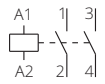
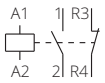
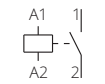
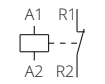
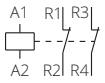
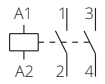
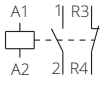
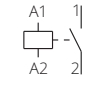
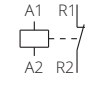
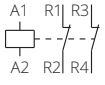
AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 2 module)

AC

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

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

AC/DC

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

ORDERING DATA

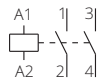
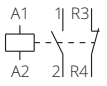
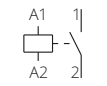
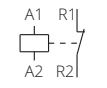
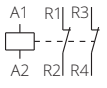
IKA240 – 20 / 24 V

- 24 V — Control voltage
- 20 — Version of contacts
- IKA240 — Basic type

WITH MANUAL CONTROL

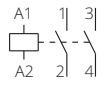
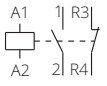
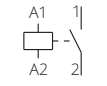
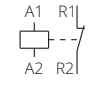
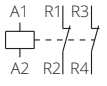
AC-1 acc. to IEC/EN 60947-4-1 (2-pole, 2 module)

AC

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

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

AC/DC

Type	Rated current I_e	Control voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
IKD240-20-R	40 A	230 V AC		30.120.332	270	3
IKD240-20-R		220 V DC				
		24 V AC/DC		30.120.329	270	
IKD263-20-R	63 A	230 V AC		30.120.382	270	
		220 V DC				
IKD263-20-R		24 V AC/DC		30.120.379	270	
IKD240-11-R	40 A	230 V AC		30.120.342	270	3
		220 V DC				
IKD240-11-R		24 V AC/DC		30.120.339	270	
IKD263-11-R	63 A	230 V AC		30.120.392	270	
		220 V DC				
IKD263-11-R		24 V AC/DC		30.120.389	270	
IKD240-10-R	40 A	230 V AC		30.120.347	270	3
		220 V DC				
IKD240-10-R		24 V AC/DC		30.120.344	270	
IKD263-10-R	63 A	230 V AC		30.120.397	270	
		220 V DC				
IKD263-10-R		24 V AC/DC		30.120.394	270	
IKD240-01-R	40 A	230 V AC		30.120.352	270	3
		220 V DC				
IKD240-01-R		24 V AC/DC		30.120.349	270	
IKD263-01-R	63 A	230 V AC		30.120.402	270	
		220 V DC				
IKD263-01-R		24 V AC/DC		30.120.399	270	
IKD240-02-R	40 A	230 V AC		30.120.337	270	3
		220 V DC				
IKD240-02-R		24 V AC/DC		30.120.334	270	
IKD263-02-R	63 A	230 V AC		30.120.387	270	
		220 V DC				
IKD263-02-R		24 V AC/DC		30.120.384	270	

ORDERING DATA

IKA240 – 20 – R / 230 V

- 230 V — Control voltage
- R — Manual control
- 20 — Version of contacts
- IKA240 — Basic type

	Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R
GENERAL	Standards			IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1			
	Approvals			CE			
	Module width			2			
	Number of poles			2			
	Degree of protection			IP20 (IP40 when installed in installation box - distribution board)			
	Pollution degree			3			
	Climatic conditions			95 % relative humidity			
	Operating ambient temperature		°C	-25 ... +55 (2NO) -15 ... +55 (1NO) -15 ... +55 (1NO+1NC) -15 ... +55 (2NC) -15 ... +55 (1NC)			
	Maximum altitude U_i and U_e is reduced for 1.2 % and I_e for 0.4 % for every additional 100 m		m	2000			
	Number of contactors or switches side-by-side: ≤40 °C (40 ... 55) °C			 max. 3 max. 2			
	Storage temperature		°C	-40... +80			
	Noise level (operation)		dB	30	20	30	20
	Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)			
	Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)			
	Maximum operating frequency with no load		op. c./h	3.000			
	Mechanical endurance		op. c.	3.000.000	10.000.000	3.000.000	10.000.000
	Weight		g	245	270	245	270
MAIN CIRCUIT	Contact reliability			≥17 V; ≥50 mA			
	Minimum distance of open contacts		mm	3.6			
	Power dissipation per pole		W	4		8	
	Overload current withstand capability: 10 s		A	176		240	
	Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1 (at prospective current 3 kA) coordination type 2 (at prospective current 3 kA)	I_v	A	 63 40		 80 63	
	Rated insulation voltage	U_i	V	440			
	Rated impulse withstand voltage	U_{imp}	kV	6			
	Rated operational voltage	U_e	V	400			
	Rated frequency	f	Hz	50/60			
	Thermal current	I_{th}	A	40		63	
	Rated operational current for AC-1, AC-7a and AC-21	I_e	A	40		63	
	Operational power for AC-1, AC-7a and AC-21: single-phase 230 V	P_e	kW	 8.7		 13.3	
	Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h	600			
	Electrical endurance for AC-1, AC-7a and AC-21		op. c.	100.000			
	Rated operational current for AC-2	I_e	A	25		32	
	Operational power for AC-2: single-phase 230 V	P_e	kW	 3.7		 4.8	
	Maximum operating frequency for AC-2		op. c./h	120			
	Electrical endurance for AC-2		op. c.	50.000			
	Rated operational current for AC-22	I_e	A	40		63	
	Operational power for AC-22: single-phase 230 V	P_e	kW	 7.4		 11.6	
	Maximum operating frequency for AC-22		op. c./h	300			
	Electrical endurance for AC-22		op. c.	50.000			
	Rated operational current for AC-3, AC-3e, AC-7b and AC-23	I_e	A	22		30	
	Operational power for AC-3, AC-3e, AC-7b and AC-23: single-phase 230 V	P_e	kW	 3.7		 5	
	Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c./h	600			
	Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	150.000			
	Rated operational current for AC-5a (at 230 V)	I_e	A	20		32	
	Maximum operating frequency for AC-5a		op. c./h	600			
	Electrical endurance for AC-5a		op. c.	100.000			
	Rated operational current for AC-5b (at 230 V)	I_e	A	17.6		22	
	Maximum operating frequency for AC-5b		op. c./h	600			
	Electrical endurance for AC-5b		op. c.	100.000			
	Rated operational current for AC-6a (at 230 V)	I_e	A	10.8		17.2	
	Maximum operating frequency for AC-6a		op. c./h	600			
	Electrical endurance for AC-6a		op. c.	100.000			
	Switching of capacitors AC-6b and AC-7c (at 230 V)	C	µF	220		330	

	Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R
MAIN CIRCUIT	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	
	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	
	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	
	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	2.5			
AUXILIARY CIRCUIT	Contact reliability			≥17 V; ≥50 mA			
	Minimum distance of open contacts		mm	3.6			
	Power dissipation per pole		W	4		8	
	Overload current withstand capability:						
	10 s		A	176		240	
	Maximum back-up fuse for short-circuit protection gL and gG:						
	coordination type 1 (at prospective current 3 kA)	I_v	A	63		80	
	coordination type 2 (at prospective current 3 kA)			40		63	
	Rated insulation voltage	U_i	V	440			
	Rated impulse withstand voltage	U_{imp}	kV	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	1200			
	Electrical endurance for AC-15		op. c.	150.000			
	Rated operational current for DC-13:						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC	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			
	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			2.5			
COIL	Range of control voltage for switch-on	U_c	%	85 ... 110			
	Range of control voltage for drop out	U_c	%	AC: 75 ... 20 / DC: 75 ... 10 (where is applicable)			
	Kind of voltage			AC	AC/DC	AC	AC/DC
	Standard control voltages	U_c	V	12, 24, 48, 120, 230, 400	12, 24, 48, 120, 230	12, 24, 48, 120, 230, 400	12, 24, 48, 120, 230
	Frequency of AC control voltage	f	Hz	50/60	40 ... 500	50/60	40 ... 500
	Control mode			remote control with U_c / manual control only for types with -R			
	Impulse duration of control voltage:						
	minimum			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			

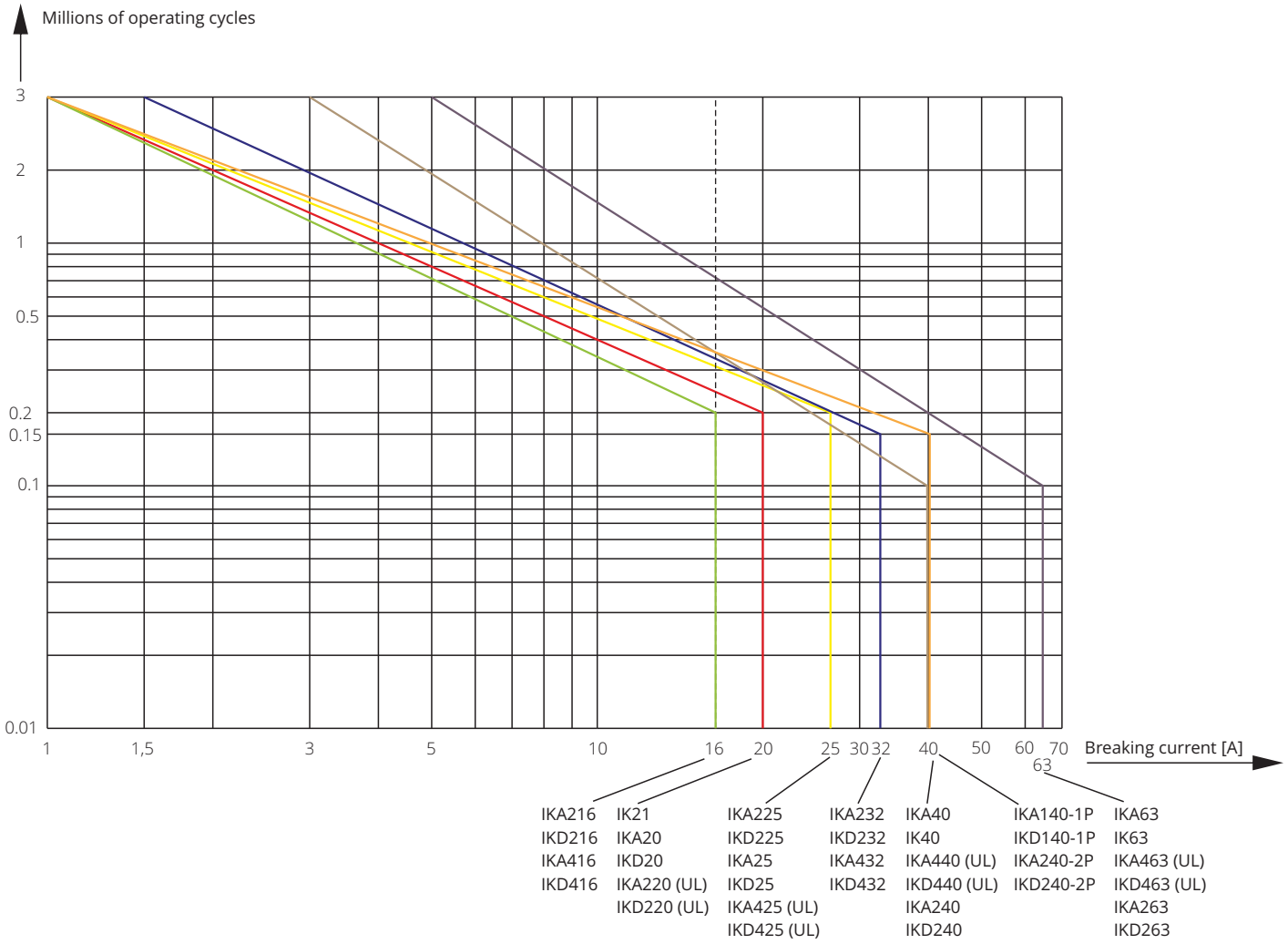
	Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R
COIL	Coil consumption: switch-on operation		VA/W	33/25 5.5/1.6	2.6/2.6 [1] 2.6/2.6 [1]	33/25 5.5/1.6	2.6/2.6 [1] 2.6/2.6 [1]
	Delays: make brake		ms	10 ... 20 10 ... 15	15 ... 20 35 ... 45	10 ... 20 10 ... 15	15 ... 20 35 ... 45
	Terminal capacity:		mm^2	1 ... 2.5 1 ... 2.5			
	Length of removed wire insulation		mm	8			
	Screw			M3			
	Screw head			PZ1			
	Tightening torque		Nm	0.6			
SAFETY	MTTF - Mean time to failure MTTF = $1/\lambda$ = B10/(0.1 n_{op})		h	AC-1: 2.500 AC-3: 3.750			
	$MTTF_d$ - Mean time to failure dangerous MTTFd = $1/\lambda_d$ = $B10_d$/(0.1 n_{op})		h	AC-1: 3.333 AC-3: 5.000			
	B10 - Number of operating cycles until 10 % of devices fail		op. c.	AC-1: 75.000 AC-3: 112.500			
	$B10_d$ - Number of operating cycles until 10 % of device dangerous $B10_d$ = B10/ratio of dangerous failures		op. c.	AC-1: 100.000 AC-3: 150.000			
	λ - Failure rate 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 -02 is 3.8 VA/3.8 W

Electrical endurance

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

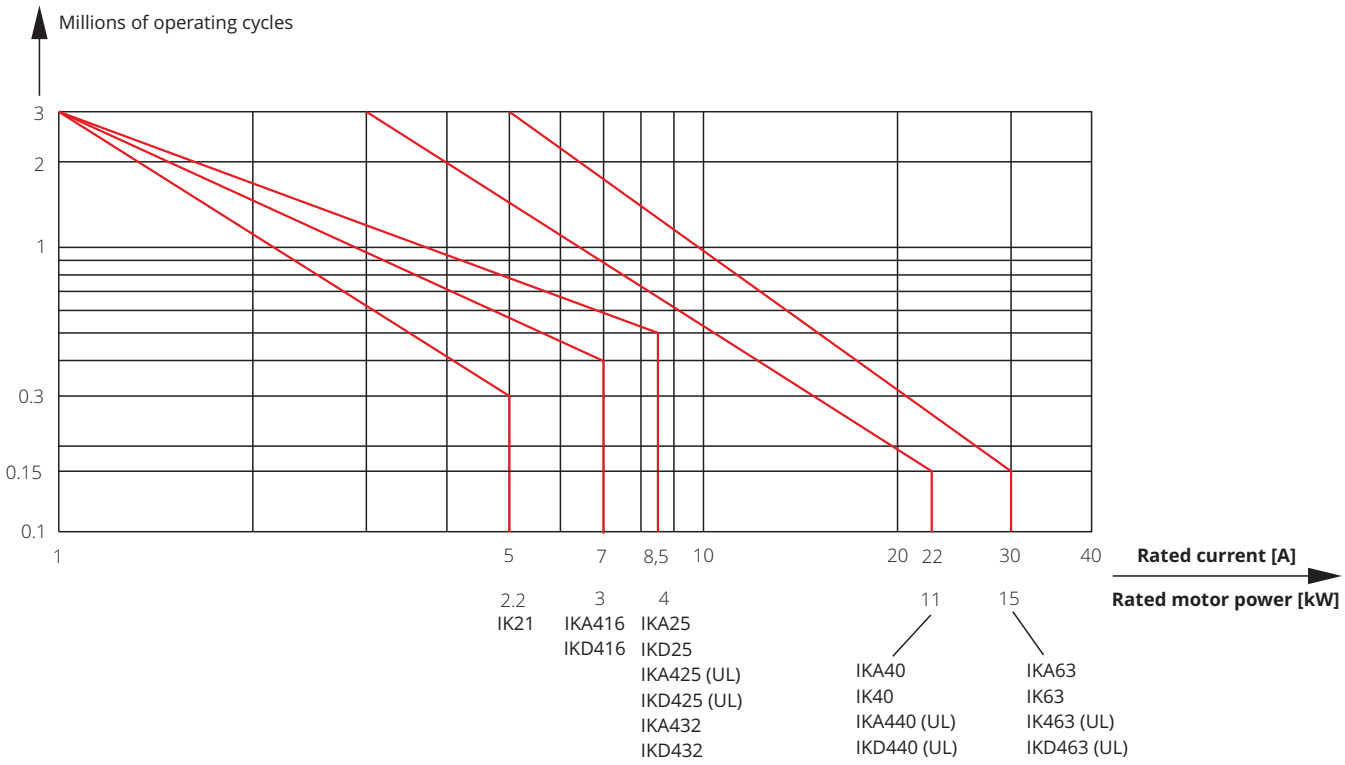
Diagram 1



Electrical endurance

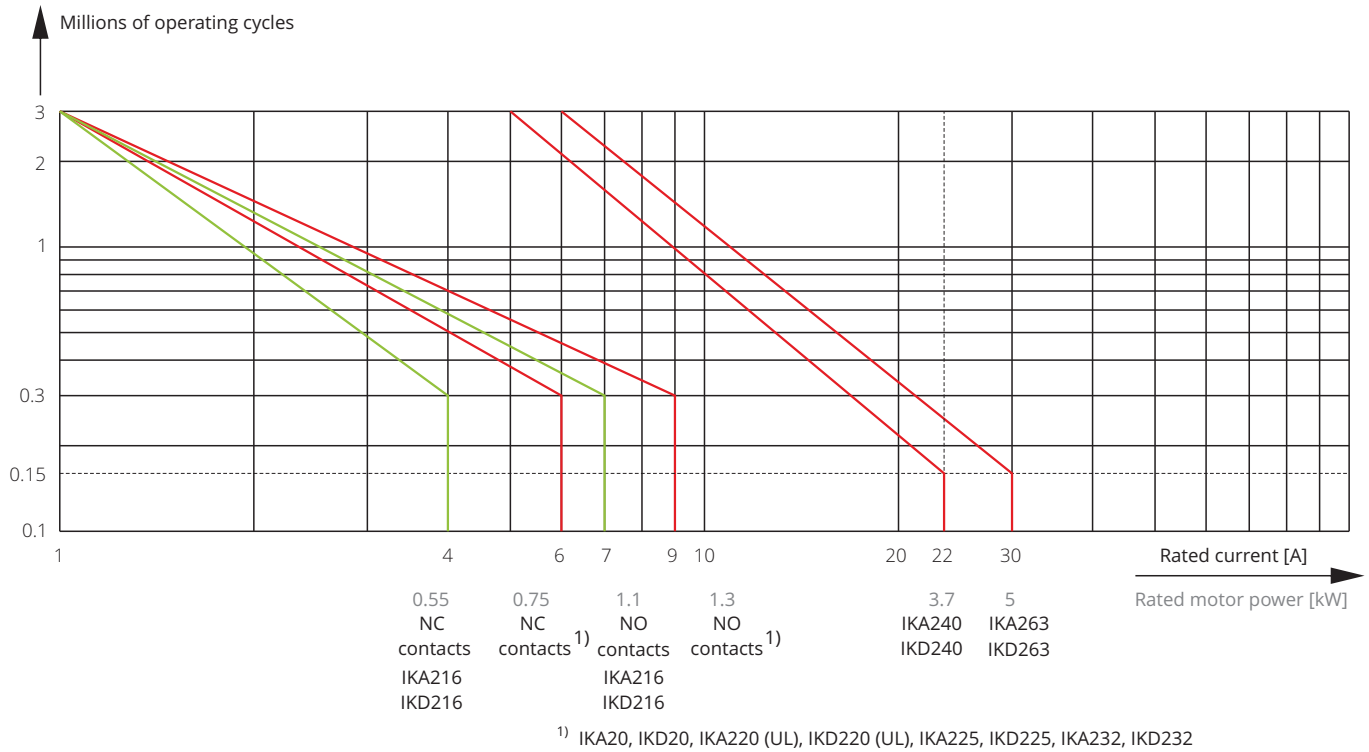
AC-3, AC-3e/400V/3-phase for IK21, IKA416, IKD416, IKA25, IKD25, IKA425 (UL), IKD425 (UL), IKA432, IKD432, IKA40, IKA63, Ik63, IKA440 (UL), IKD440 (UL), IKA463 (UL), IKD463 (UL)

Diagram 2



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

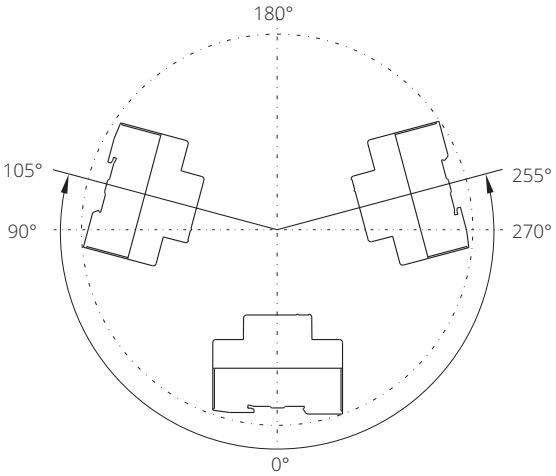
Diagram 3



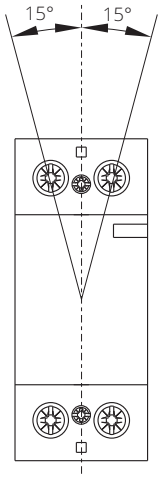
1) IKA20, IKD20, IKA220 (UL), IKD220 (UL), IKA225, IKD225, IKA232, IKD232

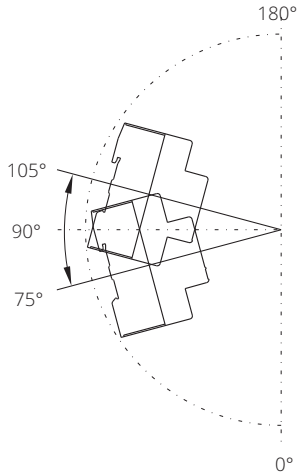
Operation position

IKA240, IKA263
IKD240, IKD263



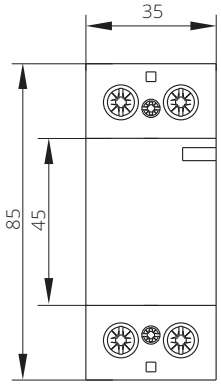
IKA240-R, IKA263-R
IKD240-R, IKD263-R

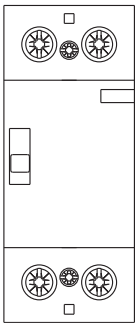




Dimensions (in milimeters unless otherwise stated)

IKA240, IKA263
IKD240, IKD263





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