

Installation Contactors RIC, RAC

1 Characteristics

- Rated current: 20 ... 63 A
- Coil voltages: UC 24, 36, 230 V / AC 400 V
- Hum-free (UC versions)
- 2 ... 4 contacts NC or NO
- Extendable with auxiliary contacts
- Double break contacts
- Status indicator
- RAC with manual actuating and locking



2 Ordering code

2.1 Two-pole contactors

Contacts	RIC20		RAC20	
2 NO	RIC20-200/	UC24V UC36V UC230V	RAC20-200/	UC24V UC230V
2 NC	RIC20-020/	UC24V UC36V UC230V	RAC20-020/	UC24V UC230V
1 NC + 1 NO	RIC20-110/	UC24V UC36V UC230V	RAC20-110/	UC24V UC230V

2.2 Four-pole contactors

Contacts	RIC25	RIC40	RIC63	RAC25
4 NO	RIC25-400/ UC24V UC36V UC230V AC48V AC400V	RIC40-400 UC24V UC230V	RIC63-400/ UC24V UC230V	RAC25-400/ UC230V
4 NC	RIC25-040/ UC24V UC36V UC230V AC400V	RIC40-040/ UC24V UC230V	RIC63-040/ UC24V UC230V	
2 NC + 2 NO	RIC25-220/ UC24V UC36V UC230V AC400V	RIC40-220/ UC24V UC230V	RIC63-220/ UC24V UC230V	

2.3 Auxiliary contacts

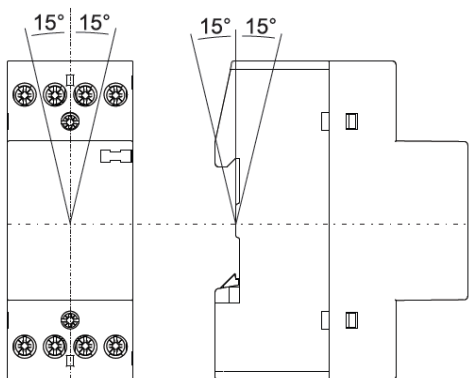
Contacts	RIC-AUX*
2 NO	RIC-AUX20
2 NC	RIC-AUX02
1 NC + 1 NO	RIC-AUX11

* RIC-AUX are compatible to RIC 25/40/63 only

3 Mounting

If several contactors are mounted side by side, the spacer RIC-DIST should be installed after every second contactor for purpose of heat dissipation.

3.1 Mounting position



4 Pin assignment

RIC		RAC		RIC-AUX	
RICxx-200	A1(+) 1 3  A2(-) 2 4	RAC20-200	A1 1 3  A2 2 4	RIC-AUX 20	 53 63 54 64
RICxx-020	A1(+) R1 R3  A2(-) R2 R4	RAC20-020	A1 1 3  A2 2 4	RIC-AUX 02	 51 61 52 62
RICxx-110	A1(+) 1 R3  A2(-) 2 R4	RAC20-110	A1 1 3  A2 2 4	RIC-AUX 11	 53 61 54 62
RICxx-400	A1(+) 1 3 5 7  A2(-) 2 4 6 8				
RICxx-040	A1(+) R1 R3 R5 R7  A2(-) R2 R4 R6 R8				
RICxx-220	A1(+) 1 R1 R3 3  A2(-) 2 R2 R4 4				

5 Technical information

5.1 General data

5.1.1 Mechanical data

	RIC20 RAC20	RIC25	RIC40	RIC63	RIC-AUX
Mounting	DIN rail				
Connection	Screw terminals				
Protection class	IP20				
Housing material	Technyl PA6				
Module width	1	2	3	3	0.5
Dimensions W x H x D [mm]	17.5 x 65.5 x 85	35 x 65.5 x 85	54.5 x 65.5 x 85	54.5 x 65.5 x 85	8 x 65.5 x 85
Conductor cross-section main terminals, rigid [mm ²]	1 ... 10	1 ... 10	1 ... 25	1 ... 25	1 ... 2.5
Conductor cross-section main terminals, flexible [mm ²]	1 ... 6	1 ... 6	1 ... 16	1 ... 16	1 ... 1.5
Conductor cross-section coil terminals, rigid / flexible [mm ²]	1 ... 2.5	1 ... 2.5	1 ... 2.5	1 ... 2.5	-
Torque main terminals [Nm]	1.2	1.2	2	2	0.8
Torque coil terminals [Nm]	0.6	0.6	0.6	0.6	-
Weight [g]	140 / 130	270	420	420	50

5.1.2 Environmental conditions

	RIC20 RAC20	RIC25	RIC40	RIC63	RIC-AUX
Storage temperature	-30 °C ... +80 °C				
Operating temperature	-5 °C ... +55 °C				
Relative humidity	≤95%, non-condensing				

5.2 Electrical data

5.2.1 Supply

	RIC20 UC RAC20 UC	RIC25 UC	RIC25 AC	RIC40 UC	RIC63 UC
Rated voltages U _N [V]	24, 36, 230	24, 36, 230	400	24, 230	24, 230
Frequency [Hz]	DC, 40...500	DC, 40...500	50...60	DC, 40...500	DC, 40...500
Operating voltage range	0.85 ... 1.1 x U _N				
Coil consumption [VA/W]	2.1 / 2.1	2.6 / 2.6	5.5 / 1.6	5 / 5	5 / 5
Make delay [ms]	15...45	15...45	10...30	15...20	15...20
Brake delay [ms]	20...50	20...70	10...30	35...45	35...45

5.3 Main contacts

	RIC20 RAC20	RIC25	RIC40	RIC63	RIC-AUX
Rated voltage [V]	400				
Thermal current AC1, I _{th} [A]	20	25	40	63	6
Inrush current 100 ms [A]	50	50	150	150	-
Operational voltage [V]	24...400				
Mechanical endurance	3 x 10 ⁶				
Electrical endurance AC-1 at I _{th}	2 x 10 ⁵	2 x 10 ⁵	1 x 10 ⁵	1 x 10 ⁵	50 x 10 ³
Electrical endurance AC-3 at I _{th}	3 x 10 ⁵	5 x 10 ⁵	1.5 x 10 ⁵	1.5 x 10 ⁵	50 x 10 ³
Electrical endurance DC-1 at I _{th}	1x10 ⁵	1x10 ⁵	1x10 ⁵	1x10 ⁵	50 x 10 ³

	RIC20 RAC20	RIC25	RIC40	RIC63	RIC-AUX
Contact material	AgNi	AgNi	AgSnO ₂	AgSnO ₂	AgNi
Minimal load at 24 V [mA]	50	50	50	50	5
Distance of open contacts [mm]	3.6	3.6	3.6	3.6	-
Max. back-up fuse [A]	20	25	63	80	6

5.4 Typical performance

5.4.1 AC

	RIC20 RAC20	RIC25	RIC40	RIC63
Rated operational current AC-1 [A] Rated operational current AC-7a [A]	20	25	40	63
Rated operational current AC-3 [A] Rated operational current AC-7b [A]	9 (NO) 6 (NC)	8.5	22	30
Rated operational current AC-4 [A]	0.37 (NO) 0.25 (NC)			

5.4.2 DC

	RIC20 RAC20		RIC25				RIC40				RIC63			
Contacts in series	1	2	1	2	3	4	1	2	3	4	1	2	3	4
Rated op. current DC-1 24 V [A]	20	20	25	25	25	25	40	40	40	40	63	63	63	63
Rated op. current DC-1 48 V [A]	15	18	20	25	25	25	24	38	40	40	26	42	63	63
Rated op. current DC-1 110 V [A]	6	10	6	10	20	20	4	10	30	40	4	10	35	63
Rated op. current DC-1 220 V [A]	0.6	6	0.6	6	15	15	1.2	8	20	40	1.2	8	30	63
Rated op. current DC-3 24 V [A]	10	20	15	25	25	25	22	40	40	40	25	45	63	63
Rated op. current DC-3 48 V [A]	5	10	8	16	25	25	10	20	40	40	11	22	45	63
Rated op. current DC-3 110 V [A]	1	4	1.3	5.5	15	20	1.5	5	15	40	1.5	5	18	63
Rated op. current DC-3 220 V [A]	0.1	0.4	0.2	0.6	3	8	0.3	1	4	10	0.3	1	5	10
Rated op. current DC-5 24 V [A]	10	20	15	25	25	25	20	40	40	40	25	45	63	63
Rated op. current DC-5 48 V [A]	4	8	5	15	25	25	8	18	28	40	10	20	44	63
Rated op. current DC-5 110 V [A]	0.3	2	0.5	4	12	15	1	5	12	35	1	5	15	45
Rated op. current DC-5 220 V [A]	0.06	0.2	0.1	0.4	2	5	0.2	0.8	3	8	0.2	0.8	4	10
Rated op. current DC-13 110 V [A]	0.3	1												
Rated op. current DC 110 V, L/R 40 ms [A]	3	6												

5.4.3 Lamp loads

Maximum number of lamps per contact at 230V, utilization category AC-5a.
 The following information applies to 100 000 cycles.

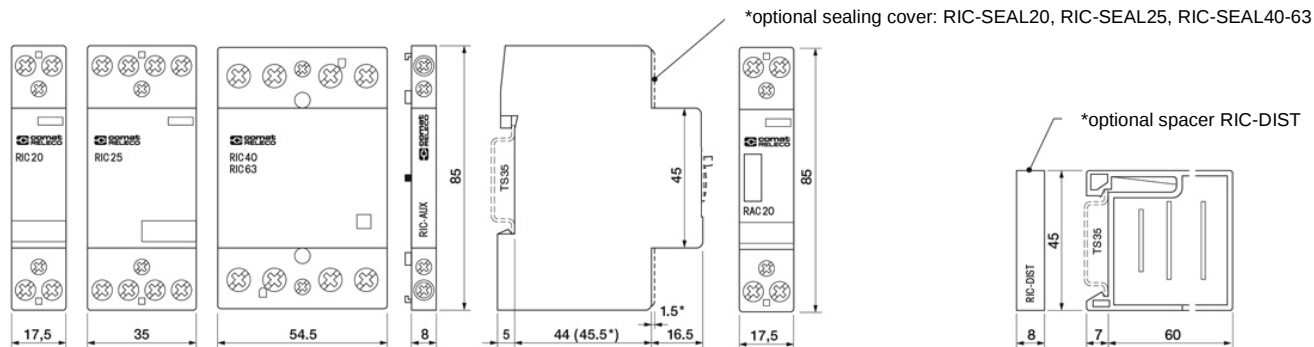
Load	Power [W]	Current [I]	RIC20	RIC25	RIC40	RIC63
Incandescent lamps and halogen lamps	20	0.09	100	110	200	250
	25	0.11	80	88	160	200
	30	0.13	67	73	133	167
	35	0.15	57	63	114	143
	46	0.20	43	48	87	109
	50	0.22	40	44	80	100

Load	Power [W]	Current [I]	RIC20	RIC25	RIC40	RIC63
	57	0.25	35	39	70	88
	60	0.26	33	37	67	83
	75	0.33	27	29	53	67
	100	0.44	20	22	40	50
	150	0.65	13	15	27	33
	300	1.30	7	7	13	17
Transformators for low-voltage halogen lamps (electromagnetic and electronic)	30	0.13	33	40	90	143
	40	0.17	25	30	68	108
	50	0.22	20	24	54	86
	60	0.26	17	20	45	72
	70	0.30	14	17	39	61
	100	0.44	10	12	27	43
	150	0.65	7	8	18	29
	200	0.87	5	6	14	22
	300	1.30	3	4	9	14
Compact fluorescent lamps with internal ballasts	7	0.08	64	86	236	300
	9	0.10	50	67	183	233
	11	0.12	41	55	150	191
	13	0.14	35	46	127	162
	18	0.20	25	33	92	117
	26	0.27	17	23	63	81
Fluorescent lamps with external electromagnetic ballasts	18	0.09	39	53	139	200
	2x18	0.17	21	28	74	106
	21	0.11	32	43	114	164
	2x21	0.22	16	22	57	82
	28	0.14	25	34	89	129
	2x28	0.27	13	18	46	67
	35	0.17	21	28	74	106
	2x35	0.34	10	14	37	53
	54	0.26	13	18	48	69
	2x54	0.52	7	9	24	35
	58	0.25	14	19	50	72
	2x58	0.48	7	10	26	38
	80	0.40	9	12	31	45
	2x80	0.76	5	6	16	24
LED-Lamps Power supplies for LEDs N: Number of lamps or power supplies In: Current consumption per lamp or power supply	-	-	N = 2,4 A / In	N = 3,8 A / In	N = 11 A / In	N = 18 A / In

6 Operation

The contactor RAC can be manually locked in the positions „on“ or „off“.
 In position „auto“, the contactor is conventionally operated with the coil.

7 Dimensions



8 Standards

IEC/EN 60947-4-1, VDE 0660	Low voltage switchgear, general establishments
IEC/EN 60947-5-1	Control circuit devices and switching elements
IEC/EN 61095, VDE 0637	Electromechanical contactors for household and similar purposes

CE, CB, NF, RoHS