

INSTALLATION CONTACTORS

Page 3-2



- Remote control with efficiency coil technology - AC or AC/DC
- Low current consumption AC coil
- Silent AC/DC coil – hum-free
- Rated currents: 16, 20, 25, 32, 40, 63 A
- Mounting on 35 mm rail
- Switch position indication
- 1 module width with one NO contact
- 2 module width with two NO contacts
- CE, NF, EAC
- Accessories

WITH MANUAL CONTROL

Page 3-9



- Manual or remote control
- Auto-On-Off selector
- AC or AC/DC coil
- Rated currents: 16, 20, 25, 32, 40, 63 A
- Mounting on 35 mm rail
- Switch position indication
- CE, NF, EAC
- Accessories

WITH MANUAL MOMENTARY CONTROL

Page 3-14



- Manual momentary control as push-button
- Remote control
- AC or AC/DC coil
- Switching off the control voltage
- Rated currents: 16, 20, 25, 32 A
- Mounting on 35 mm rail
- Switch position indication
- CE
- Accessories

INSTALLATION CONTACTORS

Page 3-18



- 2 pole - 2 module width
- Remote control with efficiency coil technology - AC or AC/DC
- Rated currents: 40 and 63 A
- Mounting on 35 mm rail
- Switch position indication
- CE

WITH MANUAL CONTROL

Page 3-20



- 2 pole - 2 module width
- Manual or remote control
- Auto-On-Off selector
- Rated currents: 40 and 63 A
- Mounting on 35 mm rail
- Switch position indication
- CE

UL/CSA INSTALLATION CONTACTORS

Page 3-22



- UL and CSA certificated
- Remote control
- AC or AC/DC coil
- Rated currents: 20, 25, 40, 63 A
- Mounting on 35 mm rail
- Switch position indication
- CE, UL, CSA
- Accessories

INSTALLATION SWITCHES

Page 3-28



- Manual control switch
- Rated currents: 20, 25, 32 A
- Mounting on 35 mm rail
- Switch position indication
- CE

INSTALLATION MOMENTARY SWITCHES

Page 3-30



- Manual momentary control as push-button
- Rated currents: 20, 25, 32 A
- Mounting on 35 mm rail
- Switch position indication
- CE

INSTALLATION CONTACTORS ARE ELECTROMAGNETIC SWITCHING DEVICES FOR SWITCHING OF ALL KIND OF ELECTRIC LOADS. THEY HAVE ONE POSITION OF REST, CAPABLE OF MAKING, CARRYING AND BREAKING CURRENTS UNDER NORMAL CIRCUIT CONDITIONS INCLUDING OPERATING OVERLOAD CONDITIONS.



INSTALLATION CONTACTORS ARE THE MOST FLEXIBLE SWITCHING DEVICES FOR USE IN ALL TYPES OF APPLICATIONS. IN ELECTRONIC SYSTEM PROVIDE RELIABLE, SAFE AND EFFICIENT MANAGEMENT OF ELECTRICAL EQUIPMENT.



FOR RELIABLE SWITCHING

- All kind of motors
- Electric heating
- Lights and lighting
- Electrical and electronic equipment

FEATURES

- High current loads
- Remote control
- Manual control

OTHER BENEFITS

- Silent hum-free AC/DC version with overvoltage protection
Available also standard AC version
- Fast switching
- Wide application
- Mounting on 35 mm rail
- Sealing terminal covers
- Control voltages up to 400 V
- Auxiliary switch
- IE3 ready

ORDERING DATA

Installation contactors	page 3-3
Accessories	page 3-26
Example for Ordering data	page 3-8
Technical characteristics	page 3-32
Dimensions	page 3-56

INSTALLATION CONTACTORS - UP TO 40 A

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 1 module)

Type	Rated current I_n	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA216-20	16 A	230 V		30.047.486	130	6
IKA216-20	16 A	24 V		30.047.487	130	
IKA20-20	20 A	230 V		30.046.005	130	
IKA20-20	20 A	24 V		30.046.021	130	
IKA225-20	25 A	230 V		30.046.714	130	
IKA225-20	25 A	24 V		30.046.711	130	
IKA232-20	32 A	230 V		30.046.833	130	6
IKA232-20	32 A	24 V		30.046.834	130	
IKA216-11	16 A	230 V		30.047.488	130	
IKA216-11	16 A	24 V		30.047.489	130	
IKA20-11	20 A	230 V		30.046.009	130	
IKA20-11	20 A	24 V		30.046.022	130	
IKA225-11	25 A	230 V		30.046.715	130	6
IKA225-11	25 A	24 V		30.046.712	130	
IKA232-11	32 A	230 V		30.046.835	130	
IKA232-11	32 A	24 V		30.046.836	130	
IKA216-10	16 A	230 V		30.047.490	125	
IKA216-10	16 A	24 V		30.047.491	125	
IKA20-10	20 A	230 V		30.046.457	125	6
IKA20-10	20 A	24 V		30.046.837	125	
IKA225-10	25 A	230 V		30.046.713	125	
IKA225-10	25 A	24 V		30.046.710	125	
IKA232-10	32 A	230 V		30.046.838	125	
IKA232-10	32 A	24 V		30.046.839	125	
IKA216-01	16 A	230 V		30.047.492	125	6
IKA216-01	16 A	24 V		30.047.493	125	
IKA20-01	20 A	230 V		30.046.716	125	
IKA20-01	20 A	24 V		30.046.840	125	
IKA225-01	25 A	230 V		30.046.841	125	
IKA225-01	25 A	24 V		30.046.842	125	
IKA232-01	32 A	230 V		30.046.843	125	6
IKA232-01	32 A	24 V		30.046.844	125	
IKA216-02	16 A	230 V		30.047.494	130	
IKA216-02	16 A	24 V		30.047.495	130	
IKA20-02	20 A	230 V		30.046.010	130	
IKA20-02	20 A	24 V		30.046.023	130	
IKA225-02	25 A	230 V		30.046.845	130	6
IKA225-02	25 A	24 V		30.046.846	130	
IKA232-02	32 A	230 V		30.046.847	130	
IKA232-02	32 A	24 V		30.046.848	130	

AC



3

AC-1 acc. to IEC/EN 60947-4-1 (1-pole, 1 module)

Type	Rated current I_n	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA140-1P	40 A	230 V		30.047.814	123	6
IKA140-1P	40 A	24 V		30.047.815	123	6

AC



AC-1 acc. to IEC/EN 60947-4-1 (1-pole, 1 module)

Type	Rated current I_n	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD140-1P	40 A	230 V AC 220 V DC		30.047.816	123	6
IKD140-1P	40 A	24 V AC/DC		30.047.817	123	6

AC/DC

INSTALLATION CONTACTORS - UP TO 40 A

AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 2 modules)

Type	Rated current I_n	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA416-40	16 A	230 V		30.047.496	230	3
IKA416-40	16 A	24 V		30.047.497	230	
IKA25-40	25 A	230 V		30.046.007	230	
IKA25-40	25 A	24 V		30.046.027	230	
IKA432-40	32 A	230 V		30.046.849	230	
IKA432-40	32 A	24 V		30.046.850	230	3
IKA416-31	16 A	230 V		30.047.498	230	
IKA416-31	16 A	24 V		30.047.499	230	
IKA25-31	25 A	230 V		30.046.013	230	
IKA25-31	25 A	24 V		30.046.028	230	
IKA432-31	32 A	230 V		30.046.851	230	3
IKA432-31	32 A	24 V		30.046.852	230	
IKA416-30	16 A	230 V		30.047.500	225	
IKA416-30	16 A	24 V		30.047.501	225	
IKA25-30	25 A	230 V		30.046.282	225	
IKA25-30	25 A	24 V		30.046.853	225	3
IKA432-30	32 A	230 V		30.046.854	225	
IKA432-30	32 A	24 V		30.046.855	225	
IKA416-22	16 A	230 V		30.047.502	230	
IKA416-22	16 A	24 V		30.047.503	230	
IKA25-22	25 A	230 V		30.046.014	230	3
IKA25-22	25 A	24 V		30.046.029	230	
IKA432-22	32 A	230 V		30.046.856	230	
IKA432-22	32 A	24 V		30.046.857	230	
IKA416-04	16 A	230 V		30.047.504	230	
IKA416-04	16 A	24 V		30.047.505	230	3
IKA25-04	25 A	230 V		30.046.015	230	
IKA25-04	25 A	24 V		30.046.030	230	
IKA432-04	32 A	230 V		30.046.858	230	
IKA432-04	32 A	24 V		30.046.859	230	

Other control voltages are on request - define type and voltage

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 2 modules)

Type	Rated current I_n	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA240-2P	40 A	230 V		30.047.735	220	3
IKA240-2P	40 A	24 V		30.047.811	220	3

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 2 modules)

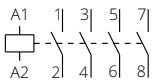
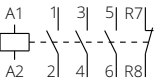
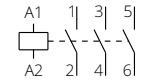
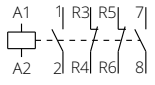
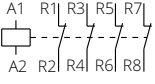
Type	Rated current I_n	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD240-2P	40 A	230 V AC 220 V DC		30.047.812	220	3
IKD240-2P	40 A	24 V AC/DC		30.047.813	220	3



ORDERING DATA

INSTALLATION CONTACTORS - FROM 20 A UP TO 63 A

AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 3 modules)

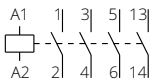
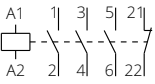
Type	Rated current I_e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA40-40	40 A	230 V		30.045.518	350	5
IKA40-40	40 A	24 V		30.045.595	350	
IKA63-40	63 A	230 V		30.045.522	350	
IKA63-40	63 A	24 V		30.045.596	350	
IKA40-31	40 A	230 V		30.045.597	350	5
IKA40-31	40 A	24 V		30.045.598	350	
IKA63-31	63 A	230 V		30.045.533	350	
IKA63-31	63 A	24 V		30.045.599	350	
IKA40-30	40 A	230 V		30.045.517	340	5
IKA40-30	40 A	24 V		30.045.600	340	
IKA63-30	63 A	230 V		30.045.521	340	
IKA63-30	63 A	24 V		30.045.601	340	
IKA40-22	40 A	230 V		30.045.519	350	5
IKA40-22	40 A	24 V		30.045.602	350	
IKA63-22	63 A	230 V		30.045.523	350	
IKA63-22	63 A	24 V		30.045.603	350	
IKA40-04	40 A	230 V		30.045.511	350	5
IKA40-04	40 A	24 V		30.045.604	350	
IKA63-04	63 A	230 V		30.045.481	350	
IKA63-04	63 A	24 V		30.045.606	350	

63 A
AC



3

AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 2 modules)

Type	Rated current I_e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IK21-10	20 A	220-240 V		30.041.246	170	10
IK21-10	20 A	24 V		30.041.008	170	
IK21-01	20 A	220-240 V		30.041.245	170	10
IK21-01	20 A	24 V		30.041.249	170	

20 A
AC

SLIM CASE



ORDERING DATA

INSTALLATION CONTACTORS - FROM 16 A UP TO 32 A

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 1 module)

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD216-20	16 A	230 V AC		30.047.506	130	6
IKD216-20	16 A	220 V DC		30.047.507	130	
IKD20-20	20 A	230 V AC		30.046.006	130	
IKD20-20	20 A	220 V DC		30.046.024	130	
IKD225-20	25 A	230 V AC		30.046.860	130	
IKD225-20	25 A	220 V DC		30.046.861	130	
IKD232-20	32 A	230 V AC		30.046.862	130	6
IKD232-20	32 A	220 V DC		30.046.863	130	
IKD216-11	16 A	230 V AC		30.047.508	130	
IKD216-11	16 A	220 V DC		30.047.509	130	
IKD20-11	20 A	230 V AC		30.046.011	130	
IKD20-11	20 A	220 V DC		30.046.025	130	
IKD225-11	25 A	230 V AC		30.046.864	130	6
IKD225-11	25 A	220 V DC		30.046.865	130	
IKD232-11	32 A	230 V AC		30.046.866	130	
IKD232-11	32 A	220 V DC		30.046.867	130	
IKD216-10	16 A	230 V AC		30.047.510	125	
IKD216-10	16 A	220 V DC		30.047.511	125	
IKD20-10	20 A	230 V AC		30.046.868	125	6
IKD20-10	20 A	220 V DC		30.046.590	125	
IKD225-10	25 A	230 V AC		30.046.869	125	
IKD225-10	25 A	220 V DC		30.046.870	125	
IKD232-10	32 A	230 V AC		30.046.871	125	
IKD232-10	32 A	220 V DC		30.046.872	125	
IKD216-01	16 A	230 V AC		30.047.512	125	6
IKD216-01	16 A	220 V DC		30.047.513	125	
IKD20-01	20 A	230 V AC		30.046.873	125	
IKD20-01	20 A	220 V DC		30.046.874	125	
IKD225-01	25 A	230 V AC		30.046.875	125	
IKD225-01	25 A	220 V DC		30.046.876	125	
IKD232-01	32 A	230 V AC		30.046.877	125	6
IKD232-01	32 A	220 V DC		30.046.878	125	
IKD216-02	16 A	230 V AC		30.047.514	130	
IKD216-02	16 A	220 V DC		30.047.515	130	
IKD20-02	20 A	230 V AC		30.046.012	130	
IKD20-02	20 A	220 V DC		30.046.026	130	
IKD225-02	25 A	230 V AC		30.046.879	130	6
IKD225-02	25 A	220 V DC		30.046.880	130	
IKD232-02	32 A	230 V AC		30.046.881	130	
IKD232-02	32 A	220 V DC		30.046.882	130	
IKD216-02	16 A	230 V AC		30.047.514	130	
IKD216-02	16 A	220 V DC		30.047.515	130	

Other control voltages are on request - define type and voltage



HUM-FREE



3

ORDERING DATA

INSTALLATION CONTACTORS - UP TO 32 A

AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 2 modules)

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD416-40	16 A	230 V AC		30.047.516	250	3
IKD416-40	16 A	220 V DC		30.047.517	250	
IKD25-40	25 A	230 V AC		30.046.008	250	
IKD25-40	25 A	220 V DC		30.046.031	250	
IKD432-40	32 A	230 V AC		30.046.883	250	3
IKD432-40	32 A	220 V DC		30.046.884	250	
IKD416-31	16 A	230 V AC		30.047.518	250	
IKD416-31	16 A	220 V DC		30.047.519	250	
IKD25-31	25 A	230 V AC		30.046.016	250	3
IKD25-31	25 A	220 V DC		30.046.032	250	
IKD432-31	32 A	230 V AC		30.046.885	250	
IKD432-31	32 A	220 V DC		30.046.886	250	
IKD416-30	16 A	230 V AC		30.047.520	245	3
IKD416-30	16 A	220 V DC		30.047.521	245	
IKD25-30	25 A	230 V AC		30.046.887	245	
IKD25-30	25 A	220 V DC		30.046.888	245	
IKD432-30	32 A	230 V AC		30.046.889	245	3
IKD432-30	32 A	220 V DC		30.046.890	245	
IKD416-22	16 A	230 V AC		30.047.522	250	
IKD416-22	16 A	220 V DC		30.047.523	250	
IKD25-22	25 A	230 V AC		30.046.017	250	3
IKD25-22	25 A	220 V DC		30.046.033	250	
IKD432-22	32 A	230 V AC		30.046.891	250	
IKD432-22	32 A	220 V DC		30.046.892	250	
IKD416-04	16 A	230 V AC		30.047.524	250	3
IKD416-04	16 A	220 V DC		30.047.525	250	
IKD25-04	25 A	230 V AC		30.046.018	250	
IKD25-04	25 A	220 V DC		30.046.034	250	
IKD432-04	32 A	230 V AC		30.046.893	250	3
IKD432-04	32 A	220 V DC		30.046.894	250	

Other control voltages are on request - define type and voltage



HUM-FREE



3

ORDERING DATA

INSTALLATION CONTACTORS - FROM 40 A UP TO 63 A

AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 3 modules)

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IK40-40	40 A	230 V AC		30.045.010	420	5
IK40-40	40 A	220 V DC		30.045.022	420	
IK63-40	63 A	230 V AC		30.045.011	420	
IK63-40	63 A	220 V DC		30.045.187	420	
IK40-31	40 A	24 V AC/DC		30.045.086	420	5
IK40-31	40 A	230 V AC		30.045.485	420	
IK63-31	63 A	24 V AC/DC		30.045.087	420	
IK63-31	63 A	230 V AC		30.045.234	420	
IK40-30	40 A	24 V AC/DC		30.045.368	410	5
IK40-30	40 A	230 V AC		30.045.607	410	
IK63-30	63 A	24 V AC/DC		30.045.608	410	
IK63-30	63 A	230 V AC		30.045.609	410	
IK40-22	40 A	230 V AC		30.045.150	420	5
IK40-22	40 A	220 V DC		30.045.172	420	
IK63-22	63 A	230 V AC		30.045.235	420	
IK63-22	63 A	220 V DC		30.045.233	420	
IK40-04	40 A	24 V AC/DC		30.045.145	420	5
IK40-04	40 A	230 V AC		30.045.232	420	
IK63-04	50 A	24 V AC/DC		30.045.610	420	
IK63-04	50 A	230 V AC		30.045.611	420	

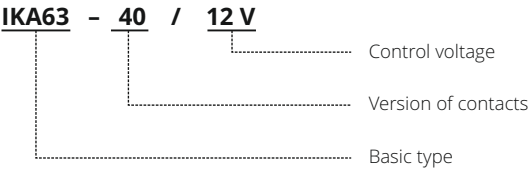
Other control voltages are on request - define type and voltage

63 A
AC



3

ORDERING DATA



ORDERING DATA

INSTALLATION CONTACTORS - WITH MANUAL CONTROL



UPGRADED INSTALLATION CONTACTORS WITH MANUAL CONTROL FUNCTION. BUILT-IN TOGGLE SWITCH TO SELECT BETWEEN THREE FUNCTION MODES. THEY ALLOW FUNCTIONAL TEST BEFORE INSTALLATION START-UP. IT IS VERY USEFUL FOR MAINTENANCE OPERATION, REMOTE CONTROL DISCONNECTION FOR HIGHER SAFETY.

3



FUNCTION MODES

- A: automatic, normal contactor function
- O: permanently switched off control voltage
- I: at manual shifting the handle from position A to I causes the contactor to close; when control voltage is applied, the handle is automatically set to position A

FEATURES

- Manual control
- Remote control
- Switching demanding on tariff (selection of the most convenient tariff)
- Switching when control voltage is not applied
- Disconnection of control voltage for maintenance purposes

OTHER BENEFITS

- AC/DC coil (hum-free)
- AC coil
- For switching all kind of loads
- Mounting on 35 mm rail
- Sealing terminal covers
- Control voltages up to 400 V
- Auxiliary switch
- IE3 ready

ORDERING DATA

Installation contactors with manual controlpage 3-10
Accessoriespage 3-26

Example for Ordering datapage 3-13
Technical characteristicspage 3-32
Dimensionspage 3-56

INSTALLATION CONTACTORS - WITH MANUAL CONTROL

UP TO 32 A

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 1 module)

AC

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA216-20-R	16 A	230 V		30.047.526	130	6
IKA216-20-R	16 A	24 V		30.047.527	130	
IKA20-20-R	20 A	230 V		30.046.265	130	
IKA20-20-R	20 A	24 V		30.046.268	130	
IKA225-20-R	25 A	230 V		30.046.895	130	
IKA225-20-R	25 A	24 V		30.046.896	130	
IKA232-20-R	32 A	230 V		30.046.897	130	6
IKA232-20-R	32 A	24 V		30.046.898	130	
IKA216-11-R	16 A	230 V		30.047.528	130	
IKA216-11-R	16 A	24 V		30.047.529	130	
IKA20-11-R	20 A	230 V		30.046.266	130	
IKA20-11-R	20 A	24 V		30.046.269	130	
IKA225-11-R	25 A	230 V		30.046.899	130	6
IKA225-11-R	25 A	24 V		30.046.900	130	
IKA232-11-R	32 A	230 V		30.046.901	130	
IKA232-11-R	32 A	24 V		30.046.902	130	
IKA216-10-R	16 A	230 V		30.047.530	125	
IKA216-10-R	16 A	24 V		30.047.531	125	
IKA20-10-R	20 A	230 V		30.046.496	125	6
IKA20-10-R	20 A	24 V		30.046.903	125	
IKA225-10-R	25 A	230 V		30.046.904	125	
IKA225-10-R	25 A	24 V		30.046.905	125	
IKA232-10-R	32 A	230 V		30.046.906	125	
IKA232-10-R	32 A	24 V		30.046.907	125	
IKA216-01-R	16 A	230 V		30.047.532	125	6
IKA216-01-R	16 A	24 V		30.047.533	125	
IKA20-01-R	20 A	230 V		30.046.908	125	
IKA20-01-R	20 A	24 V		30.046.909	125	
IKA225-01-R	25 A	230 V		30.046.910	125	
IKA225-01-R	25 A	24 V		30.046.911	125	
IKA232-01-R	32 A	230 V		30.046.912	125	6
IKA232-01-R	32 A	24 V		30.046.913	125	
IKA216-02-R	16 A	230 V		30.047.534	130	
IKA216-02-R	16 A	24 V		30.047.535	130	
IKA20-02-R	20 A	230 V		30.046.267	130	
IKA20-02-R	20 A	24 V		30.046.270	130	
IKA225-02-R	25 A	230 V		30.046.914	130	6
IKA225-02-R	25 A	24 V		30.046.915	130	
IKA232-02-R	32 A	230 V		30.046.916	130	
IKA232-02-R	32 A	24 V		30.046.917	130	

Other control voltages are on request - define type and voltage



3

ORDERING DATA

INSTALLATION CONTACTORS - WITH MANUAL CONTROL

UP TO 63 A

AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 2 modules)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA416-40-R	16 A	230 V		30.047.536	230	3
IKA416-40-R	16 A	24 V		30.047.537	230	
IKA25-40-R	25 A	230 V		30.046.271	230	
IKA25-40-R	25 A	24 V		30.046.275	230	
IKA432-40-R	32 A	230 V		30.046.918	230	3
IKA432-40-R	32 A	24 V		30.046.919	230	
IKA416-31-R	16 A	230 V		30.047.538	230	
IKA416-31-R	16 A	24 V		30.047.539	230	
IKA25-31-R	25 A	230 V		30.046.272	230	3
IKA25-31-R	25 A	24 V		30.046.276	230	
IKA432-31-R	32 A	230 V		30.046.920	230	
IKA432-31-R	32 A	24 V		30.046.921	230	
IKA416-30-R	16 A	230 V		30.047.540	225	3
IKA416-30-R	16 A	24 V		30.047.541	225	
IKA25-30-R	25 A	230 V		30.046.922	225	
IKA25-30-R	25 A	24 V		30.046.923	225	
IKA432-30-R	32 A	230 V		30.046.924	225	3
IKA432-30-R	32 A	24 V		30.046.925	225	
IKA416-22-R	16 A	230 V		30.047.542	230	
IKA416-22-R	16 A	24 V		30.047.543	230	
IKA25-22-R	25 A	230 V		30.046.273	230	3
IKA25-22-R	25 A	24 V		30.046.277	230	
IKA432-22-R	32 A	230 V		30.046.926	230	
IKA432-22-R	32 A	24 V		30.046.927	230	
IKA416-04-R	16 A	230 V		30.047.544	230	3
IKA416-04-R	16 A	24 V		30.047.545	230	
IKA25-04-R	25 A	230 V		30.046.274	230	
IKA25-04-R	25 A	24 V		30.046.278	230	
IKA432-04-R	32 A	230 V		30.046.928	230	3
IKA432-04-R	32 A	24 V		30.046.929	230	

AC



3

General Use acc. to UL 60947-4-1 (4-pole, 3 modules)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA40-40-R	40 A	230 V		30.045.506	350	5
IKA40-40-R	40 A	24 V		30.045.741	350	
IKA63-40-R	63 A	230 V		30.045.508	350	
IKA63-40-R	63 A	24 V		30.045.742	350	
IKA40-31-R	40 A	230 V		30.045.743	350	5
IKA40-31-R	40 A	24 V		30.045.744	350	
IKA63-31-R	63 A	230 V		30.045.745	350	
IKA63-31-R	63 A	24 V		30.045.746	350	
IKA40-22-R	40 A	230 V		30.045.747	350	5
IKA40-22-R	40 A	24 V		30.045.748	350	
IKA63-22-R	63 A	230 V		30.045.749	350	
IKA63-22-R	63 A	24 V		30.045.750	350	
IKA40-04-R	40 A	230 V		30.045.751	350	5
IKA40-04-R	40 A	24 V		30.045.752	350	
IKA63-04-R	63 A	230 V		30.045.753	350	
IKA63-04-R	63 A	24 V		30.045.754	350	

AC

63 A



ORDERING DATA

INSTALLATION CONTACTORS - WITH MANUAL CONTROL

UP TO 32 A

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 1 module)

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD216-20-R	16 A	230 V AC		30.047.546	130	6
IKD216-20-R	16 A	220 V DC		30.047.547	130	
IKD20-20-R	20 A	230 V AC		30.046.381	130	
IKD20-20-R	20 A	220 V DC		30.046.506	130	
IKD225-20-R	25 A	230 V AC		30.046.930	130	
IKD225-20-R	25 A	220 V DC		30.046.931	130	
IKD232-20-R	32 A	230 V AC		30.046.932	130	6
IKD232-20-R	32 A	220 V DC		30.046.933	130	
IKD216-11-R	16 A	230 V AC		30.047.548	130	
IKD216-11-R	16 A	220 V DC		30.047.549	130	
IKD20-11-R	20 A	230 V AC		30.046.507	130	
IKD20-11-R	20 A	220 V DC		30.046.508	130	
IKD225-11-R	25 A	230 V AC		30.046.934	130	6
IKD225-11-R	25 A	220 V DC		30.046.935	130	
IKD232-11-R	32 A	230 V AC		30.046.936	130	
IKD232-11-R	32 A	220 V DC		30.046.937	130	
IKD216-10-R	16 A	230 V AC		30.047.550	125	
IKD216-10-R	16 A	220 V DC		30.047.551	125	
IKD20-10-R	20 A	230 V AC		30.046.938	125	6
IKD20-10-R	20 A	220 V DC		30.046.939	125	
IKD225-10-R	25 A	230 V AC		30.046.940	125	
IKD225-10-R	25 A	220 V DC		30.046.941	125	
IKD232-10-R	32 A	230 V AC		30.046.942	125	
IKD232-10-R	32 A	220 V DC		30.046.943	125	
IKD216-01-R	16 A	230 V AC		30.047.552	125	6
IKD216-01-R	16 A	220 V DC		30.047.553	125	
IKD20-01-R	20 A	230 V AC		30.046.944	125	
IKD20-01-R	20 A	220 V DC		30.046.945	125	
IKD225-01-R	25 A	230 V AC		30.046.946	125	
IKD225-01-R	25 A	220 V DC		30.046.947	125	
IKD232-01-R	32 A	230 V AC		30.046.948	125	6
IKD232-01-R	32 A	220 V DC		30.046.949	125	
IKD216-02-R	16 A	230 V AC		30.047.554	130	
IKD216-02-R	16 A	220 V DC		30.047.555	130	
IKD20-02-R	20 A	230 V AC		30.046.950	130	
IKD20-02-R	20 A	220 V DC		30.046.951	130	
IKD225-02-R	25 A	230 V AC		30.046.952	130	6
IKD225-02-R	25 A	220 V DC		30.046.953	130	
IKD232-02-R	32 A	230 V AC		30.046.954	130	
IKD232-02-R	32 A	220 V DC		30.046.955	130	

Other control voltages are on request - define type and voltage



HUM-FREE



3

ORDERING DATA

INSTALLATION CONTACTORS - WITH MANUAL CONTROL

UP TO 32 A

AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 2 modules)						
Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD416-40-R	16 A	230 V AC		30.047.556	250	3
IKD416-40-R	16 A	220 V DC		30.047.557	250	
IKD25-40-R	25 A	230 V AC		30.046.509	250	
IKD25-40-R	25 A	220 V DC		30.046.510	250	
IKD432-40-R	32 A	230 V AC		30.046.956	250	3
IKD432-40-R	32 A	220 V DC		30.046.957	250	
IKD416-31-R	16 A	24 V AC/DC		30.047.558	250	
IKD416-31-R	16 A	24 V AC/DC		30.047.559	250	
IKD25-31-R	25 A	230 V AC		30.046.958	250	3
IKD25-31-R	25 A	220 V DC		30.046.959	250	
IKD25-31-R	25 A	24 V AC/DC		30.046.959	250	
IKD432-31-R	32 A	230 V AC		30.046.960	250	
IKD432-31-R	32 A	220 V DC		30.046.961	250	3
IKD432-31-R	32 A	24 V AC/DC		30.046.961	250	
IKD416-30-R	16 A	230 V AC		30.047.560	245	
IKD416-30-R	16 A	220 V DC		30.047.561	245	
IKD416-30-R	16 A	24 V AC/DC		30.046.962	245	3
IKD25-30-R	25 A	230 V AC		30.046.962	245	
IKD25-30-R	25 A	220 V DC		30.046.963	245	
IKD25-30-R	25 A	24 V AC/DC		30.046.963	245	
IKD432-30-R	32 A	230 V AC		30.046.964	245	3
IKD432-30-R	32 A	220 V DC		30.046.964	245	
IKD432-30-R	32 A	24 V AC/DC		30.046.965	245	
IKD416-22-R	16 A	230 V AC		30.047.562	250	
IKD416-22-R	16 A	220 V DC		30.047.563	250	3
IKD416-22-R	16 A	24 V AC/DC		30.047.563	250	
IKD25-22-R	25 A	230 V AC		30.046.966	250	
IKD25-22-R	25 A	220 V DC		30.046.967	250	
IKD25-22-R	25 A	24 V AC/DC		30.046.968	250	3
IKD432-22-R	32 A	230 V AC		30.046.968	250	
IKD432-22-R	32 A	220 V DC		30.046.969	250	
IKD432-22-R	32 A	24 V AC/DC		30.046.969	250	
IKD416-04-R	16 A	230 V AC		30.047.564	250	3
IKD416-04-R	16 A	220 V DC		30.047.565	250	
IKD416-04-R	16 A	24 V AC/DC		30.047.565	250	
IKD25-04-R	25 A	230 V AC		30.046.970	250	
IKD25-04-R	25 A	220 V DC		30.046.971	250	3
IKD25-04-R	25 A	24 V AC/DC		30.046.971	250	
IKD432-04-R	32 A	230 V AC		30.046.972	250	
IKD432-04-R	32 A	220 V DC		30.046.972	250	
IKD432-04-R	32 A	24 V AC/DC		30.046.973	250	3
IKD432-04-R	32 A	24 V AC/DC		30.046.973	250	

Other control voltages are on request - define type and voltage

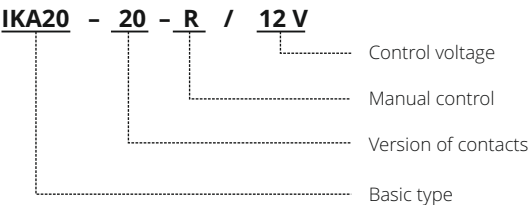


HUM-FREE



3

ORDERING DATA



ORDERING DATA



UPGRADED INSTALLATION CONTACTORS WITH MANUAL MOMANTARY CONTROL FUNCTION (AS PUSH-BUTTON). IDEAL FOR SHORT MANUAL IMPULSE CONTROL WHEN IS FUNCTION TEST REQUIRED. ALSO IT IS VERY USEFUL FOR MAINTENANCE OPERATION.



FUNCTION MODES

- A: automatic, normal contactor function
- O: permanently switched off control voltage
- I: momentary switch-on depending of manual activation

FEATURES

- Manual momentary control
- Remote control

OTHER BENEFITS

- AC/DC coil (hum-free)
- AC coil
- For switching all kind of loads
- Mounting on 35 mm rail
- Sealing terminal covers
- Control voltages up to 400 V
- Auxiliary switch
- IE3 ready

ORDERING DATA

Installation contactors with manual momentary control.....	page 3-15
Accessories	page 3-26
Example for Ordering data	page 3-17
Technical characteristics	page 3-32
Dimensions	page 3-56

INSTALLATION CONTACTORS - WITH MANUAL MOMENTARY CONTROL

UP TO 32 A

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 1 module)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA216-20-T	16 A	230 V		30.047.566	130	6
IKA20-20-T	20 A	230 V		30.046.974	130	
IKA225-20-T	25 A	230 V		30.046.975	130	
IKA232-20-T	32 A	230 V		30.046.976	130	
IKA216-11-T	16 A	230 V		30.047.567	130	6
IKA20-11-T	20 A	230 V		30.046.977	130	
IKA225-11-T	25 A	230 V		30.046.978	130	
IKA232-11-T	32 A	230 V		30.046.979	130	
IKA216-10-T	16 A	230 V		30.047.568	125	6
IKA20-10-T	20 A	230 V		30.046.980	125	
IKA225-10-T	25 A	230 V		30.046.981	125	
IKA232-10-T	32 A	230 V		30.046.982	125	
IKA216-01-T	16 A	230 V		30.047.569	125	6
IKA20-01-T	20 A	230 V		30.046.983	125	
IKA225-01-T	25 A	230 V		30.046.984	125	
IKA232-01-T	32 A	230 V		30.046.985	125	
IKA216-02-T	16 A	230 V		30.047.570	130	6
IKA20-02-T	20 A	230 V		30.046.986	130	
IKA225-02-T	25 A	230 V		30.046.987	130	
IKA232-02-T	32 A	230 V		30.046.988	130	

AC



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AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 2 modules)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA416-40-T	16 A	230 V		30.047.571	230	3
IKA25-40-T	25 A	230 V		30.046.989	230	
IKA432-40-T	32 A	230 V		30.046.990	230	
IKA416-31-T	16 A	230 V		30.047.572	230	3
IKA25-31-T	25 A	230 V		30.046.991	230	
IKA432-31-T	32 A	230 V		30.046.992	230	
IKA416-30-T	16 A	230 V		30.047.573	225	3
IKA25-30-T	25 A	230 V		30.046.993	225	
IKA432-30-T	32 A	230 V		30.046.994	225	
IKA416-22-T	16 A	230 V		30.047.574	230	3
IKA25-22-T	25 A	230 V		30.046.995	230	
IKA432-22-T	32 A	230 V		30.046.996	230	
IKA416-04-T	16 A	230 V		30.047.575	230	3
IKA25-04-T	25 A	230 V		30.046.997	230	
IKA432-04-T	32 A	230 V		30.046.998	230	

AC



Other control voltages are on request - define type and voltage

ORDERING DATA

INSTALLATION CONTACTORS - WITH MANUAL MOMENTARY CONTROL

UP TO 32 A

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 1 module)

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD216-20-T	16 A	230 V AC 220 V DC		30.047.576	130	6
IKD20-20-T	20 A	230 V AC 220 V DC		30.046.999	130	
IKD225-20-T	25 A	230 V AC 220 V DC		30.047.000	130	
IKD232-20-T	32 A	230 V AC 220 V DC		30.047.001	130	
IKD216-11-T	16 A	230 V AC 220 V DC		30.047.577	130	6
IKD20-11-T	20 A	230 V AC 220 V DC		30.047.002	130	
IKD225-11-T	25 A	230 V AC 220 V DC		30.047.003	130	
IKD232-11-T	32 A	230 V AC 220 V DC		30.047.004	130	
IKD216-10-T	16 A	230 V AC 220 V DC		30.047.578	125	6
IKD20-10-T	20 A	230 V AC 220 V DC		30.047.005	125	
IKD225-10-T	25 A	230 V AC 220 V DC		30.047.006	125	
IKD232-10-T	32 A	230 V AC 220 V DC		30.047.007	125	
IKD216-01-T	16 A	230 V AC 220 V DC		30.047.579	125	6
IKD20-01-T	20 A	230 V AC 220 V DC		30.047.008	125	
IKD225-01-T	25 A	230 V AC 220 V DC		30.047.009	125	
IKD232-01-T	32 A	230 V AC 220 V DC		30.047.010	125	
IKD216-02-T	16 A	230 V AC 220 V DC		30.047.580	130	6
IKD20-02-T	20 A	230 V AC 220 V DC		30.047.011	130	
IKD225-02-T	25 A	230 V AC 220 V DC		30.047.012	130	
IKD232-02-T	32 A	230 V AC 220 V DC		30.047.013	130	



HUM-FREE



3

ORDERING DATA

INSTALLATION CONTACTORS - WITH MANUAL MOMENTARY CONTROL

UP TO 32 A

AC-1 acc. to IEC/EN 60947-4-1 (4-pole, 2 modules)

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD416-40-T	16 A	230 V AC 220 V DC		30.047.581	250	3
IKD25-40-T	25 A	230 V AC 220 V DC		30.047.014	250	
IKD432-40-T	32 A	230 V AC 220 V DC		30.047.015	250	
IKD416-31-T	16 A	230 V AC 220 V DC		30.047.582	250	3
IKD25-31-T	25 A	230 V AC 220 V DC		30.047.016	250	
IKD432-31-T	32 A	230 V AC 220 V DC		30.047.017	250	
IKD416-30-T	16 A	230 V AC 220 V DC		30.047.583	245	3
IKD25-30-T	25 A	230 V AC 220 V DC		30.047.018	245	
IKD432-30-T	32 A	230 V AC 220 V DC		30.047.019	245	
IKD416-22-T	16 A	230 V AC 220 V DC		30.047.584	250	3
IKD25-22-T	25 A	230 V AC 220 V DC		30.047.020	250	
IKD432-22-T	32 A	230 V AC 220 V DC		30.047.021	250	
IKD416-04-T	16 A	230 V AC 220 V DC		30.047.585	250	3
IKD25-04-T	25 A	230 V AC 220 V DC		30.047.022	250	
IKD432-04-T	32 A	230 V AC 220 V DC		30.047.023	250	

Other control voltages are on request - define type and voltage

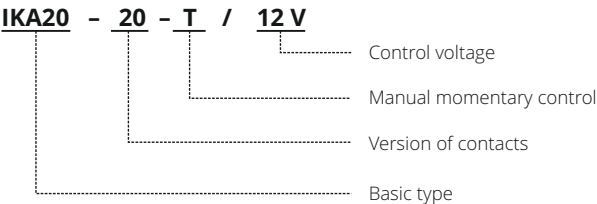


HUM-FREE



3

ORDERING DATA



ORDERING DATA

INSTALLATION CONTACTORS - UP TO 63 A (2-POLE)



INSTALLATION CONTACTORS ARE THE MOST FLEXIBLE SWITCHING DEVICES FOR USE IN ALL TYPES OF APPLICATIONS. IN ELECTRONIC SYSTEM PROVIDE RELIABLE, SAFE AND EFFICIENT MANAGEMENT OF ELECTRICAL EQUIPMENT.

3

FOR RELIABLE SWITCHING

- Single phase applications
- All kind of motors
- Electric heating
- Lights and lighting
- Electrical and electronic equipment

FEATURES

- High current loads
- Remote control
- Compact design

OTHER BENEFITS

- Silent hum free AC/DC version overvoltage protection
- Available also standard AC version
- Fast switching
- Wide application
- Mounting on 35 mm rail
- Sealing terminal covers

ORDERING DATA

Installation contactorspage 3-19
Accessoriespage 3-26

Example for Ordering datapage 3-19
Technical characteristicspage 3-42
Dimensions page 3-58

INSTALLATION CONTACTORS - UP TO 63 A (2-POLE)

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 2 module)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA240-20	40 A	230 V		30.120.207	245	3
IKA240-20	40 A	24 V		30.120.204	245	
IKA263-20	63 A	230 V		30.120.257	245	
IKA263-20	63 A	24 V		30.120.254	245	3
IKA240-11	40 A	230 V		30.120.217	245	
IKA240-11	40 A	24 V		30.120.214	245	
IKA263-11	63 A	230 V		30.120.267	245	3
IKA263-11	63 A	24 V		30.120.264	245	
IKA240-10	40 A	230 V		30.120.222	245	
IKA240-10	40 A	24 V		30.120.219	245	3
IKA263-10	63 A	230 V		30.120.272	245	
IKA263-10	63 A	24 V		30.120.269	245	
IKA240-01	40 A	230 V		30.120.227	245	3
IKA240-01	40 A	24 V		30.120.224	245	
IKA263-01	63 A	230 V		30.120.277	245	
IKA263-01	63 A	24 V		30.120.274	245	3
IKA240-02	40 A	230 V		30.120.212	245	
IKA240-02	40 A	24 V		30.120.209	245	
IKA263-02	63 A	230 V		30.120.262	245	3
IKA263-02	63 A	24 V		30.120.259	245	

AC



3

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 2 module)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD240-20	40 A	230 V AC		30.120.307	270	3
IKD240-20		220 V DC		30.120.304	270	
IKD263-20	63 A	24 V AC/DC		30.120.357	270	
IKD263-20		230 V AC		30.120.354	270	3
IKD240-11	40 A	230 V AC		30.120.317	270	
IKD240-11		220 V DC		30.120.314	270	
IKD263-11	63 A	24 V AC/DC		30.120.367	270	3
IKD263-11		230 V AC		30.120.364	270	
IKD240-10	40 A	230 V AC		30.120.322	270	
IKD240-10		220 V DC		30.120.319	270	3
IKD263-10	63 A	24 V AC/DC		30.120.372	270	
IKD263-10		230 V AC		30.120.369	270	3
IKD240-01	40 A	230 V AC		30.120.327	270	
IKD240-01		220 V DC		30.120.324	270	3
IKD263-01	63 A	24 V AC/DC		30.120.377	270	
IKD263-01		230 V AC		30.120.374	270	3
IKD240-02	40 A	230 V AC		30.120.312	270	
IKD240-02		220 V DC		30.120.309	270	3
IKD263-02	63 A	24 V AC/DC		30.120.362	270	
IKD263-02		230 V AC		30.120.359	270	3
IKD263-02		220 V DC				

AC/DC



ORDERING DATA

IKA240 - 20 / 24 V

Control voltage

Version of contacts

Basic type

ORDERING DATA

INSTALLATION CONTACTORS - UP TO 63 A (2-POLE)

WITH MANUAL CONTROL



UPGRADED INSTALLATION CONTACTORS WITH MANUAL CONTROL FUNCTION. BUILT-IN TOGGLE SWITCH TO SELECT BETWEEN THREE FUNCTION MODES. THEY ALLOW FUNCTIONAL TEST BEFORE INSTALLATION START-UP. IT IS VERY USEFUL FOR MAINTENANCE OPERATION, REMOTE CONTROL DISCONNECTION FOR HIGHER SAFETY.

3

FUNCTION MODES

- **A:** automatic, normal contactor function
- **O:** permanently switched off control voltage
- **I:** at manual shifting the handle from position A to I causes the contactor to close; when control voltage is applied, the handle is automatically set to position A.

FEATURES

- Manual control
- Remote control
- Switching demanding on tariff (selection of the most convenient tariff). Switching when control voltage is not applied
- Disconnection of control voltage for maintenance purposes.

OTHER BENEFITS

- AC/DC coil (hum-free) AC coil
- For switching all kind of loads
- Mounting on 35 mm rail
- Sealing terminal covers

ORDERING DATA

Installation contactors with manual controlpage 3-21
Accessoriespage 3-26

Example for Ordering datapage 3-21
Technical characteristicspage 3-42
Dimensions page 3-58

INSTALLATION CONTACTORS - UP TO 63 A (2-POLE)

WITH MANUAL CONTROL

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 2 module)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA240-20-R	40 A	230 V		30.120.232	245	3
IKA240-20-R	40 A	24 V		30.120.229	245	
IKA263-20-R	63 A	230 V		30.120.282	245	
IKA263-20-R	63 A	24 V		30.120.279	245	3
IKA240-11-R	40 A	230 V		30.120.242	245	
IKA240-11-R	40 A	24 V		30.120.239	245	
IKA263-11-R	63 A	230 V		30.120.292	245	3
IKA263-11-R	63 A	24 V		30.120.289	245	
IKA240-10-R	40 A	230 V		30.120.247	245	3
IKA240-10-R	40 A	24 V		30.120.244	245	
IKA263-10-R	63 A	230 V		30.120.297	245	
IKA263-10-R	63 A	24 V		30.120.294	245	3
IKA240-01-R	40 A	230 V		30.120.252	245	
IKA240-01-R	40 A	24 V		30.120.249	245	3
IKA263-01-R	63 A	230 V		30.120.302	245	
IKA263-01-R	63 A	24 V		30.120.299	245	3
IKA240-02-R	40 A	230 V		30.120.237	245	
IKA240-02-R	40 A	24 V		30.120.234	245	
IKA263-02-R	63 A	230 V		30.120.287	245	3
IKA263-02-R	63 A	24 V		30.120.284	245	

AC



3

AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 2 module)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD240-20-R	40 A	230 V AC		30.120.332	270	3
IKD240-20-R		220 V DC		30.120.329	270	
IKD263-20-R	63 A	230 V AC		30.120.382	270	3
IKD263-20-R		220 V DC		30.120.379	270	
IKD240-11-R	40 A	230 V AC		30.120.342	270	3
IKD240-11-R		220 V DC		30.120.339	270	
IKD263-11-R	63 A	230 V AC		30.120.392	270	3
IKD263-11-R		220 V DC		30.120.389	270	
IKD240-10-R	40 A	230 V AC		30.120.347	270	3
IKD240-10-R		220 V DC		30.120.344	270	
IKD263-10-R	63 A	230 V AC		30.120.397	270	3
IKD263-10-R		220 V DC		30.120.394	270	
IKD240-01-R	40 A	230 V AC		30.120.352	270	3
IKD240-01-R		220 V DC		30.120.349	270	
IKD263-01-R	63 A	230 V AC		30.120.402	270	3
IKD263-01-R		220 V DC		30.120.399	270	
IKD240-02-R	40 A	230 V AC		30.120.337	270	3
IKD240-02-R		220 V DC		30.120.334	270	
IKD263-02-R	63 A	230 V AC		30.120.387	270	3
IKD263-02-R		220 V DC		30.120.384	270	

AC/DC



ORDERING DATA

IKA240 - 20 - R / 230 V

..... Control voltage
 Manual control
 Version of contacts
 Basic type

ORDERING DATA



SPECIAL DESIGNED INSTALLATION CONTACTORS FOR MARKETS WHO REQUIRED UL AND CSA APPROVAL. THEY ASSURE ADDITIONAL SAFETY OF ELECTRICAL INSTALLATIONS.



FOR RELIABLE SWITCHING

- All kind of motors
- Electric heating
- Lights and lighting
- Electrical and electronic equipment

FEATURES

- High current loads
- Remote control
- Compact design

OTHER BENEFITS

- AC/DC coil (hum-free)
- AC coil
- Fast switching
- Wide application
- Mounting on 35 mm rail
- Sealing terminal covers
- Auxiliary switch
- IE3 ready

ORDERING DATA

UL/CSA installation contactors page 3-23

Accessories page 3-26

Example for Ordering data page 3-26

Technical characteristics page 3-45

Dimensions page 3-57

INSTALLATION CONTACTORS - UL/CSA

FROM 20 A UP TO 63 A

General Use acc. to UL 60947-4-1 (2-pole, 1 module)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA220-20	20 A	230 V		30.046.825	130	6
IKA220-20		120 V		30.047.024	130	
IKA220-20		24 V		30.047.025	130	
IKA220-11	20 A	230 V		30.047.289	130	6
IKA220-11		120 V		30.047.026	130	
IKA220-11		24 V		30.047.027	130	
IKA220-10	20 A	230 V		30.047.290	130	6
IKA220-10		120 V		30.047.028	125	
IKA220-10		24 V		30.047.029	125	
IKA220-01	20 A	230 V		30.047.291	130	6
IKA220-01		120 V		30.047.030	125	
IKA220-01		24 V		30.047.031	125	
IKA220-02	20 A	230 V		30.047.292	130	6
IKA220-02		120 V		30.047.032	130	
IKA220-02		24 V		30.047.033	130	

20 A
AC



3

General Use acc. to UL 60947-4-1 (4-pole, 2 modules)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA425-40	25 A	230 V		30.046.827	230	3
IKA425-40		120 V		30.047.034	230	
IKA425-40		24 V		30.047.035	230	
IKA425-31	25 A	230 V		30.047.293	230	3
IKA425-31		120 V		30.047.036	230	
IKA425-31		24 V		30.047.037	230	
IKA425-30	25 A	230 V		30.047.294	225	3
IKA425-30		120 V		30.047.038	225	
IKA425-30		24 V		30.047.039	225	
IKA425-22	25 A	230 V		30.047.295	230	3
IKA425-22		120 V		30.047.040	230	
IKA425-22		24 V		30.047.041	230	
IKA425-04	25 A	230 V		30.047.296	230	3
IKA425-04		120 V		30.047.042	230	
IKA425-04		24 V		30.047.043	230	

25 A
AC



General Use acc. to UL 60947-4-1 (4-pole, 3 modules)

Type	Rated current I _e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA440-40	40 A	230 V		30.045.700	350	5
IKA440-40	40 A	120 V		30.045.612	350	
IKA440-40	40 A	24 V		30.045.613	350	
IKA463-40	63 A	230 V		30.045.592	350	5
IKA463-40	63 A	120 V		30.045.614	350	
IKA463-40	63 A	24 V		30.045.615	350	
IKA440-31	40 A	230 V		30.045.701	350	5
IKA440-31	40 A	120 V		30.045.616	350	
IKA440-31	40 A	24 V		30.045.617	350	
IKA463-31	63 A	230 V		30.045.702	350	5
IKA463-31	63 A	120 V		30.045.618	350	
IKA463-31	63 A	24 V		30.045.619	350	
IKA440-30	40 A	230 V		30.045.703	340	5
IKA440-30	40 A	120 V		30.045.620	340	
IKA440-30	40 A	24 V		30.045.621	340	
IKA463-30	63 A	230 V		30.045.704	340	5
IKA463-30	63 A	120 V		30.045.622	340	
IKA463-30	63 A	24 V		30.045.623	340	

63 A
AC



ORDERING DATA

Other control voltages are on request - define type and voltage

INSTALLATION CONTACTORS - UL/CSA

FROM 20 A UP TO 63 A

General Use acc. to UL 60947-4-1 (4-pole, 3 modules)

Type	Rated current I_e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKA440-22	40 A	230 V		30.045.705	350	5
IKA440-22	40 A	120 V		30.045.624	350	
IKA440-22	40 A	24 V		30.045.625	350	
IKA463-22	63 A	230 V		30.045.706	350	
IKA463-22	63 A	120 V		30.045.626	350	
IKA463-22	63 A	24 V		30.045.627	350	
IKA440-04	40 A	230 V		30.045.707	350	5
IKA440-04	40 A	120 V		30.045.628	350	
IKA440-04	40 A	24 V		30.045.629	350	
IKA463-04	63 A	230 V		30.045.708	350	
IKA463-04	63 A	120 V		30.045.630	350	
IKA463-04	63 A	24 V		30.045.631	350	

63 A
AC



3

General Use acc. to UL 60947-4-1 (2-pole, 1 module)

Type	Rated current I_e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD220-20	20 A	230 V AC		30.046.826	130	6
IKD220-20	20 A	220 V DC		30.047.044	130	
IKD220-20	20 A	120 V AC		30.047.045	130	
IKD220-11	20 A	24 V AC/DC		30.047.297	130	6
IKD220-11	20 A	230 V AC		30.047.046	130	
IKD220-11	20 A	220 V DC		30.047.047	130	
IKD220-10	20 A	24 V AC/DC		30.047.298	125	6
IKD220-10	20 A	230 V AC		30.047.048	125	
IKD220-10	20 A	220 V DC		30.047.049	125	
IKD220-01	20 A	24 V AC/DC		30.047.299	125	6
IKD220-01	20 A	230 V AC		30.047.050	125	
IKD220-01	20 A	220 V DC		30.047.051	125	
IKD220-02	20 A	24 V AC/DC		30.047.300	130	6
IKD220-02	20 A	230 V AC		30.047.052	130	
IKD220-02	20 A	220 V DC		30.047.053	130	

20 A
AC/DC

HUM-FREE



General Use acc. to UL 60947-4-1 (4-pole, 2 modules)

Type	Rated current I_e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD425-40	25 A	230 V AC		30.046.828	250	6
IKD425-40	25 A	220 V DC		30.047.054	250	
IKD425-40	25 A	120 V AC		30.047.055	250	
IKD425-31	25 A	24 V AC/DC		30.047.301	250	6
IKD425-31	25 A	230 V AC		30.047.056	250	
IKD425-31	25 A	220 V DC		30.047.057	250	
IKD425-30	25 A	24 V AC/DC		30.047.302	245	6
IKD425-30	25 A	230 V AC		30.047.058	245	
IKD425-30	25 A	220 V DC		30.047.059	245	

25 A
AC/DC

HUM-FREE



ORDERING DATA

Other control voltages are on request - define type and voltage

INSTALLATION CONTACTORS - UL/CSA

FROM 20 A UP TO 63 A

General Use acc. to UL 60947-4-1 (4-pole, 2 modules)

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD425-22	25 A	230 V AC 220 V DC		30.047.303	250	6
IKD425-22	25 A	120 V AC 110 V DC		30.047.060	250	
IKD425-22	25 A	24 V AC/DC		30.047.061	250	
IKD425-04	25 A	230 V AC 220 V DC		30.047.304	250	6
IKD425-04	25 A	120 V AC 110 V DC		30.047.062	250	
IKD425-04	25 A	24 V AC/DC		30.047.063	250	

25 A
AC/DC

HUM-FREE



3

General Use acc. to UL 60947-4-1 (4-pole, 3 modules)

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD440-40	40 A	230 V AC 220 V DC		30.045.709	420	5
IKD440-40	40 A	120 V AC 110 V DC		30.045.632	420	
IKD440-40	40 A	24 V AC/DC		30.045.633	420	
IKD463-40	63 A	230 V AC 220 V DC		30.045.593	420	5
IKD463-40	63 A	120 V AC 110 V DC		30.045.634	420	
IKD463-40	63 A	24 V AC/DC		30.045.635	420	
IKD440-31	40 A	230 V AC 220 V DC		30.045.710	420	5
IKD440-31	40 A	120 V AC 110 V DC		30.045.636	420	
IKD440-31	40 A	24 V AC/DC		30.045.637	420	
IKD463-31	63 A	230 V AC 220 V DC		30.045.711	420	5
IKD463-31	63 A	120 V AC 110 V DC		30.045.638	420	
IKD463-31	63 A	24 V AC/DC		30.045.639	420	
IKD440-30	40 A	230 V AC 220 V DC		30.045.712	410	5
IKD440-30	40 A	120 V AC 110 V DC		30.045.640	410	
IKD440-30	40 A	24 V AC/DC		30.045.641	410	
IKD463-30	63 A	230 V AC 220 V DC		30.045.713	410	5
IKD463-30	63 A	120 V AC 110 V DC		30.045.642	410	
IKD463-30	63 A	24 V AC/DC		30.045.643	410	
IKD440-22	40 A	230 V AC 220 V DC		30.045.714	420	5
IKD440-22	40 A	120 V AC 110 V DC		30.045.644	420	
IKD440-22	40 A	24 V AC/DC		30.045.645	420	
IKD463-22	63 A	230 V AC 220 V DC		30.045.715	420	5
IKD463-22	63 A	120 V AC 110 V DC		30.045.646	420	
IKD463-22	63 A	24 V AC/DC		30.045.647	420	
IKD440-04	40 A	230 V AC 220 V DC		30.045.594	420	5
IKD440-04	40 A	120 V AC 110 V DC		30.045.648	420	
IKD440-04	40 A	24 V AC/DC		30.045.649	420	

63 A
AC/DC

HUM-FREE



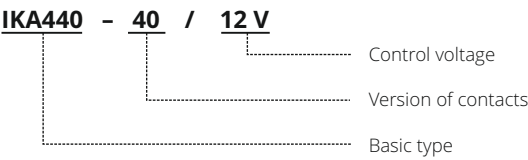
ORDERING DATA

Other control voltages are on request - define type and voltage

INSTALLATION CONTACTORS - UL/CSA

FROM 20 A UP TO 63 A

ORDERING DATA



3

INSTALLATION CONTACTORS - ACCESSORIES

Sealing cover for 2-pole, 1 module

Type	Ordering No.	Weight (g)	Packaging (pcs)
IK20-PP	37.425.061	1	2



Sealing cover for 4-pole, 2 modules

Type	Ordering No.	Weight (g)	Packaging (pcs)
IK25-PP	37.425.062	2	2



Sealing cover for 4-pole, 3 modules

Type	Ordering No.	Weight (g)	Packaging (pcs)
IK40/63-PP	37.423.463	3	2



Ventilation modul

Type	Ordering No.	Weight (g)	Packaging (pcs)
IKV	37.425.296	13	1



ORDERING DATA

INSTALLATION CONTACTORS - ACCESSORIES

Auxiliary switch - AC-15 acc. to IEC/EN 60947-5-1 (2-pole, ½ module)

Type	Rated current I _e	Wiring diagram					Ordering No.	Weight (g)	Packaging (pcs)
		-20	-11	-01	-10	-02			
IKN20	6 A						38.046.002	30	1
IKN11	6 A	33 43	31 43	31	33	31 41	38.046.004	30	
IKN10	6 A	--- ---	--- ---	---	---	--- ---	38.046.036	25	
IKN01	6 A	34 44	32 44	32	34	32 42	38.046.037	30	
IKN02	6 A						38.046.003	30	



3

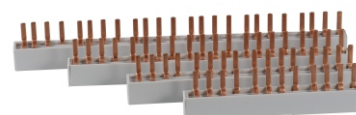
Auxiliary switch - Ratings acc. to UL 580 (2-pole, ½ module)

Type	Rating code	Wiring diagram			Ordering No.	Weight (g)	Packaging (pcs)
		-20	-11	-02			
IKN20UL	C300, Q300	33 43	31 43	31 41	38.046.050	30	1
IKN11UL	C300, Q300	--- ---	--- ---	--- ---	38.046.049	30	
IKN02UL	C300, Q300	34 44	32 44	32 42	38.046.051	30	



4-phase busbars for installation contactors up to 32 A - insulated

Type	Module width	Length (mm)	Ordering No.	Weight (g)	Packaging (pcs)
L/32-8P	4	66	786.015.051	60	10
L/32-12P	6	98	786.015.052	86	
L/32-16P	8	138	786.015.053	114	
L/32-20P	10	173	786.015.054	141	
L/32-24P	12	208	786.015.055	169	



Single pin terminals for installation contactors up to 32 A - insulated

Type	Pin length	Cross-section rigid/flexible (mm ²)	Screw	Ordering No.	Weight (g)	Packaging (pcs)
S/32-1P	13.5/32 (total)	6-25/4-16	PZ2	786.015.060	12	25



Double pin terminals for installation contactors 40 and 63 A - insulated terminals for parallel connection

Type	Pin length	Cross-section rigid/flexible (mm ²)	Screw	Ordering No.	Weight (g)	Packaging (pcs)
S/63-2P	15	6-50/4-35	PZ2	786.015.061	22	25



ORDERING DATA



INSTALLATION SWITCHES ARE DESIGNED FOR MANUAL SWITCHING OF ELECTRICAL LOADS WITH A HANDLE IN THE SAME LOOK AS THE INSTALLATION CONTACTORS.

FUNCTION MODES

- I: switch-on position
- O: reset, switch-off position

FEATURES

- Easy operation
- Reliable switching
- Huge current ratings
- Compact design

OTHER BENEFITS

- Wide application
- Mounting on 35 mm rail
- Sealing terminal covers
- Position indication
- Distance of open contacts more than 3.6 mm
- IE3 ready

ORDERING DATA

Installation switches	page 3-29
Example for Ordering data	page 3-29
Technical characteristics	page 3-52
Dimensions	page 3-57

INSTALLATION SWITCHES

AC-21 acc. to IEC/EN 60947-3 (2-pole, 1 module)

Type	Rated current I _e	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKS220-20-R	20 A		30.047.064	55	6
IKS225-20-R	25 A		30.047.065	55	
IKS232-20-R	32 A		30.047.066	55	
IKS220-11-R	20 A		30.047.067	55	6
IKS225-11-R	25 A		30.047.068	55	
IKS232-11-R	32 A		30.047.069	55	



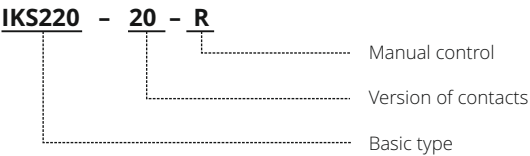
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AC-21 acc. to IEC/EN 60947-3 (4-pole, 2 modules)

Type	Rated current I _e	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKS420-40-R	20 A		30.047.070	105	3
IKS425-40-R	25 A		30.047.071	105	
IKS432-40-R	32 A		30.047.072	105	
IKS420-31-R	20 A		30.047.073	105	3
IKS425-31-R	25 A		30.047.074	105	
IKS432-31-R	32 A		30.047.075	105	
IKS420-22-R	20 A		30.047.076	105	3
IKS425-22-R	25 A		30.047.077	105	
IKS432-22-R	32 A		30.047.078	105	



ORDERING DATA



ORDERING DATA



INSTALLATION MOMENTARY SWITCHES ARE DESIGNED FOR MANUAL MOMENTARY SWITCHING OF ELECTRICAL LOADS WITH A HANDLE IN THE SAME LOOK AS THE INSTALLATION CONTACTORS. FUNCTION AS PUSH-BUTTON.

FUNCTION MODES

- I: momentary switch-on depending of manual activation
- O: reset, switch-off position

FEATURES

- Easy operation
- Reliable switching
- Huge current ratings
- Compact design

OTHER BENEFITS

- Wide application
- Mounting on 35 mm rail
- Sealing terminal covers
- Position indication
- Distance of open contacts more than 3.6 mm
- IE3 ready

ORDERING DATA

Installation momentary switches	page 3-31
Ordering data	page 3-31
Technical characteristics	page 3-52
Dimensions	page 3-57

INSTALLATION MOMENTARY SWITCHES

AC-21 acc. to IEC/EN 60947-3 (2-pole, 1 module)

Type	Rated current I _e	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKS220-20-T	20 A		30.047.079	55	6
IKS225-20-T	25 A		30.047.080	55	
IKS232-20-T	32 A		30.047.081	55	
IKS220-11-T	20 A		30.047.082	55	6
IKS225-11-T	25 A		30.047.083	55	
IKS232-11-T	32 A		30.047.084	55	



3

AC-21 acc. to IEC/EN 60947-3 (4-pole, 2 modules)

Type	Rated current I _e	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKS420-40-T	20 A		30.047.085	105	3
IKS425-40-T	25 A		30.047.086	105	
IKS432-40-T	32 A		30.047.087	105	
IKS420-31-T	20 A		30.047.088	105	3
IKS425-31-T	25 A		30.047.089	105	
IKS432-31-T	32 A		30.047.090	105	
IKS420-22-T	20 A		30.047.091	105	3
IKS425-22-T	25 A		30.047.092	105	
IKS432-22-T	32 A		30.047.093	105	



ORDERING DATA



ORDERING DATA

INSTALLATION CONTACTORS - UP TO 25 A

GENERAL	Type	Symbol	Unit	IK21	IKA216 IKA216-R IKA216-T	IKD216 IKD216-R IKD216-T	IKA20 IKA20-R IKA20-T ¹⁾	IKD20 IKD20-R IKD20-T ¹⁾	IKA225 IKA225-R IKA225-T ¹⁾	IKD225 IKD225-R IKD225-T ¹⁾
	Standards			IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1						
	Approvals			CE, EAC	CE, EAC	CE, CB, NF, EAC	CE, CB, EAC			
	Module width			2			1			
	Number of poles			4			2			
	Degree of protection			IP20 (IP40 when installed in installation box - distribution board)						
	Pollution degree			3						
	Climatic conditions			95 % relative humidity						
	Operating ambient temperature	°C	-15 ... +55		-25 ... +70 (2NO)					
					-15 ... +70 (1NO)					
					-15 ... +70 (for IKD216, IKD20 and IKD225 -15 ... +55 (1NO+1NC))					
					-15 ... +55 (2NC)					
	Number of contactors or switches side-by-side:				-15 ... +55 (1NC)					
					no limitation					
					max. 3					
	≤40 °C				max. 2					
	(40 ... 55) °C				max. 1 (ventilation modules or least 9 mm free space on each side)					
	(55 ... 70) °C									
	Storage temperature		°C		-40... +80					
	Maximum altitude		m		2000					
	U _i and U _e is reduced for 1.2 % and I _e for 0.4 % for every additional 100 m									
	Noise level (operation)		dB	30	30	20	30	20	30	20
	Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)						
	Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)						
	Maximum operating frequency with no load		op. c./h		3.000					
	Mechanical endurance		op. c.		3.000.000	10.000.000	3.000.000	10.000.000	3.000.000	10.000.000
	Weight		g	170	130	130	130	130	130	130
MAIN CIRCUIT	Contact reliability			≥17 V; ≥50 mA						
	Minimum distance of open contacts		mm	3.6						
	Power dissipation per pole		W	2.0	1.2	1.2	1.7	1.7	2.0	2.0
	Overload current withstand capability:									
	10 s		A	40	56		72			
	Maximum back-up fuse for short-circuit protection gL and gG:									
	coordination type 1	I _v	A					25	25	
	coordination type 2			20	16	16	20	20		
	Rated insulation voltage	U _i	V	415			440			
	Rated impulse withstand voltage	U _{imp}	kV				4			
	Rated operational voltage	U _e	V	400			400 ^{2) 3)}			
	Rated frequency	f	Hz				50/60			
	Max. thermal current up to +55 °C	I _{th}	A	20	16		20		25	
	Max. thermal current @ +70 °C	I _{th}	A		16		20	16	25	20
	Rated operational current for AC-1, AC-7a and AC-21	I _e	A	20	16		20		25	
	Operational power for AC-1, AC-7a and AC-21:									
	single-phase 230 V	P _e	kW		3.5		4		5.4	
	three-phase 230 V			7.5						
	three-phase 400 V			13						
	Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h				600			
	Electrical endurance for AC-1, AC-7a and AC-21		op. c.				200.000			
	Rated operational current for AC-2	I _e	A		10		12		14	
	Operational power for AC-2:									
	single-phase 230 V	P _e	kW		1.5		1.8		2.0	
	three-phase 230 V			2.5						
	three-phase 400 V			4.5						
	Maximum operating frequency for AC-2		op. c./h				120			
	Electrical endurance for AC-2		op. c.				100.000			
	Rated operational current for AC-22	I _e	A	20	16		20		25	
	Operational power for AC-22:									
	single-phase 230 V	P _e	kW	3.7	2.9		3.7		4.6	
	three-phase 230 V			6.3						
	three-phase 400 V			11						
	Maximum operating frequency for AC-22		op. c./h				300			
	Electrical endurance for AC-22		op. c.				50.000			
	Rated operational current for AC-3, AC-3e, AC-7b and AC-23	I _e	A	5	NO: 7 / NC: 4		NO: 9 / NC: 6			
	Operational power for AC-3, AC-3e, AC-7b and AC-23:									
	single-phase 230 V	P _e	kW	0.37	NO: 1.1 / NC: 0.55		NO: 1.3 / NC: 0.75			
	three-phase 230 V			1.1						
	three-phase 400 V			2.2						
	Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c./h				600			
	Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.				300.000			

1) Available approvals only CE and EAC

2) Rated operational voltage between two line (phase) conductors

3) Rated operational voltage for versions of contacts -10 and -01 is 230 V

INSTALLATION CONTACTORS - UP TO 25 A

	Type	Symbol	Unit	IK21	IKA216 IKA216-R IKA216-T	IKD216 IKD216-R IKD216-T	IKA20 IKA20-R IKA20-T	IKD20 IKD20-R IKD20-T	IKA225 IKA225-R IKA225-T	IKD225 IKD225-R IKD225-T
MAIN CIRCUIT	Rated operational current for AC-5a (at 230 V)	I_e	A		8.8				11.2	
	Maximum operating frequency for AC-5a		op. c./h				600			
	Electrical endurance for AC-5a		op. c.				100.000			
	Rated operational current for AC-5b (at 230 V)	I_e	A		8.8				9.7	
	Maximum operating frequency for AC-5b		op. c./h				600			
	Electrical endurance for AC-5b		op. c.				100.000			
	Rated operational current for AC-6a (at 230 V)	I_e	A		4				4.8	
	Maximum operating frequency for AC-6a		op. c./h				600			
	Electrical endurance for AC-6a		op. c.				100.000			
	Switching of capacitors AC-6b and AC-7c (at 230 V)	C	μF		30				36	
	Maximum operating frequency for AC-6b and AC-7c		op. c./h				600			
	Electrical endurance for AC-6b and AC-7c		op. c.				100.000			
	Rated operational current for DC-1 (L/R ≤ 1 ms):									
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A	20/12/6/2/0.5	16/12/8/4/0.5		20/15/10/6/0.6		25/20/15/6/0.6	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/15/10/4/1.5	16/15/12/8/0.4		20/18/15/10/6		25/25/20/10/6	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/20/20/6/2.5						
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/20/20/6/3.5						
	Maximum operating frequency for DC-1		op. c./h				300			
	Electrical endurance for DC-1		op. c.				100.000			
	Rated operational current for DC-3 (L/R ≤ 2 ms):									
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A		10/5/2/1/0.1				15/8/4/1.3/0.2	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/10/8/4/0.4	16/10/8/4/0.4		20/10/8/4/0.4		25/16/12/5.5/0.6	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/20/15/6/2.5						
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/20/15/6/3.5						
	Maximum operating frequency for DC-3		op. c./h				300			
	Electrical endurance for DC-3		op. c.				100.000			
	Rated operational current for DC-5 (L/R ≤ 7.5 ms):									
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A		10/4/1/0.3/0.06				15/5/3/0.5/0.1	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/8/6/2/0.2	16/8/6/2/0.2		20/8/6/2/0.2		25/15/10/4/0.4	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/20/15/5/1.5						
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/20/15/5/3						
	Maximum operating frequency for DC-5		op. c./h				300			
	Electrical endurance for DC-5		op. c.				100.000			
	Terminal capacity:									
	rigid (solid and stranded)	S	mm ²	1 ... 2.5			1 ... 10			
	flexible			1 ... 2.5			1 ... 6			
	Min. conductor @ thermal current @ +70 °C		mm ²			2.5			4	
	Length of removed wire insulation		mm				9			
	Screw						M3.5			
	Screw head			PZ2			PZ1			
	Tightening torque		Nm				1.2			
AUXILIARY CIRCUIT	Contact reliability						≥ 17 V; ≥ 50 mA			
	Minimum distance of open contacts		mm				3.6			
	Power dissipation per pole		W	2	1.3	1.3	1.7	1.7	2	2
	Overload current withstand capability:									
	10 s		A	40	56			72		
	Maximum back-up fuse for short-circuit protection gL and gG:									
	coordination type 1	I_v	A					25	25	
	coordination type 2			20	16	16	20	20		
	Rated insulation voltage	U_i	V	415			440			
	Rated impulse withstand voltage	U_{imp}	kV				4			
	Rated operational voltage	U_e	V				230/400			
	Rated frequency	f	Hz				50/60			
	Thermal current	I_{th}	A	20	16		20		25	
	Rated operational current for AC-15:									
	single-phase 230 V	I_e	A				6			
	single-phase 400 V						4			
	Maximum operating frequency for AC-15		op. c./h	1200			600			
	Electrical endurance for AC-15		op. c.	200.000			300.000			
	Rated operational current for DC-13:									
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A			6/4/1/0.3/0.05				
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					6/6/4/1/0.1				
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			6/6/6/3/1						
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			6/6/6/4/2						

INSTALLATION CONTACTORS - UP TO 25 A

	Type	Symbol	Unit	IK21	IKA216 IKA216-R IKA216-T	IKD216 IKD216-R IKD216-T	IKA20 IKA20-R IKA20-T	IKD20 IKD20-R IKD20-T	IKA225 IKA225-R IKA225-T	IKD225 IKD225-R IKD225-T
AUXILIARY CIRCUIT	Maximum operating frequency for DC-13		op. c./h					300		
	Electrical endurance for DC-13		op. C.					200.000		
	Terminal capacity: rigid (solid and stranded)	S	mm ²	1 ... 2.5			1 ... 10			
	flexible			1 ... 2.5			1 ... 6			
	Length of removed wire insulation		mm				9			
	Screw						M3.5			
	Screw head		mm	PZ2			PZ1			
	Tightening torque						1.2			
COIL	Range of control voltage for switch-on	U _c	%				85 ... 110			
	Range of control voltage for drop out	U _c	%				AC: 75 ... 20 / DC: 75 ... 10 (where is applicable)			
	Kind of voltage			AC	AC	AC/DC	AC	AC/DC	AC	AC/DC
	Standard control voltages	U _c	V	12, 24, 48, 120, 230, 400			12, 24, 48, 120, 230			
	Frequency of AC control voltage	f	Hz	50/60	50/60	40 ... 500	50/60	40 ... 500	50/60	40 ... 500
	Control mode			remote control with U _c / manual control only for types with -R and -T						
	Impulse duration of control voltage: minimum						permanent			
	maximum						permanent			
	Minimum duration between two impulses of control voltage		ms				AC: 150 / DC: 500 (where is applicable)			
	Surge immunity withstand voltage 1.2/50 μs acc. to standard IEC/EN 61000-4-5		kV				2			
	Coil consumption: switch-on		VA/W	30/25	12/10	2.1/2.1	12/10	2.1/2.1	12/10	2.1/2.1
	operation			5/1.5	2.8/1.2	2.1/2.1	2.8/1.2	2.1/2.1	2.8/1.2	2.1/2.1
	Delays: make		ms	7 ... 20	15 ... 25	15 ... 45	15 ... 25	15 ... 45	15 ... 25	15 ... 45
	brake			10 ... 20	10 ... 30	20 ... 50	10 ... 30	20 ... 50	10 ... 30	20 ... 50
	Terminal capacity: rigid (solid and stranded)		mm ²				1 ... 2.5			
	flexible						1 ... 2.5			
	Length of removed wire insulation		mm	9			7			
	Screw			M3.5			M3			
	Screw head			PZ2			PZ1			
	Tightening torque		Nm	1.2			0.6			
SAFETY	MTTF - Mean time to failure MTTF = 1/λ = B10/(0.1 n _{op})		h				AC-1: 5.000			
							AC-3: 7.500			
	MTTF _d - Mean time to failure dangerous MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})		h				AC-1: 6.666			
							AC-3: 10.000			
	B10 - Number of operating cycles until 10 % of devices fail		op. c.				AC-1: 150.000			
							AC-3: 225.000			
	B10 _d - Number of operating cycles until 10 % of device dangerous B10 _d = B10/ratio of dangerous failures		op. c.				AC-1: 200.000			
							AC-3: 300.000			
	λ - Failure rate λ = (0.1 n _{op})/B10		1/h				AC-1: 0.0002			
							AC-3: 0.000133			
	λ _d - Failure rate dangerous λ _d = (0.1 n _{op})/B10 _d		1/h				AC-1: 0.00015			
							AC-3: 0.0001			
	Ratio of dangerous failures		%				75			
	n _{op} - Operating cycles (operating cycles/h)		op. c./h				300			

INSTALLATION CONTACTORS - UP TO 32 A

GENERAL

Type	Symbol	Unit	IKA232 IKA232-R IKA232-T ¹⁾	IKD232 IKD232-R IKD232-T ¹⁾	IKA416 IKA416-R IKA416-T ¹⁾	IKD416 IKD416-R IKD416-T ¹⁾	IKA25 IKA25-R IKA25-T ¹⁾	IKD25 IKD25-R IKD25-T ¹⁾	IKA432 IKA432-R IKA432-T ¹⁾	IKD432 IKD432-R IKD432-T ¹⁾
Standards			IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1							
Approvals			CE, CB, EAC		CE, EAC		CE, CB, NF, EAC		CE, CB, EAC	
Module width			1				2			
Number of poles			2				4			
Degree of protection			IP20 (IP40 when installed in installation box - distribution board)							
Pollution degree			3							
Climatic conditions			95 % relative humidity							
Operating ambient temperature	°C		-25 ... +70 (2NO)				-25 ... +70 (4NO)			
			-15 ... +70 (1NO)				-15 ... +70 (3NO)			
			-15 ... +70 (1NO+1NC) ⁴⁾				-15 ... +70 (3NO+1NC)			
			-15 ... +55 (2NC)				-15 ... +55 (2NO+2NC)			
			-15 ... +55 (1NC)				-15 ... +55 (4NC)			
Number of contactors or switches side-by-side:										
≤40 °C			max. 3							
(40 ... 55) °C			max. 2							
(55 ... 70) °C			max. 1 (ventilation modules or least 9 mm free space on each side)							
Storage temperature		°C	-40... +80							
Maximum altitude		m	2000							
U _i and U _e is reduced for 1.2 % and I _g for 0.4 % for every additional 100 m										
Noise level (operation)		dB	30	20	30	20	30	20	30	20
Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)							
Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)							
Maximum operating frequency with no load		op. c./h	3,000							
Mechanical endurance		op. c.	3.000.000	10.000.000	3.000.000	10.000.000	3.000.000	10.000.000	3.000.000	10.000.000
Weight		g	130	130	230	250	230	250	230	250

MAIN CIRCUIT

Contact reliability			≥17 V; ≥50 mA							
Minimum distance of open contacts		mm	3.6							
Power dissipation per pole		W	2.5	2.5	1.3	1.3	2.2	2.2	2.5	2.5
Overload current withstand capability: 10 s		A	72					68		
Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1	I _v	A	32	32			25	25	32	32
coordination type 2					16	16				
Rated insulation voltage	U _i	V	440							
Rated impulse withstand voltage	U _{imp}	kV	4							
Rated operational voltage	U _e	V	400 ²⁾³⁾		400					
Rated frequency	f	Hz	50/60							
Max. thermal current up to +55 °C	I _{th}	A	32		16		25		32	
Max. thermal current @ +70 °C	I _{th}	A	32	25	16		20		25	
Rated operational current for AC-1, AC-7a and AC-21	I _e	A	32		16		25		32	
Operational power for AC-1, AC-7a and AC-21: single-phase 230 V	P _e	kW	7		3.5		5.4		7	
three-phase 230 V					6		9		12	
three-phase 400 V					10.5		16		21	
Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h	600							
Electrical endurance for AC-1, AC-7a and AC-21		op. c.	NO: 150.000 / NC: 100.000		200.000				150.000	
Rated operational current for AC-2	I _e	A	16		10		14		16	
Operational power for AC-2: single-phase 230 V	P _e	kW	2.4		1.5		2		2.4	
three-phase 230 V					2.5		3.6		4.1	
three-phase 400 V					4.5		6		7.2	
Maximum operating frequency for AC-2		op. c./h	120							
Electrical endurance for AC-2		op. c.	100.000							
Rated operational current for AC-22	I _e	A	32		16		25		32	
Operational power for AC-22: single-phase 230 V	P _e	kW	5.9		2.9		4.6		5.9	
three-phase 230 V					5.1		8		10.2	
three-phase 400 V					8.8		13.8		17.7	
Maximum operating frequency for AC-22		op. c./h	300							
Electrical endurance for AC-22		op. c.	50.000							
Rated operational current for AC-3, AC-3e, AC-7b and AC-23	I _e	A	NO: 9 / NC: 6		7		8.5			
Operational power for AC-3, AC-3e, AC-7b and AC-23: single-phase 230 V	P _e	kW	NO: 1.3 / NC: 0.75		1.1		1.3			
three-phase 230 V					1.5		2.2			
three-phase 400 V					3		4			

1) Available approvals only CE and EAC

2) Rated operational voltage between two line (phase) conductors

3) Rated operational voltage for versions of contacts -10 and -01 is 230 V

4) For IKD232, IKD232-R, IKD232-T -15 ... +55 (1NO+1NC)

INSTALLATION CONTACTORS - UP TO 32 A

	Type	Symbol	Unit	IKA232 IKA232-R IKA232-T	IKD232 IKD232-R IKD232-T	IKA416 IKA416-R IKA416-T	IKD416 IKD416-R IKD416-T	IKA25 IKA25-R IKA25-T	IKD25 IKD25-R IKD25-T	IKA432 IKA432-R IKA432-T	IKD432 IKD432-R IKD432-T
MAIN CIRCUIT	Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c./h				600				
	Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	300.000				500.000			
	Rated operational current for AC-5a (at 230 V)	I _e	A	13		8.8		11.2		13	
	Maximum operating frequency for AC-5a		op. c./h				600				
	Electrical endurance for AC-5a		op. c.				100.000				
	Rated operational current for AC-5b (at 230 V)	I _e	A	11		8.8		9.7		11	
	Maximum operating frequency for AC-5b		op. c./h				600				
	Electrical endurance for AC-5b		op. c.				100.000				
	Rated operational current for AC-6a (at 230 V)	I _e	A	6		4		2.8		6	
	Maximum operating frequency for AC-6a		op. c./h				600				
	Electrical endurance for AC-6a		op. c.				100.000				
	Switching of capacitors AC-6b and AC-7c (at 230 V)	C	μF	40		30		36		40	
	Maximum operating frequency for AC-6b and AC-7c		op. c./h				600				
	Electrical endurance for AC-6b and AC-7c		op. c.				100.000				
	Rated operational current for DC-1 (L/R ≤ 1 ms): 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A	32/25/15/6/0.6		16/12/8/4/0.5		25/20/15/6/0.6		32/25/15/6/0.6	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			32/32/20/10/6		16/15/12/8/4		25/25/20/10/6		32/32/20/10/6	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC							25/25/25/20/15		32/32/32/20/15	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC							25/25/25/20/15		32/32/32/20/15	
	Maximum operating frequency for DC-1		op. c./h				300				
	Electrical endurance for DC-1		op. c.				100.000				
	Rated operational current for DC-3 (L/R ≤ 2 ms): 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A	20/10/4/1.3/0.2		10/5/2/1/0.1		15/8/4/1.3/0.2		20/10/4/1.3/0.2	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			32/18/12/5.5/0.6		16/10/8/4/0.4		25/16/12/5.5/0.6		32/18/12/5.5/0.6	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					16/16/16/10/2		25/25/25/15/3		32/32/25/15/3	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					16/16/16/12/6		25/25/25/20/8		32/32/25/20/8	
	Maximum operating frequency for DC-3		op. c./h				300				
	Electrical endurance for DC-3		op. c.				100.000				
	Rated operational current for DC-5 (L/R < 7.5 ms): 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A	18/6/3/0.5/0.1		10/4/1/0.3/0.06		15/5/3/0.5/0.1		18/6/3/0.5/0.1	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			32/16/10/4/0.4		16/8/6/2/0.2		25/15/10/4/0.4		32/16/10/4/0.4	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					16/16/12/8/1		25/25/20/12/2		32/28/20/12/2	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					16/16/12/12/3		25/25/25/15/5		32/32/25/15/5	
	Maximum operating frequency for DC-5		op. c./h				300				
	Electrical endurance for DC-5		op. c.				100.000				
	Terminal capacity: rigid (solid and stranded)	S	mm ²				1 ... 10				
	flexible						1 ... 6				
	Min. conductor @ thermal current @ +70 °C		mm ²	6		2.5		4		6	
	Length of removed wire insulation		mm				9				
	Screw						M3.5				
	Screw head						PZ1				
	Tightening torque		Nm				1.2				
AUXILIARY CIRCUIT	Contact reliability						≥17 V; ≥50 mA				
	Minimum distance of open contacts		mm				3.6				
	Power dissipation per pole		W	2.5	2.5	1.3	1.3	2.2	2.2	2.5	2.5
	Overload current withstand capability: 10 s		A	72		56			68		
	Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1	I _v	A	32	32			25	25	32	32
	coordination type 2					16	16				
	Rated insulation voltage	U _i	V				440				
	Rated impulse withstand voltage	U _{imp}	kV				4				
	Rated operational voltage	U _e	V				230/400				
	Rated frequency	f	Hz				50/60				
	Thermal current	I _{th}	A	32		16		25		32	
	Rated operational current for AC-15: single-phase 230 V	I _e	A				6				
	single-phase 400 V						4				
	Maximum operating frequency for AC-15		op. c./h				600				
	Electrical endurance for AC-15		op. c.	300.000				500.000			
	Rated operational current for DC-13: 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A				6/4/1/0.3/0.05				
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						6/6/4/1/0.1				
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC							6/6/6/3/1			
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC							6/6/6/4/2			

INSTALLATION CONTACTORS - UP TO 32 A

AUXILIARY CIRCUIT	Type	Symbol	Unit	IKA232 IKA232-R IKA232-T	IKD232 IKD232-R IKD232-T	IKA416 IKA416-R IKA416-T	IKD416 IKD416-R IKD416-T	IKA25 IKA25-R IKA25-T	IKD25 IKD25-R IKD25-T	IKA432 IKA432-R IKA432-T	IKD432 IKD432-R IKD432-T
	Maximum operating frequency for DC-13		op. c./h	300							
	Electrical endurance for DC-13		op. c.	200.000							
	Terminal capacity: rigid (solid and stranded)	S	mm ²	1 ... 10							
	flexible			1 ... 6							
	Length of removed wire insulation		mm	9							
	Screw			M3.5							
	Screw head		mm	PZ1							
	Tightening torque			1.2							
COIL	Range of control voltage for switch-on	U _c	%	85 ... 110							
	Range of control voltage for drop out	U _c	%	AC: 75 ... 20 / DC: 75 ... 10 (where is applicable)							
	Kind of voltage			AC	AC/DC	AC	AC/DC	AC	AC/DC	AC	AC/DC
	Standard control voltages	U _c	V	12, 24, 48, 120, 230	12, 24, 48 120, 230, 400	12, 24, 48 120, 230	12, 24, 48 120, 230, 400	12, 24, 48 120, 230	12, 24, 48 120, 230, 400	12, 24, 48 120, 230, 400	12, 24, 48 120, 230
	Frequency of AC control voltage			f	Hz	50/60	40 ... 500	50/60	40 ... 500	50/60	40 ... 500
	Control mode			remote control with U _c / manual control only for types with -R and -T							
	Impulse duration of control voltage: minimum			permanent							
	maximum			permanent							
	Minimum duration between two impulses of control voltage		ms	AC: 150 / DC: 500 (where is applicable)							
	Surge immunity withstand voltage 1,2/50 μs acc. to standard IEC/EN 61000-4-5		kV	2							
	Coil consumption:		VA/W	12/10	2.1/2.1	33/25	2.6/2.6 ¹⁾	33/25	2.6/2.6 ¹⁾	33/25	2.6/2.6 ¹⁾
	switch-on operation			2.8/1.2	2.1/2.1	5.5/1.6	2.6/2.6 ¹⁾	5.5/1.6	2.6/2.6 ¹⁾	5.5/1.6	2.6/2.6 ¹⁾
	Delays:		ms	15 ... 25	15 ... 45	10 ... 30	15 ... 45	10 ... 30	15 ... 45	10 ... 30	15 ... 45
	make brake			10 ... 30	20 ... 50	10 ... 30	20 ... 70	10 ... 30	20 ... 70	10 ... 30	20 ... 70
	Terminal capacity: rigid (solid and stranded)		mm ²	1 ... 2.5							
	flexible			1 ... 2.5							
	Length of removed wire insulation		mm	7							
	Screw			M3							
	Screw head			PZ1							
	Tightening torque		Nm	0.6							
SAFETY	MTTF - Mean time to failure MTTF = 1/λ = B10/(0.1 n _{op})		h	AC-1: 3.750 AC-3: 7.500		AC-1: 5.000 AC-3: 12.500		AC-1: 3.750			
	MTTF _d - Mean time to failure dangerous MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})				h	AC-1: 5.000 AC-3: 10.000		AC-1: 6.666 AC-3: 16.666		AC-1: 5.000	
	B10 - Number of operating cycles until 10 % of devices fail		op. c.			AC-1: 112.500 for NO AC-3: 225.000		AC-1: 150.000 AC-3: 375.000		AC-1: 112.500	
	B10 _d - Number of operating cycles until 10 % of device dangerous B10 _d = B10/ratio of dangerous failures				op. c.	AC-1: 150.000 for NO AC-3: 300.000		AC-1: 200.000 AC-3: 500.000		AC-1: 150.000	
	λ - Failure rate λ = (0.1 n _{op})/B10		1/h			AC-1: 0.000266 for NO AC-3: 0.000133		AC-1: 0.0002 AC-3: 0.00008		AC-1: 0.000266	
	λ _d - Failure rate dangerous λ _d = (0.1 n _{op})/B10 _d				1/h	AC-1: 0.0002 for NO AC-3: 0.0001		AC-1: 0.00015 AC-3: 0.00006		AC-1: 0.0002	
	Ratio of dangerous failures		%			75					
	n _{op} - Operating cycles (operating cycles/h)		op. c./h	300							

¹⁾ Coil consumption for version -04 is 3.8 VA/3.8 W

INSTALLATION CONTACTORS - 40 A

3

GENERAL	Type	Symbol	Unit	IKA140-1P	IKD140-1P	IKA240-2P	IKD240-2P
	Standards			IEC/EN 61095, IEC/EN 60947-4-1			
	Approvals			CE			
	Module width			1		2	
	Ambient temperature (open)		°C	-15 ... +55			
	Storage temperature		°C	-40 ... +80			
	Number of contactors side-by-side						
	≤40 °C			max.3	max.3	max.3	max.3
	(40 ... 55) °C			max.2	max.2	max.2	max.2
	Maximum operating frequency						
	AC-1/AC-7a		op. c.	600			
	No load			3000			
Mechanical endurance		op. c.	3.000.000	3.000.000	10.000.000	10.000.000	
Weight		g	130	130	230	230	
MAIN CIRCUIT	Contact reliability			≥17 V; ≥50 mA			
	Minimum distance of open contacts		mm	3.6			
	Power dissipation per pole		W	2.5			
	Overload current withstand capability: 10 s		A	72			
	Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1	I _v	A	40			
	Rated insulation voltage	U _i	V	440			
	Rated impulse withstand voltage	U _{imp}	kV	4			
	Rated operational voltage	U _e	V	230		400	
	Rated frequency	f	Hz	50/60			
	Thermal current	I _{th}	A	40		40	
	Rated operational current for AC-1/AC-7a	I _e	A	40		40	
	Operational power for AC-1/AC-7a: single-phase 230 V	P _e	kW	9		9	
	Electrical endurance for AC-1/AC-7a		op. c.	150.000			
	Terminal capacity: rigid	S	mm²	1 ... 10			
	flexible			1 ... 10			
Screw head			PZ1				
Tightening torque		Nm	1.2				
COIL	Range of control	U _c	%	85 ... 110			
	Kind of voltage			AC	AC/DC	AC	AC/DC
	Standard control voltages	U _c	V	12, 24, 48 230	12, 24, 48 230	12, 24, 48 230	12, 24, 48 230
	Frequency (AC)	f	Hz	50/60	50/60	50/60	50/60
	Surge immunity test (1.2/50 μs) acc. to standard IEC/EN 61000-4-5		kV	2			
	Coil consumption:						
	switch-on		VA/W	12/10	2.1/2.1	33/25	2.6/2.6
	operation			2.8/1.2	2.1/2.1	5.5/1.6	2.6/2.6
	Delays:						
	make		ms	15 ... 25	15 ... 45	10 ... 30	15 ... 45
breake			10 ... 30	20 ... 50	10 ... 30	20 ... 70	
Terminal capacity: rigid (solid and stranded)		mm²	1 ... 2.5				
flexible			1 ... 2.5				
Screw head			PZ1				
Tightening torque		Nm	0.6				
SAFETY	MTTF - Mean time to failure MTTF = 1/λ = B10/(0.1 n _{op})		h	AC-1: 3.750			
	MTTF _d - Mean time to failure dangerous MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})		h	AC-1: 5.000			
	B10 - Number of operating cycles until 10 % of devices fail		op. c.	AC-1: 112.500			
	B10 _d - Number of operating cycles until 10 % of device dangerous B10 _d = B10/ratio of dangerous failures		op. c.	AC-1: 150.000			
	λ - Failure rate λ = (0.1 n _{op})/B10		1/h	AC-1: 0.000266			
	λ _d - Failure rate dangerous λ _d = (0.1 n _{op})/B10 _d		1/h	AC-1: 0.0002			
	Ratio of dangerous failures		%	75			
	n _{op} - Operating cycles (operating cycles/h)		op. c./h	300			

TECHNICAL DATA

INSTALLATION CONTACTORS - UP TO 63 A

3

GENERAL	Type	Symbol	Unit	IKA40 IKA40-R ⁴⁾	IK40	IKA63 IKA63-R ⁴⁾	IK63
	Standards			IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1			
	Approvals			CE, CB, NF, EAC			
	Module width			3			
	Number of poles			4			
	Degree of protection			IP20 (IP40 when installed in installation box - distribution board)			
	Pollution degree			3			
	Climatic conditions			95 % relative humidity			
	Ambient temperature (open)		°C	-25 ... +70 (4NO)			
				-15 ... +70 (3NO)			
				-15 ... +70 (3NO+1NC)			
				-15 ... +55 (2NO+2NC)			
	Number of contactors or switches side-by-side: ≤40 °C (40 ... 55) °C (55 ... 70) °C			no limitation	max. 3	no limitation	max. 3
				max. 2	max. 2	max. 2	max. 2
				max. 1 (ventilation modules or least 9 mm free space on each side)			
	Storage temperature		°C	-40... +80			
	Maximum altitude		m	2000			
	U _i and U _e is reduced for 1.2 % and I _g for 0.4 % for every additional 100 m						
	Noise level (operation)		dB	30	20	30	20
	Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)			
	Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)			
	Maximum operating frequency with no load		op. c./h	3.000			
	Mechanical endurance		op. c.	3.000.000	10.000.000	3.000.000	10.000.000
	Weight		g	350	420	350	420

MAIN CIRCUIT	Contact reliability		≥17 V; ≥50 mA				
	Minimum distance of open contacts	mm	3.6				
	Power dissipation per pole	W	4	4	8	8	
	Overload current withstand capability: 10 s	A	176		240		
	Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1 (at prospective current 3 kA) coordination type 2 (at prospective current 3 kA)	I _v	A	63	63	80	80
				40	40	63	63
	Rated insulation voltage	U _i	V	440			
	Rated impulse withstand voltage	U _{imp}	kV	6			
	Rated operational voltage	U _e	V	400			
	Rated frequency	f	Hz	50/60			
	Max. thermal current up to +55 °C	I _{th}	A	40		63	
	Max. thermal current @ +70 °C	I _{th}	A	40		50	
	Rated operational current for AC-1, AC-7a and AC-21	I _e	A	40		63 ¹⁾	
	Operational power for AC-1, AC-7a and AC-21: single-phase 230 V three-phase 230 V three-phase 400 V	P _e	kW	8.7		13.3 ²⁾	
				16		24 ²⁾	
				26		40 ²⁾	
	Maximum operating frequency for AC-1, AC-7a and AC-21		op. c/h	600			
	Electrical endurance for AC-1, AC-7a and AC-21		op. c.	100.000			
	Rated operational current for AC-2	I _e	A	25		32	
	Operational power for AC-2: single-phase 230 V three-phase 230 V three-phase 400 V	P _e	kW	3.7		4.8	
				6.5		8.3	
				11.2		14.4	
	Maximum operating frequency for AC-2		op. c/h	120			
	Electrical endurance for AC-2		op. c.	50.000			
	Rated operational current for AC-22	I _e	A	40		63	
	Operational power for AC-22: single-phase 230 V three-phase 230 V three-phase 400 V	P _e	kW	7.4		11.6	
				12.7		20.1	
				22.2		34.9	
	Maximum operating frequency for AC-22		op. c/h	300			
	Electrical endurance for AC-22		op. c.	50.000			
	Rated operational current for AC-3, AC-3e, AC-7b and AC-23	I _e	A	22		30	
	Operational power for AC-3, AC-3e, AC-7b and AC-23: single-phase 230 V three-phase 230 V three-phase 400 V	P _e	kW	3.7		5	
				5.5		8.5	
11				15			
Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c/h	600				
Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	150.000				

1) I_e (AC-1) for IK63-04 is 50 A

2) Rated power (AC-1) for IK63-04: single-phase 230 V = 10.9 kW; three-phase 230 V = 18.9 kW; three-phase 400 V = 32.9 kW

4) Available approvals only CE and EAC

INSTALLATION CONTACTORS - UP TO 63 A

3

	Type	Symbol	Unit	IKA40 IKA40-R	IK40	IKA63 IKA63-R	IK63
MAIN CIRCUIT	Rated operational current for AC-5a (at 230 V)	I_e	A	20		32	
	Maximum operating frequency for AC-5a		op. c./h		600		
	Electrical endurance for AC-5a		op. C.		100,000		
	Rated operational current for AC-5b (at 230 V)	I_e	A	17.6		22	
	Maximum operating frequency for AC-5b		op. c./h		600		
	Electrical endurance for AC-5b		op. C.		100,000		
	Rated operational current for AC-6a (at 230 V)	I_e	A	10.8		17.2	
	Maximum operating frequency for AC-6a		op. c./h		600		
	Electrical endurance for AC-6a		op. C.		100,000		
	Switching of capacitors AC-6b and AC-7c (at 230 V)	C	μF	220		330	
	Maximum operating frequency for AC-6b and AC-7c		op. c./h		600		
	Electrical endurance for AC-6b and AC-7c		op. C.		100,000		
	Rated operational current for DC-1 (L/R ≤ 1 ms):						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/25/18/4/1.2		63/26/20/4/1.2	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A	40/38/32/10/8		63/42/34/10/8	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/40/30/20		63/63/60/35/30	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/40/40/40		63/63/63/63/63	
	Maximum operating frequency for DC-1		op. c./h		300		
	Electrical endurance for DC-1		op. C.		100,000		
	Rated operational current for DC-3 (L/R ≤ 2 ms):						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			22/10/5/1.5/0.3		25/11/5/1.5/0.3	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A	40/20/16/5/1		45/22/18/5/1	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/32/15/4		63/45/35/18/5	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/40/40/10		63/63/63/63/10	
	Maximum operating frequency for DC-3		op. c./h		300		
	Electrical endurance for DC-3		op. C.		100,000		
	Rated operational current for DC-5 (L/R ≤ 7.5 ms):						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/8/4/1/0.2		25/10/5/1/0.2	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A	40/18/14/5/0.8		45/20/15/5/0.8	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/28/12/3		63/44/30/15/4	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/40/35/8		63/63/60/45/10	
	Maximum operating frequency for DC-5		op. c./h		300		
	Electrical endurance for DC-5		op. C.		100,000		
	Terminal capacity:						
	rigid (solid and stranded)	S	mm ²		1.5 ... 25		
	flexible				1.5 ... 16		
	Min. conductor @ thermal current @ +70 °C		mm ²	10		16	
	Length of removed wire insulation		mm		10		
	Screw				M5		
	Screw head				PZ2		
	Tightening torque		Nm		3.5		
AUXILIARY CIRCUIT	Contact reliability					≥17 V; ≥50 mA	
	Minimum distance of open contacts		mm		3.6		
	Power dissipation per pole		W	4	4	8	8
	Overload current withstand capability:						
	10 s		A	176		240	
	Maximum back-up fuse for short-circuit protection gL and gG:						
	coordination type 1 (at prospective current 3 kA)	I_v	A	63	63	80	80
	coordination type 2 (at prospective current 3 kA)			40	40	63	63
	Rated insulation voltage	U_i	V		440		
	Rated impulse withstand voltage	U_{imp}	kV		4		
	Rated operational voltage	U_e	V		230/400		
	Rated frequency	f	Hz		50/60		
	Thermal current	I_{th}	A	40		63	
	Rated operational current for AC-15:						
	single-phase 230 V	I_e	A		6		
	single-phase 400 V				4		
	Maximum operating frequency for AC-15		op. c./h		1,200		
	Electrical endurance for AC-15		op. C.		150,000		
	Rated operational current for DC-13:						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC				6/4/1/0.3/0.05		
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A		6/6/4/1/0.1		
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC				6/6/6/3/1		
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC				6/6/6/4/2		

TECHNICAL DATA

INSTALLATION CONTACTORS - UP TO 63 A

	Type	Symbol	Unit	IKA40 IKA40-R	IK40	IKA63 IKA63-R	IK63
AUXILIARY CIRCUIT	Maximum operating frequency for DC-13		op. c./h	300			
	Electrical endurance for DC-13		op. c.	200.000			
	Terminal capacity:						
	rigid (solid and stranded)	S	mm ²	1.5 ... 25			
	flexible			1.5 ... 16			
	Length of removed wire insulation		mm	10			
	Screw			M5			
	Screw head		mm	PZ2			
	Tightening torque			3.5			
COIL	Range of control voltage for switch-on	U _c	%	85 ... 110			
	Range of control voltage for drop out	U _c	%	AC: 75 ... 20 / DC: 75 ... 10 (where is applicable)			
	Kind of voltage			AC	AC/DC	AC	AC/DC
	Standard control voltages	U _c	V	12, 24, 48, 120, 230, 400	12, 24, 48, 120, 230	12, 24, 48, 120, 230, 400	12, 24, 48, 120, 230
	Frequency of AC control voltage	f	Hz	50/60	40 ... 500	50/60	40 ... 500
	Control mode			remote control with U _c / manual control only for types with -R			
	Impulse duration of control voltage:						
	minimum			permanent			
	maximum			permanent			
	Minimum duration between two impulses of control voltage		ms	AC: 150 / DC: 500 (where is applicable)			
	Surge immunity withstand voltage 1.2/50 µs acc. to standard IEC/EN 61000-4-5		kV	2			
	Coil consumption:						
	switch-on		VA/W	15.4/6	5/5 ¹⁾	15.4/6	5/5 ¹⁾
	operation			7.7/3	5/5 ¹⁾	7.7/3	5/5 ¹⁾
	Delays:						
	make		ms	10 ... 20	15 ... 20	10 ... 20	15 ... 20
	brake			10 ... 15	35 ... 45	10 ... 15	35 ... 45
	Terminal capacity:						
	rigid (solid and stranded)		mm ²	1 ... 2.5			
	flexible			1 ... 2.5			
	Length of removed wire insulation		mm	8			
SAFETY	Screw			M3			
	Screw head			PZ1			
	Tightening torque		Nm	0.6			
	MTTF - Mean time to failure			AC-1: 2.500			
	MTTF = 1/λ = B10/(0.1 n _{op})		h	AC-3: 3.750			
	MTTF _d - Mean time to failure dangerous			AC-1: 3.333			
	MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})		h	AC-3: 5.000			
	B10 - Number of operating cycles until 10 % of devices fail		op. c.	AC-1: 75.000			
				AC-3: 112.500			
	B10 _d - Number of operating cycles until 10 % of device dangerous		op. c.	AC-1: 100.000			
	B10 _d = B10/ratio of dangerous failures			AC-3: 150.000			
	λ - Failure rate			AC-1: 0.0004			
	λ = (0.1 n _{op})/B10		1/h	AC-3: 0.000266			
	λ _d - Failure rate dangerous			AC-1: 0.0003			
	λ _d = (0.1 n _{op})/B10 _d		1/h	AC-3: 0.0002			
	Ratio of dangerous failures		%	75			
	n _{op} - Operating cycles (operating cycles/h)		op. c./h	300			

1) Coil consumption for version -22 and -04 is 6.1 VA/6.1 W

INSTALLATION CONTACTORS - UP TO 63 A (2-POLE)

3

GENERAL	Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R
	Standards			IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1			
	Approvals			CE			
	Module width			2			
	Number of poles			2			
	Degree of protection			IP20 (IP40 when installed in installation box - distribution board)			
	Pollution degree			3			
	Climatic conditions			95 % relative humidity			
	Operating ambient temperature		°C	-25 ... +55 (2NO)			
				-15 ... +55 (1NO)			
				-15 ... +55 (1NO+1NC)			
				-15 ... +55 (2NC)			
				-15 ... +55 (1NC)			
	Maximum altitude U _i and U _e is reduced for 1.2 % and I _e for 0.4 % for every additional 100 m		m	2000			
	Number of contactors or switches side-by-side: ≤40 °C			max. 3			
	(40 ... 55) °C			max. 2			
	Storage temperature		°C	-40... +80			
	Noise level (operation)		dB	30	20	30	20
	Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)			
	Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)			
Maximum operating frequency with no load		op. c./h	3.000				
Mechanical endurance		op. c.	3.000.000	10.000.000	3.000.000	10.000.000	
Weight		g	245	270	245	270	
MAIN CIRCUIT	Contact reliability			≥17 V; ≥50 mA			
	Minimum distance of open contacts		mm	3,6			
	Power dissipation per pole		W	4		8	
	Overload current withstand capability: 10 s		A	176		240	
	Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1 (at prospective current 3 kA)	I _v	A	63		80	
	coordination type 2 (at prospective current 3 kA)			40		63	
	Rated insulation voltage	U _i	V	440			
	Rated impulse withstand voltage	U _{imp}	kV	6			
	Rated operational voltage	U _e	V	400			
	Rated frequency	f	Hz	50/60			
	Thermal current	I _{th}	A	40		63	
	Rated operational current for AC-1, AC-7a and AC-21	I _e	A	40		63	
	Operational power for AC-1, AC-7a and AC-21: single-phase 230 V	P _e	kW	8.7		13.3	
	Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h	600			
	Electrical endurance for AC-1, AC-7a and AC-21		op. c.	100.000			
	Rated operational current for AC-2	I _e	A	25		32	
	Operational power for AC-2: single-phase 230 V	P _e	kW	3.7		4.8	
	Maximum operating frequency for AC-2		op. c./h	120			
	Electrical endurance for AC-2		op. c.	50.000			
	Rated operational current for AC-22	I _e	A	40		63	
	Operational power for AC-22: single-phase 230 V	P _e	kW	7.4		11.6	
	Maximum operating frequency for AC-22		op. c./h	300			
	Electrical endurance for AC-22		op. c.	50.000			
	Rated operational current for AC-3, AC-3e, AC-7b and AC-23	I _e	A	22		30	
	Operational power for AC-3, AC-3e, AC-7b and AC-23: single-phase 230 V	P _e	kW	3.7		5	
	Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c./h	600			
	Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	150.000			
	Rated operational current for AC-5a (at 230 V)	I _e	A	20		32	
	Maximum operating frequency for AC-5a		op. c./h	600			
	Electrical endurance for AC-5a		op. c.	100.000			
	Rated operational current for AC-5b (at 230 V)	I _e	A	17.6		22	
	Maximum operating frequency for AC-5b		op. c./h	600			
	Electrical endurance for AC-5b		op. c.	100.000			
	Rated operational current for AC-6a (at 230 V)	I _e	A	10.8		17.2	
	Maximum operating frequency for AC-6a		op. c./h	600			
	Electrical endurance for AC-6a		op. c.	100.000			
	Switching of capacitors AC-6b and AC-7c (at 230 V)	C	µF	220		330	

TECHNICAL DATA

INSTALLATION CONTACTORS - UP TO 63 A (2-POLE)

3

MAIN CIRCUIT	Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R
	Maximum operating frequency for AC-6b and AC-7c		op. c./h	600			
	Electrical endurance for AC-6b and AC-7c		op. c.	100.000			
	Rated operational current for DC-1 (L/R ≤ 1 ms): 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC 2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A	40/25/18/4/1.2 40/38/32/10/8		63/26/20/4/1.2 63/42/34/10/8	
	Maximum operating frequency for DC-1		op. c./h	300			
	Electrical endurance for DC-1		op. c.	100.000			
	Rated operational current for DC-3 (L/R ≤ 2 ms): 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC 2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A	22/10/5/1.5/0.3 40/20/16/5/1		25/11/5/1.5/0.3 45/22/18/5/1	
	Maximum operating frequency for DC-3		op. c./h	300			
	Electrical endurance for DC-3		op. c.	100.000			
	Rated operational current for DC-5 (L/R ≤ 7.5 ms): 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC 2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A	20/8/4/1/0.2 40/18/14/5/0.8		25/10/5/1/0.2 45/20/15/5/0.8	
	Maximum operating frequency for DC-5		op. c./h	300			
	Electrical endurance for DC-5		op. c.	100.000			
	Terminal capacity: rigid (solid and stranded) flexible	S	mm ²	1.5 ... 25 1.5 ... 16			
	Length of removed wire insulation		mm	10			
	Screw			M5			
	Screw head			PZ2			
	Tightening torque		Nm	2.5			
AUXILIARY CIRCUIT	Contact reliability			≥17 V; ≥50 mA			
	Minimum distance of open contacts		mm	3.6			
	Power dissipation per pole		W	4		8	
	Overload current withstand capability: 10 s		A	176		240	
	Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1 (at prospective current 3 kA) coordination type 2 (at prospective current 3 kA)	I _v	A	63 40		80 63	
	Rated insulation voltage	U _i	V	440			
	Rated impulse withstand voltage	U _{imp}	kV	4			
	Rated operational voltage	U _e	V	230/400			
	Rated frequency	f	Hz	50/60			
	Thermal current	I _{th}	A	40		63	
	Rated operational current for AC-15: single-phase 230 V single-phase 400 V	I _e	A	6 4			
	Maximum operating frequency for AC-15		op. c./h	1200			
	Electrical endurance for AC-15		op. c.	150.000			
	Rated operational current for DC-13: 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC 2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A	6/4/1/0.3/0.05 6/6/4/1/0.1			
	Maximum operating frequency for DC-13		op. c./h	300			
	Electrical endurance for DC-13		op. c.	200.000			
	Terminal capacity: rigid (solid and stranded) flexible	S	mm ²	1.5 ... 25 1.5 ... 16			
Length of removed wire insulation		mm	10				
Screw			M5				
Screw head		mm	PZ2				
Tightening torque			2.5				
COIL	Range of control voltage for switch-on	U _c	%	85 ... 110			
	Range of control voltage for drop out	U _c	%	AC: 75 ... 20 / DC: 75 ... 10 (where is applicable)			
	Kind of voltage			AC	AC/DC	AC	AC/DC
	Standard control voltages	U _c	V	12, 24, 48, 120, 230, 400	12, 24, 48, 120, 230	12, 24, 48, 120, 230, 400	12, 24, 48, 120, 230
	Frequency of AC control voltage	f	Hz	50/60	40 ... 500	50/60	40 ... 500
	Control mode			remote control with U _c / manual control only for types with -R			
	Impulse duration of control voltage: minimum maximum			permanent permanent			
	Minimum duration between two impulses of control voltage		ms	AC: 150 / DC: 500 (where is applicable)			
	Surge immunity withstand voltage 1.2/50 µs acc. to standard IEC/EN 61000-4-5		kV	2			

TECHNICAL DATA

INSTALLATION CONTACTORS - UP TO 63 A (2-POLE)

	Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R
COIL	Coil consumption: switch-on operation		VA/W	33/25 5.5/1.6	2.6/2.6 ¹⁾ 2.6/2.6 ¹⁾	33/25 5.5/1.6	2.6/2.6 ¹⁾ 2.6/2.6 ¹⁾
	Delays: make brake		ms	10 ... 20 10 ... 15	15 ... 20 35 ... 45	10 ... 20 10 ... 15	15 ... 20 35 ... 45
	Terminal capacity:		mm ²		1 ... 2.5 1 ... 2.5		
	Length of removed wire insulation		mm		8		
	Screw				M3		
	Screw head				PZ1		
	Tightening torque		Nm		0.6		
	MTTF - Mean time to failure MTTF = $1/\lambda = B10/(0.1 n_{op})$		h		AC-1: 2.500 AC-3: 3.750		
	MTTF _d - Mean time to failure dangerous MTTF _d = $1/\lambda_d = B10_d/(0.1 n_{op})$		h		AC-1: 3.333 AC-3: 5.000		
	B10 - Number of operating cycles until 10 % of devices fail		op. c.		AC-1: 75.000 AC-3: 112.500		
SAFETY	B10 _d - Number of operating cycles until 10 % of device dangerous B10 _d = B10/ratio of dangerous failures		op. c.		AC-1: 100.000 AC-3: 150.000		
	λ - Failure rate $\lambda = (0.1 n_{op})/B10$		1/h		AC-1: 0.0004 AC-3: 0.000266		
	λ_d - Failure rate dangerous $\lambda_d = (0.1 n_{op})/B10_d$		1/h		AC-1: 0.0003 AC-3: 0.0002		
	Ratio of dangerous failures		%		75		
	n _{op} - Operating cycles (operating cycles/h)		op. c./h		300		

¹⁾ Coil consumption for version -02 is 3.8 VA/3.8 W

INSTALLATION CONTACTORS - UL/CSA

UP TO 25 A

GENERAL	Type	Symbol	Unit	IKA220	IKD220	IKA425	IKD425
	Standards			UL 60947-4-1A, C22.2 No. 60947-4-1A-07, IEC/EN 61095, IEC/EN 60947-4-1			
	Approvals			CE, UL, CSA			
	Module width			1		2	
	Number of poles			2		4	
	Degree of protection			IP20 (IP40 when installed in installation box - distribution board)			
	Pollution degree			3			
	Ambient temperature (closed)			5 °F ... 104 °F / -5 °C ... +40 °C ¹⁾			
	Storage temperature			-22 °F ... 176 °F / -30 °C ... +80 °C			
	Maximum altitude		m	2000			
	U _i and U _e is reduced for 1.2 % and I _b for 0.4 % for every additional 100 m						
	Number of contactors or switches side-by-side:						
	≤40 °C			no limitation			
	(40 ... 55) °C						
	Noise level (operation)		dB	30	20	30	20
	Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)			
Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)				
Maximum operating frequency with no load		op. c./h	3.000				
Mechanical endurance		op. c.	3.000.000	10.000.000	3.000.000	10.000.000	
Weight		g	130	130	230	250	
MAIN CIRCUIT	Contact reliability			≥17 V; ≥50 mA			
	Minimum distance of open contacts			0.118 in / 3.6 mm			
	Power dissipation per pole		W	1.7	1.7	2	2
	Overload current withstand capability:						
	10 s		A	72		68	
	Maximum back-up fuse for short-circuit protection gL and gG:						
	coordination type 1 (at prospective current 3 kA)	I _v	A			25	25
	coordination type 2 (at prospective current 3 kA)			20	20		
	Maximum back-up fuse for short-circuit protection KS acc. to UL and CSA	I _v	A	20	20	25	25
	Rated insulation voltage	U _i	V	IEC: 440 ; UL/CSA: 480			
	Rated impulse withstand voltage	U _{imp}	kV	4			
	Rated operational voltage	U _e	V	IEC: 230 ; UL/CSA: 240		IEC: 400 ; UL/CSA: 480	
	Rated frequency	f	Hz	50/60			
	Thermal current	I _{th}	A	20		25	
	Rated operational current for AC-1, AC-7a and AC-21	I _e	A	20		20	
	Operational power for AC-1, AC-7a and AC-21:						
	single-phase 230 V		P _e	4		5.4	
	three-phase 230 V					9	
	three-phase 400 V					16	
	Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h	600			
	Electrical endurance for AC-1, AC-7a and AC-21		op. c.	200.000			
	Rated operational current for AC-2	I _e	A	12		14	
	Operational power for AC-2:						
	single-phase 230 V		P _e	1.8		2	
	three-phase 230 V					3.6	
	three-phase 400 V					6	
	Maximum operating frequency for AC-2		op. c./h	120			
	Electrical endurance for AC-2		op. c.	100.000			
	Rated operational current for AC-22	I _e	A	20		25	
	Operational power for AC-22:						
	single-phase 230 V		P _e	3.7		4.6	
	three-phase 230 V					8	
three-phase 400 V					13.8		
Maximum operating frequency for AC-22		op. c./h	300				
Electrical endurance for AC-22		op. c.	50.000				
Rated operational current for AC-3, AC-3e, AC-7b and AC-23	I _e	A	NO: 9 / NC: 6		8.5		
Operational power for AC-3, AC-3e, AC-7b and AC-23:							
single-phase 230 V		P _e	NO: 1.3 / NC: 0.75		1.3		
three-phase 230 V					2.2		
three-phase 400 V					4		
Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c./h	600				
Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	300.000		500.000		

1) Ambient temperature (open) -13 ... 104 °F / -25 ... +40 °C for version with 2NO and 4NO contacts

INSTALLATION CONTACTORS - UL/CSA

UP TO 25 A

Type	Symbol	Unit	IKA220	IKD220	IKA425	IKD425
Rated motor power acc. to standards UL and CSA:						
single-phase 120 V			1/3	1/3	1/3	1/3
single-phase 208 V			3/4	3/4	3/4	3/4
single-phase 240 V			1	1	1	1
three-phase 120 V					1	1
three-phase 208 V					2	2
three-phase 240 V					3	3
three-phase 460 V					5	5
Maximum operating frequency for motors acc. to UL and CSA		op. c./h		360		
Electrical endurance for motors according to UL and CSA		op. c.	300,000		500,000	
General use according to standards UL and CSA:						
single-phase 240 V						
three-phase 480 V						
Maximum operating frequency for general use acc. to UL and CSA		op. c./h		360		
Electrical endurance for general use acc. to UL and CSA		op. c.		200,000		
Switching of discharge lamps acc. to standards UL and CSA:						
single-phase 240 V - standard ballast						
three-phase 480 V - standard ballast						
Maximum operating frequency for discharge lamps acc. to UL and CSA		op. c./h		360		
Electrical endurance for discharge lamps acc. to UL and CSA		op. c.		100,000		
Rated operational current for AC-5a (at 230 V)						
Maximum operating frequency for AC-5a		op. c./h		600		
Electrical endurance for AC-5a		op. c.		100,000		
Rated operational current for AC-5b (at 230 V)						
Maximum operating frequency for AC-5b		op. c./h		600		
Electrical endurance for AC-5b		op. c.		100,000		
Rated operational current for AC-6a (at 230 V)						
Maximum operating frequency for AC-6a		op. c./h		600		
Electrical endurance for AC-6a		op. c.		100,000		
Switching of capacitors AC-6b and AC-7c (at 230 V)						
Maximum operating frequency for AC-6b and AC-7c		op. c./h		600		
Electrical endurance for AC-6b and AC-7c		op. c.		100,000		
Rated operational current for DC-1 (L/R ≤ 1 ms):						
1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
Maximum operating frequency for DC-1		op. c./h		300		
Electrical endurance for DC-1		op. c.		100,000		
Rated operational current for DC-3 (L/R ≤ 2 ms):						
1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
Maximum operating frequency for DC-3		op. c./h		300		
Electrical endurance for DC-3		op. c.		100,000		
Rated operational current for DC-5 (L/R ≤ 7.5 ms):						
1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC						
Maximum operating frequency for DC-5		op. c./h		300		
Electrical endurance for DC-5		op. c.		100,000		
Terminal capacity:						
rigid (solid and stranded)						
flexible						
Length of removed wire insulation						
Screw						
Screw head						
Tightening torque						
Contact reliability						
Minimum distance of open contacts						
Power dissipation per pole						
Overload current withstand capability:						
10 s						
Maximum back-up fuse for short-circuit protection gL and gG:						
coordination type 1 (at prospective current 3 kA)						
coordination type 2 (at prospective current 3 kA)						

3

TECHNICAL DATA

INSTALLATION CONTACTORS - UL/CSA

UP TO 25 A

	Type	Symbol	Unit	IKA220	IKD220	IKA425	IKD425
AUXILIARY CIRCUIT	Maximum back-up fuse for short-circuit protection K5 acc. to UL and CSA	U_i	V	20	20	25	25
	Rated insulation voltage	U_i	V	IEC: 440 ; UL/CSA: 480			
	Rated impulse withstand voltage	U_{imp}	kV	4			
	Rated operational voltage	U_e	V	IEC: 230/100 ; UL/CSA: 240 (AC), 250 (DC)			
	Rated frequency	f	Hz	50/60			
	Thermal current	I_{th}	A	20		25	
	Rated operational current for AC-15: single-phase 230 V	I_e	A		6		
	single-phase 400 V				4		
	Maximum operating frequency for AC-15		op. c./h		600		
	Electrical endurance for AC-15		op. c.	300.000		500.000	
	Switching of auxiliary loads according to standard UL and CSA				B300, P300		
	Maximum operating frequency for auxiliary loads according to UL and CSA		op. c./h		360		
	Electrical endurance for auxiliary loads according to UL and CSA		op. c.		100.000		
	Rated operational current for DC-13: 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A		6/4/1/0.3/0.05		
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC				6/6/4/1/0.1		
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC				6/6/6/3/1		
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC				6/6/6/4/2		
	Maximum operating frequency for DC-13		op. c./h		300		
	Electrical endurance for DC-13		op. c.		200.000		
COIL	Terminal capacity: rigid (solid and stranded)	S			16...10 AWG / 1...10 mm ²		
	flexible				16... 8 AWG / 1...6 mm ²		
	Length of removed wire insulation				0.354 in / 9 mm		
	Screw				M3.5		
	Screw head				PZ1		
	Tightening torque				10.62 lb-in / 1.2 Nm		
	Range of control voltage for switch-on	U_c	%		85 ... 110		
	Range of control voltage for drop out	U_c	%		AC: 75 ... 20 / DC: 75 ... 10 (where is applicable)		
	Kind of voltage			AC	AC/DC	AC	AC/DC
	Standard control voltages	U_c	V		12, 24, 48, 110, 120, 127, 208, 230, 240		
	Frequency of AC control voltage	f	Hz		50/60		
	Control mode				remote control with U_c		
	Impulse duration of control voltage: minimum				permanent		
	maximum				permanent		
	Minimum duration between two impulses of control voltage		ms		AC: 150 / DC: 500 (where is applicable)		
	Surge immunity withstand voltage 1.2/50 µs acc. to standard IEC/EN 61000-4-5		kV		2		
	Coil consumption: switch-on		VA/W	12/10	2.1/2.1	33/25	2.6/2.6 ¹⁾
	operation			2.8/1.2	2.1/2.1	5.5/1.6	2.6/2.6 ¹⁾
	Delays: make		ms	15 ... 25	15 ... 45	10 ... 30	15 ... 45
	brake			10 ... 30	20 ... 50	10 ... 30	20 ... 70
SAFETY	Terminal capacity: rigid (solid and stranded)				16 ... 14 AWG / 1 ... 2.5 mm ²		
	flexible				16 ... 14 AWG / 1 ... 2.5 mm ²		
	Length of removed wire insulation				0.276 in / 7 mm		
	Screw				M3		
	Screw head				PZ1		
	Tightening torque				5.31 lb-in / 0.6 Nm		
	MTTF - Mean time to failure		h		General Use: 4.166		
	MTTF = $1/\lambda = B10/(0.1 n_{op})$			Motor: 6.250		Motor: 10.416	
	MTTF _d - Mean time to failure dangerous		h		General Use: 5.555		
	MTTF _d = $1/\lambda_d = B10_d/(0.1 n_{op})$			Motor: 8.333		Motor: 13.888	
	B10 - Number of operating cycles until 10 % of devices fail		op. c.		General Use: 150.000		
				Motor: 225.000		Motor: 375.000	
	B10 _d - Number of operating cycles until 10 % of device dangerous		op. c.		General Use: 200.000		
	B10 _d = B10/ratio of dangerous failures			Motor: 300.000		Motor: 500.000	
	λ - Failure rate		1/h		General Use: 0.00024		
	$\lambda = (0.1 n_{op})/B10$			Motor: 0.00016		Motor: 0.000096	
	λ_d - Failure rate dangerous		1/h		General Use: 0.00018		
	$\lambda_d = (0.1 n_{op})/B10_d$			Motor: 0.00012		Motor: 0.000072	
	Ratio of dangerous failures		%		75		
	n_{op} - Operating cycles (operating cycles/h)		op. c./h		360		

1) Coil consumption for contact version -04 is 3.8 VA / 3.8 W

INSTALLATION CONTACTORS - UL/CSA

UP TO 63 A

GENERAL	Type	Symbol	Unit	IKA440	IKD440	IKA463	IKD463
	Standards			UL 60947-4-1A, C22.2 No. 60947-4-1A-07, IEC/EN 61095, IEC/EN 60947-4-1			
	Approvals			CE, UL, CSA			
	Module width			3			
	Number of poles			4			
	Degree of protection			IP20 (IP40 when installed in installation box - distribution board)			
	Pollution degree			3			
	Ambient temperature (open)			1)		2)	
	Storage temperature			-22 °F ... 176 °F / -30 °C ... +80 °C			
	Maximum altitude		m	2000			
	U _i and U _e is reduced for 1.2 % and I _e for 0.4 % for every additional 100 m						
	Number of contactors or switches side-by-side:						
	≤40 °C			no limit	max. 3	no limit	max. 3
	(40 ... 55) °C						
Noise level (operation)		dB	30	20	30	20	
Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)				
Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)				
Maximum operating frequency with no load		op. c./h	3.000				
Mechanical endurance		op. c.	3.000.000	10.000.000	3.000.000	10.000.000	
Weight		g	350	420	350	420	
MAIN CIRCUIT	Contact reliability			≥17 V; ≥50 mA			
	Minimum distance of open contacts			0.118 in /3.6 mm			
	Power dissipation per pole		W	4	4	8	8
	Overload current withstand capability:						
	10 s		A	176		240	
	Maximum back-up fuse for short-circuit protection gL and gG:						
	coordination type 1 (at prospective current 3 kA)	I _v	A	63	63	80	80
	coordination type 2 (at prospective current 3 kA)			40	40	63	63
	Maximum back-up fuse for short-circuit protection KS acc. to UL and CSA	I _v	A	60	60	70	70
	Rated insulation voltage	U _i	V	IEC: 440 ; UL/CSA: 480			
	Rated impulse withstand voltage	U _{imp}	kV	4			
	Rated operational voltage	U _e	V	IEC: 400 ; UL/CSA: 480			
	Rated frequency	f	Hz	50/60			
	Thermal current	I _{th}	A	40		63	
	Rated operational current for AC-1, AC-7a and AC-21	I _e	A	40		63	
	Operational power for AC-1, AC-7a and AC-21:						
	single-phase 230 V	P _e	kW	8.7		13.3	
	three-phase 230 V			16		24	
	three-phase 400 V			26		40	
	Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h	600			
	Electrical endurance for AC-1, AC-7a and AC-21		op. c.	100.000			
	Rated operational current for AC-2	I _e	A	25		32	
	Operational power for AC-2:						
	single-phase 230 V	P _e	kW	3.7		4.8	
	three-phase 230 V			6.5		8.3	
	three-phase 400 V			11.2		14.4	
	Maximum operating frequency for AC-2		op. c./h	120			
	Electrical endurance for AC-2		op. c.	50.000			
	Rated operational current for AC-22	I _e	A	40		63	
	Operational power for AC-22:						
single-phase 230 V	P _e	kW	7.4		11.6		
three-phase 230 V			12.7		20.1		
three-phase 400 V			22.2		34.9		
Maximum operating frequency for AC-22		op. c./h	300				
Electrical endurance for AC-22		op. c.	50.000				
Rated operational current for AC-3, AC-3e, AC-7b and AC-23	I _e	A	22		30		
Operational power for AC-3, AC-3e, AC-7b and AC-23:							
single-phase 230 V	P _e	kW	3.7		5		
three-phase 230 V			5.5		8.5		
three-phase 400 V			11		15		
Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c./h	600				
Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	150.000				

1) Surrounding air temperature for 4NO contacts version -13 °F...104 °F / -25 °C ... 40 °C, for others contacts version 5 °F ... 104 °F / -15 °C ... +40 °C

2) Surrounding air temperature for 4NO contacts version -13 °F...95 °F / -25 °C ... 35 °C, for others contacts version 5 °F ... 95 °F / -15 °C ... +35 °C

3

TECHNICAL DATA

INSTALLATION CONTACTORS - UL/CSA

UP TO 63 A

	Type	Symbol	Unit	IKA440	IKD440	IKA463	IKD463
MAIN CIRCUIT	Rated motor power acc. to standards UL and CSA:						
	single-phase 120 V			1	1	2	2
	single-phase 208 V			2	2	3	3
	single-phase 240 V			3	3	5	5
	three-phase 120 V			3	3	5	5
	three-phase 208 V			7 1/2	7 1/2	10	10
	three-phase 240 V			7 1/2	7 1/2	10	10
	three-phase 460 V			15	15	20	20
	Maximum operating frequency for motors acc. to UL and CSA		op. c./h		360		
	Electrical endurance for motors according to UL and CSA		op. c.		150,000		
	General use according to standards UL and CSA:						
	single-phase 240 V						
	three-phase 480 V						
	Maximum operating frequency for general use acc. to UL and CSA		op. c./h		360		
	Electrical endurance for general use acc. to UL and CSA		op. c.		100,000		
	Switching of discharge lamps acc. to standards UL and CSA:						
	single-phase 240 V - standard ballast						
	three-phase 480 V - standard ballast						
	Maximum operating frequency for discharge lamps acc. to UL and CSA		op. c./h		360		
	Electrical endurance for discharge lamps acc. to UL and CSA		op. c.		100,000		
	Rated operational current for AC-5a (at 230 V)						
	Maximum operating frequency for AC-5a		op. c./h		600		
	Electrical endurance for AC-5a		op. c.		100,000		
	Rated operational current for AC-5b (at 230 V)						
	Maximum operating frequency for AC-5b		op. c./h		600		
	Electrical endurance for AC-5b		op. c.		100,000		
	Rated operational current for AC-6a (at 230 V)						
	Maximum operating frequency for AC-6a		op. c./h		600		
	Electrical endurance for AC-6a		op. c.		100,000		
	Switching of capacitors AC-6b and AC-7c (at 230 V)						
	Maximum operating frequency for AC-6b and AC-7c		op. c./h		600		
	Electrical endurance for AC-6b and AC-7c		op. c.		100,000		
AUXILIARY CIRCUIT	Rated operational current for DC-1 (L/R ≤ 1 ms):						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/25/18/4/1.2		63/26/20/4/1.2	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/38/32/10/8		63/42/34/10/8	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/40/30/20		63/63/60/35/30	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/40/40/40		63/63/63/63/63	
	Maximum operating frequency for DC-1		op. c./h		300		
	Electrical endurance for DC-1		op. c.		100,000		
	Rated operational current for DC-3 (L/R ≤ 2 ms):						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			22/10/5/1.5/0.3		25/11/5/1.5/0.3	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/20/16/5/1		45/22/18/5/1	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/32/15/4		63/45/35/18/5	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/40/40/10		63/63/63/63/10	
	Maximum operating frequency for DC-3		op. c./h		300		
	Electrical endurance for DC-3		op. c.		100,000		
	Rated operational current for DC-5 (L/R ≤ 7.5 ms):						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			20/8/4/1/0.2		25/10/5/1/0.2	
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/18/14/5/0.8		45/20/15/5/0.8	
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/28/12/3		63/44/30/15/4	
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			40/40/40/35/8		63/63/60/45/10	
	Maximum operating frequency for DC-5		op. c./h		300		
	Electrical endurance for DC-5		op. c.		100,000		
	Terminal capacity:						
	rigid (solid and stranded)				14 ... 10 AWG / 1.5 ... 25 mm ²		
	flexible				14 ... 4 AWG / 1.5 ... 16 mm ²		
	Length of removed wire insulation				0.394 in / 10 mm		
	Screw				M5		
	Screw head				PZ2		
	Tightening torque				30.98 lb-in / 3.5 Nm		
AUXILIARY CIRCUIT	Contact reliability				≥17 V; ≥50 mA		
	Minimum distance of open contacts				0.118 in / 3.6 mm		
	Power dissipation per pole		W	4		8	
	Overload current withstand capability:						
	10 s			176		240	
	Maximum back-up fuse for short-circuit protection gL and gG:						
	coordination type 1 (at prospective current 3 kA)			63	63	80	80
	coordination type 2 (at prospective current 3 kA)			40	40	63	63

3

TECHNICAL DATA

INSTALLATION CONTACTORS - UL/CSA

UP TO 63 A

AUXILIARY CIRCUIT	Type	Symbol	Unit	IKA440	IKD440	IKA463	IKD463	
	Maximum back-up fuse for short-circuit protection K5 acc. to UL and CSA	I _v	A	60	60	70	70	
	Rated insulation voltage	U _i	V	IEC: 440 ; UL/CSA: 480				
	Rated impulse withstand voltage	U _{imp}	kV	4				
	Rated operational voltage	U _e	V	IEC: 230/100 ; UL/CSA: 240 (AC), 250 (DC)				
	Rated frequency	f	Hz	50/60				
	Thermal current	I _{th}	A	40		63		
	Rated operational current for AC-15: single-phase 230 V	I _e	A	6				
	single-phase 400 V			4				
	Maximum operating frequency for AC-15	op. c/h	1.200					
	Electrical endurance for AC-15	op. c.	150.000					
	Switching of auxiliary loads according to standard UL and CSA		B300, P300					
	Maximum operating frequency for auxiliary loads according to UL and CSA	op. c/h	360					
	Electrical endurance for auxiliary loads according to UL and CSA	op. c.	100.000					
	Rated operational current for DC-13: 1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I _e	A	6/4/1/0.3/0.05				
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			6/6/4/1/0.1				
	3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			6/6/6/3/1				
	4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC			6/6/6/4/2				
	Maximum operating frequency for DC-13		op. c/h	300				
	Electrical endurance for DC-13		op. c.	200.000				
	Terminal capacity: rigid (solid and stranded)	S		4 ...10 AWG / 1.5... 25 mm ²				
	flexible		4 ... 10 AWG / 1.5...16 mm ²					
	Length of removed wire insulation			0.394 in / 10 mm				
	Screw			M5				
	Screw head			PZ2				
Tightening torque			30.98 lb-in / 3.5 Nm					
COIL	Range of control voltage for switch-on	U _c	%	85 ... 110				
	Range of control voltage for drop out	U _c	%	AC: 75 ... 20 / DC: 75 ... 10 (where is applicable)				
	Kind of voltage			AC	AC/DC	AC	AC/DC	
	Standard control voltages	U _c	V	12, 24, 48, 110, 120, 127, 208, 230, 240				
	Frequency of AC control voltage	f	Hz	50/60				
	Control mode			remote control with U _c				
	Impulse duration of control voltage: minimum			permanent				
	maximum			permanent				
	Minimum duration between two impulses of control voltage		ms	AC: 150 / DC: 500 (where is applicable)				
	Surge immunity withstand voltage 1,2/50 µs acc. to standard IEC/EN 61000-4-5		kV	2				
	Coil consumption:							
	switch-on	VA/W		15.4/6	5/5 ¹⁾	15.4/6	5/5 ¹⁾	
	operation			7.7/3	5/5 ¹⁾	7.7/3	5/5 ¹⁾	
	Delays:							
	make	ms		10 ... 20	15 ... 20	10 ... 20	15 ... 20	
	brake			10 ... 15	35 ... 45	10 ... 15	35 ... 45	
	Terminal capacity: rigid (solid and stranded)			16 ... 14 AWG / 1 ... 2.5 mm ²				
	flexible			16 ... 14 AWG / 1 ... 2.5 mm ²				
	Length of removed wire insulation			0.315 in / 8 mm				
	Screw			M3				
	Screw head			PZ1				
	Tightening torque			5.31 lb-in / 0.6 Nm				
	SAFETY	MTTF - Mean time to failure				General Use: 2.083		
		MTTF = 1/λ = B10/(0.1 n _{op})		h		Motor: 3.125		
		MTTF _d - Mean time to failure dangerous				General Use: 2.777		
MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})			h		Motor: 4.166			
B10 - Number of operating cycles until 10 % of devices fail			op. c.		General Use: 75.000			
					Motor: 112.500			
B10 _d - Number of operating cycles until 10 % of device dangerous			op. c.		General Use: 100.000			
B10 _d = B10/ratio of dangerous failures					Motor:150.000			
λ - Failure rate			1/h		General Use: 0.00048			
λ = (0.1 n _{op})/B10					Motor: 0.00032			
λ _d - Failure rate dangerous			1/h		General Use: 0.00036			
λ _d = (0.1 n _{op})/B10 _d					Motor: 0.00024			
Ratio of dangerous failures		%		75				
n _{op} - Operating cycles (operating cycles/h)		op. c/h		360				

1) Coil consumption for -22 and -04 is 6.1 VA/6.1 W

INSTALLATION CONTACTORS - ACCESSORIES

Auxiliary switch - IKN, IKN-UL

	Type	Symbol	Unit	IKN	IKN-UL
GENERAL	Standards			IEC/EN 60947-5-1	UL508, C22.2 No. 14, IEC/EN 60947-5-1
	Approvals			CE, CB, NF, EAC	CE, UL, CSA
	Module width			0.5	0.5
	Number of poles			2	2
	Degree of protection			IP20 ¹⁾	IP20 ¹⁾
	Pollution degree			3	3
	Climatic conditions			95 % relative humidity	
	Ambient temperature:				
	open			-25 °C ... +55 °C	
	closed				-13 °F ... 104 °F / -25 °C ... +40 °C
	Storage temperature			-30 °C ... +80 °C	-22 °F ... 176 °F / -30 °C ... +80 °C
	Maximum altitude		m	2000	2000
	U _i and U _e is reduced for 1.2 % and I _e for 0.4 % for every additional 100 m				
AUXILIARY CIRCUIT	Mechanical endurance		op. c.	3.000.000	3.000.000
	Weight			30 g	0.08 lb / 30 g
	Contact reliability			≥12 V; ≥5 mA	≥12 V; ≥5 mA
	Minimum distance of open contacts			3.6 mm	0.142 in / 3.6 mm
	Power dissipation per pole		W	0.3	0.3 (at I _{th} = 6 A)
	Maximum back-up fuse for short-circuit protection gL and gG: coordination type 2 (at prospective current 3 kA)	I _v	A	6	6
	Maximum back-up fuse for short-circuit protection KS acc. to UL and CSA	I _v	A		6
	Rated insulation voltage	U _i	V	500	500
	Rated impulse withstand voltage	U _{imp}	kV	4	4
	Rated operational voltage	U _e	V	230/400	IEC: 230 /400 UL: C300 (120 VAC, 240 VAC) UL: Q300 (125 VDC, 250 VDC)
	Rated frequency	f	Hz	50/60	50/60
	Thermal current	I _{th}	A	6	IEC: 6; UL: 2.5
	Rated operational current for AC-15:				
	single-phase 230 V	I _e	A	6	6
	single-phase 400 V			4	4
	Electrical endurance for AC-15		op. c.	50.000	50.000
	Switching of auxiliary loads acc. to standard UL and CSA				C300, Q300
	Electrical endurance for auxiliary loads acc. UL and CSA		op. c.		50.000
	Rated operational current for DC-13:				
	1 pole ... 24 VDC / 48 VDC / 60 VDC / 110 VDC / 220 VDC	I _e	A	6/4/1/0.3/0.05	6/4/1/0.3/0.05
	2 poles in series ... 24 VDC / 48 VDC / 60 VDC / 110 VDC / 220 VDC			6/6/4/1/0.1	6/6/4/1/0.1
	Electrical endurance for DC-13		op. c.	50.000	50.000
	Switching of auxiliary loads acc. to standard UL and CSA				C300, Q300
	Electrical endurance for auxiliary loads acc. UL and CSA		op. c.		50.000
	Terminal capacity:				
	rigid (solid and stranded)	S		1 ... 2.5 mm ²	16 ... 14 AWG / 1 ... 2.5 mm ²
	flexible			1 ... 2.5 mm ²	16 ... 14 AWG / 1 ... 2.5 mm ²
	Length of removed wire insulation			7 mm	0.276 in / 7 mm
	Screw			M3	M3
	Screw head			PZ1	PZ1
	Tightening torque			0.8 Nm	7.08 lb-in / 0.8 Nm
SAFETY	MTTF - Mean time to failure		h	833	694
	MTTF = 1/λ = B10/(0.1 n _{op})				
	MTTF _d - Mean time to failure dangerous		h	1.666	1.388
	MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})				
	B10 - Number of operating cycles until 10 % of devices fail		op. c.	25.000	25.000
	B10 _d - Number of operating cycles until 10 % of device dangerous		op. c.	50.000	50.000
	B10 _d = B10/ratio of dangerous failures				
	λ - Failure rate		1/h	0.0012	0.00144
	λ = (0.1 n _{op})/B10				
	λ _d - Failure rate dangerous		1/h	0.0006	0.00072
	λ _d = (0.1 n _{op})/B10 _d				
	Ratio of dangerous failures		%	50	50
	n _{op} - Operating cycles (operating cycles/h)		op. c./h	300	360

¹⁾ IP40 when installed in installation box - distribution boards

INSTALLATION SWITCHES - IKS-R

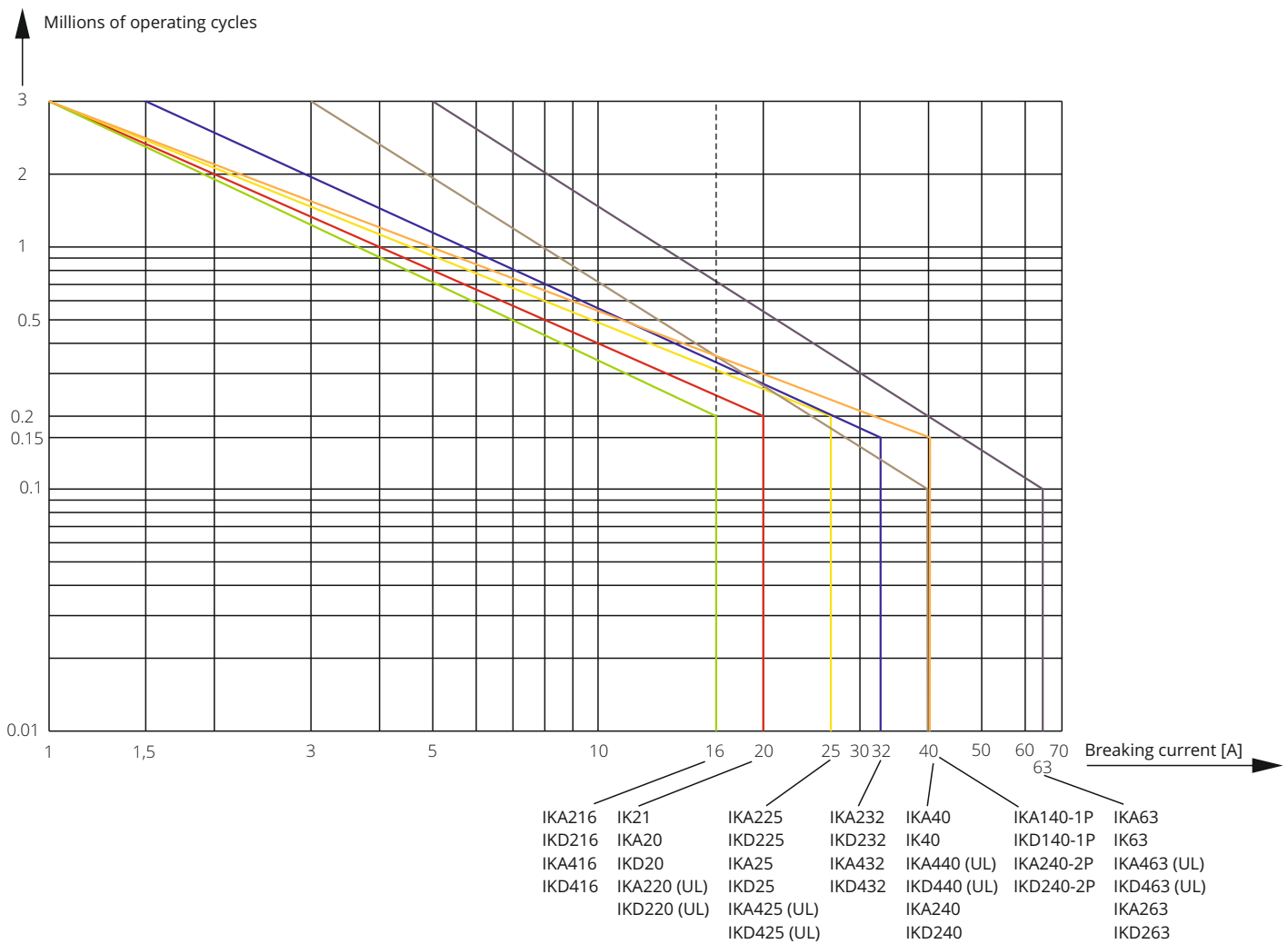
INSTALLATION MOMENTARY - IKS-T

GENERAL	Type	Symbol	Unit	IKS220-R IKS220-T	IKS225-R IKS225-T	IKS232-R IKS232-T	IKS420-R IKS42-T	IKS425-R IKS425-T	IKS432-R IKS432-T
	Standards			IEC/EN 60947-3					
	Approvals			CE					
	Module width			2				4	
	Number of poles			2				4	
	Degree of protection			IP20 (IP40 when installed in installation box - distribution board)					
	Pollution degree			3					
	Climatic conditions			95 % relative humidity					
	Ambient temperature (open)		°C	-25 ... +55					
	Storage temperature		°C	-30... +80					
	Maximum altitude		m	2000					
	U _i and U _e is reduced for 1.2 % and I _e for 0.4 % for every additional 100 m								
	Number of contactors or switches side-by-side: ≤40 °C			no limitation					
	(40 ... 55) °C								
	Maximum operating frequency with no load		op. c./h	600					
	Mechanical endurance		op. c.	1.000.000					
Weight		g	55				105		
MAIN CIRCUIT	Contact reliability			≥17 V; ≥50 mA					
	Minimum distance of open contacts		mm	3.6					
	Power dissipation per pole		W	1.7	2	2.5	1.7	2	2.5
	Overload current withstand capability: 10 s			72				68	
	Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1 (at prospective current 3 kA)	I _v	A	20	25	32	20	25	32
	Rated insulation voltage	U _i	V	440					
	Rated impulse withstand voltage	U _{imp}	kV	4					
	Rated operational voltage	U _e	V	230					
	Rated frequency	f	Hz	50/60					
	Thermal current	I _{th}	A	20	25	32	20	25	32
	Rated operational current for AC-1, AC-7a and AC-21	I _e	A	20	25	32	20	25	32
	Operational power for AC-1, AC-7a and AC-21: single-phase 230 V	P _e	kW	4	5.4	7	4	5.4	7
	three-phase 230 V							9	12
	Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h	300					
	Electrical endurance for AC-1, AC-7a and AC-21		op. c.	100.000					
	Rated operational current for AC-22	I _e	A	20	25	32	20	25	32
	Operational power for AC-22: single-phase 230 V	P _e	kW	3.7	4.6	5.9	3.7	4.6	5.9
	three-phase 230 V							8	10.2
	Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h	300					
	Electrical endurance for AC-1, AC-7a and AC-21		op. c.	50.000					
	Rated operational current for AC-5a (at 230 V)	I _e	A	8.8	11	13	8.8	11	13
	Maximum operating frequency for AC-5a		op. c./h	300					
	Electrical endurance for AC-5a (at 230 V)		op. c.	100.000					
	Rated operational current for AC-5b (at 230 V)	I _e	A	8.8	9.7	11	8.8	9.7	11
	Maximum operating frequency for AC-5b		op. c./h	300					
	Electrical endurance for AC-5b (at 230 V)		op. c.	100.000					
	Rated operational current for AC-6a (at 230 V)	I _e	A	4	4.8	6	4	4.8	6
	Maximum operating frequency for AC-6a		op. c./h	300					
	Electrical endurance for AC-6a (at 230 V)		op. c.	100.000					
	Switching of capacitors AC-6b and AC-7c (at 230 V)	C	µF	30	36	40	30	36	40
	Maximum operating frequency for AC-6b and AC-7c		op. c./h	300					
	Electrical endurance for AC-6b and AC-7c		op. c.	100.000					
	Terminal capacity: rigid (solid and stranded)	S	mm ²	1 ... 10					
	flexible			1 ... 6					
	Length of removed wire insulation		mm	9					
	Screw			M3.5					
	Screw head			PZ1					
	Tightening torque		Nm	1.2					

Electrical endurance

AC-1/230V/1-phase for IKA20, IKD20, IKA216, IKD216, IKA220 (UL), IKD220 (UL), IKA225, IKD225, IKA232, IKD232, IKA440 (UL), IKD440 (UL), IKA463 (UL), IKD463 (UL), IKA140-1P, IKD140-1P, IKA240-2P, IKD240-2P, IKA240, IKD240, IKD263, IKD263
AC-1/400V/3-phase for IK21, IKA25, IKD25, IKA416, IKD416, IKA425 (UL), IKD425 (UL), IKA432, IKD432, IKA40, IK40, IKA63, IK63

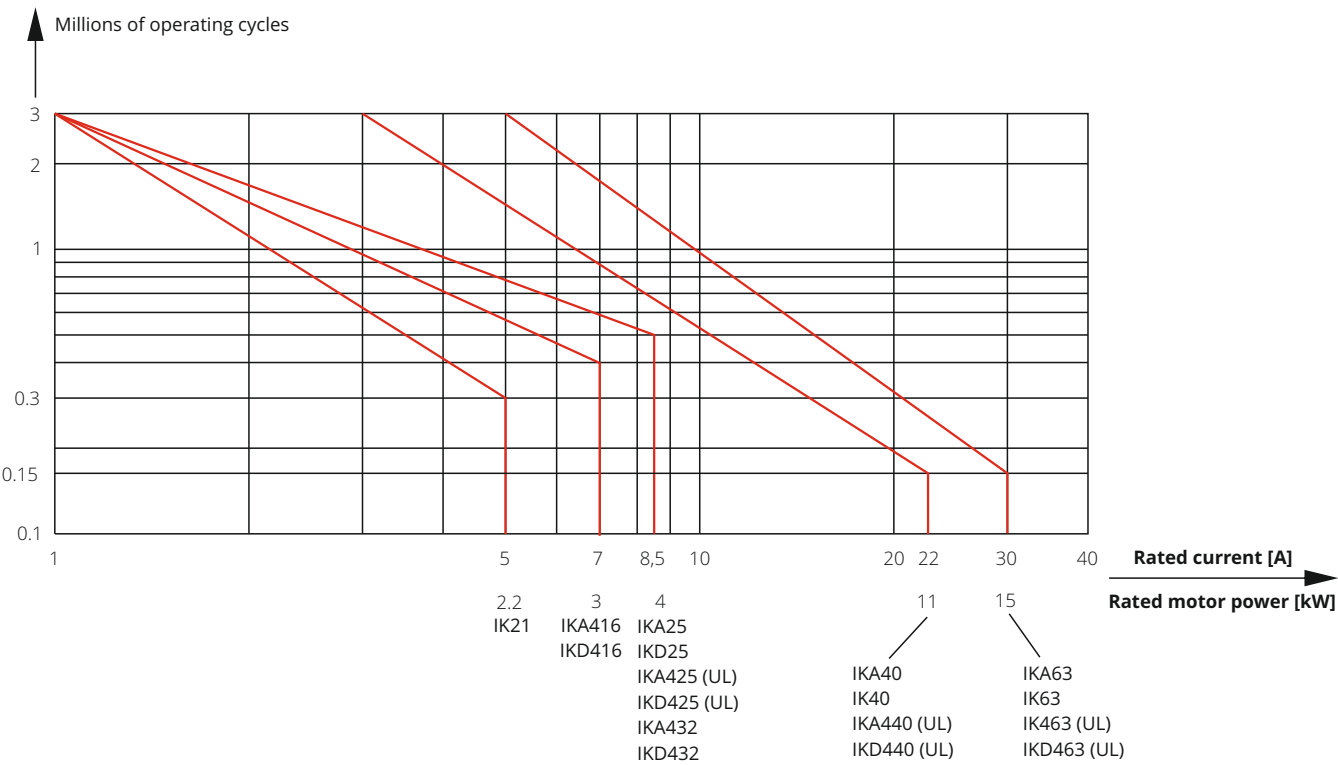
Diagram 1



Electrical endurance

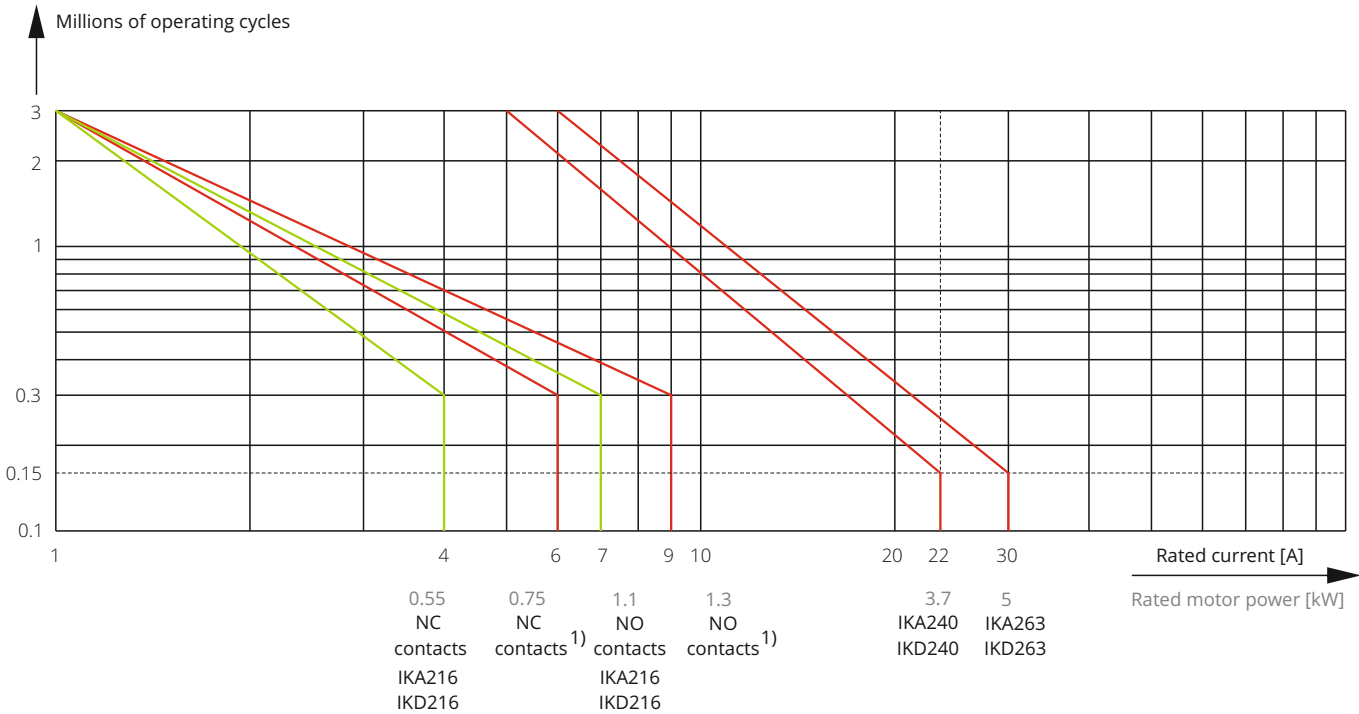
AC-3, AC-3e/400V/3-phase for IK21, IKA416, IKD416, IKA25, IKD25, IKA425 (UL), IKD425 (UL), IKA432, IKD432, IKA40, IKA63, IK63, IKA440 (UL), IKD440 (UL), IKA463 (UL), IKD463 (UL)

Diagram 2



AC-3, AC-3e/230V/1-phase for IKA216, IKD216, IKA20, IKD20, IKA220 (UL), IKD220 (UL), IKA225, IKD225, IKA232, IKD232, IKA240, IKD240, IKA263, IKD263

Diagram 3

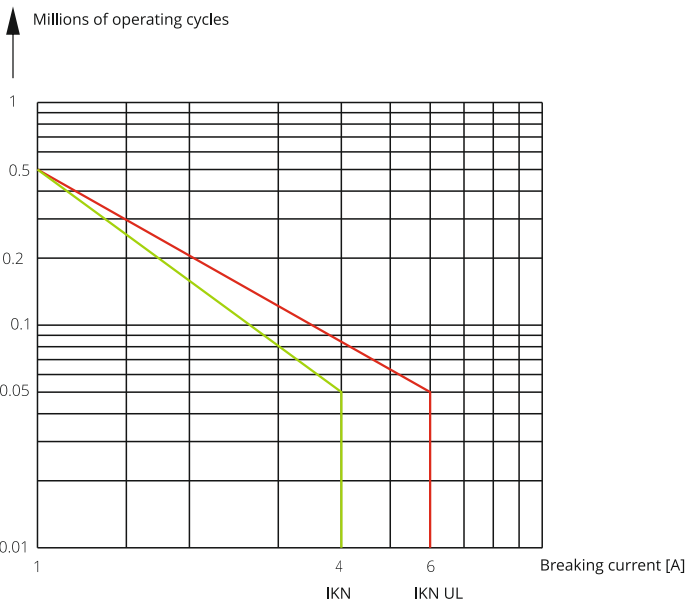


¹⁾ IKA20, IKD20, IKA220 (UL), IKD220 (UL), IKA225, IKD225, IKA232, IKD232

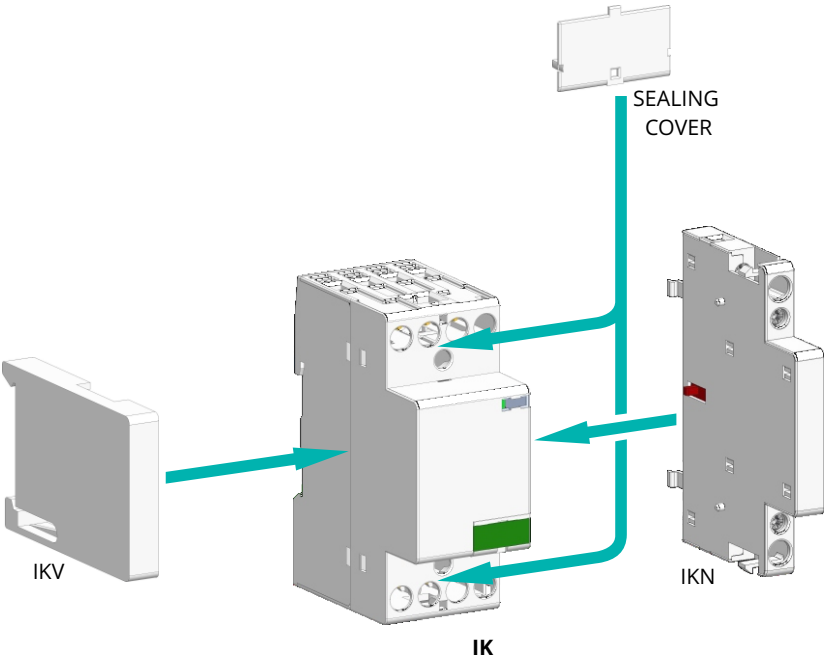
Electrical endurance

AC-15 for IKN, IKN-UL

Diagram 4



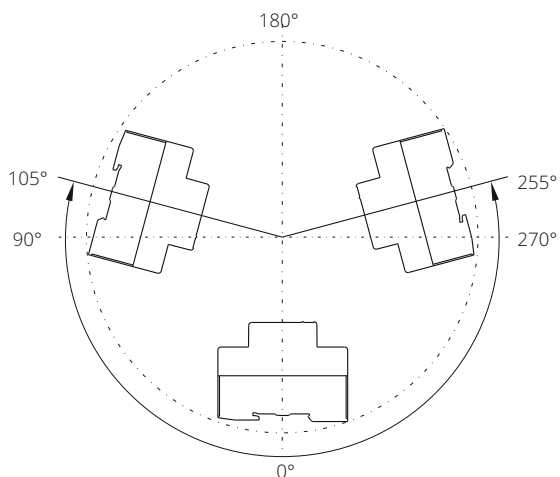
Mounting positions of accessories



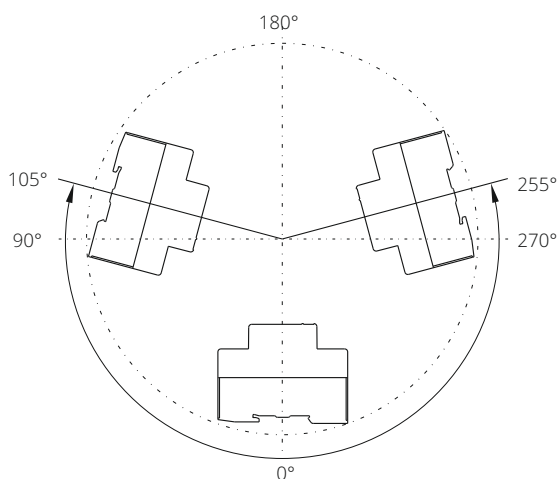
INSTALLATION CONTACTORS

Operation position

**IKA216/20/225/232/140/240/25/432/40/63
IKA220/425/440/463 (UL)**

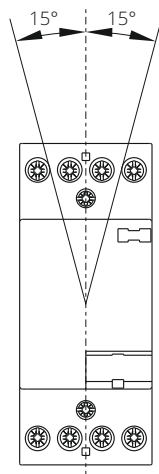


**IKA216/20/225/232-R/-T
IKA25/432-R/-T**

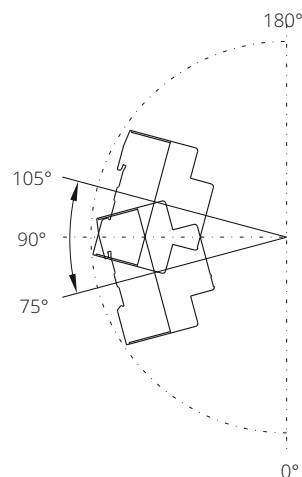


NOTE: IK21 and IKS-R/-T have no limitation

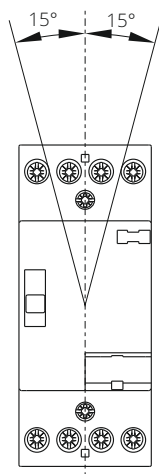
All installation contactors



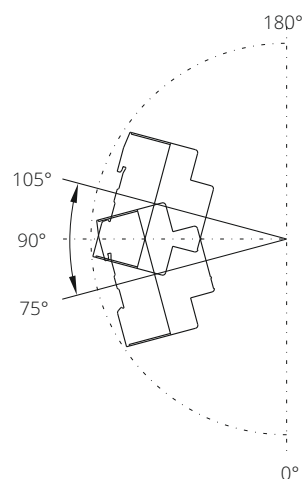
**IKD216/20/225/232/140/240/25/432
IK40/63, IKD220/425/440/463 (UL)**



**IKA/D216/20/225/232-R/-T
IKA/D416/25/432-R/-T**

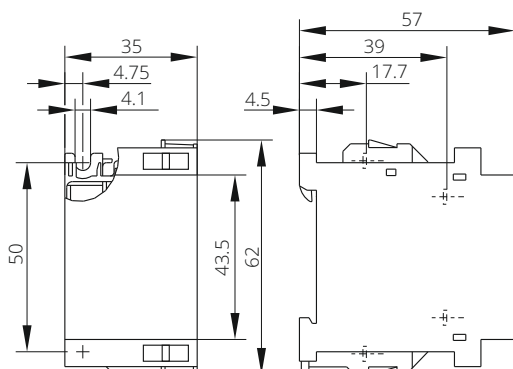


**IKD20/225/232-R/-T
IKD25/432-R/-T**

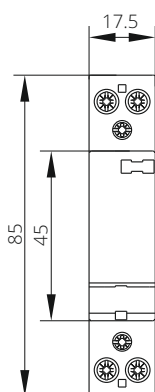


Dimensions (in millimeters)

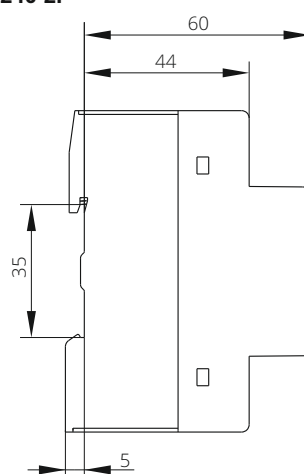
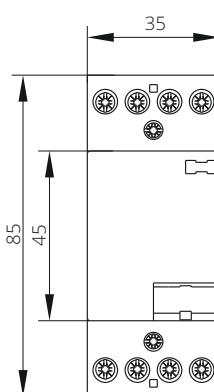
IK21



**IKA216, IKD216
IKA20, IKD20
IKA225, IKD225
IKA232, IKD232
IKA140-1P
IKD140-1P**



**IKA416, IKD416
IKA25, IKD25
IKA25, IKD25
IKA432, IKD432
IKA240-2P, IKD240-2P**

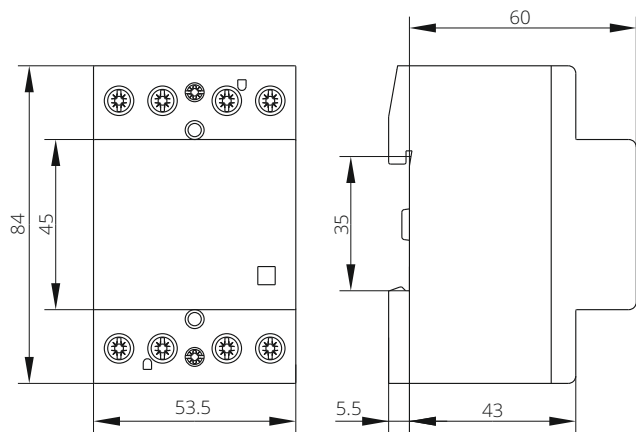


DIMENSIONS

INSTALLATION CONTACTORS

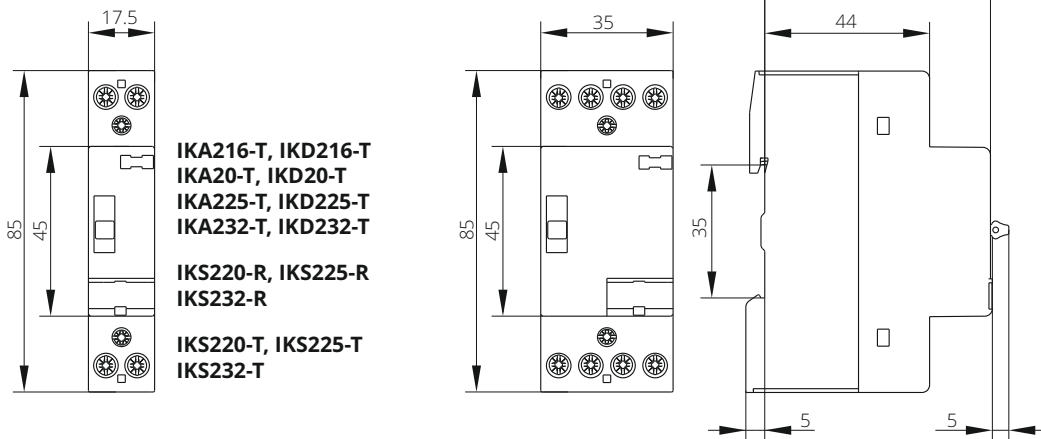
Dimensions (in millimeters unless otherwise stated)

IK40, IK63
IK40, IK63



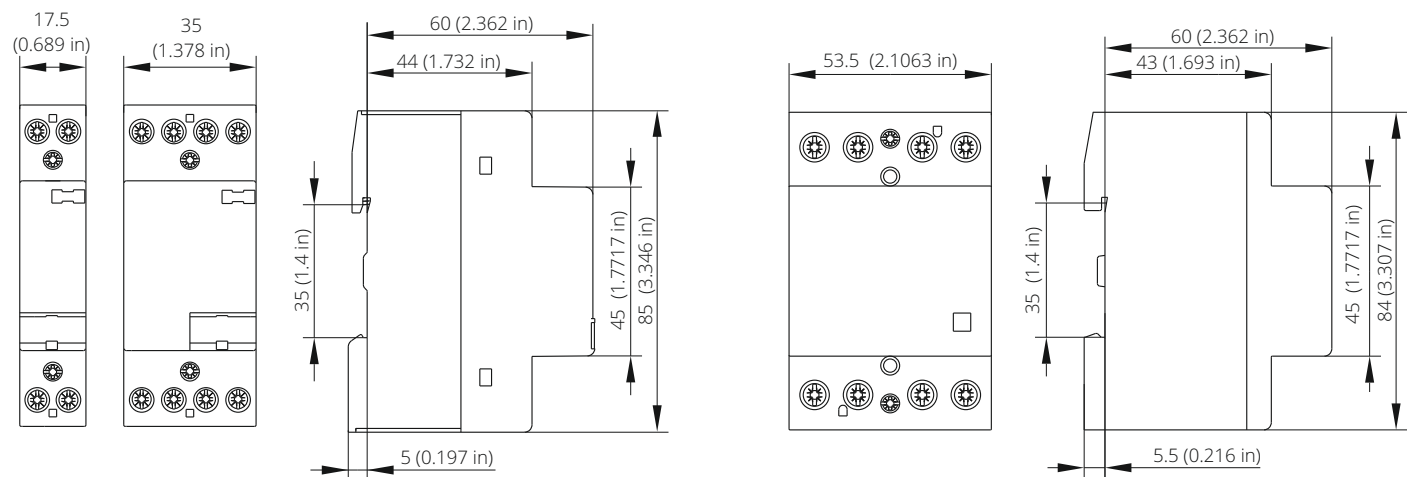
IKA216-R, IKD216-R
IKA20-R, IKD20-R
IKA225-R, IKD225-R
IKA232-R, IKD232-R

IKA416-R, IKD416-R, IKA416-T, IKD416-T
IKA25-R, IKD25-R, IKA25-T, IKD25-T
IKA432-R, IKD432-R, IKA432-T, IKD432-T
IKS420-R, IKS425-R, IKS432-R
IKS420-T, IKS425-T, IKS432-T



IKA220 (UL), IKD220 (UL)
IKA425 (UL), IKD425 (UL)

IKA440 (UL), IKD440 (UL)
IKA463 (UL), IKD463 (UL)

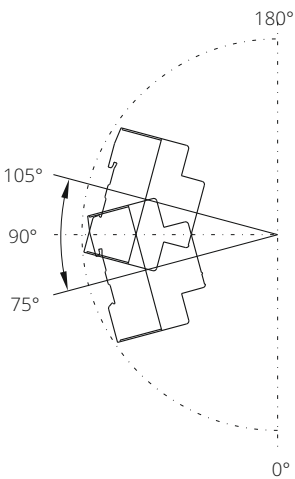
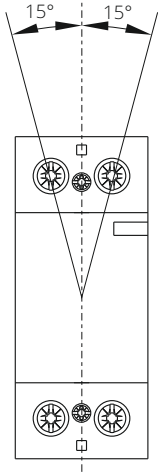
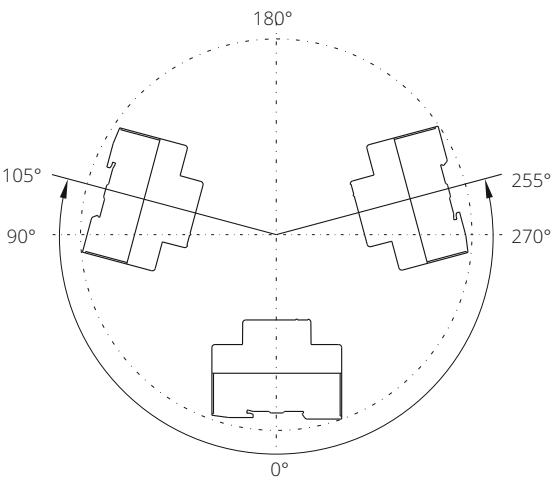


INSTALLATION CONTACTORS

Operation position

IKA240, IKA263
IKD240, IKD263

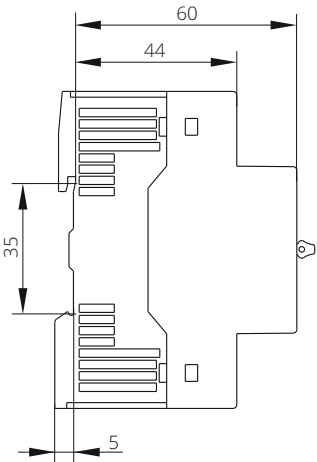
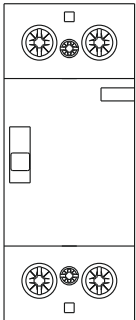
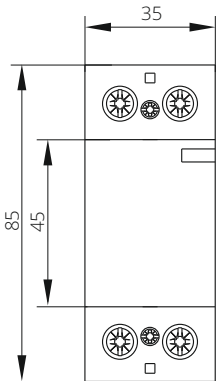
IKA240-R, IKA263-R
IKD240-R, IKD263-R



Dimensions (in milimeters unless otherwise stated)

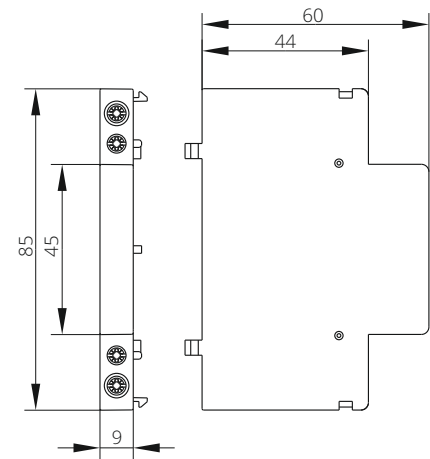
IKA240, IKA263
IKD240, IKD263

IKA240-R, IKA263-R
IKD240-R, IKD263-R

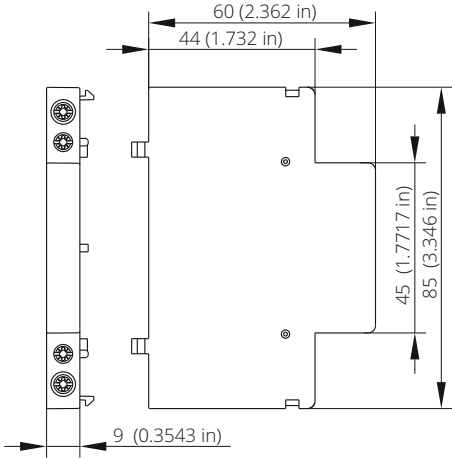


Dimensions (in millimeters unless otherwise stated)

IKN



IKN-UL



IKV

