

INSTALLATION CONTACTORS

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- Width 45 mm
- With thermal and magnetic releases
- Setting ranges 0.1 - 32 A (15 different choices)
- Short-circuit breaking capacity I_{cu} at 400 V: from 100 to 25 kA
- UL, EAC
- Accessories

WITH MANUAL CONTROL

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- Width 45 mm
- With thermal and magnetic releases
- Setting ranges 0.1 - 25 A (13 different choices)
- Short-circuit breaking capacity I_{cu} at 400 V: from 50 to 4 kA
- UL, CSA, EAC
- Accessories

WITH MANUAL MOMENTARY CONTROL

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- Width 45 mm
- With a thermal release only
- Setting ranges 0.25 - 25 A (11 different choices)
- UL, CSA, EAC
- Accessories

UL/CSA INSTALLATION CONTACTORS

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- Width 45 mm
- With a thermal release only
- Setting ranges 0.25 - 25 A (11 different choices)
- UL, CSA, EAC
- Accessories

INSTALLATION SWITCHES

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- Width 45 mm
- With thermal and magnetic releases
- Setting ranges 0.1 - 32 A (15 different choices)
- Short-circuit breaking capacity I_{cu} at 400 V: from 100 to 25 kA
- UL, EAC
- Accessories

INSTALLATION MOMENTARY SWITCHES

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- Width 45 mm
- With thermal and magnetic releases
- Setting ranges 0.1 - 25 A (13 different choices)
- Short-circuit breaking capacity I_{cu} at 400 V: from 50 to 4 kA
- UL, CSA, EAC
- Accessories

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



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.

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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

ORDERING DATA

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INSTALLATION CONTACTORS - 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	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	
IKA225-11	25 A	24 V		30.046.712	130	
IKA232-11	32 A	230 V	30.046.835	130	6	
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
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	6	
IKA232-10	32 A	24 V	30.046.839	125		
IKA216-01	16 A	230 V		30.047.492		125
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	
IKA225-02	25 A	24 V		30.046.846	130	
IKA232-02	32 A	230 V	30.046.847	130	6	
IKA232-02	32 A	24 V	30.046.848	130		



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ORDERING DATA

INSTALLATION CONTACTORS - UP TO 32 A

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

AC

Type	Rated current I _e	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	
IKA416-31	16 A	230 V		30.047.498	230	3
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	
IKA432-31	32 A	24 V		30.046.852	230	
IKA416-30	16 A	230 V		30.047.500	225	3
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	
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	3
IKA416-22	16 A	24 V		30.047.503	230	
IKA25-22	25 A	230 V		30.046.014	230	
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	3
IKA416-04	16 A	24 V		30.047.505	230	
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



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ORDERING DATA

INSTALLATION CONTACTORS - FROM 20 A UP TO 32 A

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

63 A
AC

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	5
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	5
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	5
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	5
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		30.045.605	350	5
IKA63-04	63 A	24 V		30.045.606	350	



3

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

20 A
AC

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	

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)

32 A
AC/DC

HUM-FREE



3

Type	Rated current I _n	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD216-20	16 A	230 V AC 220 V DC		30.047.506	130	6
IKD216-20	16 A	24 V AC/DC		30.047.507	130	
IKD20-20	20 A	230 V AC 220 V DC		30.046.006	130	
IKD20-20	20 A	24 V AC/DC		30.046.024	130	
IKD225-20	25 A	230 V AC 220 V DC		30.046.860	130	
IKD225-20	25 A	24 V AC/DC		30.046.861	130	
IKD232-20	32 A	230 V AC 220 V DC		30.046.862	130	6
IKD232-20	32 A	24 V AC/DC		30.046.863	130	
IKD216-11	16 A	230 V AC 220 V DC		30.047.508	130	
IKD216-11	16 A	24 V AC/DC		30.047.509	130	
IKD20-11	20 A	230 V AC 220 V DC		30.046.011	130	
IKD20-11	20 A	24 V AC/DC		30.046.025	130	
IKD225-11	25 A	230 V AC 220 V DC		30.046.864	130	6
IKD225-11	25 A	24 V AC/DC		30.046.865	130	
IKD232-11	32 A	230 V AC 220 V DC		30.046.866	130	
IKD232-11	32 A	24 V AC/DC		30.046.867	130	
IKD216-10	16 A	230 V AC 220 V DC		30.047.510	125	
IKD216-10	16 A	24 V AC/DC		30.047.511	125	
IKD20-10	20 A	230 V AC 220 V DC		30.046.868	125	6
IKD20-10	20 A	24 V AC/DC		30.046.590	125	
IKD225-10	25 A	230 V AC 220 V DC		30.046.869	125	
IKD225-10	25 A	24 V AC/DC		30.046.870	125	
IKD232-10	32 A	230 V AC 220 V DC		30.046.871	125	
IKD232-10	32 A	24 V AC/DC		30.046.872	125	
IKD216-01	16 A	230 V AC 220 V DC		30.047.512	125	6
IKD216-01	16 A	24 V AC/DC		30.047.513	125	
IKD20-01	20 A	230 V AC 220 V DC		30.046.873	125	
IKD20-01	20 A	24 V AC/DC		30.046.874	125	
IKD225-01	25 A	230 V AC 220 V DC		30.046.875	125	
IKD225-01	25 A	24 V AC/DC		30.046.876	125	
IKD232-01	32 A	230 V AC 220 V DC		30.046.877	125	6
IKD232-01	32 A	24 V AC/DC		30.046.878	125	
IKD216-02	16 A	230 V AC 220 V DC		30.047.514	130	
IKD216-02	16 A	24 V AC/DC		30.047.515	130	
IKD20-02	20 A	230 V AC 220 V DC		30.046.012	130	
IKD20-02	20 A	24 V AC/DC		30.046.026	130	
IKD225-02	25 A	230 V AC 220 V DC		30.046.879	130	6
IKD225-02	25 A	24 V AC/DC		30.046.880	130	
IKD232-02	32 A	230 V AC 220 V DC		30.046.881	130	
IKD232-02	32 A	24 V AC/DC		30.046.882	130	

Other control voltages are on request - define type and voltage

ORDERING DATA

INSTALLATION CONTACTORS - UP TO 32 A

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



HUM-FREE



3

Type	Rated current I _n	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD416-40	16 A	230 V AC 220 V DC		30.047.516	250	
IKD416-40	16 A	24 V AC/DC		30.047.517	250	
IKD25-40	25 A	230 V AC 220 V DC		30.046.008	250	3
IKD25-40	25 A	24 V AC/DC		30.046.031	250	
IKD432-40	32 A	230 V AC 220 V DC		30.046.883	250	
IKD432-40	32 A	24 V AC/DC		30.046.884	250	
IKD416-31	16 A	230 V AC 220 V DC		30.047.518	250	
IKD416-31	16 A	24 V AC/DC		30.047.519	250	
IKD25-31	25 A	230 V AC 220 V DC		30.046.016	250	3
IKD25-31	25 A	24 V AC/DC		30.046.032	250	
IKD432-31	32 A	230 V AC 220 V DC		30.046.885	250	
IKD432-31	32 A	24 V AC/DC		30.046.886	250	
IKD416-30	16 A	230 V AC 220 V DC		30.047.520	245	
IKD416-30	16 A	24 V AC/DC		30.047.521	245	
IKD25-30	25 A	230 V AC 220 V DC		30.046.887	245	3
IKD25-30	25 A	24 V AC/DC		30.046.888	245	
IKD432-30	32 A	230 V AC 220 V DC		30.046.889	245	
IKD432-30	32 A	24 V AC/DC		30.046.890	245	
IKD416-22	25 A	230 V AC 220 V DC		30.047.522	250	
IKD416-22	25 A	24 V AC/DC		30.047.523	250	
IKD25-22	25 A	230 V AC 220 V DC		30.046.017	250	3
IKD25-22	25 A	24 V AC/DC		30.046.033	250	
IKD432-22	32 A	230 V AC 220 V DC		30.046.891	250	
IKD432-22	32 A	24 V AC/DC		30.046.892	250	
IKD416-04	16 A	230 V AC 220 V DC		30.047.524	250	
IKD416-04	16 A	24 V AC/DC		30.047.525	250	
IKD25-04	25 A	230 V AC 220 V DC		30.046.018	250	3
IKD25-04	25 A	24 V AC/DC		30.046.034	250	
IKD432-04	32 A	230 V AC 220 V DC		30.046.893	250	
IKD432-04	32 A	24 V AC/DC		30.046.894	250	

Other control voltages are on request - define type and voltage

ORDERING DATA

INSTALLATION CONTACTORS - FROM 32 A UP TO 63 A

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

63 A
AC

HUM-FREE

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IK40-40	40 A	230 V AC 220 V DC		30.045.010	420	5
IK40-40	40 A	24 V AC/DC		30.045.022	420	
IK63-40	63 A	230 V AC 220 V DC		30.045.011	420	5
IK63-40	63 A	24 V AC/DC		30.045.187	420	
IK40-31	40 A	230 V AC 220 V DC		30.045.086	420	5
IK40-31	40 A	24 V AC/DC		30.045.485	420	
IK63-31	63 A	230 V AC 220 V DC		30.045.087	420	5
IK63-31	63 A	24 V AC/DC		30.045.234	420	
IK40-30	40 A	230 V AC 220 V DC		30.045.268	410	5
IK40-30	40 A	24 V AC/DC		30.045.607	410	
IK63-30	63 A	230 V AC 220 V DC		30.045.608	410	5
IK63-30	63 A	24 V AC/DC		30.045.609	410	
IK40-22	40 A	230 V AC 220 V DC		30.045.150	420	5
IK40-22	40 A	24 V AC/DC		30.045.172	420	
IK63-22	63 A	230 V AC 220 V DC		30.045.235	420	5
IK63-22	63 A	24 V AC/DC		30.045.233	420	
IK40-04	40 A	230 V AC 220 V DC		30.045.145	420	5
IK40-04	40 A	24 V AC/DC		30.045.232	420	
IK63-04	50 A	230 V AC 220 V DC		30.045.610	420	5
IK63-04	50 A	24 V AC/DC		30.045.611	420	

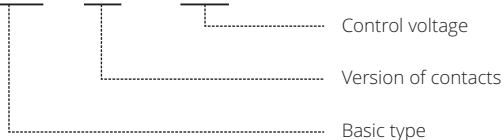


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Other control voltages are on request - define type and voltage

ORDERING DATA

IKA63 - 40 / 12 V



ORDERING DATA



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.



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

ORDERING DATA

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Technical characteristicspage 3-28

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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		
IKA232-20-R	32 A	24 V	30.046.898	130		
IKA216-11-R	16 A	230 V		30.047.528	130	6
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	
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	6
IKA216-10-R	16 A	24 V		30.047.531	125	
IKA20-10-R	20 A	230 V		30.046.496	125	
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		
IKA232-01-R	32 A	24 V	30.046.913	125		
IKA216-02-R	16 A	230 V		30.047.534	130	6
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	
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		



3

Other control voltages are on request - define type and voltage

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	
IKA432-40-R	32 A	24 V		30.046.919	230	
IKA416-31-R	16 A	230 V		30.047.538	230	3
IKA416-31-R	16 A	24 V		30.047.539	230	
IKA25-31-R	25 A	230 V		30.046.272	230	
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	
IKA432-30-R	32 A	24 V		30.046.925	225	
IKA416-22-R	16 A	230 V		30.047.542	230	3
IKA416-22-R	16 A	24 V		30.047.543	230	
IKA25-22-R	25 A	230 V		30.046.273	230	
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	
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	
IKA40-31-R	40 A	24 V		30.045.744	350	
IKA63-31-R	63 A	230 V		30.045.745	350	5
IKA63-31-R	63 A	24 V		30.045.746	350	
IKA40-22-R	40 A	230 V		30.045.747	350	
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	

63 A
AC



ORDERING DATA

INSTALLATION CONTACTORS - WITH MANUAL CONTROL

UP TO 32 A

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



HUM-FREE



3

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)		
IKD216-20-R	16 A	230 V AC 220 V DC		30.047.546	130	6		
IKD216-20-R	16 A	24 V AC/DC		30.047.547	130			
IKD20-20-R	20 A	230 V AC 220 V DC		30.046.381	130			
IKD20-20-R	20 A	24 V AC/DC		30.046.506	130			
IKD225-20-R	25 A	230 V AC 220 V DC		30.046.930	130			
IKD225-20-R	25 A	24 V AC/DC		30.046.931	130			
IKD232-20-R	32 A	230 V AC 220 V DC		30.046.932	130			
IKD232-20-R	32 A	24 V AC/DC		30.046.933	130			
IKD216-11-R	16 A	230 V AC 220 V DC			30.047.548		130	6
IKD216-11-R	16 A	24 V AC/DC			30.047.549		130	
IKD20-11-R	20 A	230 V AC 220 V DC			30.046.507		130	
IKD20-11-R	20 A	24 V AC/DC			30.046.508		130	
IKD225-11-R	25 A	230 V AC 220 V DC	30.046.934		130			
IKD225-11-R	25 A	24 V AC/DC	30.046.935		130			
IKD232-11-R	32 A	230 V AC 220 V DC	30.046.936		130			
IKD232-11-R	32 A	24 V AC/DC	30.046.937		130			
IKD216-10-R	16 A	230 V AC 220 V DC			30.047.550	125	6	
IKD216-10-R	16 A	24 V AC/DC			30.047.551	125		
IKD20-10-R	20 A	230 V AC 220 V DC			30.046.938	125		
IKD20-10-R	20 A	24 V AC/DC			30.046.939	125		
IKD225-10-R	25 A	230 V AC 220 V DC		30.046.940	125			
IKD225-10-R	25 A	24 V AC/DC		30.046.941	125			
IKD232-10-R	32 A	230 V AC 220 V DC		30.046.942	125			
IKD232-10-R	32 A	24 V AC/DC		30.046.943	125			
IKD216-01-R	16 A	230 V AC 220 V DC			30.047.552	125		6
IKD216-01-R	16 A	24 V AC/DC			30.047.553	125		
IKD20-01-R	20 A	230 V AC 220 V DC			30.046.944	125		
IKD20-01-R	20 A	24 V AC/DC			30.046.945	125		
IKD225-01-R	25 A	230 V AC 220 V DC	30.046.946		125			
IKD225-01-R	25 A	24 V AC/DC	30.046.947		125			
IKD232-01-R	32 A	230 V AC 220 V DC	30.046.948		125			
IKD232-01-R	32 A	24 V AC/DC	30.046.949		125			
IKD216-02-R	16 A	230 V AC 220 V DC			30.047.554	130	6	
IKD216-02-R	16 A	24 V AC/DC			30.047.555	130		
IKD20-02-R	20 A	230 V AC 220 V DC			30.046.950	130		
IKD20-02-R	20 A	24 V AC/DC			30.046.951	130		
IKD225-02-R	25 A	230 V AC 220 V DC		30.046.952	130			
IKD225-02-R	25 A	24 V AC/DC		30.046.953	130			
IKD232-02-R	32 A	230 V AC 220 V DC		30.046.954	130			
IKD232-02-R	32 A	24 V AC/DC		30.046.955	130			

Other control voltages are on request - define type and voltage

ORDERING DATA

INSTALLATION CONTACTORS - WITH MANUAL CONTROL

UP TO 32 A

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



HUM-FREE



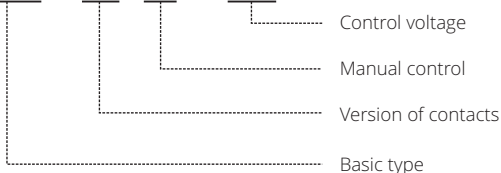
3

Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)		
IKD416-40-R	16 A	230 V AC 220 V DC		30.047.556	250	3		
IKD416-40-R	16 A	24 V AC/DC		30.047.557	250			
IKD25-40-R	25 A	230 V AC 220 V DC		30.046.509	250			
IKD25-40-R	25 A	24 V AC/DC		30.046.510	250			
IKD432-40-R	32 A	230 V AC 220 V DC		30.046.956	250	3		
IKD432-40-R	32 A	24 V AC/DC		30.046.957	250			
IKD416-31-R	16 A	230 V AC 220 V DC			30.046.558		250	3
IKD416-31-R	16 A	24 V AC/DC			30.047.559		250	
IKD25-31-R	25 A	230 V AC 220 V DC	30.046.958		250			
IKD25-31-R	25 A	24 V AC/DC	30.046.959		250			
IKD432-31-R	32 A	230 V AC 220 V DC		30.046.960	250	3		
IKD432-31-R	32 A	24 V AC/DC		30.046.961	250			
IKD416-30-R	16 A	230 V AC 220 V DC			30.047.560		245	3
IKD416-30-R	16 A	24 V AC/DC			30.047.561		245	
IKD25-30-R	25 A	230 V AC 220 V DC	30.046.962		245			
IKD25-30-R	25 A	24 V AC/DC	30.046.963		245			
IKD432-30-R	32 A	230 V AC 220 V DC		30.046.964	245	3		
IKD432-30-R	32 A	24 V AC/DC		30.046.965	245			
IKD416-22-R	16 A	230 V AC 220 V DC			30.047.562		250	3
IKD416-22-R	16 A	24 V AC/DC			30.047.563		250	
IKD25-22-R	25 A	230 V AC 220 V DC	30.046.966		250			
IKD25-22-R	25 A	24 V AC/DC	30.046.967		250			
IKD432-22-R	32 A	230 V AC 220 V DC		30.046.968	250	3		
IKD432-22-R	32 A	24 V AC/DC		30.046.969	250			
IKD416-04-R	16 A	230 V AC 220 V DC			30.047.564		250	3
IKD416-04-R	16 A	24 V AC/DC			30.047.565		250	
IKD25-04-R	25 A	230 V AC 220 V DC	30.046.970		250			
IKD25-04-R	25 A	24 V AC/DC	30.046.971		250			
IKD432-04-R	32 A	230 V AC 220 V DC		30.046.972	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

ORDERING DATA

IKA20 - 20 - R / 12 V



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

ORDERING DATA

Installation contactors with manual momentary control.....page 3-15
Accessoriespage 3-22

Example for Ordering datapage 3-17
Technical characteristics page 3-28
Dimensions page 3-48

INSTALLATION CONTACTORS - WITH MANUAL MOMENTARY 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-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	



3

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

AC

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	



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)



HUM-FREE



3

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		30.047.008	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		30.047.011	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	

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)



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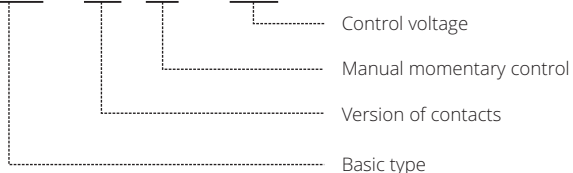
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Type	Rated current I _e	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD416-40-T	16 A	230 V AC 220 V DC		30.047.581	250	
IKD25-40-T	25 A	230 V AC 220 V DC		30.047.014	250	3
IKD432-40-T	32 A	230 V AC 220 V DC		30.047.015	250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

ORDERING DATA

IKA20 - 20 - T / 12 V



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

ORDERING DATA

UL/CSA installation contactors	page 3-19
Accessories	page 3-22
Example for Ordering data	page 3-22
Technical characteristics	page 3-37
Dimensions	page 3-48

INSTALLATION CONTACTORS - UL/CSA

FROM 20 A UP TO 63 A

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

20 A
AC

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		30.047.291	130	6
IKA220-02		120 V		30.047.032	130	
IKA220-02		24 V		30.047.033	130	



3

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

25 A
AC

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	



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

63 A
AC

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	



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	
IKA463-22	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	
IKA463-04	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 220 V DC		30.046.826	130	6
IKD220-20	20 A	120 V AC 110 V DC		30.047.044	130	
IKD220-20	20 A	24 V AC/DC		30.047.045	130	
IKD220-11	20 A	230 V AC 220 V DC		30.047.297	130	6
IKD220-11	20 A	120 V AC 110 V DC		30.047.046	130	
IKD220-11	20 A	24 V AC/DC		30.047.047	130	
IKD220-10	20 A	230 V AC 220 V DC		30.047.298	125	6
IKD220-10	20 A	120 V AC 110 V DC		30.047.048	125	
IKD220-10	20 A	24 V AC/DC		30.047.049	125	
IKD220-01	20 A	230 V AC 220 V DC		30.047.299	125	6
IKD220-01	20 A	120 V AC 110 V DC		30.047.050	125	
IKD220-01	20 A	24 V AC/DC		30.047.051	125	
IKD220-02	20 A	230 V AC 220 V DC		30.047.300	130	6
IKD220-02	20 A	120 V AC 110 V DC		30.047.052	130	
IKD220-02	20 A	24 V AC/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 220 V DC		30.046.828	250	6
IKD425-40	25 A	120 V AC 110 V DC		30.047.054	250	
IKD425-40	25 A	24 V AC/DC		30.047.055	250	
IKD425-31	25 A	230 V AC 220 V DC		30.047.301	250	6
IKD425-31	25 A	120 V AC 110 V DC		30.047.056	250	
IKD425-31	25 A	24 V AC/DC		30.047.057	250	
IKD425-30	25 A	230 V AC 220 V DC		30.047.302	245	6
IKD425-30	25 A	120 V AC 110 V DC		30.047.058	245	
IKD425-30	25 A	24 V AC/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	120 V AC 110 V DC		30.047.062	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



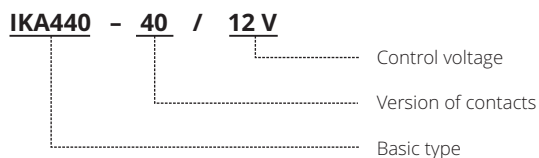
ORDERING DATA

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	33 43	31 43	31	33	31 41	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	



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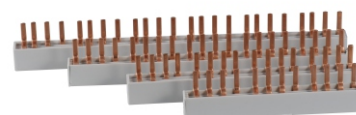
Auxiliary switch - Ratings acc. to UL 580 (2-pole, ½ module)

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	33 43	31 43	31 41	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



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



3

FUNCTION MODES

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

FEATURES

- Easy operation
- Reliable switching
- High 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

ORDERING DATA

Installation switches page 3-25

Example for Ordering data page 3-25

Technical characteristics page 3-44

Dimensions page 3-48

INSTALLATION SWITCHES

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

Type	Rated current I_n	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	



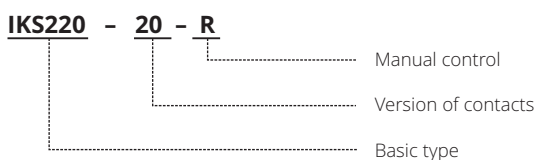
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AC-21 acc. to IEC/EN 60947-3 (4-pole, 2 modules)

Type	Rated current I_n	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



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
- High 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

ORDERING DATA

Installation momentary switches	page 3-27
Ordering data	page 3-27
Technical characteristics	page 3-44
Dimensions	page 3-48

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

3

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	IKD225 IKD225-R IKD225-T
Standards			IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1						
Approvals			CE, EAC	CE		CE, CB, NF, EAC		CE	
Module width			2	1			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						
Ambient temperature (open)		°C	-15 ... +55 ⁴⁾						
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	max. 3					
(40 ... 55) °C				max. 2					
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						
Thermal current	I _{th}	A	20	16			20		25
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

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

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

4) Ambient temperature (open) -25...+55 °C for version with 2NO and 4NO contacts

TECHNICAL DATA

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 ¹⁾	IKD20 IKD20-R IKD20-T ¹⁾	IKA225 IKA225-R IKA225-T	IKD225 IKD225-R IKD225-T
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	μ F			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 \leq 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 \leq 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 \leq 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			
Length of removed wire insulation		mm				9			
Screw						M3.5			
Screw head			PZ2			PZ1			
Tightening torque		Nm				1.2			
Contact reliability									\geq 17 V; \geq 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	IKA216	IKA216-R	IKA216-T	IKA216-R	IKA216-T	IKA20	IKA20-R	IKA20-T ¹⁾	IKA20-R	IKA20-T ¹⁾	IKA225	IKA225-R	IKA225-T	IKA225-R	IKA225-T
				IK21	IK216-R	IK216-T	IK216-R	IK216-T	IK20	IK20-R	IK20-T ¹⁾	IK20-R	IK20-T ¹⁾	IK225	IK225-R	IK225-T	IK225-R	IK225-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	AC	AC/DC	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	50/60	40 ... 500	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	12/10	2.1/2.1	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	2.8/1.2	2.1/2.1	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	15 ... 25	15 ... 45	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	10 ... 30	20 ... 50	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		h	AC-1: 5.000														
	MTTF = 1/λ = B10/(0.1 n _{op})			AC-3: 7.500														
	MTTF _d - Mean time to failure dangerous		h	AC-1: 6.666														
	MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})			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		op. c.	AC-1: 200.000														
	B10 _d = B10/ratio of dangerous failures			AC-3: 300.000														
	λ - Failure rate		1/h	AC-1: 0.0002														
	λ = (0.1 n _{op})/B10			AC-3: 0.000133														
	λ _d - Failure rate dangerous		1/h	AC-1: 0.00015														
λ _d = (0.1 n _{op})/B10 _d			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

	Type	Symbol	Unit	IKA232	IKD232	IKA416	IKD416	IKA25	IKD25	IKA432	IKD432
				IKA232-R IKA232-T	IKD232-R IKD232-T	IKA416-R IKA416-T	IKD416-R IKD416-T	IKA25-R IKA25-T ¹⁾	IKD25-R IKD25-T ¹⁾	IKA432-R IKA432-T	IKD432-R IKD432-T
Standards				IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1							
Approvals				CE				CE, CB, NF, EAC		CE	
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							
Ambient temperature (open)			°C	-15 ... +55 ⁴⁾							
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				max. 3							
(40 ... 55) °C				max. 2							
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
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							
Thermal current	I _{th}	A		32		16		25		32	
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		4		
three-phase 400 V					3		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) Available approvals only CE

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

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

4) Ambient temperature (open) -25...+55 °C for version with 2NO and 4NO contacts

INSTALLATION CONTACTORS - UP TO 32 A

Type	Symbol	Unit	IKA232	IKD232	IKA416	IKD416	IKA25	IKD25	IKA432	IKD432
			IKA232-R IKA232-T	IKD232-R IKD232-T	IKA416-R IKA416-T	IKD416-R IKD416-T	IKA25-R IKA25-T ¹⁾	IKD25-R IKD25-T ¹⁾	IKA432-R IKA432-T	IKD432-R IKD432-T
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	μ F	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 \leq 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 \leq 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				
Length of removed wire insulation		mm				9				
Screw						M3.5				
Screw head						PZ1				
Tightening torque		Nm				1.2				
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			

MAIN CIRCUIT

AUXILIARY CIRCUIT

TECHNICAL DATA

INSTALLATION CONTACTORS - UP TO 32 A

	Symbol	Unit	IKA232	IKD232	IKA416	IKD416	IKA25	IKD25	IKA432	IKD432		
			IKA232-R IKA232-T	IKD232-R IKD232-T	IKA416-R IKA416-T	IKD416-R IKD416-T	IKA25-R IKA25-T ¹⁾	IKD25-R IKD25-T ¹⁾	IKA432-R IKA432-T	IKD432-R IKD432-T		
AUXILIARY CIRCUIT	Type											
	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					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/DC	
	Standard control voltages	U _c	V	12, 24, 48, 120, 230	120, 230, 400	120, 230	120, 230, 400	120, 230	120, 230, 400	120, 230, 400	120, 230	
	Frequency of AC control voltage	f	Hz	50/60	40 ... 500	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	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⁾	33/25	
	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⁾	5.5/1.6	
	Delays:											
	make	ms	15 ... 25	15 ... 45	10 ... 30	15 ... 45	10 ... 30	15 ... 45	10 ... 30	15 ... 45	10 ... 30	
	brake		10 ... 30	20 ... 50	10 ... 30	20 ... 70	10 ... 30	20 ... 70	10 ... 30	20 ... 70	10 ... 30	
	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	h	AC-1: 3.750		AC-1: 5.000		AC-1: 3.750					
	MTTF = 1/λ = B10/(0.1 n _{op})		AC-3: 7.500		AC-3: 12.500							
	MTTF _d - Mean time to failure dangerous	h	AC-1: 5.000		AC-1: 6.666		AC-1: 5.000					
	MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})		AC-3: 10.000		AC-3: 16.666							
	B10 - Number of operating cycles until 10 % of devices fail	op. c.	AC-1: 112.500 for NO		AC-1: 150.000		AC-1: 112.500					
			AC-3: 225.000		AC-3: 375.000							
	B10 _d - Number of operating cycles until 10 % of device dangerous	op. c.	AC-1: 150.000 for NO		AC-1: 200.000		AC-1: 150.000					
	B10 _d = B10/ratio of dangerous failures		AC-3: 300.000		AC-3: 500.000							
	λ - Failure rate	1/h	AC-1: 0.000266 for NO		AC-1: 0.0002		AC-1: 0.000266					
	λ = (0.1 n _{op})/B10		AC-3: 0.000133		AC-3: 0.00008							
λ _d - Failure rate dangerous	1/h	AC-1: 0.0002 for NO		AC-1: 0.00015		AC-1: 0.0002						
λ _d = (0.1 n _{op})/B10 _d		AC-3: 0.0001		AC-3: 0.00006								
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 - UP TO 63 A

	Type	Symbol	Unit	IKA40	IK40	IKA63	IK63
GENERAL	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	-15 ... +55 ³⁾			
	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	max. 3	no limitation	max. 3
	(40 ... 55) °C			no limitation	max. 2	no limitation	max. 2
	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)	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	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 ¹⁾	
	Operational power for AC-1, AC-7a and AC-21:						
	single-phase 230 V	P _e	kW	8.7		13.3 ²⁾	
	three-phase 230 V			16		24 ²⁾	
	three-phase 400 V			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	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) 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

3) Ambient temperature (open) -25...+55 °C for version with 4NO contacts

INSTALLATION CONTACTORS - UP TO 63 A

MAIN CIRCUIT

Type	Symbol	Unit	IKA40	IK40	IKA63	IK63
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	μ F	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 \leq 1 ms):						
1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A	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 \leq 2 ms):						
1 pole ... 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		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 \leq 7.5 ms):						
1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	I_e	A	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)	S	mm ²	1.5 ... 25			
flexible			1.5 ... 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	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 63 A

	Type	Symbol	Unit	IKA40	IK40	IKA63	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			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		
	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: 2.500	AC-3: 3.750
	MTTF _d - Mean time to failure dangerous MTTF _d = 1/λ _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
	B10 _d - Number of operating cycles until 10 % of device dangerous		op. c.			AC-1: 100.000	AC-3: 150.000
	B10 _d = B10/ratio of dangerous failures					AC-1: 150.000	AC-3: 150.000
	λ - Failure rate λ = (0.1 n _{op})/B10		1/h			AC-1: 0.0004	AC-3: 0.000266
	λ _d - Failure rate dangerous λ _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 -22 and -04 is 6.1 VA/6.1 W

INSTALLATION CONTACTORS - UL/CSA

UP TO 25 A

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 _e for 0.4% for every additional 100 m						
Number of contactors or switches side-by-side: ≤40 °C (40 ... 55) °C			no limitation			
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
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) coordination type 2 (at prospective current 3 kA)	I _v	A			25	25
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 three-phase 230 V three-phase 400 V	P _e	kW	4		5.4	9
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 three-phase 230 V three-phase 400 V	P _e	kW	1.8		2	3.6
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 three-phase 230 V three-phase 400 V	P _e	kW	3.7		4.6	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-7b and AC-23	I _e	A	NO: 9 / NC: 6		8.5	
Operational power for AC-3, AC-7b and AC-23: single-phase 230 V three-phase 230 V three-phase 400 V	P _e	kW	NO: 1.3 / NC: 0.75		1.3	2.2
Maximum operating frequency for AC-3, AC-7b and AC-23		op. c./h	600			
Electrical endurance for AC-3, 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

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TECHNICAL DATA

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	P _e	HP	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	I _e	A	20	20		
three-phase 480 V					25	25
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	I _e	A	20	20		
three-phase 480 V - standard ballast					25	25
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)	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	20/15/10/6/0.6		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			25/18/15/10/6		25/25/20/10/6	
3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					25/25/25/20/15	
4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					25/25/25/20/15	
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		25/10/8/4/0.4	
3 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					25/25/25/15/3	
4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					25/25/25/20/8	
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	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		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					25/25/20/12/2	
4 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC					25/25/25/15/5	
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		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			
Contact reliability			≥17 V; ≥50 mA			
Minimum distance of open contacts			0.118 in / 3.6 mm			
Power dissipation per pole		W	1.7		2.2	
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			25	25
coordination type 2 (at prospective current 3 kA)			20	20		

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TECHNICAL DATA

INSTALLATION CONTACTORS - UL/CSA

UP TO 25 A

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Type	Symbol	Unit	IKA220	IKD220	IKA425	IKD425
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			
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
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 $MTTF = 1/\lambda = B10/(0.1 n_{op})$	h		Motor: 6.250		General Use: 4.166 Motor: 10.416	
MTTF _d - Mean time to failure dangerous $MTTF_d = 1/\lambda_d = B10_d/(0.1 n_{op})$	h		Motor: 8.333		General Use: 5.555 Motor: 13.888	
B10 - Number of operating cycles until 10 % of devices fail	op. c.		Motor: 225.000		General Use: 150.000 Motor: 375.000	
B10 _d - Number of operating cycles until 10 % of device dangerous $B10_d = B10/\text{ratio of dangerous failures}$	op. c.		Motor: 300.000		General Use: 200.000 Motor: 500.000	
λ - Failure rate $\lambda = (0.1 n_{op})/B10$	1/h		Motor: 0.00016		General Use: 0.00024 Motor: 0.000096	
λ_d - Failure rate dangerous $\lambda_d = (0.1 n_{op})/B10_d$	1/h		Motor: 0.00012		General Use: 0.00018 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

TECHNICAL DATA

INSTALLATION CONTACTORS - UL/CSA

UP TO 63 A

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
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

INSTALLATION CONTACTORS - UL/CSA

UP TO 63 A

Type	Symbol	Unit	IKA440	IKD440	IKA463	IKD463
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	P _e	HP	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	I _e	A				
three-phase 480 V			40	40	63	63
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	I _e	A				
three-phase 480 V - standard ballast			30	30	40	40
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)	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	I _e	A		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	I _e	A		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	I _e	A		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)	S			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		
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)	I _v	A		63		80
coordination type 2 (at prospective current 3 kA)				40		63

MAIN CIRCUIT

AUXILIARY CIRCUIT

3

TECHNICAL DATA

INSTALLATION CONTACTORS - UL/CSA

UP TO 63 A

Type	Symbol	Unit	IKA440	IKD440	IKA463	IKD463
Maximum back-up fuse for short-circuit protection K5 acc. to UL and CSA	I_b	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			
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			
MTTF - Mean time to failure $MTTF = 1/\lambda = B10/(0.1 n_{op})$		h	General Use: 2.083 Motor: 3.125			
MTTF _d - Mean time to failure dangerous $MTTF_d = 1/\lambda_d = B10_d/(0.1 n_{op})$		h	General Use: 2.777 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 $B10_d = B10/\text{ratio of dangerous failures}$		op. c.	General Use: 100.000 Motor: 150.000			
λ - Failure rate $\lambda = (0.1 n_{op})/B10$		1/h	General Use: 0.00048 Motor: 0.00032			
λ_d - Failure rate dangerous $\lambda_d = (0.1 n_{op})/B10_d$		1/h	General Use: 0.00036 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				
	Mechanical endurance		op. c.	3.000.000	3.000.000
	Weight			30 g	0.08 lb / 30 g
AUXILIARY CIRCUIT	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	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 MTTF = 1/λ = B10/(0.1 n _{op})		h	833	694
	MTTF _d - Mean time to failure dangerous MTTF _d = 1/λ _d = B10 _d /(0.1 n _{op})		h	1.666	1.388
	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 B10 _d = B10/ratio of dangerous failures		op. c.	50.000	50.000
	λ - Failure rate λ = (0.1 n _{op})/B10		1/h	0.0012	0.00144
	λ _d - Failure rate dangerous λ _d = (0.1 n _{op})/B10 _d		1/h	0.0006	0.00072
	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

Type	Symbol	Unit	IKS220-R	IKS225-R	IKS232-R	IKS420-R	IKS425-R	IKS432-R
			IKS220-T	IKS225-T	IKS232-T	IKS422-T	IKS425-T	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 (40 ... 55) °C			no limitation					
Maximum operating frequency with no load		op. c/h	600					
Mechanical endurance		op. c.	1.000.000					
Weight		g	55			105		
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 three-phase 230 V	P _e	kW	4	5.4	7	4	5.4	7
						7	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 three-phase 230 V	P _e	kW	3.7	4.6	5.9	3.7	4.6	5.9
						6.2	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) flexible	S	mm ²	1 ... 10 1 ... 6					
Length of removed wire insulation		mm	9					
Screw			M3.5					
Screw head			PZ1					
Tightening torque		Nm	1.2					

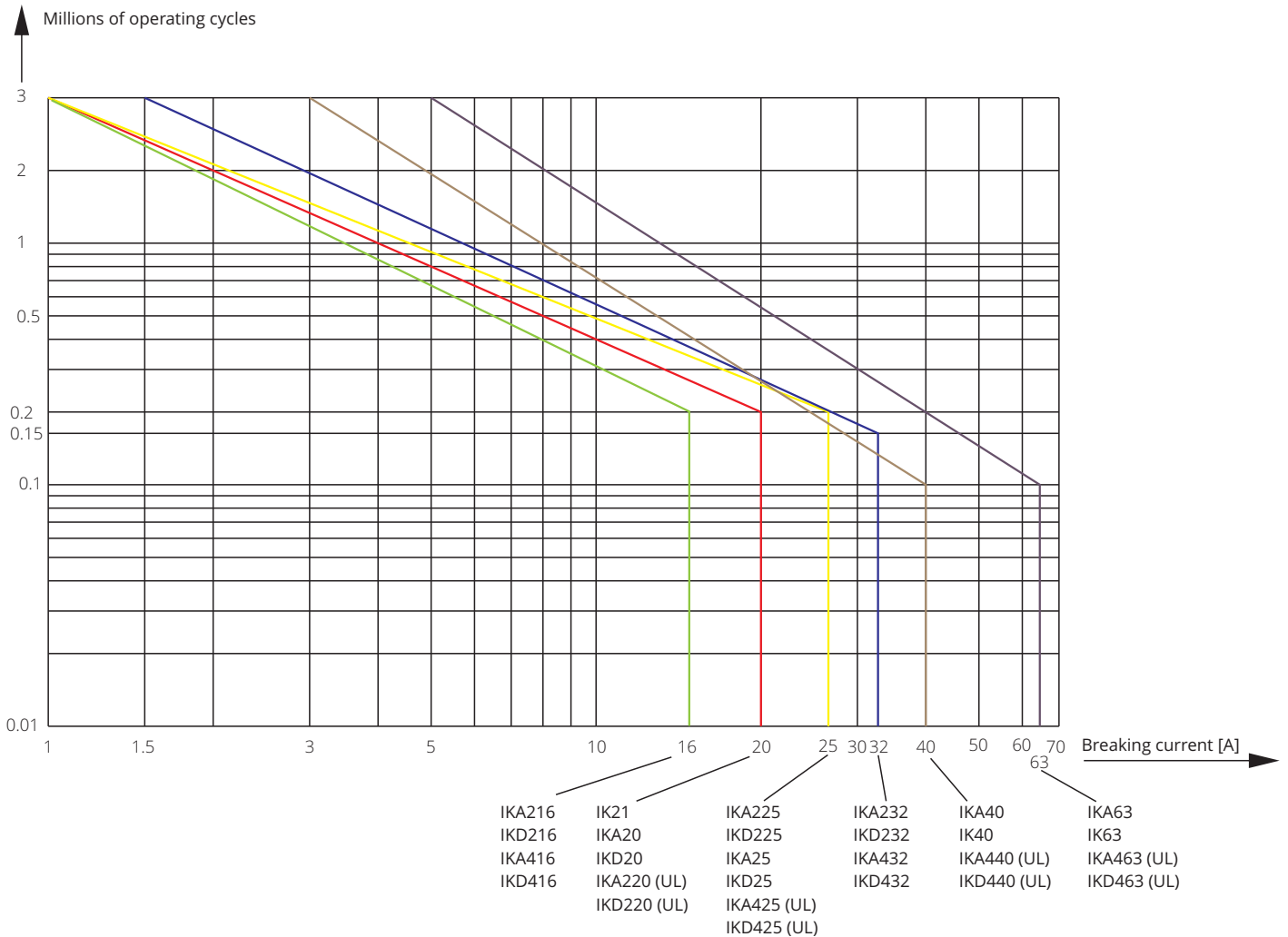
INSTALLATION CONTACTORS

Electrical endurance

AC-1/230V/1-phase for IKA216, IKD216, IKA20, IKD20, IKA220 (UL), IKD220 (UL), IKA225, IKD225, IKA232, IKD232, IKA440 (UL), IKD440 (UL), IKA463 (UL), IKD463 (UL)

AC-1/400V/3-phase for IK21, IKA416, IKD416, IKA25, IKD25, IKA425 (UL), IKD425 (UL), IKA432, IKD432, IKA40, IK40, IKA63, IK63

Diagram 1

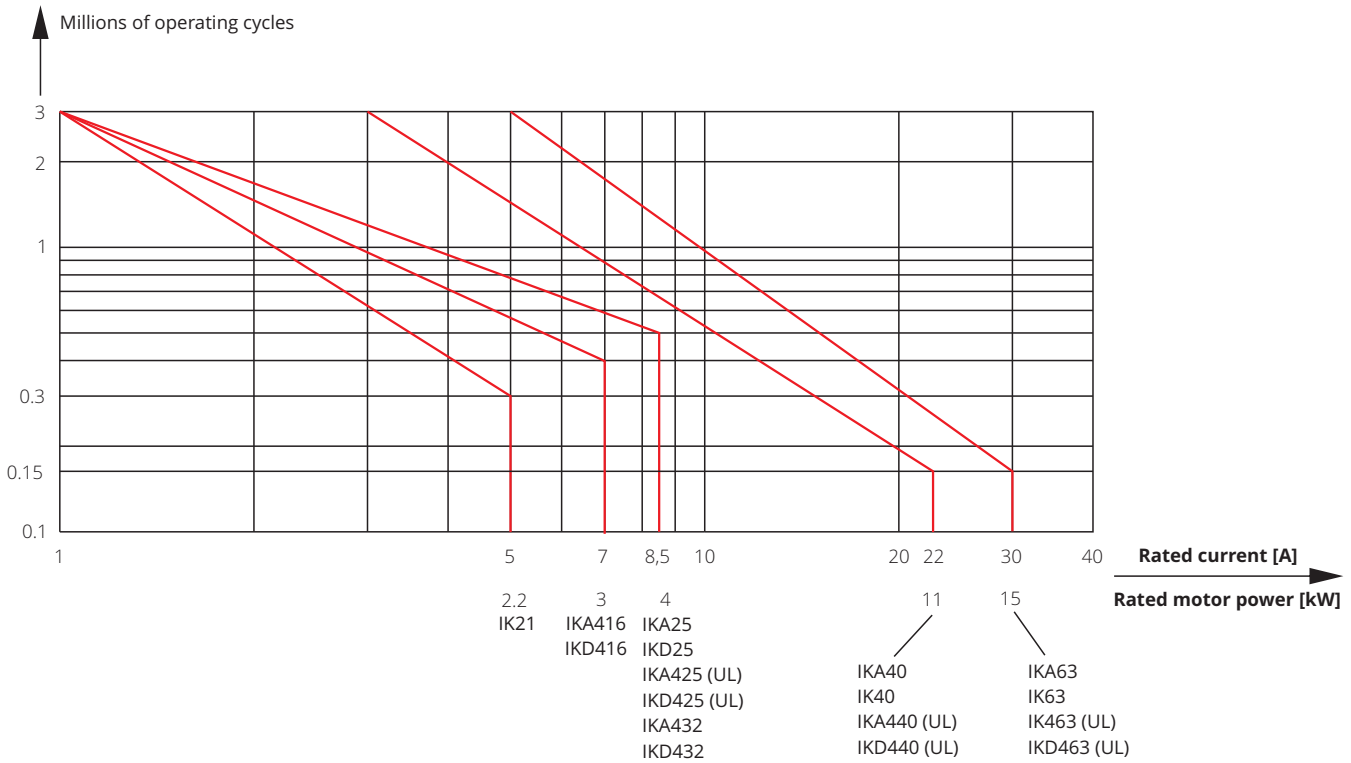


INSTALLATION CONTACTORS

Electrical endurance

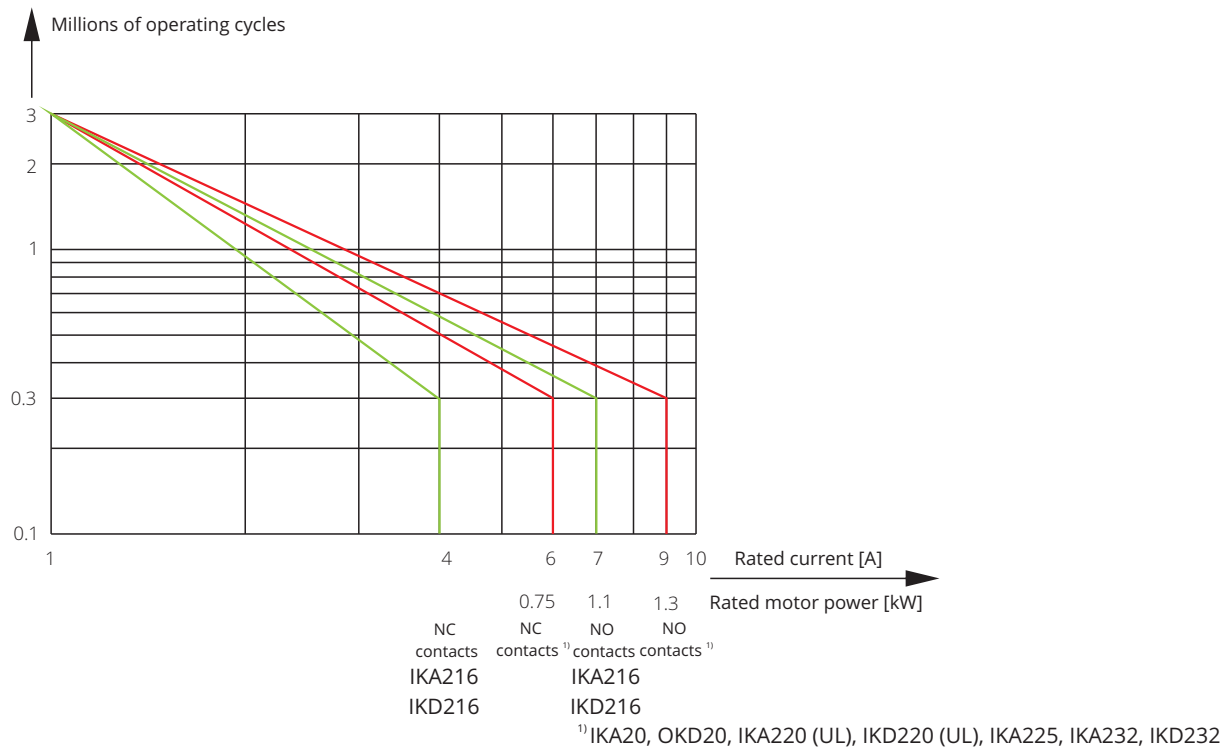
AC-3, AC-3e/400V/3-phase for IK21, IKA416, IKD416, IKA25, IKD25, IKA425 (UL), IKD425 (UL), IKA432, IKD432, IKA40, IKA63, IK63, IKA440 (UL), IKD440 (UL), IKA463 (UL), IKD463 (UL)

Diagram 2



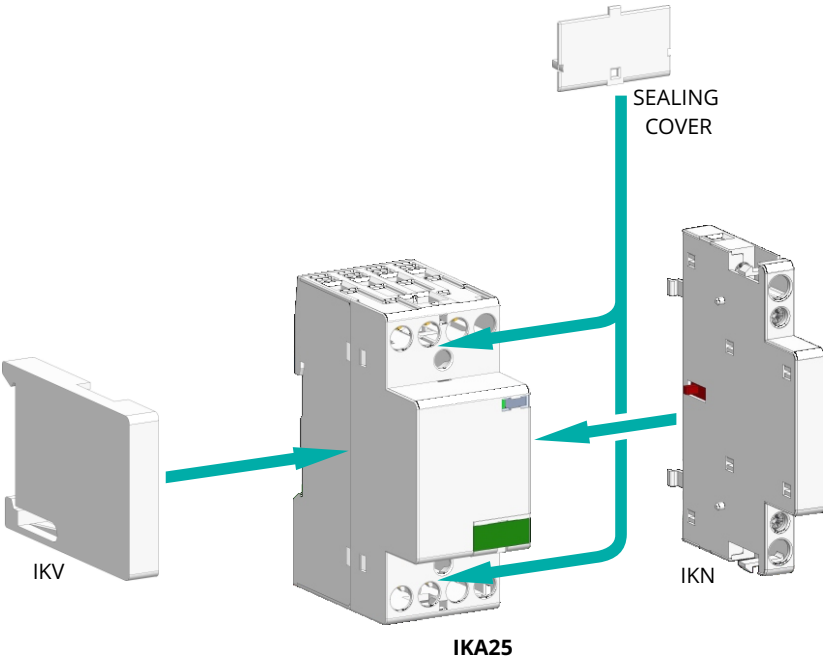
AC-3, AC-3e/230V/1-phase for IKA216, IKD216, IKA20, IKD20, IKA220 (UL), IKD220 (UL), IKA225, IKD225, IKA232, IKD232

Diagram 3



INSTALLATION CONTACTORS

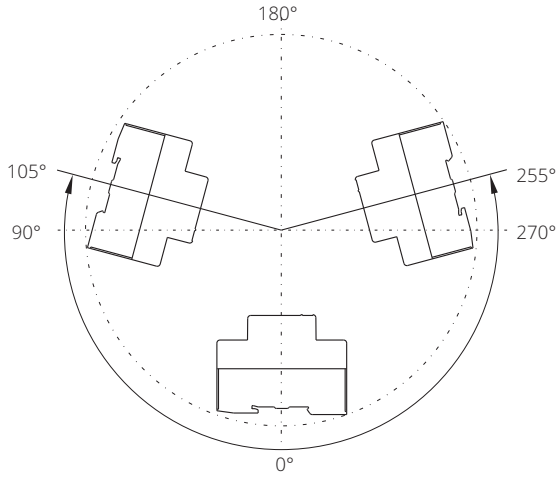
Mounting positions of accessories



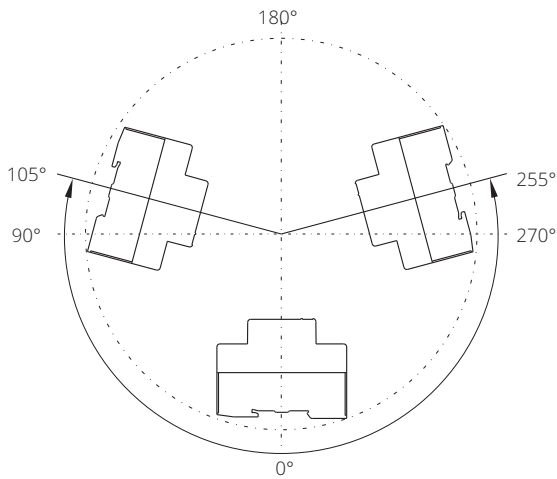
INSTALLATION CONTACTORS

Operation position

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

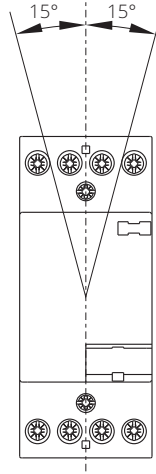


**IKA216/20/225/232-R/-T
IKA25/432-R/-T**

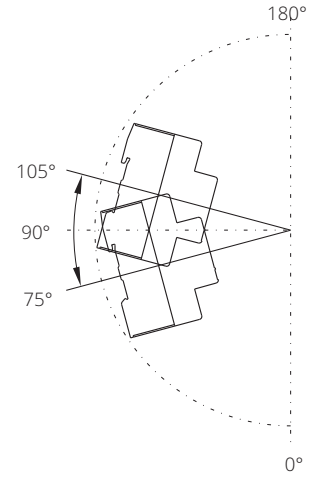


NOTE: IK21 and IKS-R/-T have no limitation

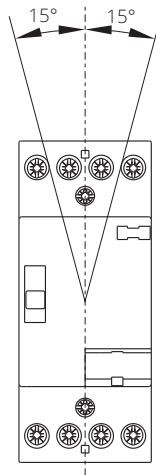
All installation contactors



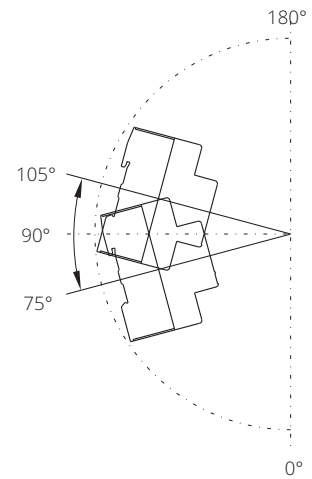
**IKD216/20/225/232/ 25/432
IK40/63, IKD220/425/440/463 (UL)**



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

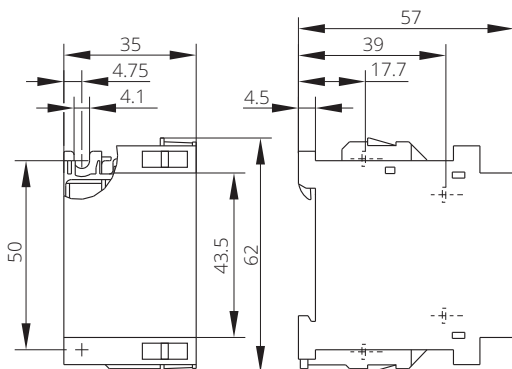


**IKD20/225/232-R/-T
IKD25/432-R/-T**

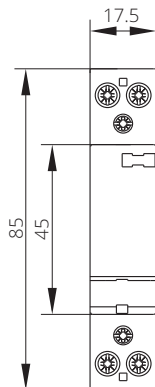


Dimensions (in millimeters)

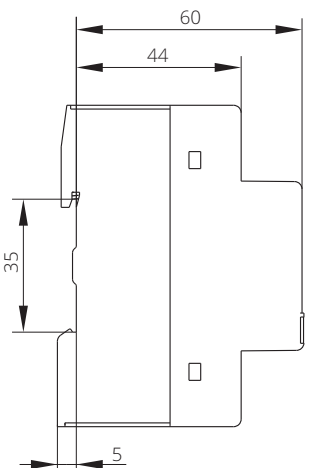
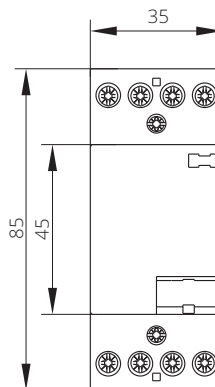
IK21



**IKA216, IKD216
IKA20, IKD20
IKA225, IKD225
IKA232, IKD232**



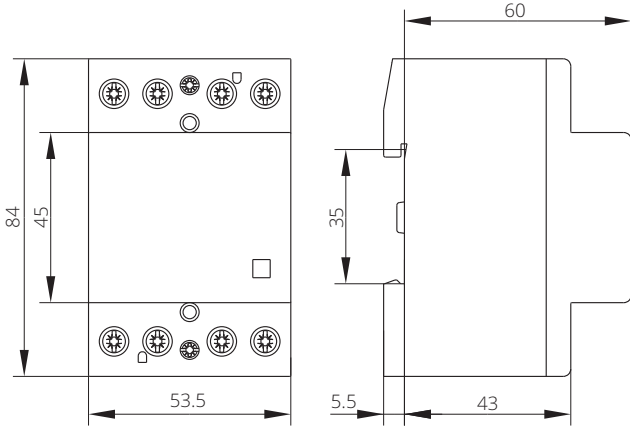
**IKA416, IKD416
IKA25, IKD25
IKA432, IKD432**



INSTALLATION CONTACTORS

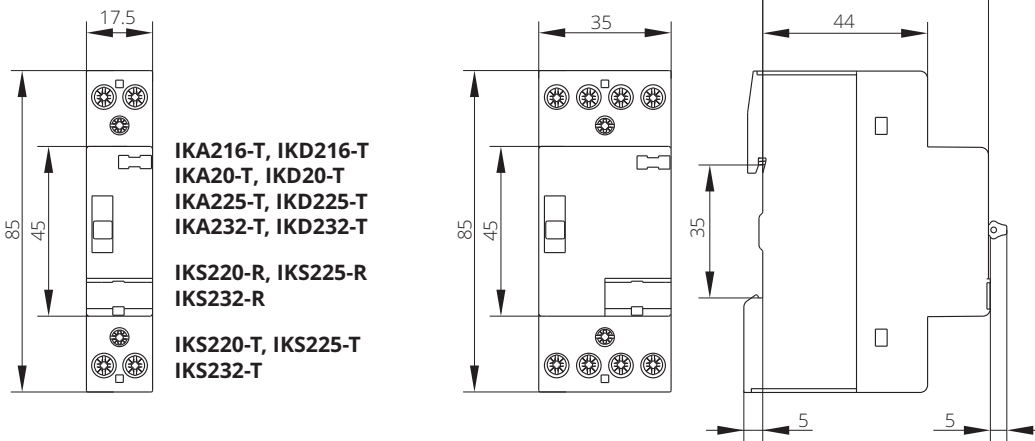
Dimensions (in millimeters unless otherwise stated)

**IK40, IK63
IKA40, IKA63**



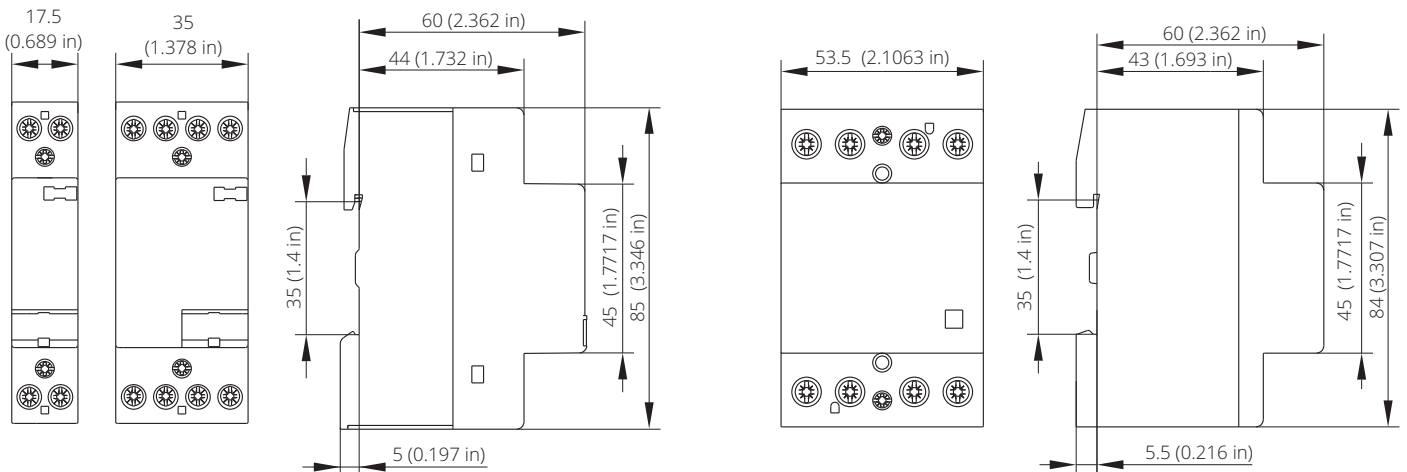
**IKA216-R, IKD216-R
IKA20-R, IKD20-R
IKA225-R, IKD225-R
IKA232-R, IKD232-R**

**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) IKA425 (UL)
IKD220 (UL) IKD425 (UL)**

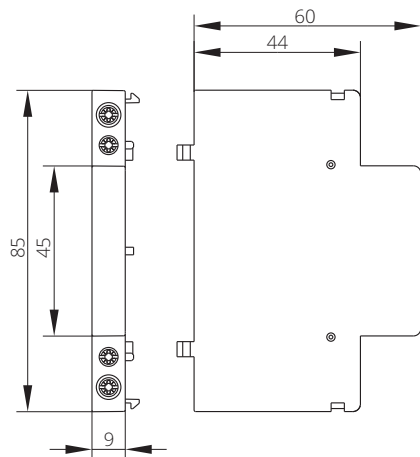
**IKA440 (UL), IKD440 (UL)
IKA463 (UL), IKD463 (UL)**



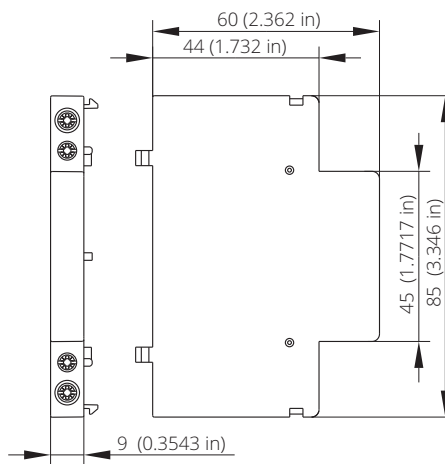
INSTALLATION CONTACTORS

Dimensions (in millimeters unless otherwise stated)

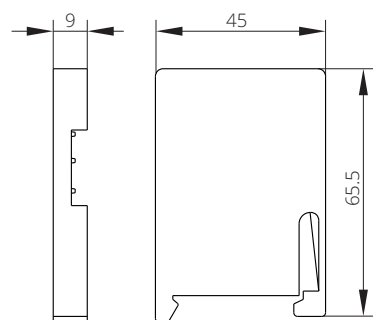
IKN



IKN-UL



IKV



3

DIMENSIONS