

# Modular Contactors and Switches

	<p>Modular Contactors</p>	<p>2</p>
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	<p>Safety Switches Main Switches Emergency Stop</p>	<p>4 4</p>
	<p>Modular Switches, Depth 60mm  Voltmeter Selector Switches Ammeter Selector Switches Step Switches Key operated Switches</p>	<p>5, 6  5 5 6 6</p>
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# Modular Contactors

Rated Current AC1 at 400V A	Heating Power AC1 at		Wiring Diagram	Type	coil voltage 24V 50/60Hz 220-240V 50Hz	Pack pcs.	Weight kg/pc.
	1 AC 230V kW	3 AC 400V kW					
				24 230 ↓			

## One- Two-pole 1 module (17,5mm)



20	4,6	-		<b>R20-10 230</b>		12	0,13
20	4,6	-		<b>R20-20 24</b> <b>R20-20 230</b>		12	0,13
20	4,6	-		<b>R20-11 24</b> <b>R20-11 230</b>		12	0,13
20	4,6	-		<b>R20-02 24</b> <b>R20-02 230</b>		12	0,13

## Four-pole 2 modules (35mm) <sup>1)</sup>



25	5,7	17		<b>R25-40 24</b> <b>R25-40 230</b>		6	0,22
25	5,7	17		<b>R25-31 24</b> <b>R25-31 230</b>		6	0,22
25	5,7	17		<b>R25-13 24</b> <b>R25-13 230</b>		6	0,22
25	5,7	-		<b>R25-22 24</b> <b>R25-22 230</b>		6	0,22
25	5,7	17		<b>R25-04 24</b> <b>R25-04 230</b>		6	0,22

## Four-pole 3 modules (52,5mm) <sup>1)</sup>



40	9	27,5		<b>R40-40 24</b> <b>R40-40 230</b>		4	0,36
40	9	27,5		<b>R40-31 24</b> <b>R40-31 230</b>		4	0,36
40	9	-		<b>R40-22 24</b> <b>R40-22 230</b>		4	0,36
40	9	27,5		<b>R40-04 24</b> <b>R40-04 230</b>		4	0,36



63	14,3	43		<b>R63-40 24</b> <b>R63-40 230</b>		4	0,36
63	14,3	43		<b>R63-31 24</b> <b>R63-31 230</b>		4	0,36
63	14,3	-		<b>R63-22 24</b> <b>R63-22 230</b>		4	0,36
63	14,3	43		<b>R63-04 24</b> <b>R63-04 230</b>		4	0,36

## Four-pole, solenoid operated, width 45mm, sealable



20	4,6	13,8		<b>K1R40 230</b>		10	0,21
20	4,6	13,8		<b>K1R31 230</b>		10	0,21

1) Sealable with Sealing Cover (see page 3)

## Modular Contactors



Rated Operational Current		
AC15	AC15	AC1
230V	400V	690V
A	A	A

Wiring Diagram

Type

Pack Weight

pcs. kg/pc.

**Auxiliary Contact Block** ½ module (8,8mm) for contactor R25, R40, R63 (max. 1pc.)

3	2	10		<b>RH11</b>	3	0,026
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Description

for contactors

Type

Pack Weight  
pcs. kg/pc.

### Accessories

RC-unit  
for 12V to 250V AC

2x R20.. to R63..

**RC-R 230**

1 0,05

Sealing cover  
Sealing cover

R25..  
R40..., R63..

**P721**  
**P690**

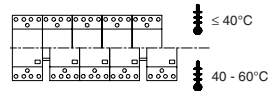
10 0,002  
10 0,003

Spacing piece ½ module (8,8mm)  
for ambient temperature >40°C

R20.. to R63..

**P730**

10 0,012



## Safety Switches and Switch Disconnectors

AC21 690V A	AC23 3x400V kW	Escutch. Wiring Diagram Plate	Type	Pack pcs.	Weight kg/pc.
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### Main Switches Emergency-Stop, 3-pole with padlock device

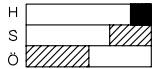


20	7,5	48x45	L1   L2   L3	<b>LTS20 SMAHN1 A3</b>	1	0,15
25	10	48x45	-----	<b>LTS25 SMAHN1 A3</b>	1	0,15
32	12,5	48x45	T1   T2   T3	<b>LTS32 SMAHN1 A3</b>	1	0,15
40	16	48x45		<b>LTS40 SMAHN1 A3</b>	1	0,15
63	22	48x45		<b>LTS63 SMAHN1 A3</b>	1	0,18
80	22	48x45		<b>LTS80 SMAHN1 A3</b>	1	0,18
80	30	70x45		<b>LT80 SMAHN1 T300</b>	1	0,37
100	37	70x45		<b>LT100 SMAHN1 T300</b>	1	0,37

### Main Switches Emergency-Stop, 4-pole with padlock device



20	7,5	48x45	L1   L2   L3   N	<b>LTS20 SMAHN1 A4</b>	1	0,16
25	10	48x45	-----	<b>LTS25 SMAHN1 A4</b>	1	0,16
32	12,5	48x45	T1   T2   T3   N1	<b>LTS32 SMAHN1 A4</b>	1	0,16
40	16	48x45		<b>LTS40 SMAHN1 A4</b>	1	0,16
63	22	48x45		<b>LTS63 SMAHN1 A4</b>	1	0,21
80	22	48x45		<b>LTS80 SMAHN1 A4</b>	1	0,21
80	30	70x45		<b>LT80 SMAHN1 T400</b>	1	0,47
100	37	70x45		<b>LT100 SMAHN1 T400</b>	1	0,47



#### Aux. contact block 1NO + 1NC (max. 1pc.)

for LTS20... LTS80...



**LH11**

1 0,01



#### Aux. contact block 1NO + 1NC overlapping (max. 1pc.)

for LTS20... LTS80...



**LH11X**

1 0,01




#### 4<sup>th</sup> Pole for switches 3-pole

for LTS63 ... , LTS80 ...



**N80V**

1 0,04


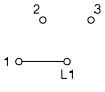

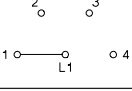

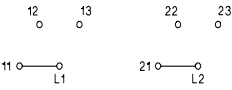




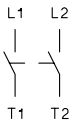

 Number of padlocks

# Control Switches for Installation Boards, Depth 60mm



	AC21 $I_{th}$ A	Motor 3x400V kW	Wiring Diagram	Type	Pack pcs.	Weight kg/pc.
<b>On-Off-Switches</b>						
1-pole	20A	-		M10H SMA A1 M10H SMA A2	1	0,10
2-pole	20A	-			1	0,11
3-pole	20A	5,5kW		M10H SMA A3 M10H SMA A4	1	0,12
4-pole	20A	5,5kW			1	0,13
<b>Changeover Switches</b>						
				Plot 3:1		
1-pole	20A	-		M10H SMA U1 M10H SMA U2 M10H SMA U3	1	0,11
2-pole	20A	-			1	0,13
3-pole	20A	5,5kW			1	0,15
<b>Changeover Switches</b>						
1-pole	20A	-		M10H SMA U1+009 M10H SMA U2+009	1	0,11
2-pole	20A	-			1	0,13
<b>Changeover Switches without 0</b>						
1-pole	20A	-		M10H SMA W1 M10H SMA W2	1	0,11
2-pole	20A	-			1	0,13
<b>Start Switch</b>						
1-pole	20A	-		M10H SMA SE	1	0,10
<b>Voltmeter Selector Switch 3 line and 3 phase voltages</b>						
	20A	-		M10H SMA V1	1	0,15
<b>Voltmeter Selector Switch 3 line voltages</b>						
	20A	-		M10H SMA V3	1	0,15
<b>Ammeter Selector Switch</b>						
1-pole	20A	-		M10H SMA M31	1	0,15

## Control Switches for Installation Boards, Depth 60mm

	AC21 $I_{th}$ A	Motor 3x400V kW	Wiring Diagram	Type	Pack pcs.	Weight kg/pc.	
<b>Step Switches 1-pole without 0</b>							
	3 Steps	20A	-		M10H SMA ST31	1	0,10
	4 Steps	20A	-		M10H SMA ST41	1	0,12
<b>Step Switches 2-pole without 0</b>							
	3 Steps	20A	-		M10H SMA ST32	1	0,11
<b>Step Switches 1-pole with 0</b>							
	2 Steps	20A	-		M10H SMA ST021	1	0,11
	3 Steps	20A	-		M10H SMA ST031	1	0,13
<b>On-Off-Switches keyoperated Lock Willenhal FT101</b>							
	1-pole	20A	-		M10H SMA A1+SA	1	0,11
	2-pole	20A	-		M10H SMA A2+SA	1	0,13

# Modular Contactors

## Switching of lamps

Lamp Type	Power W	Current A	Capacitors µF	Max. lamps per pole at 230V 50Hz and max. 60°C				
				R20..	R25..	R40..	R63..	K1R
<b>Incandescent lamps</b>	60	0,27	-	36	50	92	129	28
	100	0,45	-	21	30	55	77	17
	200	0,91	-	10	15	27	38	8
	300	1,36	-	7	10	19	26	5
	500	2,27	-	4	6	11	16	3
	1000	4,5	-	2	3	6	8	1
<b>Fluorescent lamps uncompensated or serial compensated</b>	11	0,16	1,3	60	75	210	310	60
	18	0,37	2,7	25	30	90	140	25
	24	0,35	2,5	25	30	90	140	25
	36	0,43	3,4	20	25	70	140	20
	58	0,67	5,3	14	17	45	70	14
	65	0,67	5,3	13	16	40	65	13
<b>Fluorescent lamps dual-connection</b>	85	0,8	5,3	11	14	35	60	11
	11	0,07	-	2 x 100	2 x 110	2 x 220	2 x 250	2 x 100
	18	0,11	-	2 x 50	2 x 55	2 x 130	2 x 200	2 x 50
	24	0,14	-	2 x 40	2 x 44	2 x 110	2 x 160	2 x 40
	36	0,22	-	2 x 30	2 x 33	2 x 70	2 x 100	2 x 30
	58	0,35	-	2 x 20	2 x 22	2 x 45	2 x 70	2 x 20
<b>Fluorescent lamps parallel compensated</b>	65	0,35	-	2 x 15	2 x 16	2 x 40	2 x 60	2 x 15
	85	0,47	-	2 x 10	2 x 11	2 x 30	2 x 40	2 x 10
	11	0,09	2,0	33	43	67	107	30
	18	0,13	2	25	32	50	80	20
	24	0,16	3	25	32	50	80	15
	36	0,27	4	22	32	50	80	10
<b>Fluorescent lamps with electronic fluorescent lamp ballast</b>	58	0,45	7	14	18	36	46	6
	65	0,5	7	14	18	36	46	5
	85	0,6	8	12	16	33	44	4
	18	0,09	-	40	40	100	150	40
	36	0,16	-	20	20	50	75	20
	58	0,25	-	15	15	30	55	15
<b>Transformers for metal halid low voltage lamps</b>	2 x 18	0,17	-	2 x 20	2 x 20	2 x 50	2 x 60	2 x 20
	2 x 36	0,32	-	2 x 10	2 x 10	2 x 25	2 x 30	2 x 10
	2 x 58	0,49	-	2 x 7	2 x 7	2 x 15	2 x 20	2 x 7
	20	0,09	-	40	52	110	174	40
	50	0,22	-	20	24	50	80	20
	75	0,33	-	13	16	35	54	13
<b>Mercury-vapour lamps (high-pressure lamps), uncompensated e. g. HQL, HPL</b>	100	0,43	-	10	12	27	43	10
	150	0,65	-	7	9	19	29	7
	200	0,87	-	5	5	14	23	5
	300	1,30	-	3	4	9	14	3
	50	0,61	-	16	21	38	55	16
	80	0,8	-	12	16	28	40	12
<b>Mercury-vapour lamps (high-pressure lamps), compensated e. g. HQL, HPL</b>	125	1,15	-	8	11	20	28	8
	250	2,15	-	4	6	11	15	4
	400	3,25	-	3	4	7	10	3
	700	5,4	-	1	2	4	6	1
	1000	7,5	-	1	1	3	4	1
	50	0,28	7	14	18	36	50	7
<b>Mercury-vapour lamps (high-pressure lamps), compensated e. g. HQL, HPL</b>	80	0,41	8	12	16	31	44	5
	125	0,65	10	10	13	25	35	3
	250	1,22	18	5	7	14	19	2
	400	1,95	25	4	5	10	14	1
	700	3,45	45	2	3	6	8	1
	1000	4,8	60	1	2	4	6	-

# Modular Contactors

## Switching of lamps

Lamp Type	Power W	Current A	Capacitors mF	Max. lamps per pole at 230V 50Hz and max. 60°C					
				R20..	R25..	R40..	R63..	K1R	
<b>Metal halide lamps</b> uncompensated e. g. HQI, HPI, CDM	35	0,53	-	22	24	57	65	22	
	70	1	-	12	14	30	35	12	
	150	1,8	-	6	8	17	18	6	
	250	3	-	4	5	10	12	4	
	400	3,5	-	3	4	8	10	3	
	1000	9,5	-	1	1	3	4	1	
	2000	16,5	-	-	-	2	2	-	
	400V per pole	2000	10,5	-	-	2	2	-	
	3500	18	-	-	-	1	1	-	
	<b>Metal halide lamps</b> compensated e. g. HQI, HPI, CDM	35	0,25	6	16	21	42	58	8
70		0,45	12	8	11	21	29	4	
150		0,75	20	5	7	13	18	2	
250		1,5	33	3	4	9	11	1	
400		2,1	35	2	4	9	10	1	
1000		5,8	95	1	1	3	4	-	
2000		11,5	148	-	-	2	2	-	
400V per pole		2000	6,6	58	-	-	3	4	-
3500		11,6	100	-	-	2	3	-	
<b>Metal halide lamps</b> with electronic fluorescent lamp ballast (e. g.: PCI) 50-125 x I <sub>n lamp</sub> for 0,6ms		20	0,1	integrated	9	9	18	20	9
	35	0,2	integrated	6	6	11	13	6	
	70	0,36	integrated	5	5	10	12	5	
	150	0,7	integrated	4	4	8	10	4	
<b>Sodium-vapour lamps</b> (low pressure lamps), uncompensated	35	1,5	-	7	9	22	30	7	
	55	1,5	-	7	9	22	30	7	
	90	2,4	-	4	6	13	19	4	
	135	3,3	-	3	4	10	14	3	
	150	3,3	-	3	4	10	14	3	
	180	3,3	-	3	4	10	14	3	
	200	3,3	-	3	4	10	14	3	
	Sodium-vapour lamps (low pressure lamps), compensated	35	0,31	20	5	6	15	18	3
	55	0,42	20	5	6	15	18	2	
	90	0,63	30	3	4	10	12	1	
135	0,94	45	2	3	7	8	1		
150	1	40	2	3	8	9	1		
180	1,16	40	2	3	8	9	1		
200	1,32	25	-	-	10	12	-		
<b>Sodium-vapour lamps</b> (high pressure lamps), uncompensated	150	1,8	-	5	8	15	22	5	
	250	3	-	4	5	10	13	4	
	330	3,7	-	3	4	8	10	3	
	400	4,7	-	2	3	6	8	2	
	1000	10,3	-	1	1	3	4	1	
	<b>Sodium-vapour lamps</b> (high pressure lamps), compensated	150	0,83	20	5	7	20	25	2
250		1,5	33	3	4	12	15	1	
330		2	40	2	3	10	13	1	
400		2,4	48	2	2	8	12	1	
1000		6,3	106	1	1	4	6	-	
<b>Sodium-vapour lamps</b> (high pressure lamps) with serial electronic (e. g.: PCI) 50-125 x I <sub>nLampe</sub> for 0,6ms	20	0,1	integrated	9	9	18	20	9	
	35	0,2	integrated	6	6	11	13	6	
	70	0,36	integrated	5	5	10	12	5	
	150	0,7	integrated	4	4	8	10	4	

# Modular Contactors

Data according to IEC 947-4-1, IEC 947-5-1, VDE 0660, EN 60947-4-1, EN 60947-5-1

Type		R20..	R25..	R40..	R63..	K1R..	RH11
<b>Main Contacts</b> <sup>5) 6) 7)</sup>							
<b>Rated insulation voltage</b> $U_i$	V AC	440 <sup>2)</sup>	440 <sup>2)</sup>	440 <sup>2)</sup>	440 <sup>2)</sup>	690 <sup>1)</sup>	440 <sup>2)</sup>
Rated operation voltage $U_e$	V AC	440	440	440	440	690	440
<b>Frequency of operations</b> zAC1, AC3	1/h	300	300	600	600	600	600
<b>Mechanical life</b>	S x 10 <sup>6</sup>	1	1	1	1	5	1
<b>Utilization category AC1</b>							
Rated operational current $I_e$ (=I <sub>th</sub> ) open at 60°C	A	20	25	40	63	20	-
<b>Contact life</b>	S x 10 <sup>6</sup>	0,1	0,1	0,1	0,1	0,2	-
<b>Minimum Switch Voltage</b>	V/mA	24/100	24/100	24/100	24/100	24/100	17/5
<b>Short time current</b> 10s-current	A	72	72	216	240	96	-
<b>Power loss</b> per pole at I <sub>e</sub> /AC1	W	2	2	3	7	1	0,5
<b>Utilization category AC3</b>							
<b>Switching of three-phase motors</b>							
Rated operational current $I_e$	A	-	9	27	30	12	-
Rated operational power of three-phase motors	220V kW	-	2,2	7,5	8	3	-
50-60Hz	230-240V kW	1,1 <sup>4)</sup>	2,5	8	8,5	3	-
	380-415V kW	-	4	12,5	15	4	-
<b>Contact life</b>	S x 10 <sup>6</sup>	-	0,15	0,15	0,15	0,9	-
<b>Power consumption of coils</b>							
AC operated	inrush VA	7 - 9	14 - 18	33 - 45	33 - 45	3 - 3,5	-
	sealed VA	2,2 - 4,2	4 - 6	6 - 8	6 - 8	3 - 3,5	-
	W	0,8 - 1,6	1,6 - 3,2	2,6	2,6	3 - 3,5	-
<b>Operation range of coils</b> in multiples of control voltage $U_s$ (-40 to +40°C)		0,85 - 1,1	0,85 - 1,1	0,85 - 1,1	0,85 - 1,1	0,85 - 1,1	-
<b>Short circuit protection</b>							
max. fuse Coordination-type "1"	gL (gG) A	35	35	63	80	35	-
Rated short circuit current	"r" kA	3	3	3	3	1	-
	"Iq" kA	3	10	10	10	1	-
<b>Cable cross-sections</b>							
Main connector	solid or stranded mm <sup>2</sup>	1,5 - 10	1,5 - 10	2,5 - 25	2,5 - 25	0,5 - 2,5 <sup>3)</sup>	0,5 - 2,5 <sup>3)</sup>
	flexible mm <sup>2</sup>	1,5 - 6	1,5 - 6	2,5 - 16	2,5 - 16	0,5 - 2,5 <sup>3)</sup>	0,5 - 2,5 <sup>3)</sup>
	flexible with multicore cable end mm <sup>2</sup>	1,5 - 6	1,5 - 6	2,5 - 16	2,5 - 16	0,5 - 1,5	0,5 - 1,5
Clamps per pole		1	1	1	1	2	2
Magnetic coil	solid or stranded mm <sup>2</sup>	0,75 - 2,5	0,75 - 2,5	0,75 - 2,5	0,75 - 2,5	0,5 - 2,5 <sup>3)</sup>	-
	flexible mm <sup>2</sup>	0,5 - 2,5	0,5 - 2,5	0,5 - 2,5	0,5 - 2,5	0,5 - 2,5 <sup>3)</sup>	-
	flexible with multicore cable end mm <sup>2</sup>	0,5 - 1,5	0,5 - 1,5	0,5 - 1,5	0,5 - 1,5	0,5 - 1,5	-
Clamps per pole		1	1	1	1	2	-
<b>Auxiliary Contacts</b> <sup>5) 6) 7)</sup>							
<b>Rated insulation voltage</b> $U_i$ <sup>1)</sup>	V AC	-	-	-	-	-	440 <sup>2)</sup>
<b>Thermal rated current</b> $I_{th}$ 40°C	A	-	-	-	-	-	10
Ambient temperature 60°C	A	-	-	-	-	-	6
<b>Utilization category AC15</b>							
Rated operational current $I_e$	220-240V A	-	-	-	-	-	3
	380-415V A	-	-	-	-	-	2
	440V A	-	-	-	-	-	1,6
<b>Utilization category DC13</b>							
Rated operational current $I_e$	24-60V A	-	-	-	-	-	2
	110V A	-	-	-	-	-	0,4
per pole	220V A	-	-	-	-	-	0,1
<b>Short circuit protection</b>							
short-circuit current 1kA, contact welding not accepted max. fuse size	gL (gG) A	-	-	-	-	-	10
<b>Switching time</b> at control voltage $U_s$ ±10%							
	make time ms	7 - 16	9 - 15	11 - 15	11 - 15	15 - 19	
	release time ms	6 - 12	4 - 8	6 - 13	6 - 13	8 - 25	
	arc duration ms	10 - 15	10 - 15	10 - 15	10 - 15	10 - 15	

1) Suitable for: earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard-industry): U<sub>imp</sub> = 8kV.

2) Suitable for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry): U<sub>imp</sub> = 4kV.

3) Maximum cable cross-section with prepared conductor 4) AC7b motor 2-pole 230V 1,1kW

5) Rated frequency 50/60Hz

6) Max. occ. switching overvoltage <4kV

7) Duty cycle: 100%

# Switch Disconnectors, Switches

Technical Data according to IEC 947-3, IEC 947-5-1, VDE 0660, EN 60947-3, EN 60947-5-1

Type		LTS20	LTS25	LTS32	LTS40	LTS63	LTS80	LT80	LT100		M10H
<b>Main contacts</b>											
Rated thermal current $I_{th}$ open	A	20	25	32	40	63	80	80	100		20
Rated thermal current $I_{the}$ enclosed	A	20	25	32	40	63	80	80/70 <sup>2)</sup>	100/80 <sup>2)</sup>		20
Rated insulation voltage $U_i$ <sup>1)</sup>	V	690	690	690	690	690	690	690	690		690
Rated operational current $I_e$ AC21A	A	20	25	32	40	63	80	80	100		20
Making capacity $I_{eff}$ 3x380-440V	A	160	190	220	300	370	440	600	725		160
Breaking capacity 3x220-240V	A	160	180	200	250	330	380	560	700		160
	A	160	180	200	250	330	380	560	650		160
	A	80	110	140	170	190	220	200	280		80
Breaking capacity 3x380-440V	A	160	180	200	250	330	380	560	700		160
	A	160	180	200	250	330	380	560	650		160
	A	80	110	140	170	190	220	200	280		80
Disconnection property performed up to	V	690	690	690	690	690	690	690	690		690
Motor Switch AC3 3x400V	A	12	16	23	30	37	37	45	60		12
Motor Switch AC3 3x220-240V	kW	3	4	5,5	7,5	11	11	15	18,5		3
	kW	5,5	7,5	11	15	18,5	18,5	22	30		5,5
	kW	5,5	7,5	11	15	18,5	18,5	18,5	22		5,5
Direct switching of single motors 3x380-440V	kW	5,5	7,5	11	15	18,5	18,5	22	30		5,5
	kW	5,5	7,5	11	15	18,5	18,5	18,5	22		5,5
	kW	5,5	7,5	11	15	18,5	18,5	18,5	22		5,5
Motor Switch AC23 3x400V	A	16	20	25	32	45	45	60	72		15
Motor Switch, AC23A, 3x220-240V	kW	4	5,5	7,5	9	15	15	18,5	22		4
	kW	7,5	10	12,5	16	22	22	30	37		7,5
Main Switch, AC23B 3x380-440V	kW	7,5	10	12,5	16	22	22	30	37		7,5
Safety Switch 3x660-690V	kW	5,5	7,5	11	15	18,5	18,5	22	30		7,5
Rated conditional short-circuit current	kA <sub>eff</sub>	10	10	10	10	10	10	25	25		10
Max. fuse size gL (gG)	A	25	35	40	50	63	80	80	100		20
Mechanical life	x10 <sup>3</sup>	200	200	200	200	100	100	100	100		200
Rated short-time withstand current (1sec. current)	A	250	300	400	500	600	850	1600	1850		2500
<b>Maximum cable cross sections</b>											
solid	mm <sup>2</sup>	10	10	10	10	25	25	50	50		2,5
	AWG	8	8	8	8	4	4	1/0	1/0		12
flexible (+ multicore cable end)	mm <sup>2</sup>	6	6	6	6	16	16	35	35		2,5
	AWG	10	10	10	10	6	6	2	2		14
Size of terminal screw		M3,5	M3,5	M3,5	M3,5	M5	M5	-	-		M3,5
Tightening torque	Nm	0,8-1,7	0,8-1,7	0,8-1,7	0,8-1,7	2-4	2-4	3	3		0,8-1,4
	lb.inch	7-15	7-15	7-15	7-15	18-35	18-35	26	26		7-15
<b>Auxiliary contacts</b>											
Rated insulation voltage $U_i$ <sup>1)</sup>	V	690	690	690	690	690	690	690	690		-
Rated thermal current $I_{th}$ , $I_{the}$	A	10	10	10	10	10	10	16	16		-
Switching capacity AC15 220-240V	A	2,5	2,5	2,5	2,5	2,5	2,5	6	6		-
	A	1,5	1,5	1,5	1,5	1,5	1,5	3	3		-
Switching capacity AC15 380-440V	A	1,5	1,5	1,5	1,5	1,5	1,5	3	3		-
	A	1,5	1,5	1,5	1,5	1,5	1,5	3	3		-
Rated conditional short-circuit current	kA <sub>eff</sub>	3	3	3	3	3	3	3	3		-
Max. short circuit protection gL (gG)	A	10	10	10	10	10	10	16	16		-
<b>Maximum cable cross sections</b>											
solid	mm <sup>2</sup>	2,5	2,5	2,5	2,5	2,5	2,5	4	4		-
	AWG	12	12	12	12	12	12	12	12		-
flexible (+ multicore cable end)	mm <sup>2</sup>	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5		-
	AWG	14	14	14	14	14	14	14	14		-

## Data according to UL und cUL

Type		LTS20	LTS25	LTS32	LTS40	LTS63	LTS80	LT80	LT100		M10H
Rated voltage	V	600	600	600	600	600	600	600	600		600
Ampere-Rating "General use"	A	20	25	32	40	63	80	80	100		20
DOL-Rating 3-phase	110-120V	HP	1	1,5	2	2	3	5	7,5	10	1,5
	220-240V	HP	3	5	5	5	10	10	20	25	3
	440-480V	HP	7,5	10	10	10	20	20	40	50	5
	550-600V	HP	10	10	15	15	25	25	50	50	7,5
DOL-Rating 1-phase	110-120V	HP	1	1	1	1	2	3	5		0,5
	200-208V	HP	1	2	2	2	3	-	-		1
	220-240V	HP	2	2	3	3	5	10	15		1,5
Fuse size (RK5) 5kA / 600V	Manual Motor Controller	A	40	50	50	70	90	110	200 <sup>4)</sup>	250 <sup>4)</sup>	40
	Motor Disconnect	A	40	50	50	50	70	70	200 <sup>4)</sup>	250 <sup>4)</sup>	-

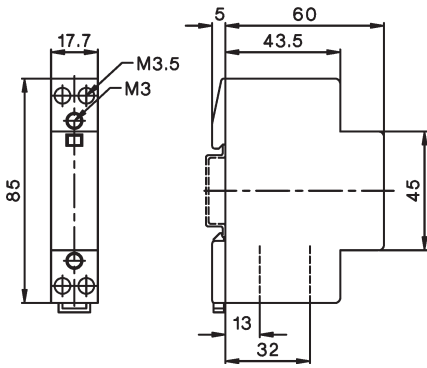
1) suitable for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry):  $U_{imp} = 6kV$ . Data for other conditions on request

2) the values after the slash are valid for switches 6-pole or more 3) Suitable for no load applications (AC20A) above 690V

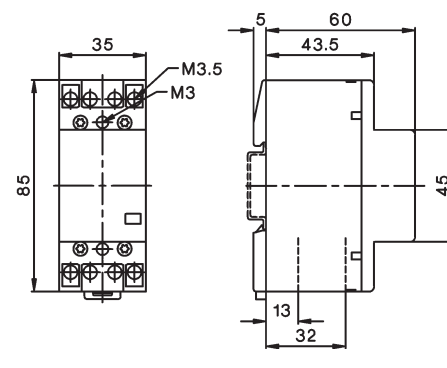
4) Fuse RK1 / 10kA / 600V

# Dimensions

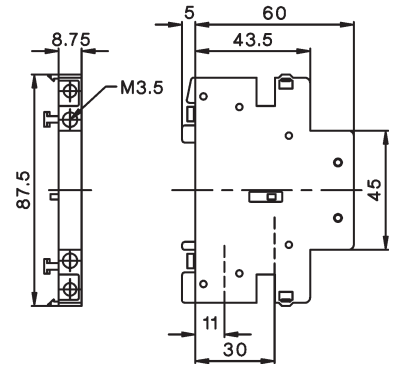
R20..  
RC-R 230



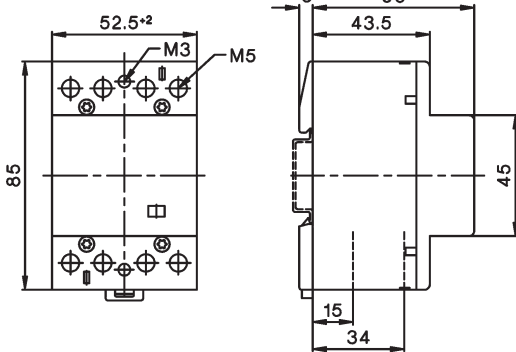
R25..



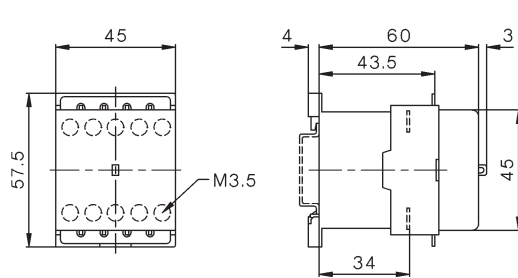
Aux. contact block  
RH11



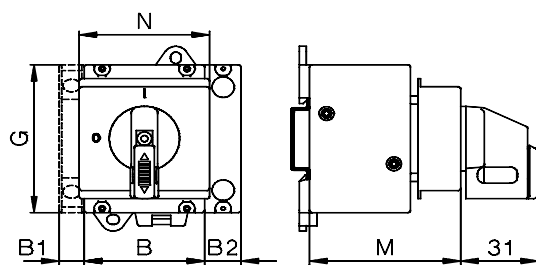
R40..  
R63..



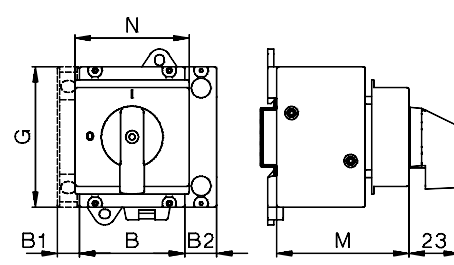
K1R40  
K1R31



Main Switch LT.. SMAHN..  
LTS20 - LT100

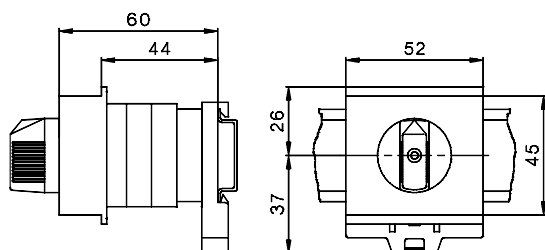


Switch Disconnecter LT.. SMA..  
LTS20 - LT100



Type	3-pole 4-pole aux. 4.Pole contact PE					G	M	N
	A	B	B	B1	B2			
LTS20 bis LTS40	-	48	48	10	-	54	60	52
LTS63, LTS80	-	48	62,5	10	14,5	54	60	52
LT80, LT100	-	70	92	-	-	80	70	70

Control Switch M10H SMA..



**Notice:**