

Contactors for DC-Switching

AC-operated

Rated Operational Current

DC1

Additional
Aux.
Contacts

Coil voltage ¹⁾
230 220-230V 50Hz, 240V 60Hz
Pack Weight
pcs. kg/pcs.

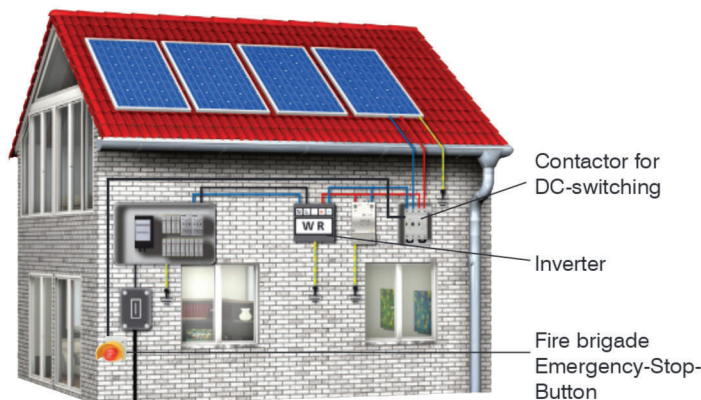
Type

Wiring diagram



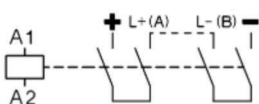
20A	-	-	2 HKA11	K3DC-20A00 ...	1	0,5
50A	-	-	+1 HKT.	K3DC-48A00 ...	1	0,5
60A	30A	-	2 HKA11	K3DC-60A00...	1	1,2
80A	60A	-	+1 HKT.	K3DC-80A00 ...	1	1,2
100A	-	-		K3DC-100A00 ...	1	1,8
12A	12A	6A	2 HKA11 +2 HKT.	K3PV-12A00 ...	1	0,8
30A	30A	-	2 HKA11	K3PV-30A00 ...	1	0,9
60A	60A	-	+2 HKT.	K3PV-60A00 ...	1	0,9
80A	80A	-	2 HKA11	K3PV-80A00 ...	1	1,5
100A	100A	-	+1 HKT.	K3PV-100A00 ... ^{2) 3)}	1	2,3
150A	150A	-	2 HKA11	K3PV-150A00 ... ^{2) 3)}	1	5
200A	200A	-	+1 HKT.	K3PV-200A00 ... ^{2) 3)}	1	5
240A	240A	-		K3PV-240A00 ... ^{2) 3)}	1	5
300A	300A	-	2 HKA11	K3PV-300A00 ... ^{2) 3)}	1	7,5
400A	400A	-	+1 HKT.	K3PV-400A00 ... ^{2) 3)}	1	7,5
450A	450A	-		K3PV-450A00 ... ^{2) 3)}	1	7,5

Contactors for DC-Switching for PV-installations, as remote controlled fire protection defeat device

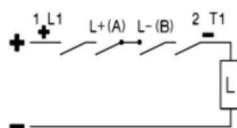


In most Photovoltaic-installations, the switch disconnectors according to IEC 60364-7-712 are integrated in the DC/AC-inverter. So the wires between solar-panels and inverter are continuously under voltage. According to ÖVE-R11-1: 2013, Photovoltaic-installations must have a fire protection defeat device. For this purpose, BENEDICT contactors for DC-switching, used as a fire protection defeat device, can switch off the Photovoltaic-installation with a remote controlled fire brigade Emergency-Stop-button.

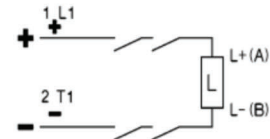
Switch diagram (4 contacts)



Connection diagram 1-pole:
connect L+ (A) and L-(B) (jumper attached)



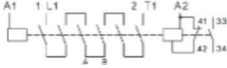
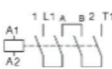
Connection diagram 2-pole:
don't use attached jumper



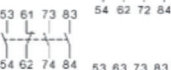
- 1) Other coil voltages from 24 to 600V AC, on request
- 2) Type for AC- and DC-operating: e.g.: 230: 220-240V 50/60Hz and 220V=
- 3) With integrated coil suppressor

Contactors for DC-Switching

DC-operated

Type	Coil voltage ¹⁾ 24 24V= DC	Aux. Contacts build in		additional	Pack pcs.	Weight kg/pcs.	Wiring diagram
		NO	NC	Type			
		1	-	1 HKA11	1	0,5	
K3DC-48A10= ... ⁵⁾		1	-	+1 HKT.	1	0,5	
		-	-	1 HKA11	1	1,2	
K3DC-80A00= ... ⁵⁾		-	-	+1 HKT.	1	1,2	
K3DC-100A00= ...		-	-		1	1,8	
		1	-	1 HKA11 +2 HKT.	1	0,85	
K3PV-30A10= ... ⁵⁾		1	-	1 HKA11	1	0,95	
		1	-	+2 HKT.	1	0,95	
K3PV-80A00= ... ⁵⁾		-	-	2 HKA11	1	1,5	
		-	-	+1 HKT.	1	2,3	
K3PV-100A00 ... ^{2) 5)}		-	-				
		-	-	2 HKA11	1	5	
K3PV-200A00 ... ^{2) 5)}		-	-	+1 HKT.	1	5	
K3PV-240A00 ... ^{2) 5)}		-	-		1	5	
		-	-	2 HKA11	1	7,5	
K3PV-400A00 ... ^{2) 5)}		-	-	+1 HKT.	1	7,5	
K3PV-450A00 ... ^{2) 5)}		-	-		1	7,5	

Auxiliary Contact Blocks for contactors K3DC-.. and K3PV-.., for low level switching⁴⁾

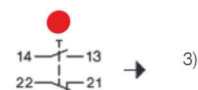
Rated Operational Current				Type	Pack pcs.	Weight kg/pcs.	Wiring diagrams
AC15	AC15	AC1					
230V	400V	690V	for contactors				
A	A	A					
							
3	2	10	K3DC, K3PV-.. top	HKT11	1	0,04	
3	2	10	K3DC, K3PV-.. top	HKT22	1	0,05	
3	2	10	K3DC, K3PV-.. top	HKT31	1	0,05	
3	2	10	K3DC, K3PV-.. top	HKT40	1	0,05	
3	2	10	K3DC, K3PV-.. side	HKA11	1	0,05	

Accessories



Fire Brigade-EMERGENCY STOP BG10P44S3-11 +SK
key operated button Ø40mm,
according to EN418, unlock by key

1 0,22



¹⁾ Other coil voltages from 24 to 250V DC, on request

²⁾ Type for AC- and DC-operating: e.g.: 24: 24V 50/60Hz and 24V=

³⁾ → opener positive opening acc. IEC/EN60947-5-1

⁴⁾ Contacts suitable for electronic circuits, according to IEC60947-5-4 for rated voltage 24V DC
(test ratings 17V DC, 5mA) Mirror contacts acc. IEC60947-4-1 Annex F.

Technical data see page 78

⁵⁾ With integrated coil suppressor

Technical Data

Data according to IEC 60947-4-1, VDE 0660

Type		K3DC- 20..	K3DC- 48..	K3DC- 60..	K3DC- 80..	K3DC- 100..	K3PV- 12..	K3PV- 30..	K3PV- 60..	K3PV- 80..	K3PV- 100..	K3PV- 150..	K3PV- 200..	K3PV- 240..	K3PV- 300..	K3PV- 400..	K3PV- 450..
Rated insulation voltage U_{imp}	V= kV	600 8	600 8	1000 8	1000 8	600 8	1200 8	1000 8	1000 8	1000 8	1000 8	1000 8	1000 8	1000 8	1000 8	1000 8	1000 8
poles in series		3	3	3	3	3	8	6	6	4	4	3	3	3	3	3	3
DC1 600V dc	I_e A	20	50	60	80	100	12	30	60	80	100	150	200	240	300	400	450
DC1 1000V dc	I_e A	-	-	30	60	-	12	30	60	80	100	150	200	240	300	400	450
DC1 1200V dc	I_e A	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-
DC3/5 310V dc	I_e A	-	-	-	40	60	-	15	24	40	90	125	170	200	230	270	300
DC3/5 460V dc	I_e A	-	-	-	-	-	-	15	24	40	40	125	170	200	230	270	300
DC3/5 600V dc	I_e A	-	-	-	-	-	-	-	-	-	-	50	60	75	120	160	200
Main pole resistance	mΩ	1,8	1,8	1,4	1,2	1	2,2	1,8	1,8	1,2	1	0,5	0,5	0,35	0,15	0,15	0,15
poles in series resistance	mΩ	5,4	5,4	4,2	3,6	3	17,6	10,8	10,8	4,8	4	1,5	1,5	1,1	0,5	0,5	0,5
Mechanical life	10 ⁶	10										10			8		
Protection degree		IP20										IP00 / IP20 ¹⁾			IP00 / IP20 ¹⁾		
Main poles																	
Cable cross sections	mm ²	2 x 1,5 - 10	2,5 - 35	4 - 35 + 4-50	2x 1,5-2,5	2 x 1,5 - 10	2,5-35	4 - 35 + 4 - 50	Busbar 18 x 4 Screw M8	Busbar 25 x 6 Screw M10							
Tightening torque	Nm	2,3 - 2,7	5 - 6	8 - 9,6	1,4 - 1,6	2,3 - 2,7	5 - 6	8 - 9,6	17 - 20	35 - 42							
Mounting		DIN-rail or screw			screws	DIN-rail or screws			Screws	Screws			Screws				
Operating range of coils	U _c	0,85 - 1,1															
Power consumption of coils																	
AC inrush sealed	VA VA/W	90 9 / 3		250 18 / 4		180 18 / 6		250 18 / 4		350 5 / 5		360 6 / 6					
DC inrush sealed	W W	120 2		230 4		230 5		230 4		350 5		360 6					
Switching time																	
AC make time	ms	10 - 25	12 - 30	12 - 30	10 - 25	12 - 30	15 - 50	30 - 60	40 - 60								
DC release time	ms	6 - 18	6 - 15	6 - 15	6 - 18	6 - 15	30 - 80	30 - 80	40 - 60								
DC make time	ms	15 - 25	15 - 25	20 - 30	15 - 25	15 - 25	15 - 50	30 - 60	40 - 60								
DC release time	ms	40 - 70	10 - 25	10 - 25	40 - 70	40 - 70	30 - 80	30 - 80	40 - 60								
Maximum ambient temperature																	
Operation °C		-40 to +40 (+70) ²⁾															
Storage °C		-40 to +70															
Short circuit protection for contactors																	
Coordination-type „1“																	
max. fuse size gPV																	
600VDC A		63	80	-	-	160	-	-	-	-	-	160	200	250	-	-	-
1000VDC A		-	-	-	-	-	12	63	100	-	160	160	200	250	315	400	500
Coordination-type „2“																	
max. fuse size gPV																	
600VDC A		50	63	80	100	125	-	-	-	100	-	-	-	-	-	-	-
1000VDC A		-	-	80	100	-	-	50	80	100	125	-	-	-	-	-	-
Short-circuit current	kA	3	3	3	3	5	3	3	3	5	5	10	10	10	10	10	10

Data acc. to UL60947-4-1



Type		K3DC-20..	K3DC-48..	K3DC-60..	K3DC-80..	K3PV-80..	K3PV-150..	K3PV-200..	K3PV-240..	K3PV-300..	K3PV-400..	K3PV-450..
General Use I_e [A]	600V DC	20	40	60	80	80	130	160	200	300	330	360
	1000V DC	-	-	30	60	80	130	160	200	300	330	360
Motor Control I_e [A]	220-240V DC	12	20	38	55	72	89	106	140	173	206	255
	500V DC	12	16	34	51	67	83	99	123	164	205	246
	550-600V DC	12	16	38	46	61	90	111	148	185	222	294
	Fuse PK5	12	12	75	90	90	125	150	175	300	350	400
max. short circuit current [kA]		5	5	5	5	5	10	10	10	10	10	10
Voltage DC [V]		600	600	600	600	600	600	600	600	600	600	600

1) IP20 with terminal lug

2) > 40° ... 1% / °C de-rating (eg. at 60°C 20% de-rating)