line power wiring. With terminals: clamp screw.

3/4	2	3	3	5	7 1/2	9	25	0	1	11 BFT9 01 ②	214.00
1	2	5	5	7 1/2	10	12	25	0	1	11 BFT12 01 ②	268.00
1	2	5	5	7 1/2	10	16	25	0	1	11 BFT16 01 ②	285.00
2	5	7 1/2	7 1/2	15	20	25	40	0	1	11 BFT25 01 ②	311.00

**DC coil**

Three-pole reversing mini-contactor assemblies, mechanically interlocked, pre-wired with load and line power and auxiliary wiring. With terminals: clamp screw ①.

1/2	1 1/2	2	3	5	5	9	20	0	1	11 BGR09 01 D ②	188.00
1/2	1 1/2	3	3	7 1/2	10	12	20	0	1	11 BGR12 01 D ②	214.00

Three-pole reversing contactor assemblies, mechanically interlocked, pre-wired with load and line power wiring only. With terminals: clamp screw.

3/4	2	3	3	5	7 1/2	9	25	0	1	11 BFT9C 01 ②	257.00
1	2	5	5	7 1/2	10	12	25	0	1	11 BFT12C 01 ②	309.00
1	2	5	5	7 1/2	10	16	25	0	1	11 BFT16C 01 ②	326.00
2	5	7 1/2	7 1/2	15	20	25	40	0	1	11 BFT25C 01 ②	376.00

① Mini-contactors for mounted on printed circuit boards are available on request. Contact Sales & Technical Support for details.

② Complete catalog number with coil digit per following table.

AC coil digit	Voltage range
02460	24V 60Hz
12060	120V 60Hz
23060	200-240V 60Hz
46060	440-480V 60Hz
57560	575V 60Hz

Other coil voltage and frequency values are available on request.  
NOTE: No coil change or replacement is possible.

③ Complete catalog number with coil digit per following table.

AC coil digit	Voltage range	
	60Hz	50Hz
02460	24V	22V
12060	120V	110V
23060	200-240V	220V
46060	440-480V	380V
57560	575V	—

Other coil voltage and frequency values are available on request.

④ Complete the catalog number with coil digit.

Standard voltages (coil digit) are: 024-110V.

Other coil voltage values are available on request.

NOTE: No coil change or replacement is possible for BG mini-contactors.

**Larger reversing contactors**

Available on request.

Contact Sales & Technical Support for details.

**Unwired reversing contactors**

Available on request.

Contact Sales & Technical Support for details.

**Certifications**

BGR types: UL listed for USA and Canada, File E 93602.

BFT types: UL pending.



## BF...K contactors (including limiting resistors)



11 BF..K

Maximum operating power at ①			Catalog number	Price
230V	400V	690V		
[kvar]	[kvar]	[kvar]		\$
<b>AC coil.</b>				
4.5	8	10	<b>11 BF9K 10 ①②</b>	134.00
7	12.5	16	<b>11 BF12K 10 ①②</b>	155.00
9	15	20	<b>11 BF20K 00 ①③</b>	175.00
11	20	22	<b>11 BF25K 00 ①③</b>	188.00
17	30	36	<b>11 BF40K 00 ①③</b>	256.00
22	38	46	<b>11 BF50K 00 ①③</b>	290.00
26	45	56	<b>11 BF65K 00 ①③</b>	354.00
34	60	70	<b>11 BF80K 00 ①③</b>	392.00

① Complete catalog number with coil digit per following table.

AC coil digit	Voltage range
<b>02460</b>	24V 60Hz
<b>12060</b>	120V 60Hz
<b>23060</b>	200-240V 60Hz
<b>46060</b>	440-480V 60Hz
<b>57560</b>	575V 60Hz

Other coil voltage and frequency values are available on request.

- ② One normally open (NO) auxiliary contact incorporated.
- ③ No auxiliary contact incorporated.
- ④ Consult Sales & Technical Support for the use at contactors to switch with delta connection.

### Operational characteristics

Type	Rated current	Fuse gG
	[A]	[A]
BF9 K	12	16
BF12 K	18	25
BF20 K	23	40
BF25 K	30	40
BF40 K	43	63
BF50 K	58	80
BF65 K	70	100
BF80 K	90	125

Ambient operating temperature:  $\leq 50^{\circ}\text{C}$  ( $120^{\circ}\text{F}$ ).

For ambient temperatures higher than  $50^{\circ}\text{C}$  ( $120^{\circ}\text{F}$ ) and up to  $70^{\circ}\text{C}$  ( $160^{\circ}\text{F}$ ), the maximum operating power values indicated in the table must be reduced by a percentage equal to the difference between the operating ambient temperature and  $50^{\circ}\text{C}$  ( $120^{\circ}\text{F}$ ).

E.g.: Using a BF25K 00 contactor at the ambient temperature of  $60^{\circ}\text{C}$  ( $140^{\circ}\text{F}$ ), the maximum operating power (at 400V) of the contactor will be equal to  $20 \text{ kvar} - 10\% = 18 \text{ kvar}$ .

Operating cycle:  $\leq 120$  cycles/h

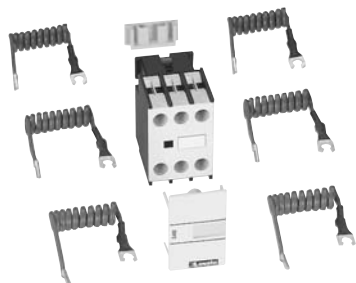
Electrical life:  $\geq 200,000$  cycles.

### Certifications and compliance

UL pending.

Compliant to standards: IEC/EN 60947-4-1.

## Kits for BF...K contactors



11 G461 - 11 G464

For contactor	Qty per pkg	Catalog number	Price
	n°		\$
BF9 10 - BF12 10	1	<b>11 G461</b>	49.00
BF20 00 - BF25 00 BF20 10 - BF25 10	1	<b>11 G462</b>	54.00
BF40 00	1	<b>11 G463</b>	63.00
BF50 00 - BF65 00 - BF80 00	1	<b>11 G464</b>	68.00

To optimise contactor stock management, a kit is available to transform normal three-pole contactors into BF..K types for power factor correction. The table to the left indicates which kits to purchase depending on the standard contactor in stock.

### Control relay



11 BG00

Number of contacts	Configuration		Catalog number	Price
	NO	NC		
				\$
<b>AC coil. With terminals: clamp-screw.</b>				
4	4	0	<b>11 BG00 40 A</b> ①	45.00
4	3	1	<b>11 BG00 31 A</b> ①	45.00
4	2	2	<b>11 BG00 22 A</b> ①	45.00
<b>DC coil. With terminals: clamp-screw.</b>				
4	4	0	<b>11 BG00 40 D</b> ②	59.00
4	3	1	<b>11 BG00 31 D</b> ②	59.00
4	2	2	<b>11 BG00 22 D</b> ②	59.00
<b>Low-consumption DC coil. With terminals: clamp-screw.</b>				
4	4	0	<b>11 BG00 40 L</b> ③	72.00
4	3	1	<b>11 BG00 31 L</b> ③	72.00
4	2	2	<b>11 BG00 22 L</b> ③	72.00

① Complete catalog number with coil digit per following table.

AC coil digit	Voltage range
<b>02460</b>	24V 60Hz
<b>12060</b>	120V 60Hz
<b>23060</b>	200-240V 60Hz
<b>46060</b>	440-480V 60Hz
<b>57560</b>	575V 60Hz

Other coil voltage and frequency values are available on request.

② Complete the catalog number with coil digit.

Standard voltages (coil digit) are: 024-110V.

Other coil voltage values are available on request.

③ Low-consumption version.

No additional auxiliary contacts or the mechanical interlock BGX50 00 can be mounted.

Complete the catalog number with coil digit.

Standard voltages (coil digit) are: 024-048V.

NOTE: No coil change or replacement is possible.

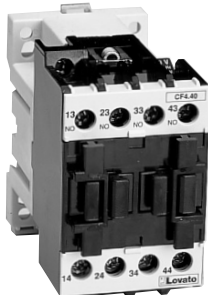
#### Operational characteristics

- Rated insulation voltage Ui 690V
- Rated thermal current Ith 10A
- UL designation: A600-Q600
- Low-consumption version available.

#### Certifications

UL listed for USA and Canada, File E 93602.

### Control relay



11 CF4

Number of auxiliary contacts	Configuration		Qty per pkg	Catalog number	Price
	NO	NC			
			n°		\$
<b>AC coil</b>					
<b>With terminals: clamp-screw.</b>					
4	4	0	10	<b>11 CF4 40</b> ①	57.00
4	3	1	10	<b>11 CF4 31</b> ①	57.00
4	2	2	10	<b>11 CF4 22</b> ①	57.00
4	0	4	10	<b>11 CF4 04</b> ①	57.00

① Complete catalog number with coil digit per following table.

AC coil digit	Voltage range	
	60Hz	50Hz
<b>02460</b>	24V	22V
<b>12060</b>	120V	110V
<b>23060</b>	200-240V	220V
<b>46060</b>	440-480V	380V
<b>57560</b>	575V	—

Other coil voltage and frequency values are available on request.

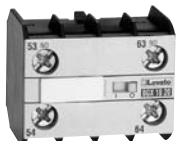
#### Operational characteristics

- Rated insulation voltage Ui 690V
- Rated thermal current Ith 10A
- UL designation: A600-Q600.

#### Certifications

- UL recognized, File E 93601
- CSA certified, File LR 54332-17.

### Add-on blocks



11 BGX10... (20-11-02)



11 BGX10... (40-31-22-13-04)

### Accessories



11 BGX50 00



11 BGX77... - 11 BGX78 225 -  
11 BGX79...



11 SMX90 01



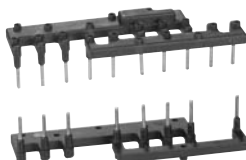
11 SMX90 03



11 SMX90 10



11 SMX90 12



11 SMX90 22

Characteristics	Max number per contactor	Qty per pkg	Catalog number	Price
	n°	n°		\$

#### Auxiliary contacts with screw terminals.

2NO	1	10	11 BGX10 20	13.80
1NO + 1NC	1	10	11 BGX10 11	13.80
2NC	1	10	11 BGX10 02	13.80
4NO	1	10	11 BGX10 40	24.00
3NO + 1NC	1	10	11 BGX10 31	24.00
2NO + 2NC	1	10	11 BGX10 22	24.00
1NO + 3NC	1	10	11 BGX10 13	24.00
4NC	1	10	11 BGX10 04	24.00

#### Mechanical interlock.

All types	1	10	11 BGX50 00	12.00
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Characteristics	Qty per pkg	Catalog number	Price
	n°		\$

#### Quick connect noise filter.

Varistor	≤48VAC/DC	10	11 BGX77 048	9.70
	48-125VAC/DC	10	11 BGX77 125	9.70
	125-240VAC/DC	10	11 BGX77 240	9.70
Diode assembly (diode+Zener diode)	≤225VDC	10	11 BGX78 225	9.70
	RC-element (Resistor-capacitor)	≤48VAC	10	11 BGX79 048
	48-125VAC/DC	10	11 BGX79 125	9.70
	125-240VAC	10	11 BGX79 240	9.70
	240-415VAC	10	11 BGX79 415	9.70

#### Starter assembly accessories.

Set of 3 wires for SM1 with BG connection	10	11 SMX90 01	8.00
Rigid connecting kit for SM1 with BG connection	10	11 SMX90 03	9.00
Adapter plate for full-voltage starter with one each of SM1 breaker and BG contactor	1	11 SMX90 10	14.00
Adapter plate for reversing contactor assembly with one SM1 starter and two BG contactors	1	11 SMX90 12	24.00
Connection kit for wye-delta starter with BG mini-contactors	1	11 SMX90 21	14.00
Rigid connecting kit for reversing contactor assembly with two BG contactors ①②	1	11 SMX90 22	11.00

- ① Normally used with contactors having 1NC auxiliary contact (BG...01).
- ② The RF...9 relay can not be directly mounted on the contactor. Use the RF...25 type and the G230 independent mounting base.

#### Operational characteristics for add-on auxiliary contacts

Type	BGX10...	
Rated thermal current I <sub>th</sub>	A	10
Rated insulation voltage U <sub>i</sub>	V	690
Terminals	Screw	M 3
	Width	mm 6.9 (0.2 in)
Max cross section connectable with 1 or 2 conductors	flexible without lug	mm <sup>2</sup> 2.5
	flexible with lug	mm <sup>2</sup> 2.5
	AWG	n° 14
UL designation	AC	A600
	DC	Q600
Mechanical life (in millions)	cycles	20

#### General characteristics

##### STARTER ASSEMBLY ACCESSORIES

The SMX90 01 is a 3-pole link, consisting of three 10 AWG (4mm<sup>2</sup>) section wires having butt ends and wire tie (to keep them together), 3.3in (85mm) long, to provide a quick and each connection between the manual starter and the contactor. This type of connection is normally used to assemble starters mounted on busbar systems. The SMX90 03 rigid connecting kit fastens together the manual starter and the contactor forming a single-unit full-voltage starter for quick installation on 35mm DIN rail (EN 50022).

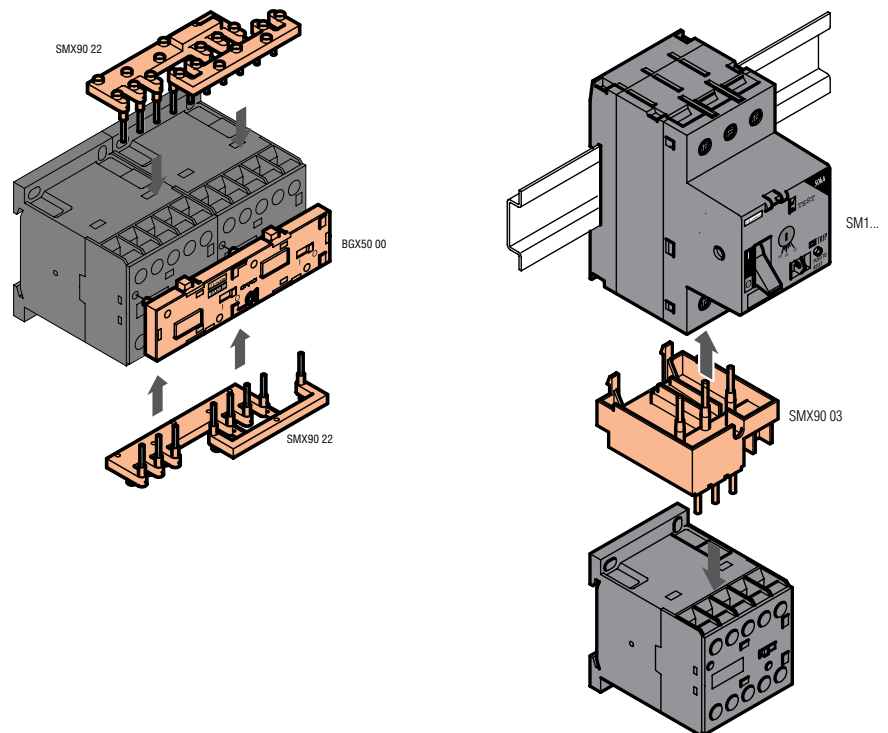
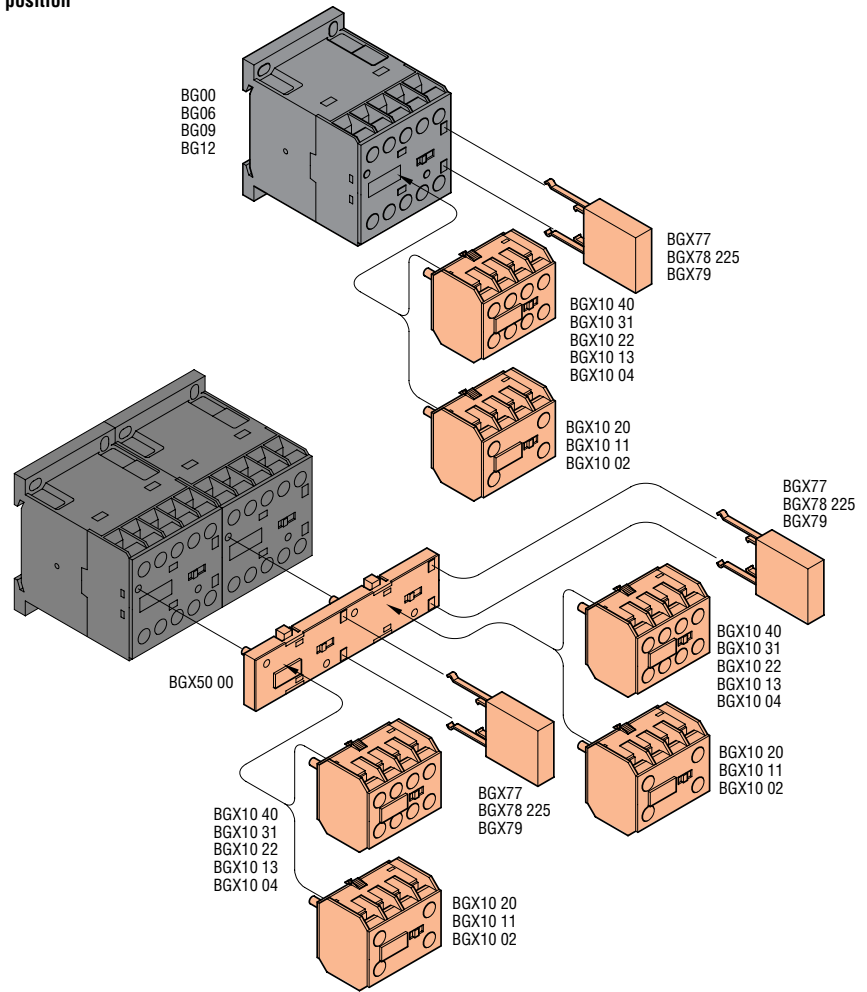
The starter adapter plates install on 35mm DIN rail (EN 55022).

The elements consent to preassemble starters and to form trim and compact single-unit equipment for quick and easy installation.

##### Certifications and compliance

- UL recognized, File E 93601
  - UL listed for USA and Canada, File E 93602.
- Auxiliary contacts comply with following standards: IEC/EN 60947-5-1.

### Mounting position



### Add-on blocks



11 G480



11 G484



11 G218 - 11 G481  
11 G482



11 G418



11 G485 - 11 G486  
11 G487

Characteristics	Maximum number per contactor	Qty per pkg	Catalog number	Price
		n°		\$

#### Instantaneous auxiliary contacts with front center mounting ①.

1NO + 1NC	2	10	11 G480 11	16.00
2NO	2	10	11 G480 20	16.00
Make before break ②	2	10	11 G480 1001	16.00
2NO	1	5	11 G484 20③	17.00
1NO + 1NC	1	5	11 G484 11③	17.00
2NC	1	5	11 G484 02③	17.00
3NO	1	5	11 G484 30③	22.00
2NO + 1NC	1	5	11 G484 21③	22.00
1NO + 2NC	1	5	11 G484 12③	22.00
3NC	1	5	11 G484 03③	22.00

#### Instantaneous auxiliary contacts with front lateral mounting.

1NO or 1NC reversible	2	10	11 G218④	11.00
1NO	2	10	11 G418 10	12.00
1EM early make	2	10	11 G418 10A	12.00
1NC	2	10	11 G418 01	12.00
1LB late break	2	10	11 G418 01D	12.00
2NO	2	10	11 G481 20⑤	15.00
1NO + 1NC	2	10	11 G481 11⑤	15.00
2NC	2	10	11 G481 02⑤	15.00
Double-throw contact	2	10	11 G482⑥⑦	28.00

#### Side mount adapters.

For G218	2	10	11 G280	3.20
For G481 and G482	2	10	11 G483	4.20

#### Delayed auxiliary contacts 1NO + 1NC (pneumatic operation) on energization ⑧.

3 seconds	1	1	11 G485 3	102.00
6 seconds	1	1	11 G485 6	102.00
15 seconds	1	5	11 G485 15	102.00
30 seconds	1	5	11 G485 30	102.00
60 seconds	1	5	11 G485 60	102.00
120 seconds	1	1	11 G485 120	102.00

#### Delayed auxiliary contacts 1NO + 1NC (pneumatic operation) on de-energization ⑧.

3 seconds	1	1	11 G486 3	102.00
6 seconds	1	1	11 G486 6	102.00
15 seconds	1	5	11 G486 15	102.00
30 seconds	1	5	11 G486 30	102.00
60 seconds	1	5	11 G486 60	102.00
120 seconds	1	1	11 G486 120	102.00
70 milliseconds	1	1	11 G487	102.00

① The contacts can also be fitted on B type contactors using the adapter G358. See pages 2-16 and 2-17.

② Contact block equipped with 1NO+1NC; the normally closed contact is late breaking.

③ Highly conductive contacts.

④ With Faston terminals.

#### Operational characteristics for add-on auxiliary contacts

Type		G418 G480 G485 G486 G487	G484	G218 G481	G482⑤
Rated current Ith	A	10	10	10	0.1⑥
Rated insulation voltage Ui	V	690	690	690	690
Terminals: Screw		M 3.5	M 3	—	—
	Width	mm	7 (0.2in)	6.9 (0.2in)	—
Faston		—	—	1-6.35 2-2.8	1-6.35 2-2.8
	Max section connectable with 1 or 2 conductors				
flexible w/o lug	mm <sup>2</sup>	2.5	2.5	—	—
flexible c/w lug	mm <sup>2</sup>	2.5	2.5	2.5	2.5
AWG	n°	14	14	14	14
Terminal protection according to EN 60529		IP20⑦	IP20	IP20⑧	IP20⑧
	UL designation	AC	A600	A600	A600
	DC	P600⑨	Q600	P600	—
Mechanical life (in millions)	cycles	10⑩	10	10	10

⑤ Gold-plated contacts inside tight enclosure for use in pollutant environments.

⑥ Referred to 125VAC and 30VDC.

⑦ Q600 for G418...

⑧ 3 million cycles for G485, G486, G487.

⑨ Finger safe IP20 protection is warranted to equipment wired with 0.75mm<sup>2</sup>/18 AWG minimum cable section for G418 and 1mm<sup>2</sup>/18 AWG minimum for G480, G485, G486 and G487 types.

⑩ Finger safe IP20 protection is warranted to equipment wired with insulated Faston terminals.

#### Certifications and compliance

– UL recognized, File E 93601

– CSA certified, File LR 54332-15.

Additional auxiliary contacts are compliant with the following standards: IEC/EN 60947-5-1.

#### Maximum assembly combination of add-on blocks

See page TC-20.

### Add-on blocks



11 G222 - 11 G272



11 G318 - 11 G319 225  
11 G322



11 RE244



11 G477 - 11 G479

### Accessories



11 G265



11 BA135



11 G231



11 G285



11 BA126 2

Characteristics	Maximum number per contactor	Qty per pkg	Catalog number	Price
		n°		\$

#### Mechanical latch.

CF4, BF9-BF40 (BF40 three-pole only)	1	1	11 G222 ①	74.00
BF40 40, BF50-BF95	1	1	11 G272 ①	74.00

#### Mechanical interlocks.

CF4, BF9-BF40 (BF40 three-pole only)	1	10	11 G223	8.00
	1	10	11 G269 1	24.00
BF40 40, BF50-BF95	1	10	11 G269 2	24.00

Characteristics	Qty per pkg	Catalog number	Price
	n°		\$

#### Surge suppressors (Faston terminals) ②.

Varistor	≤48VAC/DC	10	11 G318 48	22.00
	48-125VAC/DC	10	11 G318 125	22.00
	125-240VAC/DC	10	11 G318 240	22.00
	240-415VAC/DC	10	11 G318 415	22.00
Diode	≤225VDC	10	11 G319 225	22.00
RC-element (resistor-capacitor)	≤48VAC	10	11 G322 48	22.00
	48-240VAC	10	11 G322 220	22.00
	240-415VAC	10	11 G322 380	22.00

#### Suppressor holder.

For 35 mm DIN rail (EN 50022)	10	11 RE244	4.00
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#### Surge suppressors (Faston terminals) ②.

Varistor	≤48VAC/DC	10	11 G477 048	23.00
	48-125VAC/DC	10	11 G477 125	23.00
	125-240VAC/DC	10	11 G477 240	23.00
	240-415VAC/DC	10	11 G477 415	23.00
RC-element (resistor-capacitor)	≤48VAC	10	11 G479 048	23.00
	48-125VAC/DC	10	11 G479 125	23.00
	125-240VAC	10	11 G479 240	23.00
	240-415VAC	10	11 G479 415	23.00

Characteristics	Qty per pkg	Catalog number	Price
	n°		\$

#### Power terminal cover.

Finger safe IP20 protection	10	11 G265 ②	6.50
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#### Parallel bridges.

2-pole configuration (BF9-BF16)	10	11 BA135	3.00
2-pole configuration (BF20-BF40)	10	11 BA235	4.00
3-pole configuration (BF50-BF95)	10	11 BA435	6.70

#### Enlarged terminals.

1-6 mm <sup>2</sup> /10 AWG (BF9-BF16)	12	11 G231	5.50
1-10 mm <sup>2</sup> /8 AWG (BF20-BF25)	12	11 G232	6.50
1-35 mm <sup>2</sup> /3 AWG (BF32-BF40)	10	11 G281	25.00
1-50 mm <sup>2</sup> /1 AWG (BF50-BF95)	10	11 G271	35.00

#### Auxiliary terminal.

For BF50-BF95	8	11 G285	7.00
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#### Marking element.

Label for writing	100	11 BA126 2	1.00
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#### Operational characteristics for mechanical latch

Type		G222	G272
For contactors		BF9-BF40 ①	BF40-BF95 ②
Control circuit voltage	AC (50/60 Hz)	V 12-380	12-380
	DC	V 12-220	12-220
Power consumption with control	AC	VA 40	40
	DC	W 70	70
Minimum energising drop-out	ms	10	10
	pick-up	ms 50	100

- ① BF40 three-pole only.
- ② BF40 four-pole only.

#### Certifications and compliance

- UL recognized, File E 93601
- CSA certified, File LR 54332-15.

#### Maximum assembly combination of add-on blocks

See page TC-20.

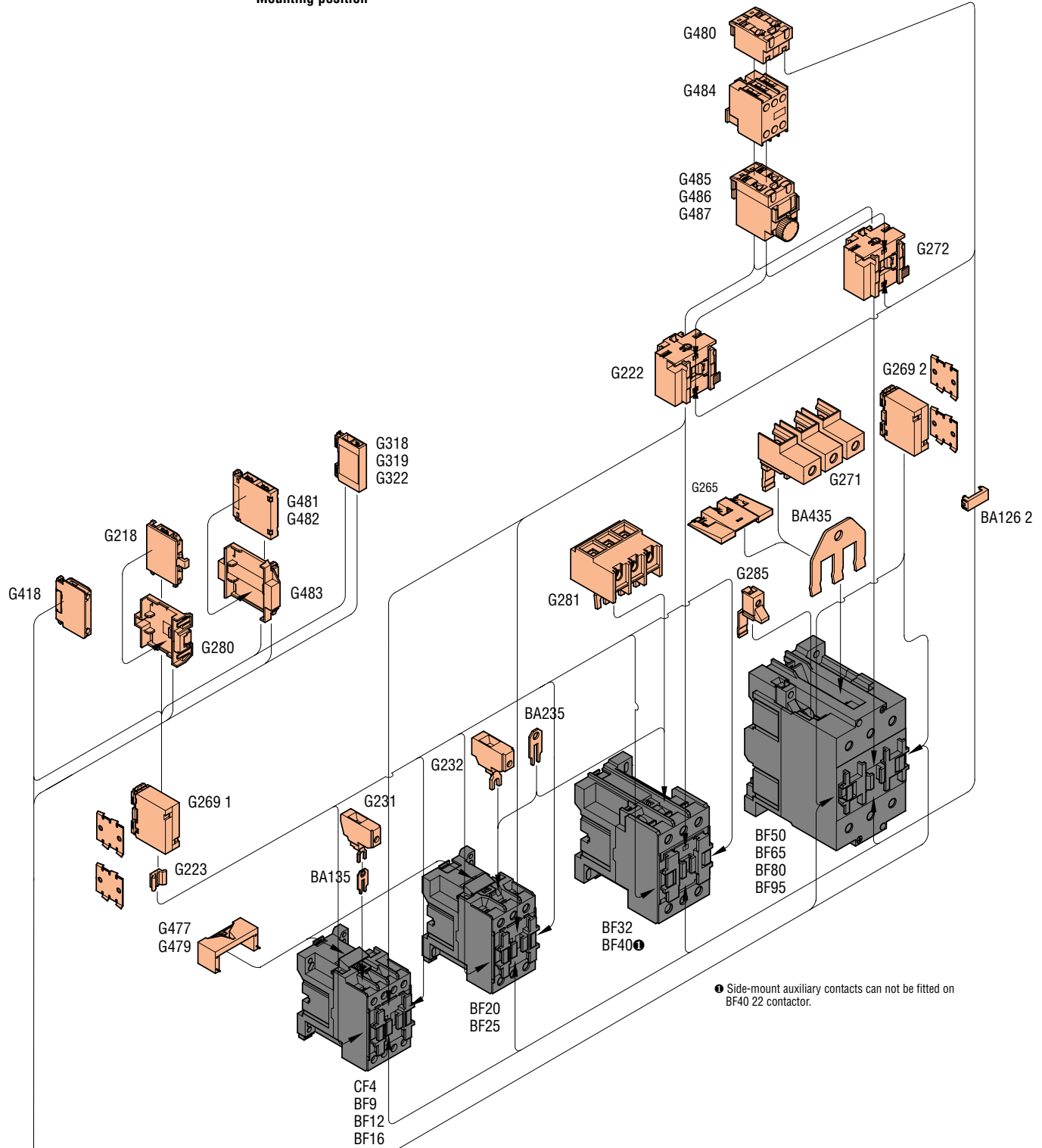
- ① Complete catalog number with voltage digit per following table.

Voltage digit	Voltage range
<b>AC type</b>	50/60Hz
024	24V
110	110/125V
220	200/240V
<b>DC type</b>	DC
C024	24V
C110	110/125V
C220	220V

Other coil voltage and frequency values are available on request.

- ② The G477 and G479 suppressors can only be fitted on BF9-BF25 and CF4 contactors having 3-terminal coil.
- ③ For 3-pole contactors, BF50-BF95 types only.  
NOTE: Two pieces are required per contactor.

Mounting position



❶ Side-mount auxiliary contacts can not be fitted on BF40 22 contactor.

### Accessories



11 SMX90 01 - 11 SMX90 02



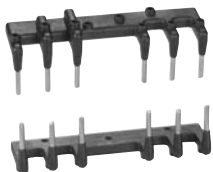
11 SMX90 10



11 SMX90 12



11 SMX90 14



11 SMX90 24

Characteristics	Qty per pkg	Catalog number	Price
	n°		\$

#### Accessories for full-voltage starter assemblies.

Adapter plate for SM1 starter and BG or BF9-BF40 contactor	1	11 SMX90 10	14.00
Set of 3 wires for SM1 starter with BF9, BF12 or BF16 contactor	10	11 SMX90 01	8.00
Set of 3 wires for SM1 starter with BF20, BF25, BF32 or BF40 contactor	10	11 SMX90 02	8.00
Rigid connecting kit for SM1 starter with BF9, BF12 or BF16 contactor	10	11 SMX90 04	9.00

#### Accessories for reversing contactor assemblies.

Adapter plate for SM1 starter and BG or BF9-BF25 contactors	1	11 SMX90 12	24.00
Rigid connecting kit for BF9, BF12 or BF16 contactors ①②	1	11 SMX90 24	14.00
Rigid connecting kit for two BF20 or BF25 contactors ①②	1	11 SMX90 26	16.00
Rigid connecting kit for two BF32 or BF40 contactors ①②	1	11 SMX90 28	20.00

#### Accessories for wye-delta starter assemblies.

Adapter plate for SM1 breaker and 45mm wide contactors (BF9-BF25)	1	11 SMX90 14	28.00
DIN rail for wire bypass of contactor used with SMX90 14 plate	1	11 SMX90 18	3.80
DIN rail extension for 55mm wide contactors	1	11 SMX90 19	2.00
Rigid connecting kit for 3-contactor side by side combination among BF9, BF12 or BF16 types (not suitable for SMX90 14 plate)	1	11 SMX90 23	16.00
Connecting kit for either two BF20 or BF25 and one BF9, BF12 or BF16 (wye) contactors	1	11 SMX90 25	18.00
Connecting kit for either two BF32 or BF40 and one BF20 or BF25 (wye) contactors	1	11 SMX90 27	26.00
Connecting kit for either two BF50, BF65, BF80 or BF95 and one BF32 or BF40 (wye) contactors	1	11 SMX90 29	52.00
Connecting kit for 3-contactor combination among BF50 to BF95 types	1	11 SMX90 20	58.00

- ① Contactors with one NC auxiliary contact, 01 type, are usually used.
- ② The relay can not be directly mounted on the contactor. Use the RF...25 type and the G230 independent mounting base.

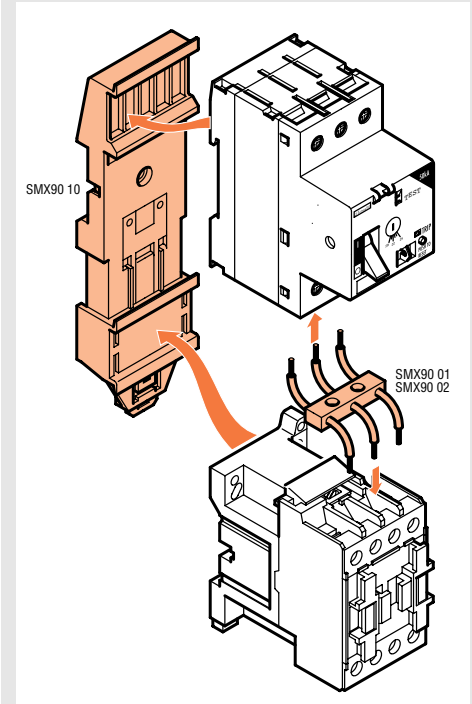
#### General characteristics

##### STARTER ASSEMBLY ACCESSORIES

The SMX90 01 and 02 are 3-pole links, consisting of three 10 AWG (4mm<sup>2</sup>) section wires having butt ends and wire tie (to keep them together), 3.3in (85mm) long, to provide a quick and easy connection between the starter and the contactor. This type of connection is normally used to assemble starters mounted on busbar systems.

The SMX90 04 rigid connecting kit fastens together the starter and the contactor forming a single-unit starter for quick installation on 35mm DIN rail (EN 50022).

The starter adapter plates install on 35mm DIN rail (EN 55022).



#### Certifications

UL pending (contact Sales & Technical Support).



## Add-on blocks



11 G350 - 11 G354



11 G358

Characteristics	Max. no. per contactor	Qty per pkg	Catalog number	Price
		n°		\$
<b>Instantaneous auxiliary contacts.</b>				
2NO+1NC or 1NO+2NC reversible	4	1	11 G350	42.00
1NO+1NC	4	1	11 G354	34.00
<b>Contact block adapter.</b>				
To fit auxiliary contacts G480, G484, G485, G486 and G487 types, on B115-B630 contactors; see page 2-12.	4	5	11 G358	25.00
<b>Mechanical interlock.</b>				
Side by side	1	1	11 G355 ①	47.00
One on top of other	1	1	11 G356 1 ①	96.00
One on top of other	1	1	11 G356 2 ①	96.00
One on top of other	1	1	11 G356 3 ①	96.00
One on top of other	1	1	11 G356 4 ①	96.00
One on top of other	1	1	11 G356 5 ①	96.00
One on top of other	1	1	11 G356 6 ①	96.00

## Accessories

11 G360 - 11 G361  
11 G362 - 11 G36311 G527 - 11 G528  
11 G529 - 11 G530

11 G370



11 G371

Characteristics	Qty per pkg	Catalog number	Price
	n°		\$
<b>Power terminal cover.</b>			
For contactor B115	1	11 G360 ②	12.00
For contactors B145-B180	1	11 G361 ②	15.00
For contactor B250	1	11 G362 ②	24.00
For contactors B310-B400	1	11 G363 ②	28.00
For contactors B500	1	11 G527	122.00
For contactors B500 4	1	11 G528	139.00
For contactors B630	1	11 G529	127.00
For contactors B630 4	1	11 G530	144.00
<b>3 pole wye connecting bars.</b>			
For B115-B145-B180	1	11 BA1595	18.00
For B250-B310-B400	1	11 BA1721	22.00
For B500-B630	1	11 BA1846	28.00
<b>2 pole bars for parallel configuration.</b>			
For B115-B145-B180	1	11 BA1594	24.00
For B250-B310-B400	1	11 BA1720	38.00
For B500-B630	1	11 BA1845	54.00
<b>Terminal adapters.</b>			
To individually transform Faston terminals of auxiliary contacts and coils into screw terminals	10	11 G370	4.00
To transform both coil Faston terminals into screw terminals	5	11 G371	14.00
<b>Marking element.</b>			
Label for writing	100	11 BA126 2	1.00

① For choice and allowed distances see page TC-22.

② Provided for one pole terminal only. Example: For three-pole contactors, purchase 3 pieces for the upper terminals only or 6 pieces for all upper and lower terminals.

## Operational characteristics of auxiliary contacts

Type		G350 G354
Rated thermal current I <sub>th</sub>	A	16
Rated insulation voltage U <sub>i</sub>	V	690
Terminals	Faston	1-6.35 2-2.8
Max cross section connectable with 1 or 2 conductors	flexible c/w lug	mm <sup>2</sup> 2.5
	AWG	n° 14
UL designation	AC	A600
	DC	P600
Mechanical life (in millions)	cycles	5

## Certifications and compliance

- UL recognized, File E 93601.
- CSA certified, File LR 54332-15.

Add-on auxiliary contacts comply with the following standards: IEC/EN 60947-5-1.

## Maximum assembly combination

See pages TC-21 to TC-23.



## AC coils for CF4 relays and BF contactors (standard voltages)



11 BA456

Rated frequency and voltage		Qty per pkg	Catalog number	Price
[Hz]	[V]			
<b>For CF4-BF9-BF12-BF16-BF20-BF25 contactors.</b>				
60	24	1	<b>11 BA456 024 60</b>	24.00
	120	1	<b>11 BA456 120 60</b>	24.00
	200-240	1	<b>11 BA456 230 60</b>	24.00
	440-480	1	<b>11 BA456 460 60</b>	24.00
	575	1	<b>11 BA456 575 60</b>	24.00

● 3 terminal coil. Replaces the 2 terminal coil (BA104...).  
To order the old BA104 coils, contact our Sales & Technical Support.  
NOTE. Other coil voltage and frequency values are available on request.  
Contact Sales & Technical Support.

### Operational characteristics

#### AC control

Rated voltage at 60Hz:	from	V	12
	to	V	660
Operating limits	pick up	from	% Us 70
		to	% Us 110
	drop out	from	% Us 40
		to	% Us 55
Consumption	60Hz	in-rush	VA 78
		holding	VA 10.8
Dissipation		W	2.5

### Materials

Class F enamelled copper wire.



11 BA320

Rated frequency and voltage		Qty per pkg	Catalog number	Price
[Hz]	[V]			
<b>For contactors BF32-BF40 (three pole only).</b>				
60	24	1	<b>11 BA320 024 60</b>	32.00
	120	1	<b>11 BA320 120 60</b>	32.00
	200-240	1	<b>11 BA320 230 60</b>	32.00
	440-480	1	<b>11 BA320 460 60</b>	32.00
	575	1	<b>11 BA320 575 60</b>	32.00

NOTE. Other coil voltage and frequency values are available on request.  
Contact Sales & Technical Support.

### Operational characteristics

#### AC control

Rated voltage at 60Hz	from	V	12
	to	V	660
Operating limits	pick-up	from	% Us 70
		to	% Us 110
	drop-out	from	% Us 40
		to	% Us 55
Consumption	60Hz	in-rush	VA 92
		holding	VA 12
Dissipation		W	4.5

### Materials

Class F enamelled copper wire.



11 BA705

Rated frequency and voltage		Qty per pkg	Catalog number	Price
[Hz]	[V]			
<b>For contactors BF40 40 - BF50 to BF95.</b>				
60	24	1	<b>11 BA705 024 60</b>	46.00
	120	1	<b>11 BA705 120 60</b>	46.00
	200-240	1	<b>11 BA705 230 60</b>	46.00
	440-480	1	<b>11 BA705 460 60</b>	46.00
	575	1	<b>11 BA705 575 60</b>	46.00

NOTE. Other coil voltage and frequency values are available on request.  
Contact Sales & Technical Support.

### Operational characteristics

#### AC control

Rated voltage at 50, 60, 50/60 Hz	from	V	12
	to	V	660
Operating limit	pick-up	from	% Us 70
		to	% Us 110
	drop-out	from	% Us 40
		to	% Us 55
Consumption	60Hz	in-rush	VA 252
		holding	VA 21.6
Dissipation		W	6

### Materials

Class F enamelled copper wire.

### DC coils for BF...C contactors (standard voltages)



11 BA904

Rated voltage	Qty per pkg	Catalog number	Price
[V]	n°		\$
<b>For BF9C-BF12C-BF16C-BF20C-BF25C-BF32C-BF40C contactors.</b>			
24	1	<b>11 BA904 024</b>	49.00
110	1	<b>11 BA904 110</b>	49.00

NOTE. Other coil voltage values are available on request.  
Contact Sales & Technical Support.

#### Operational characteristics

DC control

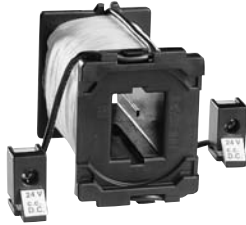
Rated voltage	from	V	12
	to	V	660

Operating limits	pick-up	from	% Us	70
		to	% Us	120
	drop-out	from	% Us	15
		to	% Us	25

Average consumption	W	9
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#### Materials

Class F enamelled copper wire.



11 BA911

Rated voltage	Qty per pkg	Catalog number	Price
[V]	n°		\$
<b>For BF40C 40-BF50C-BF65C-BF80C-BF95C contactors.</b>			
24	1	<b>11 BA911 024</b>	74.00
110	1	<b>11 BA911 110</b>	74.00

NOTE. Other coil voltage values are available on request.  
Contact Sales & Technical Support.

#### Operational characteristics

DC control

Rated voltage	from	V	12
	to	V	660

Operating limits	pick-up	from	% Us	70
		to	% Us	110
	drop-out	from	% Us	15
		to	% Us	25

Average consumption	W	15
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#### Materials

Class F enamelled copper wire.

### Coils for B115-B630 contactors



Coil for B115-B630



Bridge rectifier



Coil protection



Coil assembly

Rated voltage 50/60 Hz and DC	Qty per pkg	Catalog number	Price
[V]	n°		\$

**Coil for B115-B145-B180 contactors.**

24	1	<b>11 BA11574 024</b>	118.00
110-125	1	<b>11 BA11574 110</b>	118.00
220-240	1	<b>11 BA11574 220</b>	118.00
440-480	1	<b>11 BA11574 460</b>	118.00

**Coil for B250-B310-B400 contactors.**

24	1	<b>11 BA1699 024</b>	228.00
110-125	1	<b>11 BA1699 110</b>	228.00
220-240	1	<b>11 BA1699 220</b>	228.00
440-480	1	<b>11 BA1699 460</b>	228.00

**Coil for B500-B630 contactors.**

110-125	1	<b>11 BA1800 110</b>	391.00
220-240	1	<b>11 BA1800 220</b>	391.00
440-480	1	<b>11 BA1800 460</b>	391.00

For contactor	Qty per pkg	Catalog number	Price
	n°		\$

**Bridge rectifier (Faston terminals).**

B115-B145-B180	1	<b>11 BA1575 1</b>	81.00
B250-B310-B400	1	<b>11 BA1700 1</b>	95.00
B500-B630	1	<b>11 BA1799</b>	172.00

**Coil protection.**

B115-B145-B180	1	<b>11 BA1533</b>	25.00
B250-B310-B400	1	<b>11 BA1678</b>	45.00
B500-B630	1	<b>11 BA1803</b>	97.00

**Coil assembly (Coil, rectifier and coil protection).**

B115-B145-B180	1	<b>11 BA1546 ①</b>	234.00
B250-B310-B400	1	<b>11 BA1671 ①</b>	378.00
B500-B630	1	<b>11 BA1796 ②</b>	670.00

① Complete catalog number with coil digit per following table.

Coil digit	Voltage range
	AC/DC
<b>024</b>	24V
<b>110</b>	110/125V
<b>220</b>	220/240V
<b>460</b>	440/480V

Other coil voltage values are available on request.

② Complete catalog number with coil digit per following table.

Coil digit	Voltage range
	AC/DC
<b>110</b>	110/125V
<b>220</b>	220/240V
<b>460</b>	440/480V

Other coil voltage values are available on request.

### Operational characteristics

AC and DC control

For contactor type		B115 - B145 - B180
Supply voltage		AC and DC
Rated control voltage	V	24-480
Operating limits	pick-up	% Us 80-110
	drop-out	% Us 30-60
Consumption	in-rush	VA/W 300
	holding	VA/W 10
Dissipation	W	10

For contactor type		B250 - B310 - B400
Supply voltage		AC and DC
Rated control voltage	V	24-480
Operating limits	pick-up	% Us 80-110
	drop-out	% Us 30-60
Consumption	in-rush	VA/W 300
	holding	VA/W 10
Dissipation	W	10

For contactor type		B500 - B630
Supply voltage		AC and DC
Rated control voltage	V	48-480
Operating limits	pick-up	% Us 80-110
	drop-out	% Us 30-60
Consumption	in-rush	VA/W 400
	holding	VA/W 18
Dissipation	W	18

Operating limits for ambient temperatures up to 40°C (105°F) are 0.8 to 1.1 times rated voltage.  
NOTE: For use at ambient temperatures exceeding 55°C (130°F), contact Sales & Technical Support.

### Materials

Class F enamelled copper wire.

### Coil assembly

Comprises the coil, bridge rectifier, fixed magnetic core, coil protection, cross piece and fixing screws.

### Main contacts and arc chutes



11 G234 - 11 G235 - 11 G236  
11 G237 - 11 G470



11 G273 - 11 G279



11 G274 - 11 G275  
11 G276 - 11 G475



11 G380 - 11 G381 - 11 G382  
11 G383 - 11 G384 - 11 G385  
11 G525 - 11 G526



Arc chute

For contactor	Qty per pkg	Catalog number	Price
	n°		\$

#### Main contacts 3 or 4 pole set complete with screws.

BF9	1	11 G234	18.00
BF9 40	1	11 G234 4	24.00
BF12	1	11 G235	22.00
BF16	1	11 G470	26.00
BF16 40	1	11 G470 4	34.00
BF20	1	11 G236	31.00
BF20 40	1	11 G236 4	41.00
BF25	1	11 G237	35.00
BF25 40	1	11 G237 4	46.00
BF32	1	11 G273	63.00
BF40	1	11 G279	85.00
BF40 40	1	11 G279 4	113.00
BF50	1	11 G274	122.00
BF50 40	1	11 G274 4	161.00
BF65	1	11 G275	155.00
BF65 40	1	11 G275 4	206.00
BF80	1	11 G276	192.00
BF80 40	1	11 G276 4	254.00
BF95	1	11 G475	241.00

#### Main contacts 3 or 4 pole set complete with Allen screws and key for contact replacement.

B115	1	11 G380	226.00
B115 4	1	11 G380 4	278.00
B145	1	11 G381	330.00
B145 4	1	11 G381 4	395.00
B180	1	11 G382	356.00
B180 4	1	11 G382 4	466.00
B250	1	11 G383	598.00
B250 4	1	11 G383 4	808.00
B310	1	11 G385	728.00
B310 4	1	11 G385 4	998.00
B400	1	11 G384	911.00
B400 4	1	11 G384 4	1231.00
B500	1	11 G525	1414.00
B500 4	1	11 G525 4	2206.00
B630	1	11 G526	2376.00
B630 4	1	11 G526 4	3141.00

#### Arc chutes.

B115-B145-B180	1	11 BA1588	96.00
B115 4-B145 4-B180 4	1	11 BA1589	126.00
B250-B310-B400	1	11 BA1713	268.00
B250 4-B310 4-B400 4	1	11 BA1714	308.00
B500-B630	1	11 BA1838	349.00
B500 4-B630 4	1	11 BA1839	572.00

#### Special versions

For non standard spare contact configurations, contact Sales & Technical Support.