

# INSTALLATION CONTACTORS

## Installation contactors

- For switching of appliances up to 63 A – electric boilers, direct heating convectors, accumulator stoves, lighting etc.
- Control voltage: 24 V a.c., 230 V a.c.
- Visual light indication at power up.
- Decreased switching noise and vibration.



### Installation contactors 20 A

Arrangement of contacts <sup>1)</sup>	Rated voltage U <sub>c</sub>	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
10	230 V a.c.	<b>RSI-20-10-A230</b>	36609	1	0.13	1
	230 V a.c.	<b>RSI-20-20-A230</b>	36610	1	0.13	1
20	24 V a.c.	<b>RSI-20-20-A024</b>	36614	1	0.13	1
	230 V a.c.	<b>RSI-20-11-A230</b>	36611	1	0.13	1
11	24 V a.c.	<b>RSI-20-11-A024</b>	36615	1	0.13	1
	230 V a.c.	<b>RSI-20-02-A230</b>	36612	1	0.13	1
02	24 V a.c.	<b>RSI-20-02-A024</b>	36616	1	0.13	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

### Installation contactors 25 A

Arrangement of contacts <sup>1)</sup>	Rated voltage U <sub>c</sub>	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
40	230 V a.c.	<b>RSI-25-40-A230</b>	36617	2	0.23	1
	24 V a.c.	<b>RSI-25-40-A024</b>	36621	2	0.23	1
31	230 V a.c.	<b>RSI-25-31-A230</b>	36618	2	0.23	1
	24 V a.c.	<b>RSI-25-31-A024</b>	36622	2	0.23	1
04	230 V a.c.	<b>RSI-25-04-A230</b>	36620	2	0.23	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

### Installation contactors 40 A

Arrangement of contacts <sup>1)</sup>	Rated voltage U <sub>c</sub>	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
40	230 V a.c.	<b>RSI-40-40-A230</b>	36625	3	0.38	1
	24 V a.c.	<b>RSI-40-40-A024</b>	36629	3	0.38	1
31	230 V a.c.	<b>RSI-40-31-A230</b>	36626	3	0.38	1
	24 V a.c.	<b>RSI-40-31-A024</b>	36630	3	0.38	1
04	230 V a.c.	<b>RSI-40-04-A230</b>	36628	3	0.38	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

### Installation contactors 63 A

Arrangement of contacts <sup>1)</sup>	Rated voltage U <sub>c</sub>	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
40	230 V a.c.	<b>RSI-63-40-A230</b>	36633	3	0.38	1
	24 V a.c.	<b>RSI-63-40-A024</b>	36637	3	0.38	1
31	230 V a.c.	<b>RSI-63-31-A230</b>	36634	3	0.38	1
	24 V a.c.	<b>RSI-63-31-A024</b>	36638	3	0.38	1
04	230 V a.c.	<b>RSI-63-04-A230</b>	36636	3	0.38	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

## INSTALLATION CONTACTORS

### Installation contactors with manual control

- For switching of electric appliances up to 63 A – electric boilers, direct heating convectors, accumulator stoves, lighting etc.
- Control voltage: 24, 230 V a.c.
- Visual light indication at power up.
- Decreased switching noise and vibration.

- They are equipped with change-over switch with three positions:
  - position „AUTO“ – common function of the contactor
  - position „I“ – make contacts close and break contacts open. If rated voltage  $U_c$  is applied on the contactor coil, the switch will go to position „AUTO“
  - position „0“ – contactor coil circuit is interrupted



### Installation contactors 20 A

Arrangement of contacts <sup>1)</sup>	Rated voltage $U_c$	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
20	230 V a.c.	<b>RSI-20-20-A230-M</b>	36641	1	0.135	1
	24 V a.c.	<b>RSI-20-20-A024-M</b>	36643	1	0.135	1
11	230 V a.c.	<b>RSI-20-11-A230-M</b>	36642	1	0.135	1
	24 V a.c.	<b>RSI-20-11-A024-M</b>	36644	1	0.135	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

### Installation contactors 25 A

Arrangement of contacts <sup>1)</sup>	Rated voltage $U_c$	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
40	230 V a.c.	<b>RSI-25-40-A230-M</b>	36645	2	0.235	1
	24 V a.c.	<b>RSI-25-40-A024-M</b>	36647	2	0.235	1
31	230 V a.c.	<b>RSI-25-31-A230-M</b>	36646	2	0.235	1
	24 V a.c.	<b>RSI-25-31-A024-M</b>	36648	2	0.235	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

### Installation contactors 40 A

Arrangement of contacts <sup>1)</sup>	Rated voltage $U_c$	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
40	230 V a.c.	<b>RSI-40-40-A230-M</b>	36649	3	0.39	1
	24 V a.c.	<b>RSI-40-40-A024-M</b>	36651	3	0.39	1
31	230 V a.c.	<b>RSI-40-31-A230-M</b>	36650	3	0.39	1
	24 V a.c.	<b>RSI-40-31-A024-M</b>	36652	3	0.39	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

### Installation contactors 63 A

Arrangement of contacts <sup>1)</sup>	Rated voltage $U_c$	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
40	230 V a.c.	<b>RSI-63-40-A230-M</b>	36653	3	0.39	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

## INSTALLATION CONTACTORS



### Accessories

#### Auxiliary switch

- For signalling the main contact position of installation contactors.
- Installation: by means of plastic latches on the right side of the installation contactor.
- It is possible to mount one auxiliary switch on one installation contactor.
- Width: 9 mm.

Arrangement of contacts <sup>1)</sup>	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
11	<b>PS-RSI-1100</b>	36657	0.5	0.03	1

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

# INSTALLATION CONTACTORS

## Specifications

Type		RSI-20-...	RSI-25-...	RSI-40-...	RSI-63-...	PS-RSI-1100	
Standards		EN 60947-4-1 EN 61095	EN 60947-4-1 EN 61095	EN 60947-4-1 EN 61095	EN 60947-4-1 EN 61095	EN 60947-5-1	
Approval marks							
<b>Contacts</b>							
Arrangement of contacts <sup>1)</sup>		10, 20, 11, 02	40, 31, 04	40, 31, 04	40, 31, 04	11	
Rated thermal current	$I_{th}$	20 A	25 A	40 A	63 A	6 A	
Rated operating voltage	$U_e$	230 V a.c.		440 V a.c.	440 V a.c.	230 V a.c.	
Rated operating current	AC-1	230 V a.c.	20 A	25 A	40 A	63 A	-
		24 V d.c.	20 A	25 A	40 A	63 A	-
	DC-1	110 V d.c.	1 A	2 A	4 A	4 A	-
		220 V d.c.	0,5 A	0,5 A	0,8 A	0,8 A	-
	AC-15	230 V a.c.	6 A	6 A	6 A	6 A	6 A
		400 V a.c.	4 A	4 A	4 A	4 A	4 A
Switched power	AC-1 / AC-7a	230 V a.c.	4 kW	9 kW	16 kW	24 kW	-
		400 V a.c.	-	16 kW	26 kW	40 kW	-
	AC-3 / AC-7b	230 V a.c.	1.3 kW <sup>2)</sup>	2.2 kW	5.5 kW	8.5 kW	-
		400 V a.c.	-	4 kW	11 kW	15 kW	-
Min. switched power		17 V / 50 mA	17 V / 50 mA	17 V / 50 mA	17 V / 50 mA	12 V / 10 mA	
Switching frequency max.		600 operating cycles/h	600 operating cycles/h	600 operating cycles/h	600 operating cycles/h	600 operating cycles/h	
Electrical endurance at $I_e$	AC-1 / AC-7a	200 000 operating cycles	200 000 operating cycles	100 000 operating cycles	100 000 operating cycles	-	
	AC-3 / AC-7b	300 000 operating cycles	500 000 operating cycles	150 000 operating cycles	150 000 operating cycles	-	
Mechanical endurance		3 000 000 operating cycles	3 000 000 operating cycles	3 000 000 operating cycles	3 000 000 operating cycles	3 000 000 operating cycles	
Power loss at $I_e$ per pole		1,7 VA	2,2 VA	4 VA	8 VA	-	
Short-circuit protection - fuse gG		20 A	35 A	63 A	80 A	6 A	
Coordination type		1	1	1	1	1	
Min. distance between open contacts		3.6 mm	3.6 mm	3.4 mm	3.4 mm	4 mm	
Make time <sup>3)</sup>		15 ÷ 25 ms (10 ms)	10 ÷ 20 ms (10 ms)	15 ÷ 20 ms (5 ÷ 10 ms)	15 ÷ 20 ms (5 ÷ 10 ms)	-	
Break time <sup>3)</sup>		20 ms (20 ÷ 25 ms)	20 ms (25 ÷ 30 ms)	10 ms (10 ÷ 15 ms)	10 ms (10 ÷ 15 ms)	-	
Connection – conductor rigid		1 ÷ 10 mm <sup>2</sup>	1 ÷ 10 mm <sup>2</sup>	1 ÷ 25 mm <sup>2</sup>	1 ÷ 25 mm <sup>2</sup>	1 ÷ 2.5 mm <sup>2</sup>	
Connection – conductor rigid with a sleeve		1 ÷ 6 mm <sup>2</sup>	1 ÷ 6 mm <sup>2</sup>	1 ÷ 16 mm <sup>2</sup>	1 ÷ 16 mm <sup>2</sup>	1 ÷ 2.5 mm <sup>2</sup>	
Torque		1.2 Nm	1.2 Nm	2 Nm	2 Nm	0.6 Nm	
<b>Control circuit (coil)</b>							
Rated voltage	$U_c$	24, 230 V a.c.	24, 230 V a.c.	24, 230 V a.c.	24, 230 V a.c.	-	
Operating range		85 ÷ 110 %	85 ÷ 110 %	85 ÷ 110 %	85 ÷ 110 %	-	
Rated frequency		50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	-	
Power loss – at operation <sup>4)</sup>		15 VA / 13 W	27 VA / 17 W	62 VA / 50 W	62 VA / 50 W	-	
		(6 VA / 3.8 W)	(5.2 VA / 2 W)	(15.4 VA / 6 W)	(15.4 VA / 6 W)	-	
Power loss – holding		3 VA / 1.9 W	2.6 VA / 1 W	7.7 VA / 3W	7.7 VA / 3W	-	
Connection – conductor rigid		1 ÷ 2.5 mm <sup>2</sup>	1 ÷ 2.5 mm <sup>2</sup>	1 ÷ 2.5 mm <sup>2</sup>	1 ÷ 2.5 mm <sup>2</sup>	-	
Connection – conductor rigid with a sleeve		1 ÷ 2.5 mm <sup>2</sup>	1 ÷ 2.5 mm <sup>2</sup>	1 ÷ 2.5 mm <sup>2</sup>	1 ÷ 2.5 mm <sup>2</sup>	-	
Torque		0.6 Nm	0.6 Nm	0.6 Nm	0.6 Nm	-	
<b>Other data</b>							
Rated insulation voltage	$U_i$	440 V a.c.	440 V a.c.	440 V a.c.	440 V a.c.	500 V a.c.	
Rated impulse voltage	$U_{imp}$	4 kV	4 kV	4 kV	4 kV	4 kV	
Mounting on "U" rail according to EN 60715 - type		TH 35	TH 35	TH 35	TH 35	-	
Degree of protection		IP20	IP20	IP20	IP20	IP20	
Ambient temperature		-5 ÷ + 55 °C	-5 ÷ + 55 °C	-5 ÷ + 55 °C	-5 ÷ + 55 °C	-5 ÷ + 55 °C	
Seismic resistance		IEC 980:1993 <sup>5)</sup>	IEC 980:1993 <sup>5)</sup>	IEC 980:1993 <sup>5)</sup>	IEC 980:1993 <sup>5)</sup>	IEC 980:1993 <sup>5)</sup>	

<sup>1)</sup> Each digit indicates successively the number of make and break contacts

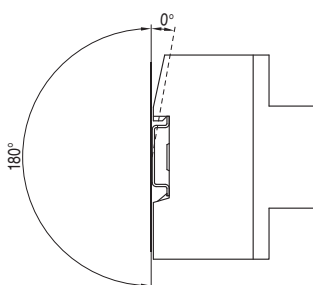
<sup>2)</sup> Only for making contact

<sup>3)</sup> Values in parentheses are valid for break-type contact

<sup>4)</sup> Values in parentheses are valid for installation contactors with manual control with switch in position „I“

<sup>5)</sup> It passed the seismic tests for NPP Dukovany and Temelin

## Working position



## Dependency on ambient temperature

- If several contactors are installed in parallel in a switchboard, the following rules shall apply:
  - installation contactors RSI-25-..., RSI-40-... RSI-63-... can be installed in parallel without limitation up to ambient temperature of 55°C
  - for installation contactor RSI-20-... at ambient temperature up to 40 °C, a 0.5 gap must be left after every third contactor. At ambient temperature between 40 °C and 55 °C a gap of 0.5 module must be left after every second contactor

## INSTALLATION CONTACTORS

### Switching of resistance or slightly inductive load in DC circuits (utilization category DC-1)

Installation contactor		Contact load			
Type	Operating voltage $U_e$	1 contact	2 contacts in series	3 contacts in series	4 contacts in series
RSI-20-...	24 V d.c.	20 A	20 A	-	-
	110 V d.c.	1 A	3 A	-	-
	220 V d.c.	0.5 A	1.5 A	-	-
RSI-25-...	24 V d.c.	25 A	25 A	25 A	25 A
	110 V d.c.	2 A	4 A	6 A	8 A
	220 V d.c.	0.5 A	1.5 A	2.5 A	3.5 A
RSI-40-...	24 V d.c.	40 A	40 A	40 A	40 A
	110 V d.c.	4 A	10 A	30 A	40 A
	220 V d.c.	0.8 A	6 A	20 A	40 A
RSI-63-...	24 V d.c.	63 A	63 A	63 A	63 A
	110 V d.c.	4 A	10 A	35 A	63 A
	220 V d.c.	0.8 A	6 A	30 A	63 A

### Switching of lights - maximum number of light fittings per one contact at 230 V a.c., 50 Hz (utilization category AC-5a, AC-5b)

#### Light bulbs

Installation contactor		Lighting fitting				
Type	60 W	100 W	200 W	500 W	1000 W	
RSI-20-...	23	14	7	3	1	
RSI-25-...	29	16	8	3	1	
RSI-40-...	65	40	20	8	4	
RSI-63-...	85	50	25	10	5	

#### Fluorescent tubes

Installation contactor		Uncompensated			Compensated in parallel			Duo connection		
Type	18 W	36 W	58 W	18 W / 4,5 $\mu$ F	36 W / 4,5 $\mu$ F	58 W / 7 $\mu$ F	2x 18 W	2x 36 W	2x 58 W	
RSI-20-...	22	17	14	7	7	4	30	17	10	
RSI-25-...	24	20	17	8	8	5	40	24	14	
RSI-40-...	90	65	45	48	48	31	100	65	40	
RSI-63-...	140	95	70	73	73	47	150	95	60	

#### Fluorescent tubes with electronic ballast (ECG)

Installation contactor		Lighting fitting					
Type	18 W	36 W	58 W	2x 18 W	2x 36 W	2x 58 W	
RSI-20-...	25	15	14	12	7	7	
RSI-25-...	35	20	19	17	10	9	
RSI-40-...	100	52	50	50	26	25	
RSI-63-...	140	75	72	70	38	36	

#### High-pressure mercury discharge lamps (HQL)

Installation contactor		Uncompensated							Compensated in parallel						
Type	50 W	80 W	125 W	250 W	400 W	700 W	1000 W	50 W/7 $\mu$ F	80 W/8 $\mu$ F	125 W/10 $\mu$ F	250 W/18 $\mu$ F	400 W/25 $\mu$ F	700 W/45 $\mu$ F	1000 W/60 $\mu$ F	
RSI-20-...	14	10	7	4	2	1	1	4	4	3	1	1	0	0	
RSI-25-...	18	13	9	5	3	2	1	5	5	4	2	1	0	0	
RSI-40-...	38	29	20	10	7	4	3	31	27	22	12	9	5	4	
RSI-63-...	55	42	29	15	10	6	4	47	41	33	18	13	7	5	

#### Metal halide discharge lamps (HQL)

Installation contactor		Uncompensated					Compensated in parallel					
Type	70 W	150 W	250 W	400 W	1000 W	2000 W	70 W/12 $\mu$ F	150 W/20 $\mu$ F	250 W/33 $\mu$ F	400 W/35 $\mu$ F	1000 W/95 $\mu$ F	2000 W/148 $\mu$ F
RSI-20-...	10	5	3	3	1	0	2	1	0	0	0	0
RSI-25-...	12	7	4	3	1	0	3	1	1	0	0	0
RSI-40-...	23	12	7	6	2	1	18	11	6	6	2	1
RSI-63-...	32	18	10	9	3	1	25	15	9	8	3	2

# INSTALLATION CONTACTORS

## High-pressure sodium discharge lamps (NAV)

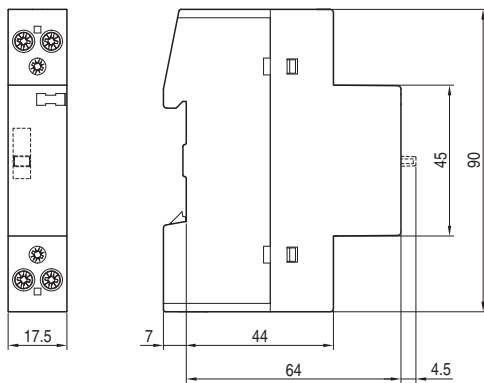
Installation contactor Type	Uncompensated				Compensated in parallel			
	150 W	250 W	400 W	1000 W	150 W / 20 $\mu$ F	250 W / 33 $\mu$ F	400 W / 48 $\mu$ F	1000 W / 106 $\mu$ F
RSI-20-...	5	3	2	0	1	0	0	0
RSI-25-...	6	4	2	1	1	1	0	0
RSI-40-...	17	10	6	3	11	6	4	2
RSI-63-...	22	13	8	3	16	10	6	3

## Low-pressure sodium discharge lamps

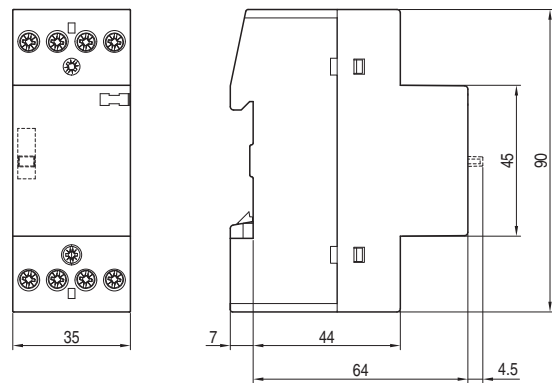
Installation contactor Type	Uncompensated						Compensated in parallel					
	18 W	35 W	55 W	90 W	135 W	180 W	18 W / 5 $\mu$ F	35 W / 20 $\mu$ F	55 W / 20 $\mu$ F	90 W / 26 $\mu$ F	135 W / 45 $\mu$ F	180 W / 40 $\mu$ F
RSI-20-...	22	7	7	7	3	3	6	1	1	1	-	-
RSI-25-...	27	9	9	5	4	4	7	1	1	1	-	-
RSI-40-...	71	23	23	14	10	10	44	11	11	8	4	5
RSI-63-...	90	30	30	19	13	13	66	16	16	12	7	8

## Dimensions

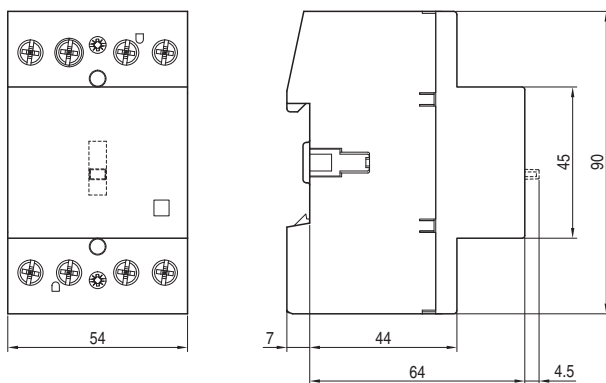
RSI-20-..



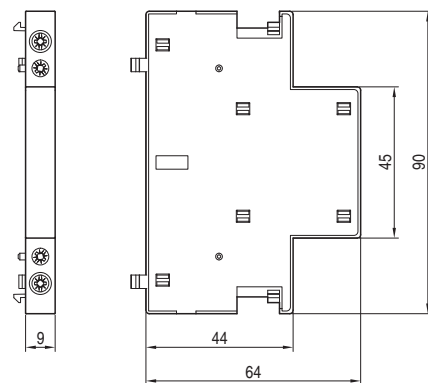
RSI-25-..



RSI-40-... RSI-63-..



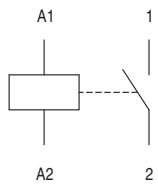
PS-RSI-1100



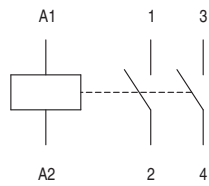
# INSTALLATION CONTACTORS

## Diagram

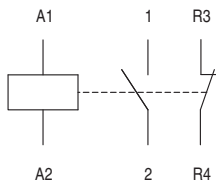
RSI-20-10-..



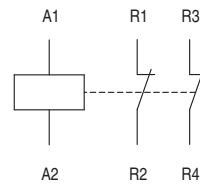
RSI-20-20-..



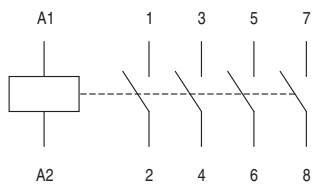
RSI-20-11-..



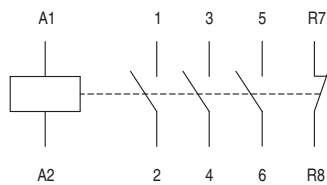
RSI-20-02-..



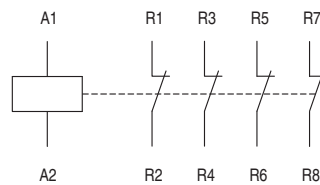
RSI-25-40-.., RSI-40-40-.., RSI-63-40-..



RSI-25-31-.., RSI-40-31-.., RSI-63-31-..



RSI-25-04-.., RSI-40-04-.., RSI-63-04-..



PS-RSI-1100

