

# 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 <sub>n</sub>	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD416-40	16 A	230 V AC 220 V DC		30.047.516	250	3
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	3
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	3
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	3
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	3
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	3
IKD432-30	32 A	24 V AC/DC		30.046.890	245	
IKD416-22	16 A	230 V AC 220 V DC		30.047.522	250	3
IKD416-22	16 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	3
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	3
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	3
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 - WITH MANUAL CONTROL

UP TO 32 A

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



HUM-FREE



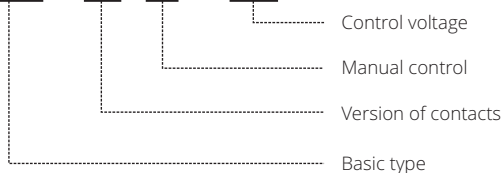
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Type	Rated current I <sub>n</sub>	Control voltage	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD416-40-R	16 A	230 V AC 220 V DC		30.047.556	250	3
IKD416-40-R	16 A	24 V AC/DC		30.047.557	250	
IKD25-40-R	25 A	230 V AC 220 V DC		30.046.509	250	3
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		30.047.558	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	3
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	3
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	3
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	3
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

# INSTALLATION CONTACTORS - WITH MANUAL MOMENTARY 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 <sub>e</sub>	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

# INSTALLATION CONTACTORS - UP TO 32 A

Type	Symbol	Unit	IKA232	IKD232	IKA416	IKD416	IKA25	IKD25	IKA432	IKD432		
			IKA232-R IKA232-T <sup>1)</sup>	IKD232-R IKD232-T <sup>1)</sup>	IKA416-R IKA416-T <sup>1)</sup>	IKD416-R IKD416-T <sup>1)</sup>	IKA25-R IKA25-T <sup>1)</sup>	IKD25-R IKD25-T <sup>1)</sup>	IKA432-R IKA432-T <sup>1)</sup>	IKD432-R IKD432-T <sup>1)</sup>		
Standards			IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1									
Approvals			CE, CB, EAC		CE, EAC		CE, CB, NF, EAC		CE, CB, EAC			
Module width			1				2					
Number of poles			2				4					
Degree of protection			IP20 (IP40 when installed in installation box - distribution board)									
Pollution degree			3									
Climatic conditions			95 % relative humidity									
Operating ambient temperature	°C		-25 ... +70 (2NO)				-25 ... +70 (4NO)					
			-15 ... +70 (1NO)				-15 ... +70 (3NO)					
			-15 ... +70 (1NO+1NC) <sup>4)</sup>				-15 ... +70 (3NO+1NC)					
			-15 ... +55 (2NC)				-15 ... +55 (2NO+2NC)					
			-15 ... +55 (1NC)				-15 ... +55 (4NC)					
Number of contactors or switches side-by-side:			max. 3									
	≤40 °C		max. 2									
	(40 ... 55) °C (55 ... 70) °C		max. 1 (ventilation modules or least 9 mm free space on each side)									
Storage temperature		°C	-40... +80									
Maximum altitude		m	2000									
U <sub>i</sub> and U <sub>e</sub> is reduced for 1.2 % and I <sub>e</sub> for 0.4 % for every additional 100 m												
Noise level (operation)		dB	30	20	30	20	30	20	30	20		
Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)									
Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)									
Maximum operating frequency with no load		op. c./h	3,000									
Mechanical endurance		op. c.	3,000,000	10,000,000	3,000,000	10,000,000	3,000,000	10,000,000	3,000,000	10,000,000		
Weight		g	130	130	230	250	230	250	230	250		
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 <sub>v</sub>	A	32	32			25	25	32	32		
					16	16						
coordination type 2												
Rated insulation voltage	U <sub>i</sub>	V	440									
Rated impulse withstand voltage	U <sub>imp</sub>	kV	4									
Rated operational voltage	U <sub>e</sub>	V	400 <sup>2)3)</sup>				400					
Rated frequency	f	Hz	50/60									
Max. thermal current up to +55 °C	I <sub>th</sub>	A	32		16		25		32			
Max. thermal current @ +70 °C	I <sub>th</sub>	A	32		25		16		20			
Rated operational current for AC-1, AC-7a and AC-21	I <sub>e</sub>	A	32		16		25		32			
Operational power for AC-1, AC-7a and AC-21:	P <sub>e</sub>	kW	7		3,5		5,4		7			
			single-phase 230 V		three-phase 230 V		three-phase 400 V		single-phase 230 V		three-phase 230 V	
			three-phase 400 V		three-phase 230 V		three-phase 400 V		three-phase 230 V		three-phase 400 V	
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 <sub>e</sub>	A	16		10		14		16			
Operational power for AC-2:	P <sub>e</sub>	kW	2,4		1,5		2		2,4			
			single-phase 230 V		three-phase 230 V		three-phase 400 V		single-phase 230 V		three-phase 230 V	
			three-phase 400 V		three-phase 230 V		three-phase 400 V		three-phase 230 V		three-phase 400 V	
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 <sub>e</sub>	A	32		16		25		32			
Operational power for AC-22:	P <sub>e</sub>	kW	5,9		2,9		4,6		5,9			
			single-phase 230 V		three-phase 230 V		three-phase 400 V		single-phase 230 V		three-phase 230 V	
			three-phase 400 V		three-phase 230 V		three-phase 400 V		three-phase 230 V		three-phase 400 V	
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 <sub>e</sub>	A	NO: 9 / NC: 6		7		8,5					
Operational power for AC-3, AC-3e, AC-7b and AC-23:	P <sub>e</sub>	kW	NO: 1,3 / NC: 0,75		1,1		1,3					
			single-phase 230 V		three-phase 230 V		three-phase 400 V		single-phase 230 V		three-phase 230 V	
			three-phase 400 V		three-phase 230 V		three-phase 400 V		three-phase 230 V		three-phase 400 V	
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 <sub>e</sub>	A	NO: 9 / NC: 6		7		8,5					
Operational power for AC-3, AC-3e, AC-7b and AC-23:	P <sub>e</sub>	kW	NO: 1,3 / NC: 0,75		1,1		1,3					
			single-phase 230 V		three-phase 230 V		three-phase 400 V		single-phase 230 V		three-phase 230 V	
			three-phase 400 V		three-phase 230 V		three-phase 400 V		three-phase 230 V		three-phase 400 V	

1) Available approvals only CE and EAC

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

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

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

# INSTALLATION CONTACTORS - UP TO 32 A

Type	Symbol	Unit	IKA232	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	IKD25-R IKD25-T	IKA432-R IKA432-T	IKD432-R IKD432-T
Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c./h					600			
Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	300.000				500.000			
Rated operational current for AC-5a (at 230 V)	$I_e$	A	13		8.8		11.2		13	
Maximum operating frequency for AC-5a		op. c./h					600			
Electrical endurance for AC-5a		op. c.					100.000			
Rated operational current for AC-5b (at 230 V)	$I_e$	A	11		8.8		9.7		11	
Maximum operating frequency for AC-5b		op. c./h					600			
Electrical endurance for AC-5b		op. c.					100.000			
Rated operational current for AC-6a (at 230 V)	$I_e$	A	6		4		2.8		6	
Maximum operating frequency for AC-6a		op. c./h					600			
Electrical endurance for AC-6a		op. c.					100.000			
Switching of capacitors AC-6b and AC-7c (at 230 V)	C	$\mu$ 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 <sup>2</sup>					1 ... 10			
flexible							1 ... 6			
Min. conductor @ rhermal current @ +70 °C		mm <sup>2</sup>	6		2.5		4		6	
Length of removed wire insulation		mm					9			
Screw							M3.5			
Screw head							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	2.5	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	16		25	25	32	32
coordination type 2					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	IKD25-R IKD25-T	IKA432-R IKA432-T	IKD432-R IKD432-T	
<b>AUXILIARY CIRCUIT</b>	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	mm <sup>2</sup>		1 ... 10						
	flexible				1 ... 6						
	Length of removed wire insulation		mm		9						
	Screw				M3.5						
	Screw head		mm		PZ1						
	Tightening torque				1.2						
<b>COIL</b>	Range of control voltage for switch-on	U <sub>c</sub>	%	85 ... 110							
	Range of control voltage for drop out	U <sub>c</sub>	%	AC: 75 ... 20 / DC: 75 ... 10 (where is applicable)							
	Kind of voltage			AC	AC/DC	AC	AC/DC	AC	AC/DC	AC	AC/DC
	Standard control voltages	U <sub>c</sub>	V	12, 24, 48, 120, 230	120, 230	12, 24, 48, 120, 230, 400	120, 230	120, 230, 400	120, 230	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 <sub>c</sub> / 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 <sup>1)</sup>	33/25	2.6/2.6 <sup>1)</sup>	33/25	2.6/2.6 <sup>1)</sup>
	operation			2.8/1.2	2.1/2.1	5.5/1.6	2.6/2.6 <sup>1)</sup>	5.5/1.6	2.6/2.6 <sup>1)</sup>	5.5/1.6	2.6/2.6 <sup>1)</sup>
	Delays:										
	make		ms	15 ... 25	15 ... 45	10 ... 30	15 ... 45	10 ... 30	15 ... 45	10 ... 30	15 ... 45
	brake			10 ... 30	20 ... 50	10 ... 30	20 ... 70	10 ... 30	20 ... 70	10 ... 30	20 ... 70
Terminal capacity:											
rigid (solid and stranded)		mm <sup>2</sup>			1 ... 2.5						
flexible					1 ... 2.5						
Length of removed wire insulation		mm	7								
Screw					M3						
Screw head					PZ1						
Tightening torque		Nm			0.6						
<b>SAFETY</b>	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 <sub>op</sub> )			AC-3: 7.500		AC-3: 12.500					
	MTTF <sub>d</sub> - Mean time to failure dangerous		h	AC-1: 5.000		AC-1: 6.666		AC-1: 5.000			
	MTTF <sub>d</sub> = 1/λ <sub>d</sub> = B10 <sub>d</sub> /(0.1 n <sub>op</sub> )			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 <sub>d</sub> - 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 <sub>d</sub> = 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 <sub>op</sub> )/B10			AC-3: 0.000133		AC-3: 0.00008					
λ <sub>d</sub> - Failure rate dangerous		1/h	AC-1: 0.0002 for NO		AC-1: 0.00015		AC-1: 0.0002				
λ <sub>d</sub> = (0.1 n <sub>op</sub> )/B10 <sub>d</sub>			AC-3: 0.0001		AC-3: 0.00006						
Ratio of dangerous failures		%	75								
n <sub>op</sub> - Operating cycles (operating cycles/h)		op. c./h	300								

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

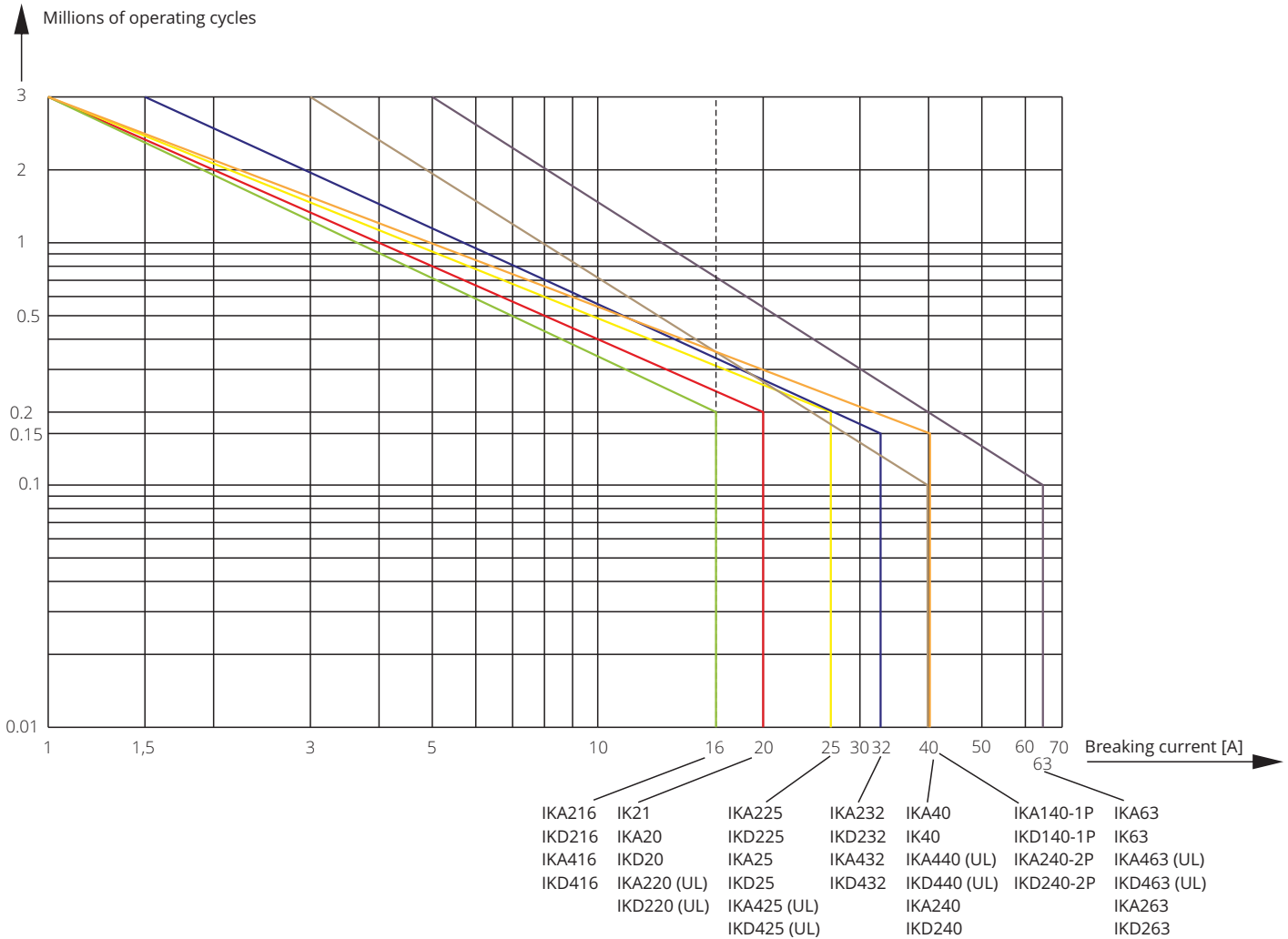
# INSTALLATION CONTACTORS

## Electrical endurance

**AC-1/230V/1-phase** for IKA20, IKD20, IKA216, IKD216, IKA220 (UL), IKD220 (UL), IKA225, IKD225, IKA232, IKD232, IKA440 (UL), IKD440 (UL), IKA463 (UL), IKD463 (UL), IKA140-1P, IKD140-1P, IKA240-2P, IKD240-2P, IKA240, IKD240, IKD263, IKD263

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

Diagram 1

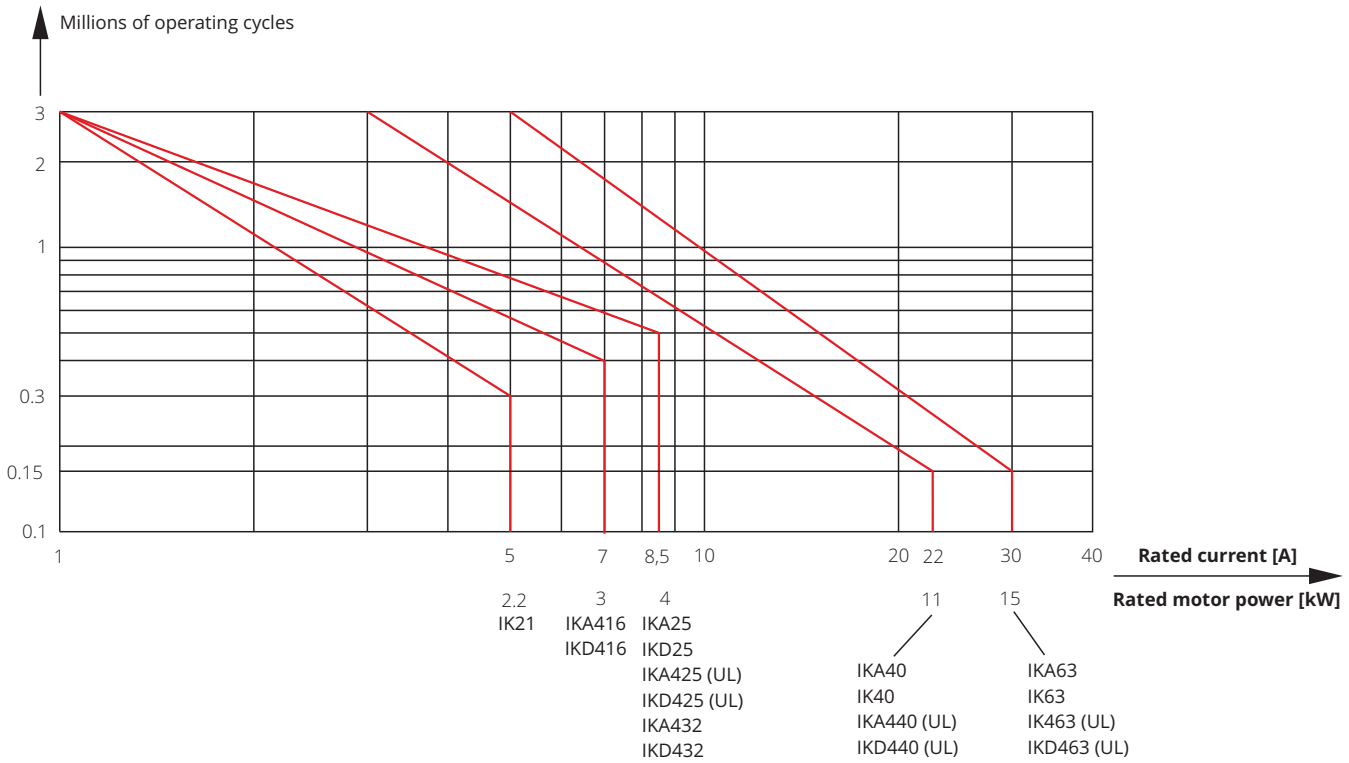


# INSTALLATION CONTACTORS

## Electrical endurance

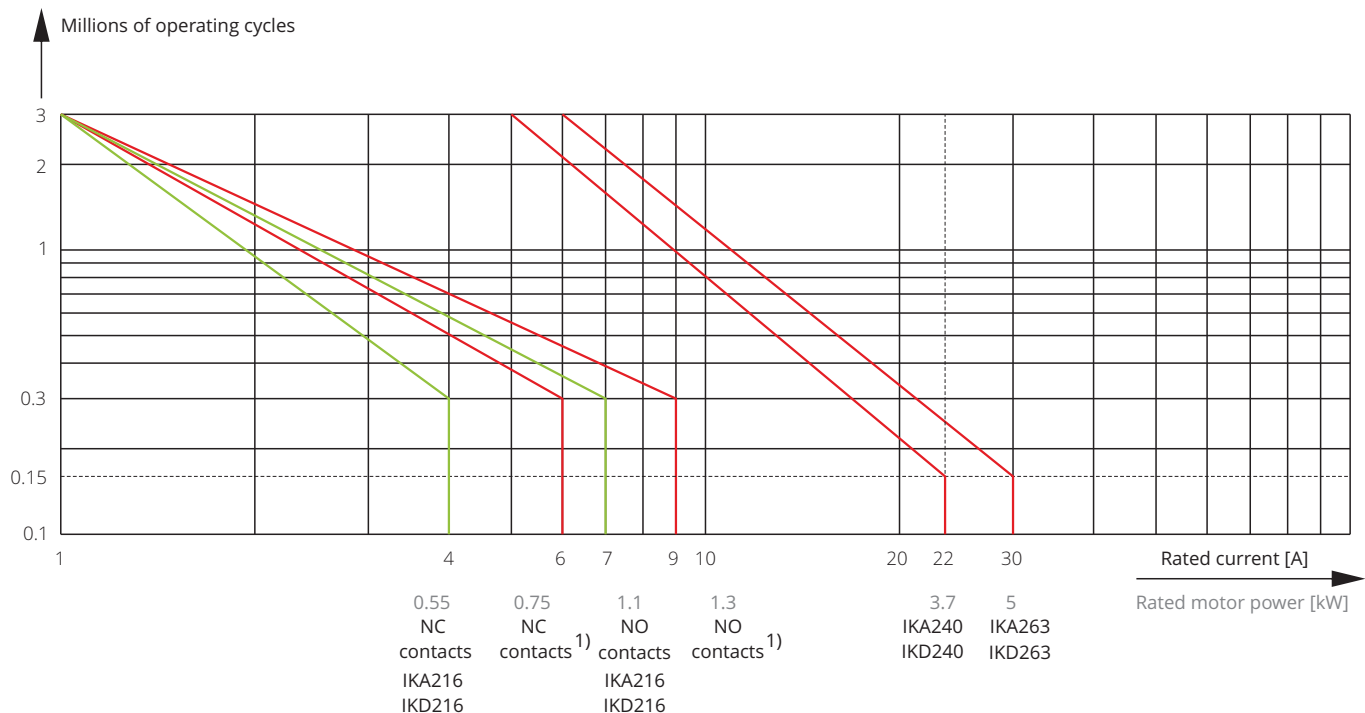
**AC-3, AC-3e/400V/3-phase** for IK21, IKA416, IKD416, IKA25, IKD25, IKA425 (UL), IKD425 (UL), IKA432, IKD432, IKA40, IKA63, IK63, IKA440 (UL), IKD440 (UL), IKA463 (UL), IKD463 (UL)

Diagram 2



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

Diagram 3

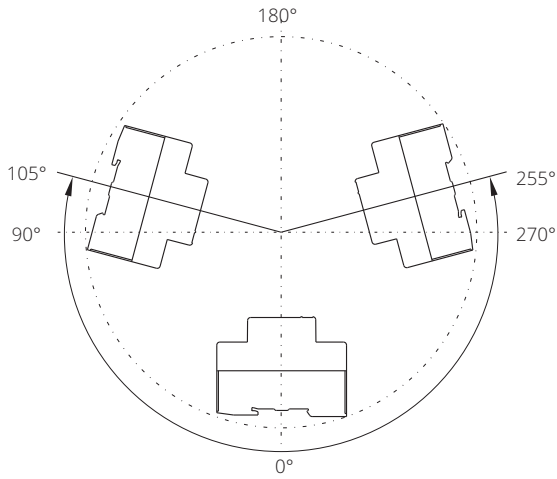


<sup>1)</sup> IKA20, IKD20, IKA220 (UL), IKD220 (UL), IKA225, IKD225, IKA232, IKD232

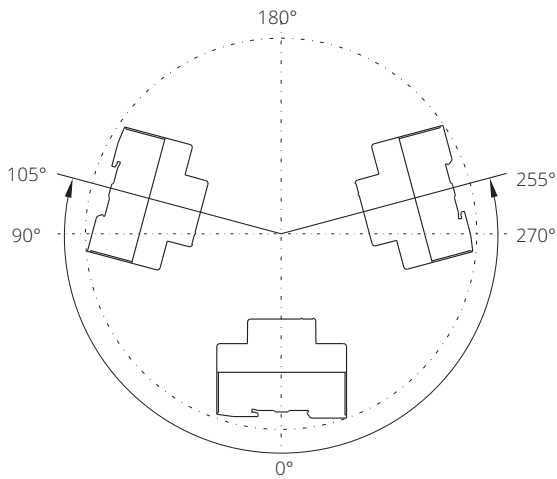
# INSTALLATION CONTACTORS

## Operation position

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

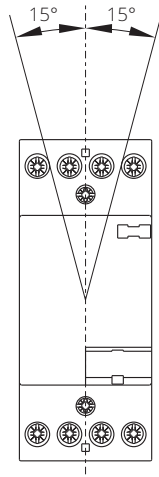


**IKA216/20/225/232-R/-T  
IKA25/432-R/-T**

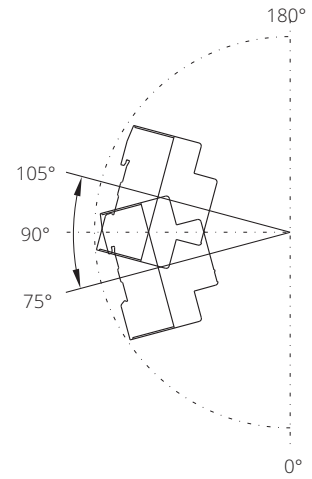


**NOTE:** IK21 and IKS-R/-T have no limitation

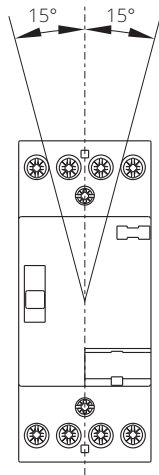
**All installation contactors**



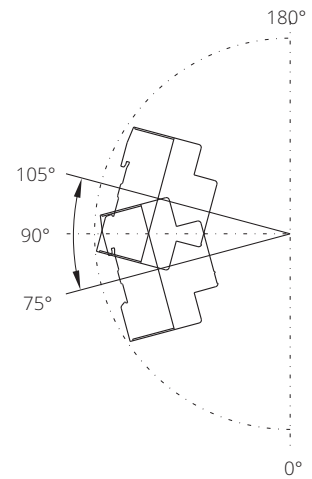
**IKD216/20/225/232/140/240/25/432  
IK40/63, IKD220/425/440/463 (UL)**



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

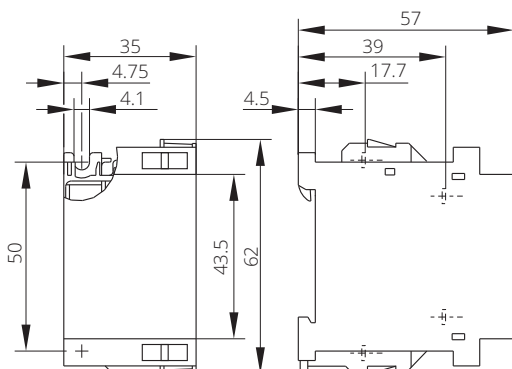


**IKD20/225/232-R/-T  
IKD25/432-R/-T**

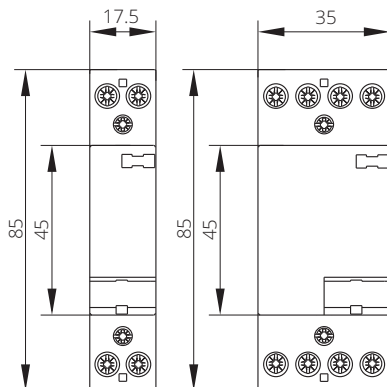


## Dimensions (in millimeters)

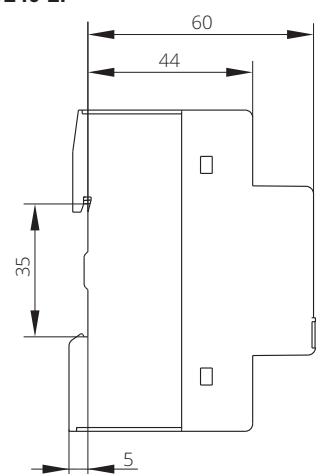
**IK21**



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



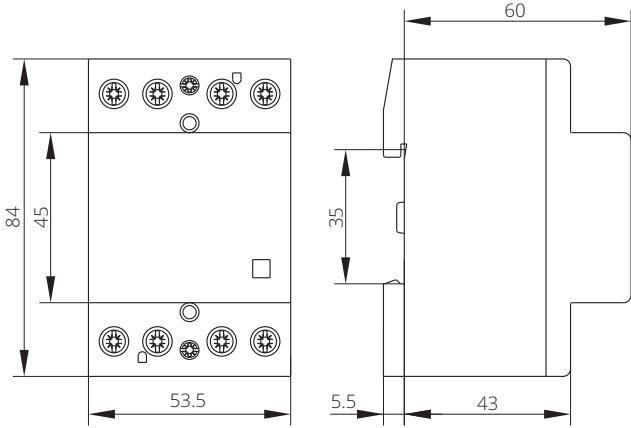
**IKA416, IKD416  
IKA25, IKD25  
IKA25, IKD25  
IKA432, IKD432  
IKA240-2P, IKD240-2P**



# INSTALLATION CONTACTORS

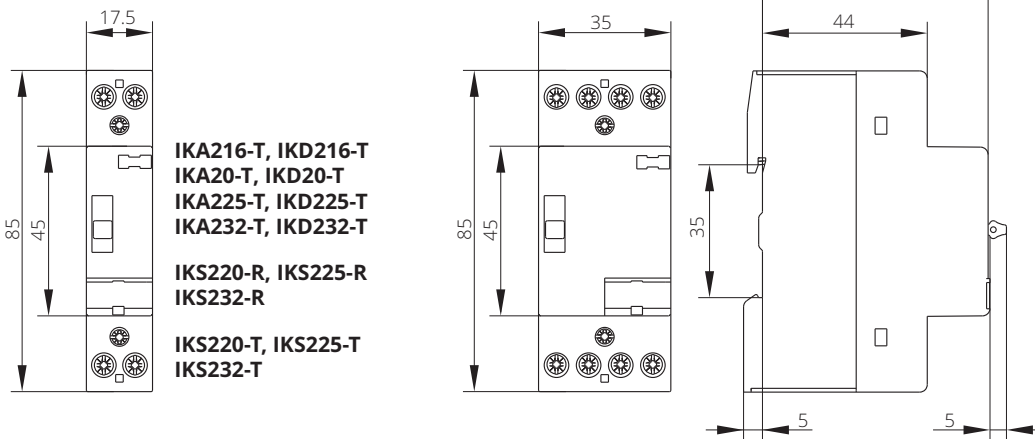
Dimensions (in millimeters unless otherwise stated)

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

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

