



INSTALATION CONTACTORS

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

- **RELEVANT FOR** CHARGING STATIONS, CONSUMER UNITS IN DWELLINGS, BUSSINES PREMISES, HOTELS, HOSPITALS, SHOPPING CENTRES, PRODUCTION HALLS, WAREHOUSES AND PUBLIC PLACES

GENERAL



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

FOR RELIABLE SWITCHING

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

FEATURES

- High current loads
- Remote control
- 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



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

OTHER BENEFITS

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

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

TECHNICAL DATA

Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R
Standards			IEC/EN 61095, IEC/EN 60947-4-1, IEC/EN 60947-5-1			
Approvals			CE			
Module width			2			
Number of poles			2			
Degree of protection			IP20 (IP40 when installed in installation box - distribution board)			
Pollution degree			3			
Climatic conditions			95 % relative humidity			
			-25 ... +55 (2NO)			
			-15 ... +55 (1NO)			
Operating ambient temperature		°C	-15 ... +55 (1NO+1NC)			
			-15 ... +55 (2NC)			
			-15 ... +55 (1NC)			
Number of contactors or switches side-by-side: ≤40 °C			max. 3			
(40 ... 55) °C			max. 2			
Storage temperature		°C	-40... +80			
Maximum altitude		m	2000			
U and U _i is reduced for 1.2 % and I for 0.4 % for every additional 100 m						
Noise level (operation)		dB	30	20	30	20
Vibration resistance according to IEC/EN 60068-2-6	a	g	switched off: 2 (Z and X axis) / switched on: 3 (Z axis) and 1 (X axis)			
Shock resistance according to IEC/EN 6068-2-27	a	g	switched off: 10 (Z and X axis) / switched on: 15 (Z axis) and 2 (X axis)			
Maximum operating frequency with no load		op. c/h	3,000			
Mechanical endurance		op. c.	3.000.000	10.000.000	3.000.000	10.000.000
Weight		g	245	270	245	270
Contact reliability			≥17 V; ≥50 mA			
Minimum distance of open contacts		mm	3,6			
Power dissipation per pole		W	4			8
Overload current withstand capability: 10 s		A	176			240
Maximum back-up fuse for short-circuit protection gL and gG: coordination type 1 (at prospective current 3 kA)	I _v	A	63			80
coordination type 2 (at prospective current 3 kA)			40			63
Rated insulation voltage	U _i	V	440			
Rated impulse withstand voltage	U _{imp}	kV	6			
Rated operational voltage	U _e	V	400			
Rated frequency	f	Hz	50/60			
Thermal current	I _{th}	A	40			63
Rated operational current for AC-1, AC-7a and AC-21	I _e	A	40			63
Operational power for AC-1, AC-7a and AC-21: single-phase 230 V	P _e	kW	8.7			13.3
Maximum operating frequency for AC-1, AC-7a and AC-21		op. c/h	600			
Electrical endurance for AC-1, AC-7a and AC-21		op. c.	100.000			
Rated operational current for AC-2	I _e	A	25			32
Operational power for AC-2: single-phase 230 V	P _e	kW	3.7			4.8
Maximum operating frequency for AC-2		op. c/h	120			
Electrical endurance for AC-2		op. c.	50.000			
Rated operational current for AC-22	I _e	A	40			63
Operational power for AC-22: single-phase 230 V	P _e	kW	7.4			11.6
Maximum operating frequency for AC-22		op. c/h	300			
Electrical endurance for AC-22		op. c.	50.000			
Rated operational current for AC-3, AC-3e, AC-7b and AC-23	I _e	A	22			30
Operational power for AC-3, AC-3e, AC-7b and AC-23: single-phase 230 V	P _e	kW	3.7			5
Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c/h	600			
Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	150.000			
Rated operational current for AC-5a (at 230 V)	I _e	A	20			32
Maximum operating frequency for AC-5a		op. c/h	600			
Electrical endurance for AC-5a		op. c.	100.000			
Rated operational current for AC-5b (at 230 V)	I _e	A	17.6			22
Maximum operating frequency for AC-5b		op. c/h	600			
Electrical endurance for AC-5b		op. c.	100.000			
Rated operational current for AC-6a (at 230 V)	I _e	A	10.8			17.2
Maximum operating frequency for AC-6a		op. c/h	600			
Electrical endurance for AC-6a		op. c.	100.000			
Switching of capacitors AC-6b and AC-7c (at 230 V)	C	µF	220			330
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			

TECHNICAL DATA

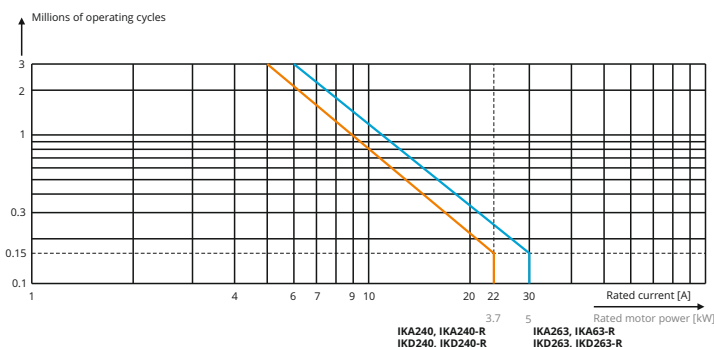
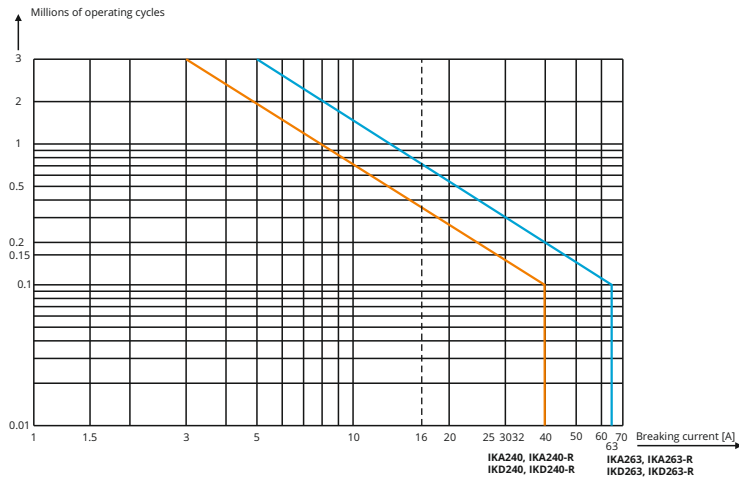
Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R	
MAIN CIRCUIT	Rated operational current for DC-1 (L/R ≤ 1 ms):						
	1 pole ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC		I_e	A	40/25/18/4/1.2		63/26/20/4/1.2
	2 poles in series ... 24 V DC/48 V DC/60 V DC/110 V DC/ 220 V DC				40/38/32/10/8		63/42/34/10/8
	Maximum operating frequency for DC-1					300	
	Electrical endurance for DC-1					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					300	
	Electrical endurance for DC-3					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					300	
	Electrical endurance for DC-5					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		
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		
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	
Standard control voltages		U_c	V	12, 24, 48, 120, 230, 400	12, 24, 48, 120, 230	12, 24, 48, 120, 230, 400	
Frequency of AC control voltage		f	Hz	50/60	40 ... 500	50/60	
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							

TEHNICAL DATA

Type	Symbol	Unit	IKA240 IKA240-R	IKD240 IKD240-R	IKA263 IKA263-R	IKD263 IKD263-R
COIL	Coil consumption:					
	switch-on	VA/W	33/25	2.6/2.6 ¹⁾	33/25	2.6/2.6 ¹⁾
	operation		5.5/1.6	2.6/2.6 ¹⁾	5.5/1.6	2.6/2.6 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				AC-1: 2.500	
	$MTTF = 1/\lambda = B10/(0.1 n_{op})$		h		AC-3: 3.750	
	MTTF _d - Mean time to failure dangerous				AC-1: 3.333	
	$MTTF_d = 1/\lambda_d = B10_d/(0.1 n_{op})$		h		AC-3: 5.000	
	B10 - Number of operating cycles until 10 % of devices fail		op. c.		AC-1: 75.000	
					AC-3: 112.500	
	B10 _d - Number of operating cycles until 10 % of device dangerous		op. c.		AC-1: 100.000	
	$B10_d = B10/\text{ratio of dangerous failures}$				AC-3: 150.000	
	λ - Failure rate		1/h		AC-1: 0.0004	
	$\lambda = (0.1 n_{op})/B10$				AC-3: 0.000266	
λ_d - Failure rate dangerous		1/h		AC-1: 0.0003		
$\lambda_d = (0.1 n_{op})/B10_d$				AC-3: 0.0002		
Ratio of dangerous failures		%		75		
n_{op} - Operating cycles (operating cycles/h)		op. c./h		300		

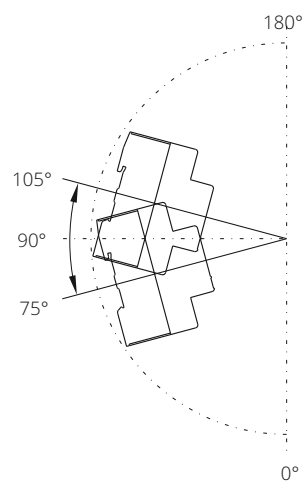
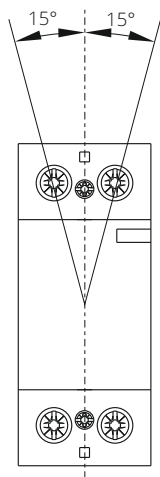
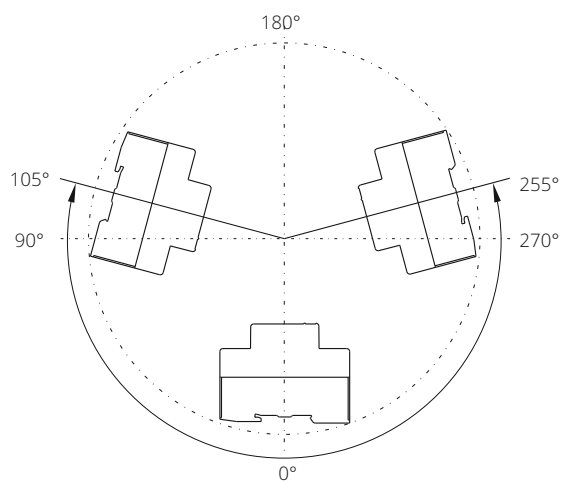
¹⁾ Coil consumption for version -02 is 3.8 VA/3.8 W

ELECTRICAL ENDURANCE



OPERATION POSITION, DIMENSIONS

OPERATION POSITION



DIMENSIONS

**IKA240, IKA263
IKD240, IKD263**

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

