3-pole Mini Contactors
4-pole Mini Contactors
Compact Reversing Contactors
Interface Mini Contactors
Mini Contactors for PLC's Outputs

a.c. Circuit Switching

d.c. Circuit Switching

Lighting Circuits

Interface and PLC's Outputs

Mini contactors B 6 and B 7
Mini contactor relays K..
Compact reversing contactors VB..
Thermal overload relay T 7 DU

Contents

6

Coil Voltages for Mini Contactors

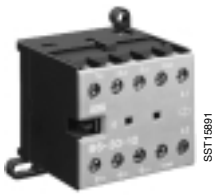
B 6, B 7, VB 6(A), VB 7(A), BC 6, BC 7, VBC 6(A), VBC 7(A), K 6, KC 6.

AC		DC	
40-450 Hz V (1)	Code number ☐ .. ☐	DC V	Code number ☐ .. ☐
24	0 .. 1	12	0 .. 7
42	0 .. 2	24	0 .. 1
48	0 .. 3	42	0 .. 2
110 ... 127	8 .. 4	48	1 .. 6
220 ... 240	8 .. 0	60	0 .. 3
380 ... 415	8 .. 5	110 ... 125	0 .. 4
		220 ... 240	0 .. 5

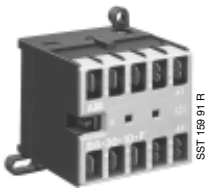
(1) Coil voltage range: 0.85 ... 1.1 x U_c

Mini contactors B 6, BC 6, B 7, BC 7

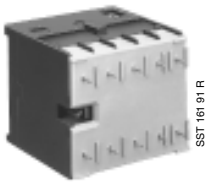
Ordering details



B6 30-10



B 6-30-10-F



B 6-30-10-P

B 7-30-10

B 7-40-00

B 7-40-00 with auxiliary switch CAF 6-11 screwed on afterwards

Type	Order code See Page 6/1 for adding code suffixes ☐ .. ☐ to the order code	Auxiliary switches NO	 NC	Motor output 220 V 240 V kW	AC-2, AC-3 **380 V** **440 V** **kW**		Packing unit piece	Weight per piece kg
Mini contactors B 6								
Mini contactors, with screw connection, for AC operation, 3.5 VA								
B 6-30-10	**GJL 121 1001 R ☐ 10 ☐**	1	0	2.2	**4**		10	0.180
B 6-30-01	**GJL 121 1001 R ☐ 01 ☐**	0	1				10	0.180
B 6-40-00	**GJL 121 1201 R ☐ 00 ☐**	0	0				10	0.180
Mini contactors, with flat pin connection, for AC operation, 3.5 VA								
B 6-30-10-F	**GJL 121 1003 R ☐ 10 ☐**	1	0	2.2	**4**		10	0.170
B 6-30-01-F	**GJL 121 1003 R ☐ 01 ☐**	0	1				10	0.170
B 6-40-00-F	**GJL 121 1203 R ☐ 00 ☐**	0	0				10	0.170
Mini contactors, with soldering pins, for AC operation, 3.5 VA, I_{th} < 8 A								
B 6-30-10-P	**GJL 121 1009 R ☐ 10 ☐**	1	0	2.2	**4**		10	0.170
B 6-30-01-P	**GJL 121 1009 R ☐ 01 ☐**	0	1				10	0.170
Mini contactors, with screw connection, for DC operation, 3.5 W								
BC 6-30-10	**GJL 121 3001 R ☐ 10 ☐**	1	0	2.2	**4**		100	0.180
BC 6-30-01	**GJL 121 3001 R ☐ 01 ☐**	0	1				10	0.180
Mini contactors, with flat pin connection, for DC operation, 3.5 W								
BC 6-30-10-F	**GJL 121 3003 R ☐ 10 ☐**	1	0	2.2	**4**		10	0.170
BC 6-30-01-F	**GJL 121 3003 R ☐ 01 ☐**	0	1				10	0.170
Mini contactors, with soldering pins, for DC operation, 3.5 W, I_{th} < 8 A								
BC 6-30-10-P	**GJL 121 3009 R ☐ 10 ☐**	1	0	2.2	**4**		10	0.170
BC 6-30-01-P	**GJL 121 3009 R ☐ 01 ☐**	0	1				10	0.170
Mini contactors B 7								
Mini contactors, with screw connection, for AC operation, 3.5 VA								
B 7-30-10	**GJL 131 1001 R ☐ 10 ☐**	1	0	3.0	**5.5**		10	0.180
B 7-30-01	**GJL 131 1001 R ☐ 01 ☐**	0	1				10	0.180
B 7-40-00	**GJL 131 1201 R ☐ 00 ☐**	0	0				10	0.180
Mini contactors, with flat pin connection, for AC operation, 3.5 VA								
B 7-30-10-F	**GJL 131 1003 R ☐ 10 ☐**	1	0	3.0	**5.5**		10	0.170
B 7-30-01-F	**GJL 131 1003 R ☐ 01 ☐**	0	1				10	0.170
B 7-40-00-F	**GJL 131 1203 R ☐ 00 ☐**	0	0				10	0.170
Mini contactors, with soldering pins, for AC operation, 3.5 VA, I_{th} < 8 A								
B 7-30-10-P	**GJL 131 1009 R ☐ 10 ☐**	1	0	3.0	**5.5**		10	0.170
B 7-30-01-P	**GJL 131 1009 R ☐ 01 ☐**	0	1				10	0.170
Mini contactors, with screw connection, for DC operation, 3.5 W								
BC 7-30-10	**GJL 131 3001 R ☐ 10 ☐**	1	0	3.0	**5.5**		10	0.180
BC 7-30-01	**GJL 131 3001 R ☐ 01 ☐**	0	1				10	0.180
Mini contactors, with flat pin connection, for DC operation, 3.5 W								
BC 7-30-10-F	**GJL 131 3003 R ☐ 10 ☐**	1	0	3.0	**5.5**		10	0.170
BC 7-30-01-F	**GJL 131 3003 R ☐ 01 ☐**	0	1				10	0.170
Mini contactors, with screw connection, for 24 V DC operation, with integr. surpressor diod, 3.5 W								
B 7 D-30-10	**GJL 131 7001 R 0101**	1	0	3.0	**5.5**		10	0.170
B 7 D-30-01	**GJL 131 7001 R 0011**	0	1				10	0.170
B 7 D-40-00	**GJL 131 7201 R 0001**	0	0				10	0.170
Mini contactors, with soldering pins, for DC operation, 3.5 W, I_{th} < 8 A								
BC 7-30-10-P	**GJL 131 3009 R ☐ 10 ☐**	1	0	3.0	**5.5**		10	0.170
BC 7-30-01-P	**GJL 131 3009 R ☐ 01 ☐**	0	1				10	0.170
Mini contactors, with screw connection, for 220 V DC operation, with integr. surpressor diod, 3.5 W								
B 7 D-30-10	**GJL 131 7001 R 0105**	1	0	3.0	**5.5**		10	0.170
B 7 D-30-01	**GJL 131 7001 R 0015**	0	1				10	0.170
B 7 D-40-00	**GJL 131 7201 R 0005**	0	0				10	0.170

Compact reversing contactors VB 6, VB 7 and VB 6A, VB 7A

The mechanical interlock between the two contactors mechanically prevents switch-on of one contactor for as long as the other contactor is still on and vice versa. If reversing contactors are switched over too quickly, this involves the risk of a phase-to-phase short-circuit. This will the case if the arc of the contactor switching off has not yet been quenched when the contacts of the contactor switching on are already closed.

In order to avoid these risks, both contactor coils must be de-energised **for at least 50 ms** and must also be mutually interlocked electrically.

The compact reversing contactors are offered with two different mechanical interlocks:

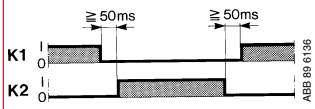
- VB 6 resp. VB 7: normal interlock
- VB 6A resp. VB 7A: interlock with mechanical safety blocking function

The safety blocking function is triggered if the voltage is applied to the coil of the contactor to be switched on before the contactor to be switched off has dropped out.

Safety blocking means that the contactor to be switched on is locked mechanically in OFF condition owing to the switch-on signal issued too early, and this state is retained until the blocking function is cancelled again as follows:
disconnect the voltage from the two contactor coils and then reconnect the voltage to the coil of the contactor to be switched on.

The contactor coils are designed for continuous operation when the contactor is de-energised, i.e. the coil is not damaged if the mechanical interlock prevents switch-on of the contactor with the coil voltage applied.

VB 7-30-01

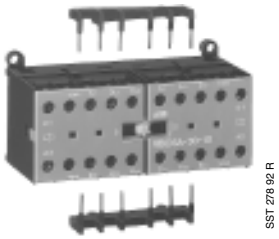


When the direction of rotation is changed, both contactor coils of VB 6A, VB 7A have to be de-energized for more than 50 ms.

Type	Order code See Page **6**/1 for adding code suffixes ☐ .. ☐ to the order code	Auxiliary switches NO	 NC	Motor output AC-2, AC-3 max. 220 V 240 V kW	 **380 V** **440 V** **kW**		Packing unit piece	Weight per piece kg
Compact reversing contactors VB 6, VBC 6, with mechanical interlock								
Reversing contactors, with screw connection, for AC operation, 3.5 VA								
VB 6-30-10	**GJL 121 1901 R ☐ 10 ☐**	1	0	2.2	**4**		5	0.340
VB 6-30-01	**GJL 121 1901 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with flat pin connection, for AC operation, 3.5 VA								
VB 6-30-10-F	**GJL 121 1903 R ☐ 10 ☐**	1	0	2.2	**4**		5	0.340
VB 6-30-01-F	**GJL 121 1903 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with soldering pins, for AC operation, 3.5 VA, I_{th} < 8 A								
VB 6-30-10-P	**GJL 121 1909 R ☐ 10 ☐**	1	0	2.2	**4**		5	0.340
VB 6-30-01-P	**GJL 121 1909 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with screw connection, for DC operation, 3,5 W								
VBC 6-30-10	**GJL 121 3901 R ☐ 10 ☐**	1	0	2.2	**4**		5	0.340
VBC 6-30-01	**GJL 121 3901 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with flat pin connection, for DC operation, 3.5 W								
VBC 6-30-10-F	**GJL 121 3903 R ☐ 10 ☐**	1	0	2.2	**4**		5	0.340
VBC 6-30-01-F	**GJL 121 3903 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with soldering pins, for DC operation, 3.5 W, I_{th} < 8 A								
VBC 6-30-10-P	**GJL 121 3909 R ☐ 10 ☐**	1	0	2.2	**4**		5	0.340
VBC 6-30-01-P	**GJL 121 3909 R ☐ 01 ☐**	0	1				5	0.340
Compact reversing contactors VB 7, VBC 7, with mechanical interlock								
Reversing contactors, with screw connection, for AC operation, 3.5 VA								
VB 7-30-10	**GJL 131 1901 R ☐ 10 ☐**	1	0	3.0	**5.5**		5	0.340
VB 7-30-01	**GJL 131 1901 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with flat pin connection, for AC operation, 3.5 VA								
VB 7-30-10-F	**GJL 131 1903 R ☐ 10 ☐**	1	0	3.0	**5.5**		5	0.340
VB 7-30-01-F	**GJL 131 1903 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with soldering pins, for AC operation, 3.5 VA, I_{th} < 8 A								
VB 7-30-10-P	**GJL 131 1909 R ☐ 10 ☐**	1	0	3.0	**5.5**		5	0.340
VB 7-30-01-P	**GJL 131 1909 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with screw connection, for DC operation, 3.5 W								
VBC 7-30-10	**GJL 131 3901 R ☐ 10 ☐**	1	0	3.0	**5.5**		5	0.340
VBC 7-30-01	**GJL 131 3901 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with flat pin connection, for DC operation, 3.5 W								
VBC 7-30-10-F	**GJL 131 3903 R ☐ 10 ☐**	1	0	3.0	**5.5**		5	0.340
VBC 7-30-01-F	**GJL 131 3903 R ☐ 01 ☐**	0	1				5	0.340
Reversing contactors, with soldering pins, for DC operation, 3.5 W, I_{th} < 8 A								
VBC 7-30-10-P	**GJL 131 3909 R ☐ 10 ☐**	1	0	3.0	**5.5**		5	0.340
VBC 7-30-01-P	**GJL 131 3909 R ☐ 01 ☐**	0	1				5	0.340

Compact reversing contactors

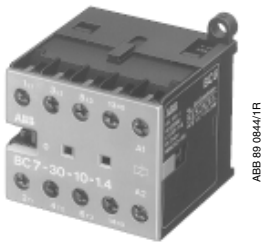
Ordering details



Reversing contactor VBC 6A-3-10
Reversing connection BMS 6-30

Type	Order code See Page 6/1 for adding code suffixes ☐ .. ☐ to the order code	Auxiliary switches NO	 NC	Motor output AC-2, AC-3 220 V 240 V kW	 **380 V** **440 V** **kW**	Pack-ing unit piece	Weight per piece kg
Compact reversing contactors VB 6A, VBC 6A, with mechanical interlock							
Reversing contactors, with screw connection, for AC operation, 3.5 VA							
VB 6A-30-10	**GJL 121 1911 R☐10☐**	1	0	2.2	**4**	5	0.340
VB 6A-30-01	**GJL 121 1911 R☐01☐**	0	1			5	0.340
Reversing contactors, with flat pin connection, for AC operation, 3.5 VA							
VB 6A-30-10-F	**GJL 121 1913 R☐10☐**	1	0	2.2	**4**	5	0.340
VB 6A-30-01-F	**GJL 121 1913 R☐01☐**	0	1			5	0.340
Reversing contactors, with soldering pins, for AC operation, 3.5 VA, I_{th} < 8 A							
VB 6A-30-10-P	**GJL 121 1919 R☐10☐**	1	0	2.2	**4**	5	0.340
VB 6A-30-01-P	**GJL 121 1919 R☐01☐**	0	1			5	0.340
Reversing contactors, with screw connection, for DC operation, 3.5 W							
VBC 6A-30-10	**GJL 121 3911 R☐10☐**	1	0	2.2	**4**	5	0.340
VBC 6A-30-01	**GJL 121 3911 R☐01☐**	0	1			5	0.340
Reversing contactors, with flat pin connection, for DC operation, 3.5 W							
VBC 6A-30-10-F	**GJL 121 3913 R☐10☐**	1	0	2.2	**4**	5	0.340
VBC 6A-30-01-F	**GJL 121 3913 R☐01☐**	0	1			5	0.340
Reversing contactors, with soldering pins, for DC operation, 3.5 W, I_{th} < 8 A							
VBC 6A-30-10-P	**GJL 121 3919 R☐10☐**	1	0	2.2	**4**	5	0.340
VBC 6A-30-01-P	**GJL 121 3919 R☐01☐**	0	1			5	0.340
Compact reversing contactors VB 7A, VBC 7A, with mechanical interlock							
Reversing contactors, with screw connection, for AC operation, 3.5 VA							
VB 7A-30-10	**GJL 131 1911 R☐10☐**	1	0	3.0	**5.5**	5	0.340
VB 7A-30-01	**GJL 131 1911 R☐01☐**	0	1			5	0.340
Reversing contactors, with flat pin connection, for AC operation, 3.5 VA							
VB 7A-30-10-F	**GJL 131 1913 R☐10☐**	1	0	3.0	**5.5**	5	0.340
VB 7A-30-01-F	**GJL 131 1913 R☐01☐**	0	1			5	0.340
Reversing contactors, with soldering pins, for AC operation, 3.5 VA, I_{th} < 8 A							
VB 7A-30-10-P	**GJL 131 1919 R☐10☐**	1	0	3.0	**5.5**	5	0.340
VB 7A-30-01-P	**GJL 131 1919 R☐01☐**	0	1			5	0.340
Reversing contactors, with screw connection, for DC operation, 3.5 W							
VBC 7A-30-10	**GJL 131 3911 R☐10☐**	1	0	3.0	**5.5**	5	0.340
VBC 7A-30-01	**GJL 131 3911 R☐01☐**	0	1			5	0.340
Reversing contactors, with flat pin connection, for DC operation, 3.5 W							
VBC 7A-30-10-F	**GJL 131 3913 R☐10☐**	1	0	3.0	**5.5**	5	0.340
VBC 7A-30-01-F	**GJL 131 3913 R☐01☐**	0	1			5	0.340
Reversing contactors, with soldering pins, for DC operation, 3.5 W, I_{th} < 8 A							
VBC 7A-30-10-P	**GJL 131 3919 R☐10☐**	1	0	3.0	**5.5**	5	0.340
VBC 7A-30-01-P	**GJL 131 3919 R☐01☐**	0	1			5	0.340

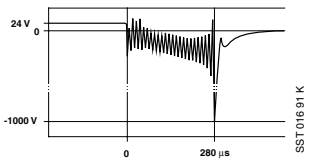
Interface motor contactors
Mini contactors for connection to PLCs
Ordering details



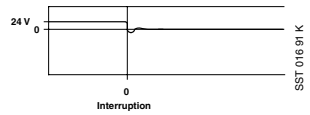
BC 7-30-10- 1.4

Oscillograms of control circuit interruption

Without protective circuit



With integrated protective circuit



- Controlled directly by PLC
- Integrated protective circuit with diodes and additional surge suppressor
- Non-confusible coil connection
- You save time and money for additional external wiring
- Thermal overload relay T7 DU available as accessory, see Page **6**/14

BC 6 Interface motor contactors

*Auxiliary switch blocks **cannot** be fitted later on !*

Type	Order code	Auxiliary switches NO	NC	Motor output AC-2, AC-3 220 V / 240 V kW	380 V / 440 V kW	Pack-ing unit piece	Weight per piece kg
Motor contactors, with screw connection, for DC operation 24V / 1.4 W							
BC 6-30-10-1.4	**GJL 121 3001 R 8101**	1	0	2.2	**4**	10	0.180
BC 6-30-01-1.4	**GJL 121 3001 R 8011**	0	1	2.2	**4**	10	0.180
Motor contactors, with flat pin connection, for DC operation 24V / 1.4 W							
BC 6-30-10-F-1.4	**GJL 121 3003 R 8101**	1	0	2.2	**4**	10	0.180
BC 6-30-01-F-1.4	**GJL 121 3003 R 8011**	0	1	2.2	**4**	10	0.180
Motor contactors, with soldering pins, for DC operation 24V / 1.4 W, I_{th} < 8 A							
BC 6-30-10-P-1.4	**GJL 121 3009 R 8101**	1	0	2.2	**4**	10	0.170
BC 6-30-01-P-1.4	**GJL 121 3009 R 8011**	0	1	2.2	**4**	10	0.170
Motor contactors, with screw connection, for DC operation 17 ... 32 V / 2.4 W							
BC 6-30-10-2.4	**GJL 121 3001 R 5101**	1	0	2.2	**4**	10	0.180
BC 6-30-01-2.4	**GJL 121 3001 R 5011**	0	1	2.2	**4**	10	0.180
Motor contactors, with flat pin connection, for DC operation 17 ... 32 V / 2.4 W							
BC 6-30-10-F-2.4	**GJL 121 3003 R 5101**	1	0	2.2	**4**	10	0.170
BC 6-30-01-F-2.4	**GJL 121 3003 R 5011**	0	1	2.2	**4**	10	0.170
Motor contactors, with soldering pins, for DC operation 17 ... 32 V / 2.4 W, I_{th} < 8 A							
BC 6-30-10-P-2.4	**GJL 121 3009 R 5101**	1	0	2.2	**4**	10	0.170
BC 6-30-01-P-2.4	**GJL 121 3009 R 5011**	0	1	2.2	**4**	10	0.170

BC 7 Interface motor contactors

*Auxiliary switch blocks **cannot** be fitted later on !*

Motor contactors, with screw connection, for DC operation 24V / 1.4 W							
BC 7-30-10-1.4	**GJL 131 3001 R 8101**	1	0	3.0	**5.5**	10	0.170
BC 7-30-01-1.4	**GJL 131 3001 R 8011**	0	1	3.0	**5.5**	10	0.170
Motor contactors, with flat pin connection, for DC operation 24V / 1.4 W							
BC 7-30-10-F-1.4	**GJL 131 3003 R 8101**	1	0	3.0	**5.5**	10	0.170
BC 7-30-01-F-1.4	**GJL 131 3003 R 8011**	0	1	3.0	**5.5**	10	0.170
Motor contactors, with soldering pins, for DC operation 24V / 1.4 W, I_{th} < 8 A							
BC 7-30-10-P-1.4	**GJL 131 3009 R 8101**	1	0	3.0	**5.5**	10	0.170
BC 7-30-01-P-1.4	**GJL 131 3009 R 8011**	0	1	3.0	**5.5**	10	0.170
Motor contactors, with screw connection, for DC operation 17 ... 32 V / 2.4 W							
BC 7-30-10-2.4	**GJL 131 3001 R 5101**	1	0	3.0	**5.5**	10	0.170
BC 7-30-01-2.4	**GJL 131 3001 R 5011**	0	1	3.0	**5.5**	10	0.170
Motor contactors, with flat pin connection, for DC operation 17 ... 32 V / 2.4 W							
BC 7-30-10-F-2.4	**GJL 131 3003 R 5101**	1	0	3.0	**5.5**	10	0.170
BC 7-30-01-F-2.4	**GJL 131 3003 R 5011**	0	1	3.0	**5.5**	10	0.170
Motor contactors, with soldering pins, for DC operation 17 ... 32 V / 2.4 W, I_{th} < 8 A							
BC 7-30-10-P-2.4	**GJL 131 3009 R 5101**	1	0	3.0	**5.5**	10	0.170
BC 7-30-01-P-2.4	**GJL 131 3009 R 5011**	0	1	3.0	**5.5**	10	0.170

B 6 S Mini contactors for connection to PLCs ... with integrated protective circuit

*Auxiliary switch blocks **cannot** be fitted later on !*

Motor contactors with screw connection, for DC operation 24 V / 1.7 W							
B6 S-30-10-1.7	**GJL 121 3001 R7101**	1	0	2.2	4.0	10	0.180
B6 S-30-01-1.7	**GJL 121 3001 R7011**	0	1	2.2	4.0	10	0.180
Motor contactors with screw connection, for DC operation 17...32 V / 2.8 W							
B6 S-30-10-2.8	**GJL 121 3001 R7102**	1	0	2.2	4.0	10	0.180
B6 S-30-01-2.8	**GJL 121 3001 R7012**	0	1	2.2	4.0	10	0.180

B 7 S Mini contactors for connection to PLCs ... with integrated protective circuit

*Auxiliary switch blocks **cannot** be fitted later on !*

Motor contactors with screw connection, for DC operation 24 V / 1.7 W							
B7 S-30-10-1.7	**GJL 131 3001 R7101**	1	0	3.0	5.5	10	0.180
B7 S-30-01-1.7	**GJL 131 3001 R7011**	0	1	3.0	5.5	10	0.180
Motor contactors with screw connection, for DC operation 17...32 V / 2.8 W							
B7 S-30-10-2.8	**GJL 131 3001 R7102**	1	0	3.0	5.5	10	0.180
B7 S-30-01-2.8	**GJL 131 3001 R7012**	0	1	3.0	5.5	10	0.180

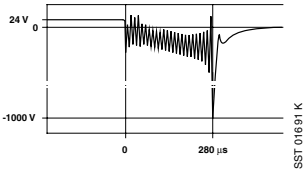
Mini contactor relays, interface contactor relays / mini contactor relays for connection to PLCs

Ordering details

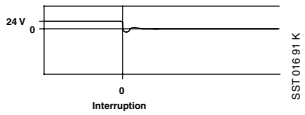
KC 6-40 E-P

Oscillograms

Without protective circuit



With integrated protective circuit



- Controlled directly by PLC
- Integrated protective circuit with diodes and additional surge suppressor
- Non-confusible coil connection
- You save time and money for additional external wiring

Type	Order code See Page **6**/1 for adding code suffixes ☐ .. ☐ to the order code	Auxiliary switches NO	 NC	AC-15 220 V 240 V A	 380 V 440 V A	 500 V A		Packing unit piece	Weight per piece kg
Mini contactor relays									
Contactor relays, with screw connection, for AC operation, 3.5 VA									
K 6-40 E	**GJH 121 1001 R ☐ 40 ☐**	4	0	4	3	2		10	0.180
K 6-31 Z	**GJH 121 1001 R ☐ 31 ☐**	3	1	4	3	2		10	0.180
K 6-22 Z	**GJH 121 1001 R ☐ 22 ☐**	2	2	4	3	2		10	0.180
Contactor relays, with flat pin connection, for AC operation, 3.5 VA									
K 6-40 E- F	**GJH 121 1003 R ☐ 40 ☐**	4	0	4	3	2		10	0.170
K 6-31 Z- F	**GJH 121 1003 R ☐ 31 ☐**	3	1	4	3	2		10	0.170
K 6-22 Z- F	**GJH 121 1003 R ☐ 22 ☐**	2	2	4	3	2		10	0.170
Contactor relays, with soldering pins, for AC operation, 3.5 VA									
K 6-40 E- P	**GJH 121 1009 R ☐ 40 ☐**	4	0	4	3	2		10	0.170
K 6-31 Z- P	**GJH 121 1009 R ☐ 31 ☐**	3	1	4	3	2		10	0.170
K 6-22 Z- P	**GJH 121 1009 R ☐ 22 ☐**	2	2	4	3	2		10	0.170
Contactor relays, with screw connection, for DC operation, 3.5 W									
KC 6-40 E	**GJH 121 3001 R ☐ 40 ☐**	4	0	4	3	2		10	0.180
KC 6-31 Z	**GJH 121 3001 R ☐ 31 ☐**	3	1	4	3	2		10	0.180
KC 6-22 Z	**GJH 121 3001 R ☐ 22 ☐**	2	2	4	3	2		10	0.180
Contactor relays, with flat pin connection, for DC operation, 3.5 W									
KC 6-40 E- F	**GJH 121 3003 R ☐ 40 ☐**	4	0	4	3	2		10	0.170
KC 6-31 Z- F	**GJH 121 3003 R ☐ 31 ☐**	3	1	4	3	2		10	0.170
KC 6-22 Z- F	**GJH 121 3003 R ☐ 22 ☐**	2	2	4	3	2		10	0.170
Contactor relays, with soldering pins, for DC operation, 3.5 W									
KC 6-40 E- P	**GJH 121 3009 R ☐ 40 ☐**	4	0	4	3	2		10	0.170
KC 6-31 Z- P	**GJH 121 3009 R ☐ 31 ☐**	3	1	4	3	2		10	0.170
KC 6-22 Z- P	**GJH 121 3009 R ☐ 22 ☐**	2	2	4	3	2		10	0.170
Interface contactor relays	*Auxiliary switch blocks **cannot** be fitted later on !*								
Contactor relay, with screw connection, for DC operation, 24 V / 1.4 W									
KC 6-40 E-1.4	**GJH 121 3001 R 8401**	4	0	4	3	2		10	0.180
KC 6-31 Z-1.4	**GJH 121 3001 R 8311**	3	1	4	3	2		10	0.180
Contactor relay, with flat pin connection, for DC operation, 24 V / 1.4 W									
KC 6-40 E-F-1.4	**GJH 121 3003 R 8401**	4	0	4	3	2		10	0.180
KC 6-31 Z-F-1.4	**GJH 121 3003 R 8311**	3	1	4	3	2		10	0.180
Contactor relay, with soldering pins, for DC operation, 24 V / 1.4 W									
KC 6-40 E-P-1.4	**GJH 121 3009 R 8401**	4	0	4	3	2		10	0.170
KC 6-31 Z-P-1.4	**GJH 121 3009 R 8311**	3	1	4	3	2		10	0.170
Contactor relay, with screw connection, for DC operation, 17 ... 32 V / 2.4 W									
KC 6-40 E-2.4	**GJH 121 3001 R 5401**	4	0	4	3	2		10	0.180
KC 6-31 Z-2.4	**GJH 121 3001 R 5311**	3	1	4	3	2		10	0.180
Contactor relay, with flat pin connection, for DC operation, 17 ... 32 V / 2.4 W									
KC 6-40 E-F-2.4	**GJH 121 3003 R 5401**	4	0	4	3	2		10	0.170
KC 6-31 Z-F-2.4	**GJH 121 3003 R 5311**	3	1	4	3	2		10	0.170
Contactor relay, with soldering pins, for DC operation, 17 ... 32 V / 2.4 W									
KC 6-40 E-P-2.4	**GJH 121 3009 R 5401**	4	0	4	3	2		10	0.170
KC 6-31 Z-P-2.4	**GJH 121 3009 R 5311**	3	1	4	3	2		10	0.170
K 6 S Mini contactor relays for connection to PLCs ... with integrated protective circuit	*Auxiliary switch blocks **cannot** be fitted later on !*								
Contactor relay, with screw connection, for DC operation, 24 V / 1.7 W									
K 6 S-40 E-1.7	**GJH 121 3001 R 7401**	4	0	4	3	2		10	0.180
K 6 S-31 Z-1.7	**GJH 121 3001 R 7311**	3	1	4	3	2		10	0.180
K 6 S-22 Z-1.7	**GJH 121 3001 R 7221**	2	2	4	3	2		10	0.180
Contactor relay, with screw connection, for DC operation, 17 ... 32 V / 2.8 W									
K 6 S-40 E-2.8	**GJH 121 3001 R 7402**	4	0	4	3	2		10	0.180
K 6 S-31 Z-2.8	**GJH 121 3001 R 7312**	3	1	4	3	2		10	0.180
K 6 S-22 Z-2.8	**GJH 121 3001 R 7222**	2	2	4	3	2		10	0.180

Mini motor contactors TBC 7
Mini contactor relays TKC 6

Railway app.: extended coil operating range, technical data

TBC 7-30-10

TKC 6-40E

Mini motor contactors TBC 7

Type	Order code See below for adding code suffixes ☐ .. ☐ to the order code	Auxiliary switch NO	Auxiliary switch NC	AC-1 max. 240 V A	Motor output AC-2/AC-3 220 V 440 V kW	Motor output AC-2/AC-3 380 V kW	Motor output AC-2/AC-3 500 V kW		Packing unit piece	Weight per piece kg
Motor contactors, with screw connection, for DC operation										
TBC 7-30-10	**GJL 131 3061 R ☐ 10 ☐**	1	0	20	3	5,5	4		10	0.180
TBC 7-30-01	**GJL 131 3061 R ☐ 01 ☐**	0	1	20	3	5.5	4		10	0.180

Mini contactor relays TKC 6

Contactor relays, with screw connection, for DC operation										
TKC 6-22Z	**GJH 121 3061 R ☐ 22 ☐**	2	2	6					10	0.180
TKC 6-31Z	**GJH 121 3061 R ☐ 31 ☐**	2	2	6					10	0.180
TKC 6-40E	**GJH 121 3061 R ☐ 40 ☐**	4	0	6					10	0.180
Contactor relays, with flat pin connection, for DC operation										
TKC 6-22Z-F	**GJH 121 3063 R ☐ 22 ☐**	2	2	6					10	0.180
TKC 6-31Z-F	**GJH 121 3063 R ☐ 31 ☐**	2	2	6					10	0.180
TKC 6-40E-F	**GJH 121 3063 R ☐ 40 ☐**	4	0	6					10	0.180

Coil code numbers

Coil voltage ranges

Example:

TBC 7-30-10	**GJL 131 3061 R ☐ 10 ☐**	1	0	20	3	5,5	4		10	0.180

17 ... **24** ... 32 V DC = **5** . . **1**
50 ... **70** ... 90 V DC = **5** . . **5**
77 ... **110** ... 143 V DC = **6** . . **2**
140 ... **200** ... 260 V DC = **6** . . **8**

Coil data

Power consumption of coils
at U_{max} (20 °C): operate/hold ≤ 5 W
Reliable drop-out : ≤ 0.2 x U_c (U_c = Rated operating voltage)
Reliable pick-up: ≥ $U_{c\ min}$

⚠ **The voltages specified in the table are absolute limit values!**
It is not permitted to attach auxiliary switch blocks CA 6 or CAF 6.

Technical data of TBC 7, TKC 6

Permissible ambient temperatures

including self-heating	°C	-30 ... +55
not including self-heating	°C	-30 ... +70
Storage temperature	°C	-40 ... +85

All other technical data and dimensions correspond to Types BC 7 and KC 6.

6

Accessories for mini contactors

Ordering details


SST 162 91 R


SST 163 91 R


SST 164 91 R

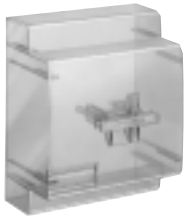
CA 6 - 11 K
CA 6 - 11 E-F
CA 6 - 11 M-P


SST 011 93

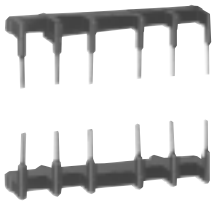
CAF6- 11M


SST 186 91 R

Varistor-type surge suppressor
RV-BC 6/...


SST 147 90 R

Cover cap LT 6-B

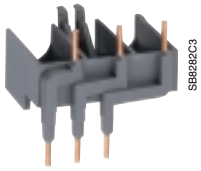

SST 277 92 R

Reversing
connecting link
BSM 6-30

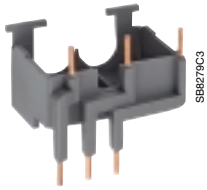
Type	Order code	For mini contactor Type		Packing unit piece	Weight per piece kg
Auxiliary switch blocks for mounting at one side (1)					
		Screw connection			
CA 6-11K	**GJL 120 1317 R 0001**	K6... and KC6...		10	0.030
CA 6-11E	**GJL 120 1317 R 0002**	B6(7)-40-00 and BC6(7)-40-00		10	0.030
CA 6-11M	**GJL 120 1317 R 0003**	B6(7)-30-10 and BC6(7)-30-10		10	0.030
CA 6-11N	**GJL 120 1317 R 0004**	B6(7)-30-01 and BC6(7)-30-01		10	0.030
		Flat pin connection			
CA 6-11K-F	**GJL 120 1318 R 0001**	K6...F and KC6...F		10	0.030
CA 6-11E-F	**GJL 120 1318 R 0002**	B6(7)-40-00-F and BC6(7)-40-00-F		10	0.030
CA 6-11M-F	**GJL 120 1318 R 0003**	B6(7)-30-10-F and BC6(7)-30-10-F		10	0.030
CA 6-11N-F	**GJL 120 1318 R 0004**	B6(7)-30-01-F and BC6(7)-30-01-F		10	0.030
		Soldering connection			
CA 6-11K-P	**GJL 120 1319 R 0001**	K6...P and KC6...P		10	0.030
CA 6-11E-P	**GJL 120 1319 R 0002**	B6(7)-40-00-P and BC6(7)-40-00-P		10	0.030
CA 6-11M-P	**GJL 120 1319 R 0003**	B6(7)-30-10-P and BC6(7)-30-10-P		10	0.030
CA 6-11N-P	**GJL 120 1319 R 0004**	B6(7)-30-01-P and BC6(7)-30-01-P		10	0.030
Auxiliary switch blocks for mounting at front (1) **Screw connection**					
CAF 6- 11K	**GJL 120 1330 R 0001**	K 6 and KC 6		10	0.035
CAF 6- 20K	**GJL 120 1330 R 0005**	K 6 and KC 6		10	0.035
CAF 6- 02K	**GJL 120 1330 R 0009**	K 6 and KC 6		10	0.035
CAF 6- 11E	**GJL 120 1330 R 0002**	B(C)6-, B(C)7-40-00, VB(C)...(A)		10	0.035
CAF 6- 20E	**GJL 120 1330 R 0006**	B(C)6-, B(C)7-40-00, VB(C)...(A)		10	0.035
CAF 6- 02E	**GJL 120 1330 R 0010**	B(C)6-, B(C)7-40-00, VB(C)...(A)		10	0.035
CAF 6- 11M	**GJL 120 1330 R 0003**	B(C)6-, B(C)7-30-10, VB(C)...(A)		10	0.035
CAF 6- 20M	**GJL 120 1330 R 0007**	B(C)6-, B(C)7-30-10, VB(C)...(A)		10	0.035
CAF 6- 02M	**GJL 120 1330 R 0011**	B(C)6-, B(C)7-30-10, VB(C)...(A)		10	0.035
CAF 6- 11N	**GJL 120 1330 R 0004**	B(C)6-, B(C)7-30-01, VB(C)...(A)		10	0.035
CAF 6- 20N	**GJL 120 1330 R 0008**	B(C)6-, B(C)7-30-01, VB(C)...(A)		10	0.035
CAF 6- 02N	**GJL 120 1330 R 0012**	B(C)6-, B(C)7-30-01, VB(C)...(A)		10	0.035
Base with soldering pins, I_{th} < 8 A					
LB 6	**GJL 120 1902 R 0001**	For mini contactors B, BC, K, KC		10	0.014
LB 6-CA	**GJL 120 1903 R 0001**	For 2-pole auxiliary switch blocks		10	0.006
Plunger					
BN 6	**GJL 120 1904 R 0001**	For manual operation		50	0.060
Function marker					
BA 50	**FPTN 472 625 R 0001**	50 clip-on label carriers 50 transparent covers 60 non-adhesive labels* 75 self-adhesive labels* (* on sheet)		1 bag	0.100
Varistor-type surge suppressors for protective circuit of the DC contactors BC 6, BC 7 and KC 6					
Note: Mini contactors for AC operation have an integrated protective circuit.					
RV-BC6/60	**GHV 250 1902 R 0002**	24–60 V. with cable lug		10	0.004
RV-BC6-F/60	**GHV 250 1902 R 0003**	24–60 V. flat pin, 2.8 mm		10	0.004
RV-BC6/250	**GHV 250 1903 R 0002**	50–250 V. with cable lug		10	0.004
RV-BC6-F/250	**GHV 250 1903 R 0003**	50–250 V. flat pin, 2.8 mm		10	0.004
RV-BC6/380	**GHV 250 1904 R 0002**	380 V. with cable lug		10	0.004
RV-BC6-F/380	**GHV 250 1904 R 0003**	380 V. flat pin, 2.8 mm		10	0.004
Cover cap, transparent, sealable, enclosure IP 20					
LT 6- B	**GJL 120 1906 R 0001**	for contactors B, BC, K, KC 6 with screw connection		10	0.001
Reversing connecting link					
BSM 6-30	**GJL 120 1908 R 0001**	for compact reversing contactors, VB.., VBC.. with screw connection, cross-section 1.8 mm^2		10	0.010
Parallel connecting link					
LP 6	**GJL 120 1907 R 0001**	for contactors B, BC, with screw connexion, 1 mm thick		100	0.001

(1) Auxiliary switches CA 6 and CAF 6 may not be fitted simultaneously.

BEA 7... Connecting Link for Mini Contactors and Manual Motor Starters



BEA 7/116



BEA 7/325

B6-30-10 + BEA 7/116 + MS 116
DOL Starter Combination

Application

The **BEA 7...** connecting link is used for direct linking between a mini contactor (or a compact reversing contactor) and the associated manual motor starter which are used together as **DOL Starter Combination** (or Reversing / DOL Starter Combination) in type 1 or type 2 co-ordination, complying with IEC 60947-4-1 and EN 60947-4-1.

☞ Database of co-ordination tables on the ABB Website:
www.abb.com/lowvoltage ☞ *left menu:* **"Low Voltage On-Line"** ☞ *select:* **"Support Tools".**

Description

The **BEA 7...** insulated 3-pole connecting link (touch safe) ensures the electrical linking between the mini contactor (or compact reversing contactor) and the corresponding manual motor starter.
The **BEA 7...** connecting link can be used with the **B6/B7...** mini contactors and **VB6A/VB7A...** compact reversing contactors (including BC6/BC7..., VBC6A/VBC7A... versions) and the **MS...** manual motor starters as indicated in the table below.
(For further information about mini contactor range ☞ page **6**/1 and ☞ separate technical catalogue for detailed information about the manual motor starter range).

Ordering Details

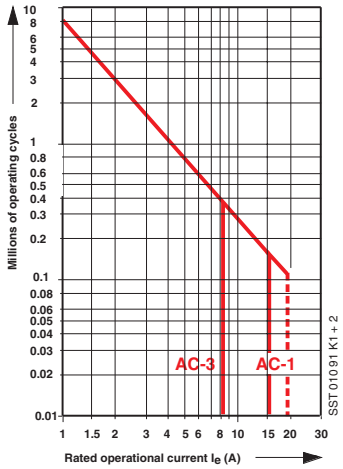
For mini contactors and compact reversing contactors	For MMS	fixing Rail not supplied	I_e max. AC-3 400 V **A**	Type	Order code	Pack[ing] pieces	Weight kg 1 piece
B 6, VB 6A	MS 116	15 x 35 mm	8	BEA 7/116	1SBN 08 0906 R1000	10	0.013
B 7, VB 7A	MS 116		11	BEA 7/116	1SBN 08 0906 R1000	10	0.013
B 6, VB 6A	MS 325	15 x 35 mm	8	BEA 7/325	1SBN 08 0906 R1001	10	0.021
B 7, VB 7A	MS 325		11	BEA 7/325	1SBN 08 0906 R1001	10	0.021

>> Mini Contactor Range ..... page 6/1
>> Manual Motor Starters ..... see Separate Catalogue
>> Dimensions ..... page 9/72

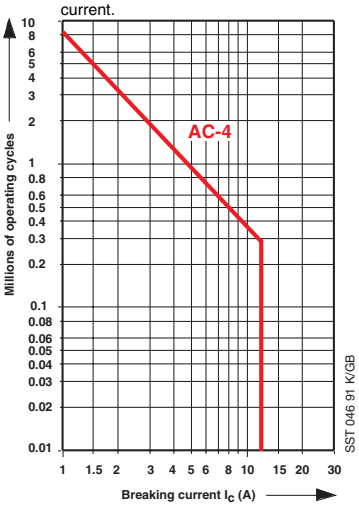
Mini contactors B 6, BC 6
Mini contactor relays K 6, KC 6

Technical data to IEC 60947-4-1, IEC 60947-5-1

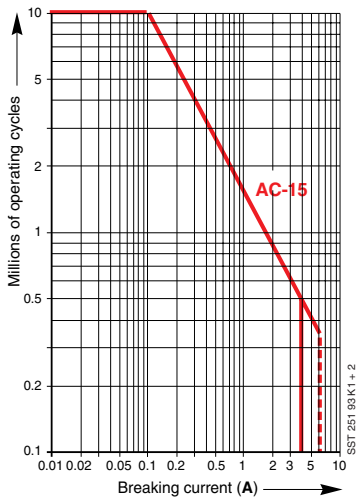
Utilisation category AC-1/AC-3
Contact member service life curves
B 6, BC 6, B 6S



Utilisation category AC-4
Switching a 3-phase squirrel-cage induction motor and switching off the starting current.
Switch-off current I_c at AC-4 corresponds to 6 times the motor's rated operating current.



Utilisation category AC-15
Contact member service life curves
K 6, KC 6, CA 6, CAF 6



General data

Rated insulation voltage U_i		V	690
Permissible ambient temperature			
Contactor without overload relay		°C	– 25 ... + 55
Contactor with overload relay		°C	– 25 ... + 50
Storage temperature		°C	– 40 ... + 80
Climatic resistance	to DIN 50 017 to UTE C 63-100		Resistant to changeable climates KFW, 30 cycles Version I
Mounting position			any

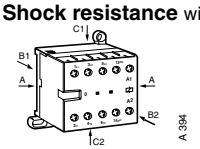
Main contacts

Mechanical service life			10 million operations
Electrical service life			see curves
Max. switching frequency AC-1		ops./h	300
DC-1, DC-3, DC-5, AC-2, AC-3, AC-15, DC-13		ops./h	600
Rated operating voltage U_e		V AC	12 to 690

Rated operating current I_e/AC-1, AC-3 and **max. motor output** / AC-3 at U_e	**AC-1 / I_e A** 55 °C	40 °C	**AC-2, AC-3** I_e A	**P** kW
220/240 V	16	16	9	2.2
380/440 V	**16**	**16**	**9/8**	**4.0**
500 V	12	12	5.5	3.0
690 V	6	12	3.5	3.0

Switching times			**B 6**	**B C6**	**K 6**	**K C6**
Closing delay	NO	ms	14 to 26		14 to 26	
Opening delay	NO	ms	16 to 40	4 to 10	16 to 40	4 to 10
Closing delay	NC	ms	18 to 42	6 to 12	18 to 42	6 to 12
Opening delay	NC	ms	14 to 26		14 to 26	

Shock resistance with normal installation position



Semi-sinusoidal shock, 10 ms: with no change in contact state

Shock resistance	**A**	**B1**	**B2**	**C1**	**C2**
Contactors switched off	20 g	20 g	20 g	20 g	20 g
Contactors switched on	10 g	20 g	20 g	20 g	20 g

Power loss per pole:		2 W at 20 A
Back-up fuse, Type gL, Type 1, Type 2		20 A, 20 A

Auxiliary contacts: integrated, CA 6, CAF 6, K 6, KC 6, K 6S

Rated operating voltage U_e		V DC	12 to 240
		V AC	12 to 500
Conventional thermal continuous current I_{th}		A	6
Back-up fuse, Type gG		A	10
Rated operating current I_e / AC-15			
at U_e	24-240 V	A	4
	380/440 V	A	3
	500 V	A	2
Rated operating current I_e/DC -13			
at U_e	24 V	A	1.5
	60 V	A	0.5
	110 V	A	0.4
	220/240 V	A	0.04
Min. making/breaking capacity of the auxiliary contacts			≥ 17 V and ≥ 5 mA

Solenoid coils

Rated power			closing / holding
Basic contactors			
B 6 / K 6, VB 6	AC	VA	3.5
BC 6 / KC 6, VBC 6	DC	W	3.5
Interface contactors			
BC 6 / KC 6-1.4	DC 24 V	W	1.4
BC 6 / KC 6-2.4	DC 17 ... 32 V	W	2.4

Mini contactor for connection to PLCs, mini contactor relay for connection to PLCs			cold **I** mA	cold **P** W	warm **I** mA	warm **P** W
B 6 NO-1.7, K 6S-1.7	DC 24 V	W	77	1.75	60	1.35
B 6 NO-2.8, K 6S-2.8	DC 17 ... 32 V	W	125	2.80	94	2.10

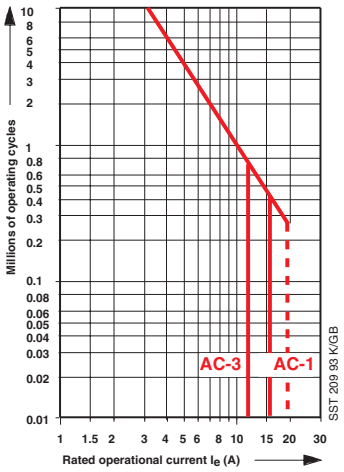
Coil voltage range		0.85 ...1.1x U_c

Switching DC, see overleaf

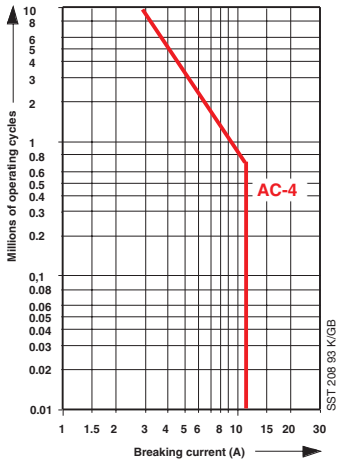
Mini contactors B 7, BC 7

Technical data to IEC 60947-4-1

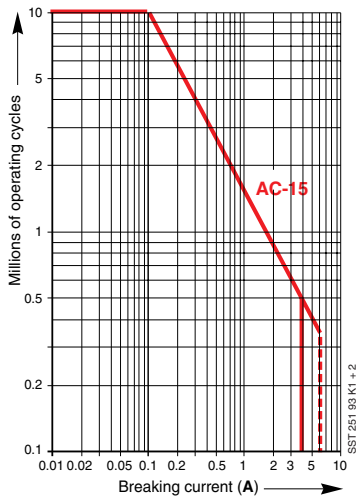
Utilisation category AC-1/AC-3
Contact member service life curves
B 7, BC 7, B 7S



Utilisation category AC-4
Switching a 3-phase squirrel-cage induction motor and switching off the starting current.
Switch-off current I_c at AC-4 corresponds to 6 times the motor's rated operating current



Utilisation category AC-15
Contact member service life curves
K 6, KC 6, CA 6, CAF 6



General data

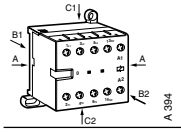
Rated insulation voltage U_i	V	690
Permissible ambient temperature		
Contactor without overload relay	°C	– 25 ... + 55
Contactor with overload relay	°C	– 25 ... + 50
Storage temperature	°C	– 40 ... + 80
Climatic resistance	to DIN 50 017 to UTE C 63-100	Resistant to changeable climates KFW, 30 cycles Version 1
Mounting position		any

Main contacts

Mechanical service life			10 million operations		
Electrical service life			see curves		
Max. switching frequency AC-1		ops./h	300		
DC-1, DC-3, DC-5, AC-2, AC-3, AC-15, DC-13		ops./h	600		
Rated operating voltage U_e		V AC	12 to 690		
Rated operating current I_e/AC-1, AC-3 and **motor output / AC-3**			**AC-1 / I_e A** 55 °C	40 °C	**AC-2, AC-3** I_e A / **P** kW
at **U_e**	220/240 V		16	20	12 / 3
	380/440 V		**16**	**20**	**12/11** / **5.5**
	500 V		12	12	7 / 4
	690 V		6	12	3.5 / 3

Switching times			**B 7**	**BC 7**
Closing delay	NO	ms	14 to 26	
Opening delay	NO	ms	16 to 40	4 to 10
Closing delay	NC	ms	18 to 42	6 to 12
Opening delay	NC	ms	14 to 26	

Shock resistance with normal installation position



Semi-sinusoidal shock, 10 ms, with no change in contact state

Shock direction	**A**	**B1**	**B2**	**C1**	**C2**
Contactors switched off	20 g	20 g	20 g	20 g	20 g
Contactors switched on	10 g	20 g	20 g	20 g	20 g

Power loss per pole:		2 W at 20 A
Back-up fuse assignment type	Type 1	25 A
Type gG (gL)	Type 2	20 A

Auxiliary contacts: integrated

Minimum making/breaking	≥ 17 V ≥ 5 mA

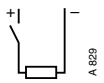
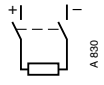
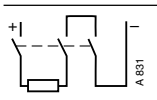
Solenoid coils

Rated power			Closing / holding
Basic contactors			
B 7 / VB 7	AC	VA	3.5
BC 7 / VBC 7	DC	W	3.5
Interface contactors			
BC 7-1.4	DC 24 V	W	1.4
BC 7-2.4	DC 17 ... 32 V	W	2.4

Mini contactor for connection to PLCs			cold **I** (mA)	cold **P** (W)	warm **I** (mA)	warm **P** (W)
B 7 NO-1.7	DC	24 V	77	1.70	60	1.35
B 7 NO-2.8	DC	17 ... 32 V	125	2.80	94	2.10

Coil voltage range	0.85...1.1x U_c

Utilisation categories for B 6 and B 7

Utilisation category			**DC-1** L/R < 1 ms	**DC-3** L/R < 2 ms	**DC-5** L/R < 7.5 ms
 A 829	24 V	**A**	16.0	16.0	16.0
	48 V	**A**	16.0	8.0	2.0
	60 V	**A**	16.0	4.0	1.25
	110 V	**A**	7.0	1.5	0.4
	220 V	**A**	0.8	0.25	0.20
 A 830	24 V	**A**	16.0	16.0	16.0
	48 V	**A**	16.0	16.0	16.0
	60 V	**A**	16.0	15.0	12.0
	110 V	**A**	16.0	7.0	2.0
	220 V	**A**	5.0	1.5	0.5
 A 831	24 V	**A**	16.0	16.0	16.0
	48 V	**A**	16.0	16.0	16.0
	60 V	**A**	16.0	16.0	16.0
	110 V	**A**	16.0	15.0	8.0
	220 V	**A**	14.0	4.0	2.0

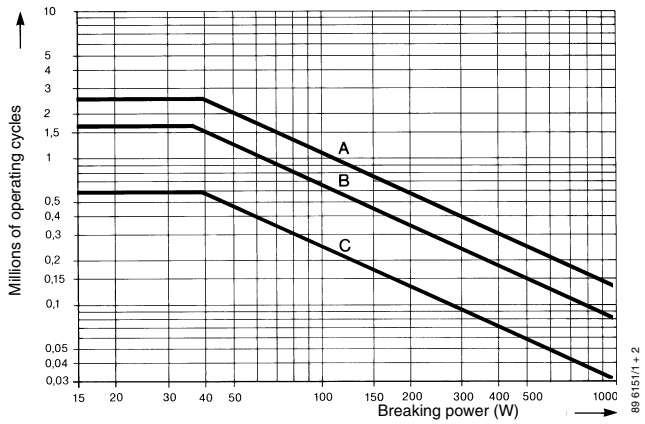
6

Contact member service life for utilisation categories DC-1, DC-3, DC-5

The following curves show the contact member service life for utilisation categories DC-1, DC-3 and DC-5 for 3 poles in series. If only one current path is used, the service life read off for the related breaking capacity must be multiplied by **0.33**, and, if there are 2 current paths, it must be multiplied by **0.66**.

The time constants L/R (ms) which differ for the individual utilisation categories have been allowed for on the curves.

A = 3 poles in series DC-1
B = 3 poles in series DC-3
C = 3 poles in series DC-5



Switching lamp loads

The following table shows the number of lamps which can be connected per circuit at 230 V/50 Hz. Please note the following:

If the specified capacitor load is exceeded, this may result in admissibly high peak inrush currents. Other factors which influence the magnitude of peak inrush currents are as follows:

– Length and cross-section of installed supply cables

– Type of electronic ballast units

– Lamp make

The following lamp load table thus contains non-binding guideline values.

Lamp type	Lamp data Watt	I_n A	Permissible number of lamps per circuit (230 V, 50 Hz) in the case of contactor type **B6, B7, BC6, BC7**	Capacitor load in µF
Incandescent lamps	60	0.26	20	
	100	0.43	12	
	200	0.87	6	
	300	1.30	4	
	500	2.17	2	
	1000	4.35	1	
Fluorescent lamps	**p.f. uncorrected and series p.f. correction**			
	15	0.33	25	
	20	0.37	23	
	40	0.43	20	
	58	0.67	16	
	65	0.67	12	
	115	1.5	5	
	140	1.5	5	
	Lead-lag circuit			
	2 x 20	2 x 0.13	2 x 26	
	2 x 40	2 x 0.22	2 x 20	
	2 x 58	2 x 0.32	2 x 16	
	2 x 65	2 x 0.34	2 x 12	
	2 x 115	2 x 0.65	2 x 5	
	2 x 140	2 x 0.75	2 x 5	
	Parallel p.f. correction			
	15	0.11	7	4.5
	20	0.13	6	4.5
	40	0.22	7	4.5
	58	0.32	5	7
	65	0.34	4	7
	115	0.65	1	18
	140	0.75	1	18
High-pressure mercury-vapour lamps e.g. HQL. HPL	**p.f. uncorrected**			
	50	0.61	10	
	80	0.8	7	
	125	1.15	5	
	250	2.15	3	
	400	3.25	2	
	700	5.40	1	
	Parallel p.f. correction			
	50	0.28	4	7
	80	0.41	3	8
	125	0.65	2	10
	250	1.22	1	18
	400	1.95	1	25
	700	3.45	–	45
	1000	4.8	–	60
Lamps with electronic ballast units	1 x 18	–	17	
	2 x 18	–	8	
	1 x 36	–	11	
	2 x 36	–	6	
	1 x 56	–	11	
	2 x 58	–	6	

Lamp pairs

Lamp type	Lamp data Watt	I_n A	Permissible number of lamps per circuit (230 V, 50 Hz) in the case of contactor type **B6, B7, BC6, BC7**	Capacitor load in µF
Metal-halogen lamps e.g. HQI, HPI	**p.f. uncorrected**			
	35	0.53	10	
	70	1	5	
	150	1.8	3	
	250	3	2	
	400	3.5	1	
	Parallel p.f. correction			
	35	0.25	6	6
	70	0.45	3	12
	150	0.75	1	20
	250	1.5	1	33
	400	2.5	1	35
Low-pressure sodium-vapour lamps	**p.f. uncorrected**			
	35	1.5	4	
	55	1.5	4	
	90	2.4	2	
	135	3.5	2	
	150	3.3	2	
	180	3.3	2	
	200	2.3	2	
	Parallel p.f. correction			
	35	0.31	–	20
	55	0.42	–	20
	90	0.63	–	30
	135	0.94	–	45
	150	1.0	–	40
	180	1.16	–	40
	200	1.32	–	25
High-pressure sodium-vapour lamps	**p.f. uncorrected**			
	150	1.8	3	
	250	3.0	2	
	330	3.7	2	
	400	4.7	1	
	Parallel p.f. correction			
	150	0.83	–	20
	250	1.5	–	33
	330	2.0	–	40
	400	2.4	–	48
	1000	6.3	–	106

Transformers for halogen low- volt lamps	Transformers power Watt	Permissible number of transformers per circuit (230 V, 50 Hz) in the case of contactor type **B6, B7, BC6, BC7**
	20	40
	50	20
	75	13
	100	10
	150	7
	200	5
	300	3

Thermal overload relay T 7 DU
for mini contactors
Ordering details, technical data

SST 002 98

Thermal overload relay
T 7 DU

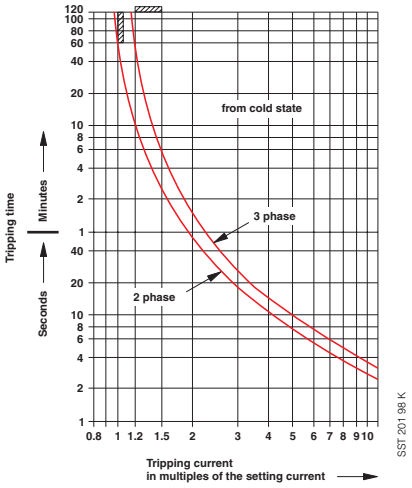
SST 001 98

Thermal overload relay
T 7 DU mounted onto
a mini contactor B 7-30-01

Type	Order code	Setting range A ... A	Max. fuse aM A	Max. fuse gL A		Pack. unit piece	Weight kg
Thermal overload relay T 7 DU for mini contactors B 6, BC 6, B 6S, BC 6, VB 6, VBC 6, B 7, BC 7, B7S, BC 7, VB 7, VBC 7							
T 7 DU 0.16	**1SAZ 111 301 R 0001**	0.10 ... **0.16**		0.5		1	0.070
T 7 DU 0.24	**1SAZ 111 301 R 0002**	0.16 ... **0.24**		1,0		1	0.070
T7 DU 0.4	**1SAZ 111 301 R 0003**	0.24 ... **0.40**		2,0		1	0.070
T 7 DU 0.6	**1SAZ 111 301 R 0004**	0.40 ... **0.60**		2,0		1	0.070
T 7 DU 1.0	**1SAZ 111 301 R 0005**	0.60 ... **1.00**		4,0		1	0.070
T 7 DU 1.6	**1SAZ 111 301 R 0006**	1.00 ... **1.60**		6,0		1	0.070
T 7 DU 2.4	**1SAZ 111 301 R 0007**	1.60 ... **2.40**		6,0		1	0.070
T 7 DU 4.0	**1SAZ 111 301 R 0008**	2.40 ... **4.00**		10,0		1	0.070
T 7 DU 6.0	**1SAZ 111 301 R 0009**	4.00 ... **6.00**		10,0		1	0.070
T 7 DU 9.0	**1SAZ 111 301 R 0010**	6.00 ... **9.00**		10,0		1	0.070
T 7 DU12.0	**1SAZ 111 301 R 0011**	9.00 ... **12.00**		20,0		1	0.070

Tripping curve

The tripping characteristic is the value at 20°C ambient temperature from cold state. The tripping time is dependent on the operating current. By operating in a warm state the tripping time of the overload relay approximately is reduced by 1/4 of the relevant value in cold state.



SST 201 98 K

Time-current curves (mean values),
for thermal overload relay T 7 DU,
0.1 ... 12 A.

>> Full Description and Technical Data ..... section 5
>> Approvals ..... section 6
>> Terminal marking and positioning ..... section 8
>> Dimensions ..... section 9

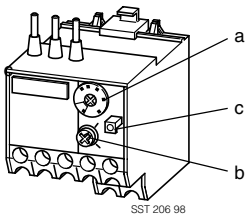
Technical data

Rated insulation voltage	U_i	690 V
Permissible ambient temperature Storage temperature	°C °C	-25 ... +50 open temperature-compensated -40 ... +70
Mounting position		±30° referred to vertical mounting position not horizontal, not upside down, 5 mm lateral clearance for side-by-side mounting
Switching frequency with avoidance of premature tripping	max. ops./h	15
≤ 40 % relative duty	max. ops./h	60 (if 6 x I_n starting time ≤ 1s)

Load rating of auxiliary contacts

		NC 95-96	NO 97-98
Rated operating voltage U_e	V	500	500
Thermal continuous current	A	6	6
Rated operating voltage I_e			
at AC-15 220 to 240 V	A	1.5	1.5
at AC-15 380 to 415 V	A	0.7	0.5
at AC-15 to 500 V	A	0.5	0.3
In the case of DC-15 220 V	A	0.2	0.2
Short-circuit protection	gL A	4	4

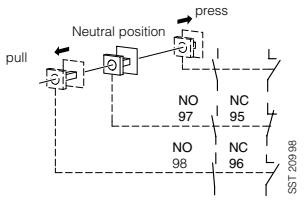
Setting options



a **Setting knob** for motor rated current

b **Reset:** Manual "manual reset"
Position A: Auto "without manual reset"
Position H: Reset off

c **Test knob**



SST 207 98
SST 206 98

6

Mini motor contactors, mini contactor relays Thermal overload relay,

Approvals

B6 30-10

KC6-31 Z

The following equipment has been approved or approval has been requested in those countries and classification societies where approval is mandatory. For some countries, special versions of equipment are available. When a supplier of a control unit incorporates approved equipment, this does not exempt him from his obligation to implement the overall installation in accordance with the legal local requirements of the country involved.

Approvals Test marks Abbreviation Validity	SEV Switzerland	DEMKO Denmark	NEMKO Norway	SEMKO Sweden	EL Inspect. Finland	CS Canada	USA		GL Germany
Mini motor contactors									
B6../ B7..	■	■	■	■	■	■		■	■
B6/B7..-F	■	■	□	■	■	■	■	■	■
B6/B7..-P	■	■	□	■	■	■	■	■	■
BC6/BC 7..	■	■	■	■	■	■		■	■
BC6/BC 7..-F	■	■	□	■	■	■	■	■	■
BC6/BC7..-P	■	■	□	■	■	■	■	■	■
BC6/BC7..-1.4	■	■	■	■	■	■		■	■
BC6/BC7..-F-1.4	■	■		■	■	■	■	■	■
BC6/BC7..-P-1.4	■	■		■	■	■	■		■
BC6/BC7..-2.4	■	■	■	■	■	■		■	■
BC6/BC7..-F-2.4	■	■		■	■	■	■	■	■
BC6/BC7..-P-2.4	■	■		■	■	■	■	■	■
B 6 S/B7 S						■		■	■
Compact reversing contactors									
VB6/VB7..	■	■	□	■	■	■	■	■	■
VBC 6/VBC7								■	■
Thermal overload relay									
T 7 DU						■		■	
Mini contactor relays									
K6..	■	■	■	■	■	■		■	
K6..-F	■	■		■	■	■	■		
K6..-P	■	■		■	■	■	■		
KC6..	■	■	■	■	■	■		■	
KC6..-F	■	■		■	■	■	■		
KC6..-P	■	■		■	■	■	■		
KC6..-1.4	■	■	■	■	■	■	■	■	
KC6..-F-1.4	■	■		■	■	■			
KC6..-P-1.4	■	■		■	■	■	■		
KC6..-2.4	■	■	■	■	■	■		■	
KC6..-F-2.4	■	■		■	■	■	■		
KC6..-P-2.4	■	■		■	■	■	■		
Accessories									
CA6-11..	■	■	■	■	■	■	■	■	
CAF6-..								■	
LB6		■			□		■		
LB6-CA									

■ Normal version approved; rating plates bear the test mark if mandatory.

□ Submitted for approval

Motor rating and rated operating currents in accordance with CSA and UL for contactors (B(C)6 and B(C) 7, in addition to contactor relays K(C)6.

In the case of CSA and UL, the contactors are approved both for "Motor rating 3-phase" and for "AMP rating". For this reason, the permissible ratings for contactors are approved either for "hp" or "Amp rating", with an assigned rated current respectively. The approved values for the individual contactors and contactor relays are given in the table below. The determining factor is the data indicated on the units as shown on the following table

Motor rating 3-phase for contactors B(C)6:

Rated operating voltage	U_e ~	(V)	110/120 V	220/240 V	440/480 V	540/600 V
Motor output	P	(hp)	1	2	1	1
3-phase	I_e	(A)	7.2	6.8	1.8	1.4
Motor output	P	(hp)	1	2	–	–
Single-phase	I_e	(A)	16	12	–	–

Amp-rating: – 12 A-300 V, AC for the main contacts of contactors B(C)6

Motor rating-3-phase for contactors B(C)7 :

Rated operating voltage	U_e ~	(V)	110/120 V	220/240 V	440/480 V	540/600 V
Motor output	P	(hp)	1	3	5	5
3-phase	I_e	(A)	7.2	9.6	7.6	6.1
Motor output	P	(hp)	0.5	1	2	2
Single-phase	I_e	(A)	9.8	16	6	4.8

Amp-rating: – 12 A-600 V, AC for the main contacts of contactors B(C)7

5 A-600 V, AC pilot duty A 600 for incorporated auxiliary contacts B(C)6, K(C)6 and B(C)7, in addition to attachable auxiliary switch blocks CA6. Values for 220 ... 208 V = (220 ... 240 V) x 1.15

Notes