

Modular Contactors and Switches



Quality made in



D681E231

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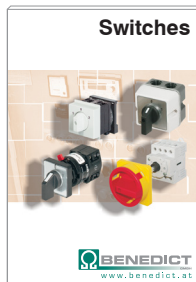
Complete Assortment
Technical Datas
Dimensions
Applicationen
Distributors

Catalogue **D946E..**



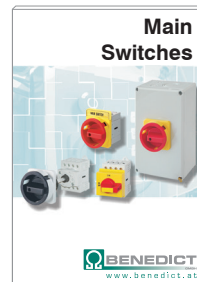
M4-32T.. up to 32A
M4-32R.. up to 32A
M4-63R.. up to 63A
M4-100R.. up to 100A

Catalogue **D795E..**



On-Off-Switches
Changeover Switches
Motor Switches
Step Switches
Main Switches
Modular Switches
Key Operated Switches

Catalogue **D371E..**



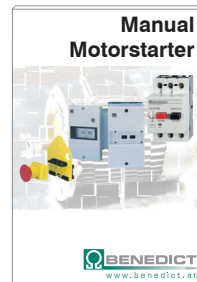
Emergency Off
Main Switches
On-Off-Switches
Add-On-Module

Catalogue **D656E..**



Contactors for reactive and non reactive capacitor banks

Catalogue **D385E..**



MU25A up to 32A

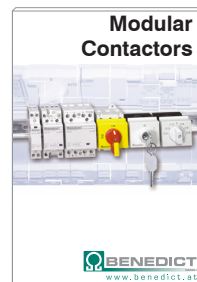
Auxiliary Contact Blocks
Trip Alarm Auxiliary Switches
Busbar Connectors
Enclosure

Catalogue **D509E..**



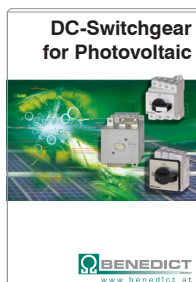
Push Buttons
Emergency Stop
Key Operated Rotary Switches
Rotary Knobs
Illuminated Push Buttons
Assembled Stations

Catalogue **D580E..**



Modular Contactors
Accessories
Emergency Off Switches
Main Switches
On-Off Switches
Control Switches

Catalogue **D681E..**



Main Switches
On-Off-Switches
Contactors for DC-Switching

Catalogue **D911E..**



Mini-Contactors
Contactors
Overload Relays
Capacitor Switching Contactors
Motor-Starters
Modular Contactors

Catalogue **D677E..**

Modular Contactors and Switches



Modular Contactors

2,3



Aux. contact block, Accessories

4



Safety Switches
Main Switches Emergency Stop

5
5



Modular Switches, Depth 60mm
Voltmeter Selector Switches
Amperemeter Selector Switches
Step Switches
Key operated Switches

6, 7
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6
7
7



Switch of Lamps

8, 9

Technical Data

10,11

Dimensions

12

Modular Contactors, low noise

Rated Heating Power
Current AC1 at

Type

coil voltage

AC1 1-phase 3-phase
400V 230V 400V
A kW kW

24
230

24V 50/60Hz
220-240V 50Hz, 230-264V 60Hz

Pack
pcs.

Weight
kg/pc.

Wiring Diagram

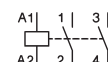
One-pole 1 module (17,5mm), AC-operated (low noise)

20	4,6	-	R20-10 24	12	0,12
20	4,6	-	R20-10 230	12	0,12

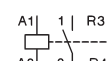


Two-pole 1 module (17,5mm), AC-operated (low noise)

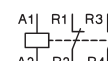
20	4,6	-	R20-20 24	12	0,12
20	4,6	-	R20-20 230	12	0,12



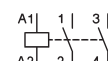
20	4,6	-	R20-11 24	12	0,12
20	4,6	-	R20-11 230	12	0,12



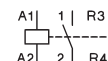
20	4,6	-	R20-02 24	12	0,12
20	4,6	-	R20-02 230	12	0,12



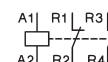
25	5,5	-	R25-20 24	12	0,14
25	5,5	-	R25-20 230	12	0,14



25	5,5	-	R25-11 24	12	0,14
25	5,5	-	R25-11 230	12	0,14

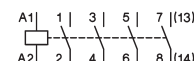


25	5,5	-	R25-02 24	12	0,14
25	5,5	-	R25-02 230	12	0,14

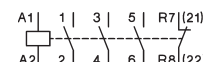


Four-pole 2 modules (35mm) ¹⁾, AC-operated (low noise)

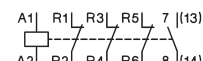
25	5,7	17	R25-40 24	6	0,21
25	5,7	17	R25-40 230	6	0,21



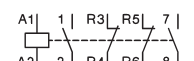
25	5,7	17	R25-31 24	6	0,21
25	5,7	17	R25-31 230	6	0,21



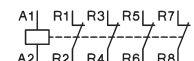
25	5,7	17	R25-13 24	6	0,21
25	5,7	17	R25-13 230	6	0,21



25	5,7	-	R25-22 24	6	0,21
25	5,7	-	R25-22 230	6	0,21



25	5,7	17	R25-04 24	6	0,21
25	5,7	17	R25-04 230	6	0,21



1) Sealable with Sealing Cover P721, available aux. contact block RH11(see page 4)

Modular Contactors, hum free



Rated Heating Power
Current AC1 at

AC1 1-phase 3-phase
400V 230V 400V
A kW kW

Type

coil voltage

24VM
230VM

24V 50/60Hz, 24V DC
220-240V 50/60Hz, 220V DC

Pack
pcs.

Weight
kg/pc.

Wiring Diagram

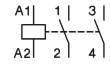
One-pole 1 module (17,5mm), AC/DC-operated (hum free)

20	4,6	-	R20-10 24VM	12	0,12
20	4,6	-	R20-10 230VM	12	0,12

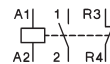


Two-pole 1 module (17,5mm), AC/DC-operated (hum free)

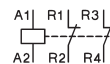
20	4,6	-	R20-20 24VM	12	0,12
20	4,6	-	R20-20 230VM	12	0,12



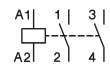
20	4,6	-	R20-11 24VM	12	0,12
20	4,6	-	R20-11 230VM	12	0,12



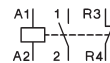
20	4,6	-	R20-02 24VM	12	0,12
20	4,6	-	R20-02 230VM	12	0,12



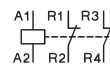
25	5,5	-	R25-20 24VM	12	0,14
25	5,5	-	R25-20 230VM	12	0,14



25	5,5	-	R25-11 24VM	12	0,14
25	5,5	-	R25-11 230VM	12	0,14

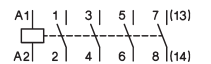


25	5,5	-	R25-02 24VM	12	0,14
25	5,5	-	R25-02 230VM	12	0,14

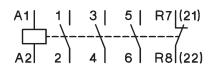


Four-pole 2 modules (35mm) ¹⁾, AC/DC-operated (hum free)

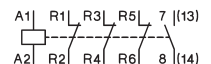
25	5,7	17	R25-40 24VM	6	0,21
25	5,7	17	R25-40 230VM	6	0,21



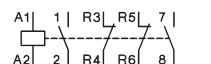
25	5,7	17	R25-31 24VM	6	0,21
25	5,7	17	R25-31 230VM	6	0,21



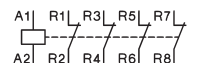
25	5,7	17	R25-13 24VM	6	0,21
25	5,7	17	R25-13 230VM	6	0,21



25	5,7	-	R25-22 24VM	6	0,21
25	5,7	-	R25-22 230VM	6	0,21



25	5,7	17	R25-04 24VM	6	0,21
25	5,7	17	R25-04 230VM	6	0,21



1) Sealable with Sealing Cover P721, available aux. contact block RH11(see page 4)

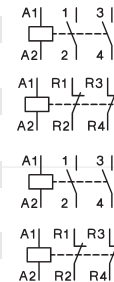
Modular Contactors, low noise

Rated Current	Heating Power AC1 at	Type	coil voltage	Pack pcs.	Weight kg/pc.	Wiring Diagram
AC1	1-phase 3-phase	24	24V 50/60Hz			
400V	230V 400V	230	220-240V 50Hz, 230-264V 60Hz			
A	kW kW	↓				

Two-pole 2 modules (35mm), AC-operated (low noise)



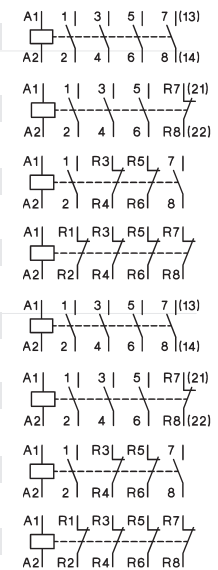
40	9	-	R40-20 24	6	0,23	
40	9	-	R40-20 230	6	0,23	
40	9	-	R40-02 24	6	0,23	
40	9	-	R40-02 230	6	0,23	
63	14,3	-	R63-20 24	6	0,23	
63	14,3	-	R63-20 230	6	0,23	
63	14,3	-	R63-02 24	6	0,23	
63	14,3	-	R63-02 230	6	0,23	



Four-pole 3 modules (52,5mm)¹⁾, AC-operated (low noise)



40	9	27,5	R40-40 24	4	0,35	
40	9	27,5	R40-40 230	4	0,35	
40	9	27,5	R40-31 24	4	0,35	
40	9	27,5	R40-31 230	4	0,35	
40	9	-	R40-22 24	4	0,35	
40	9	-	R40-22 230	4	0,35	
40	9	27,5	R40-04 24	4	0,35	
40	9	27,5	R40-04 230	4	0,35	
63	14,3	43	R63-40 24	4	0,36	
63	14,3	43	R63-40 230	4	0,36	
63	14,3	43	R63-31 24	4	0,36	
63	14,3	43	R63-31 230	4	0,36	
63	14,3	-	R63-22 24	4	0,36	
63	14,3	-	R63-22 230	4	0,36	
63	14,3	43	R63-04 24	4	0,36	
63	14,3	43	R63-04 230	4	0,36	



Auxiliary Contact Block ½ module (8,8mm)²⁾ for contactor R25, R40, R63 (4p.) max. 1 piece for contactor R40 and R63 (2p.) max. 1 piece



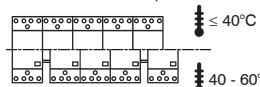
Rated current	AC15	AC1	Type	Pack pcs.	Weight kg/pc.	Wiring Diagram
AC15	230V	400V				
A	A	A	for contactor			
3	2	10	R25 ³⁾ , R40, R63	RH11	3	0,026
3	2	10	R25-...VM (4p.)	RH11-1	3	0,026



Accessories



	Type	Pack pcs.	Weight kg/pc.
RC-unit 2x for R20.. to R63.. for 12V to 250V AC 220nF / 100 Ohm not for R20-..., R25-...VM	RC-R 230	2	0,05
Spacing piece ½ module (8,8mm) for R20.. to R63.. for ambient temperature >40°C	P730	10	0,012
Sealing cover for R25.. (4p.)	P721	10	0,002
Sealing cover for R40-..., R63-...	P690	10	0,003



1) Sealable with Sealing Cover P690, available aux. contact block RH11

2) Contacts suitable for electronic circuits, according to IEC60947-5-4 for rated voltage 24V DC (test ratings 17V DC, 5mA). Mirror contacts acc. IEC60947-4-1 Annex F.

3) AC-operated R25-..., 4-pole

Safety Switches for installation boards

AC21
690V

AC23
3x400V

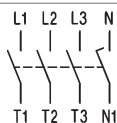
Plate
mm**Typ**Pack
Pcs.Weight
kg./pcs.

3-pole, 60mm, IP40 



20A	7,5kW	52x45	LTS20 SMAHN1 A3	1	0,15
25A	10kW	52x45	LTS25 SMAHN1 A3	1	0,15
32A	12,5kW	52x45	LTS32 SMAHN1 A3	1	0,15
40A	16kW	52x45	LTS40 SMAHN1 A3	1	0,15
63A	22kW	52x45	LTS63 SMAHN1 A3	1	0,18
80A	22kW	52x45	LTS80 SMAHN1 A3	1	0,18
85A	30kW	78x45	LTS85 SMAHN1 A3	1	0,37
100A	37kW	78x45	LTS100 SMAHN1 A3	1	0,37
125A	45kW	78x45	LTS125 SMAHN1 A3	1	0,37

4-pole, 60mm, IP40  

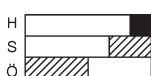


20A	7,5kW	52x45	LTS20 SMAHN1 A4	1	0,16
25A	10kW	52x45	LTS25 SMAHN1 A4	1	0,16
32A	12,5kW	52x45	LTS32 SMAHN1 A4	1	0,16
40A	16kW	52x45	LTS40 SMAHN1 A4	1	0,16
63A	22kW	52x45	LTS63 SMAHN1 A4	1	0,21
80A	22kW	52x45	LTS80 SMAHN1 A4	1	0,21
85A	30kW	78x45	LTS85 SMAHN1 A4	1	0,42
100A	37kW	78x45	LTS100 SMAHN1 A4	1	0,42
125A	45kW	78x45	LTS125 SMAHN1 A4	1	0,42

for Switches

Pcs. kg./pcs.

Auxiliary Contact Block 1NO + 1NC (max. 1 Pcs.)



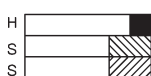
LTS20.. bis LTS125	LH11	1	0,01
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Auxiliary Contact Block 1NO + 1NC overlapping (max. 1 Pcs.)



LTS20.. bis LTS125	LH11X	1	0.01
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Auxiliary Contact Block 2NO



LTS20.. bis LTS125	LH20V/02E	1	0,01
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4. Pole to 3-pole Switches



LTS20.. bis LTS125	N80V	1	0,04
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Number of padlocks

Cam Switches for installation boards, 60mm, IP40



ON-OFF Switches

		Pole	AC21 I _{th}	Motor 3x400V	Plate mm	Type	Pack Pcs.	Weight g./pcs.
		1	20A	-	52x45	M10H SMA A1	1	95
		1	32A	-	52x45	M20 SMA A1	1	102
		2	20A	-	52x45	M10H SMA A2	1	100
		2	32A	-	52x45	M20 SMA A2	1	111
		3	20A	5,5kW	52x45	M10H SMA A3	1	105
		3	32A	11kW	52x45	M20 SMA A3	1	120
		4	20A	5,5kW	52x45	M10H SMA A4	1	110
		4	32A	11kW	52x45	M20 SMA A4	1	129

Changeover Switches with 0-Position

		1	20A	-	52x45	M10H SMA U1	1	100
		2	20A	-	52x45	M10H SMA U2	1	110
		2	32A	-	52x45	M20 SMA U2	1	129
		3	20A	-	52x45	M10H SMA U3	1	120
		3	20A	-	52x45	M10H SMA U3	1	120

Changeover Switches with 0-Position

		1	20A	-	52x45	M10H SMA U1+009	1	100
		2	20A	-	52x45	M10H SMA U2+009	1	110
		2	20A	-	52x45	M10H SMA U2+009	1	110

Changeover Switches without 0-Position

		1	20A	-	52x45	M10H SMA W1	1	100
		2	20A	-	52x45	M10H SMA W2	1	110
		2	32A	-	52x45	M20 SMA W2	1	129

Start Switch

		1	20A	-	52x45	M10H SMA SE	1	95
--	--	---	-----	---	-------	-------------	---	----

Voltmeter Selector Switch

		20A	52x45	M10H SMA V1	1	120
--	--	-----	-------	-------------	---	-----

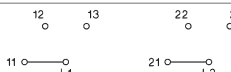
Voltmeter Selector Switch

		20A	52x45	M10H SMA V3	1	110
--	--	-----	-------	-------------	---	-----

Amperemeter Selector Switch

		20A	52x45	M10H SMA M31	1	120
--	--	-----	-------	--------------	---	-----

Cam Switches for installation boards, 60mm, IP40

			AC21 I _{th}	Motor 3x400V	Type	Pack Pcs.	Weight g./pcs.	
3/4 Step Switches without 0-Position								
		3 Step	20A	-	M10H SMA ST31	1	105	
		3 Step	32A	-	M20 SMA ST31	1	120	
		4 Step	20A	-	M10H SMA ST41	1	110	
		4 Step	32A	-	M20 SMA ST41	1	129	
2 Step Switches without 0-Position								
		3 Step	20A	-	M10H SMA ST32	1	120	
1 Step Switches with 0-Position								
		2 Step	20A	-	M10H SMA ST021	1	100	
		2 Step	32A	-	M20 SMA ST021	1	111	
		3 Step	20A	-	M10H SMA ST031	1	105	
		3 Step	32A	-	M20 SMA ST031	1	120	
ON-OFF Switches Key operated, Lock Willenhal FT101								
			1	20A	-	M10H SMA A1+SA	1	117
			2	20A	-	M10H SMA A2+SA	1	122

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..
Incandescent lamps (AC5b)	60	0,27	-	36	50	92	129
	100	0,45	-	21	30	55	77
	200	0,91	-	10	15	27	38
	300	1,36	-	7	10	19	26
	500	2,27	-	4	6	11	16
	1000	4,5	-	2	3	6	8
Fluorescent lamps uncompensated or serial compensated (AC5a)	11	0,16	1,3	60	75	210	310
	18	0,37	2,7	25	30	90	140
	24	0,35	2,5	25	30	90	140
	36	0,43	3,4	20	25	70	140
	58	0,67	5,3	14	17	45	70
	65	0,67	5,3	13	16	40	65
	85	0,8	5,3	11	14	35	60
Fluorescent lamps dual-connection (AC5a)	11	0,07	-	2 x 100	2 x 110	2 x 220	2 x 250
	18	0,11	-	2 x 50	2 x 55	2 x 130	2 x 200
	24	0,14	-	2 x 40	2 x 44	2 x 110	2 x 160
	36	0,22	-	2 x 30	2 x 33	2 x 70	2 x 100
	58	0,35	-	2 x 20	2 x 22	2 x 45	2 x 70
	65	0,35	-	2 x 15	2 x 16	2 x 40	2 x 60
	85	0,47	-	2 x 10	2 x 11	2 x 30	2 x 40
Fluorescent lamps parallel compensated (AC5a)	11	0,09	2	33	43	67	107
	18	0,13	2	25	32	50	80
	24	0,16	3	25	32	50	80
	36	0,27	4	22	32	50	80
	58	0,45	7	14	18	36	46
	65	0,5	7	14	18	36	46
	85	0,6	8	12	16	33	44
Fluorescent lamps with electronic fluorescent lamp ballast (AC5a)	18	0,09	-	40	40	100	150
	36	0,16	-	20	20	52	75
	58	0,25	-	15	15	30	55
	80	0,4	-	7	10	20	30
	2 x 18	0,17	-	20	20	50	60
	2 x 28	0,25	-	15	15	37	45
	2 x 36	0,32	-	10	10	25	30
	2 x 58	0,49	-	7	7	15	20
	2 x 80	0,7	-	4	4	8	10
Transformers for metal halid low voltage lamps (AC5a)	20	0,09	-	40	52	110	174
	50	0,22	-	20	24	50	80
	75	0,33	-	13	16	35	54
	100	0,43	-	10	12	27	43
	150	0,65	-	7	9	19	29
	200	0,87	-	5	5	14	23
	300	1,3	-	3	4	9	14
Mercury-vapour lamps (high-pressure lamps), uncompensated e. g. HQL, HPL (AC5a)	50	0,61	-	16	21	38	55
	80	0,8	-	12	16	29	40
	125	1,15	-	8	11	20	28
	250	2,15	-	4	6	11	15
	400	3,25	-	3	4	7	10
	700	5,4	-	1	2	4	6
	1000	7,5	-	1	1	3	4
Mercury-vapour lamps (high-pressure lamps), compensated e. g. HQL, HPL (AC5a)	50	0,28	7	14	18	36	50
	80	0,41	8	12	16	31	44
	125	0,65	10	10	13	25	35
	250	1,22	18	5	7	14	19
	400	1,95	25	4	5	10	14
	700	3,45	45	2	3	6	8
	1000	4,8	60	1	2	4	6

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..
Metal halide lamps uncompensated e. g. HQI, HPI, CDM (AC5a)	35	0,53	-	22	24	57	65
	70	1	-	12	14	30	35
	150	1,8	-	6	8	17	18
	250	3	-	4	5	10	12
	400	3,5	-	3	4	8	10
	1000	9,5	-	1	1	3	4
	2000	16,5	-	-	-	2	2
	400V per pole						
	2000	10,5	-	-	-	2	2
	3500	18	-	-	-	1	1
	35	0,25	6	16	21	42	58
	70	0,45	12	8	11	21	29
	150	0,75	20	5	7	13	18
	250	1,5	33	3	4	9	11
Metal halide lamps compensated e. g. HQI, HPI, CDM (AC5a)	400	2,1	35	2	4	9	10
	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
	20	0,1	integrated	9	9	18	20
	28	0,15	integrated	-	-	-	18
	35	0,2	integrated	6	6	11	13
	70	0,36	integrated	5	5	10	12
	150	0,7	integrated	4	4	8	10
	50-125 x I _{nlamp} for 0,6ms (AC5a)						
	35	1,5	-	7	9	22	30
	55	1,5	-	7	9	22	30
Sodium-vapour lamps (low pressure lamps), uncompensated (AC5a)	90	2,4	-	4	6	13	19
	135	3,3	-	3	4	10	14
	150	3,3	-	3	4	10	14
	180	3,3	-	3	4	10	14
	200	3,3	-	3	4	10	14
Sodium-vapour lamps (low pressure lamps), compensated (AC5a)	35	0,31	20	5	6	15	18
	55	0,42	20	5	6	15	18
	90	0,63	30	3	4	10	12
	135	0,94	45	2	3	7	8
	150	1	40	2	3	8	9
	180	1,16	40	2	3	8	9
	200	1,32	25	-	-	10	12
Sodium-vapour lamps (high pressure lamps), uncompensated (AC5a)	150	1,8	-	5	8	17	22
	250	3	-	4	5	10	13
	330	3,7	-	3	4	8	10
	400	4,7	-	2	3	6	8
	1000	10,3	-	1	1	3	4
Sodium-vapour lamps (high pressure lamps), compensated (AC5a)	150	0,83	20	5	7	20	25
	250	1,5	33	3	4	12	15
	330	2	40	2	3	10	13
	400	2,4	48	2	2	8	12
	1000	6,3	106	1	1	4	6
Sodium-vapour lamps (high pressure lamps) with serial electronic (e. g.: PCI) 50-125 x I _{nlamp} for 0,6ms (AC5a)	20	0,1	integrated	9	9	18	20
	35	0,2	integrated	6	6	11	13
	70	0,36	integrated	5	5	10	12
	150	0,7	integrated	4	4	8	10

LED-Lamps

consider the inrush current
of the lamp ballast and
the cosφ of the lamp

max. inrush current of contactor [A]

$$\frac{\text{inrush current of contactor}}{\text{inrush current of lamp/EVG}} =$$

195A

233A

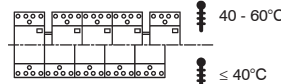
424A

565A

max. lamps per pole at 230V 50Hz and max. 60°C ($I_{nLED} \leq I_n$)

Modular Contactors

Data according to IEC60 947-4-1, IEC 60947-5-1, VDE 0660-5-1

Type			2-pole				4-pole			
			R20 (VM) ⁷⁾	R25 (VM) ⁷⁾	R40	R63	R25 (VM) ⁷⁾	R40	R63	RH11
Main Contacts ^{4) 5) 6)}										
Rated insulation voltage U _i ¹⁾										
	V~		440	440	440	440	440	440	440	440
Rated operation voltage U _e		V~	440	440	440	440	440	440	440	440
Frequency of operations z AC1, AC3		1/h	300	300	600	600	300	600	600	600
Mechanical life		S x 10 ⁶	1	1	1	1	1	1	1	1
Utilization category AC1 / AC7a										
Switching of resistive load										
Rated operational current I _e (=I _{th}) open at 60°C		A	20	25	40	63	25	40	63	-
Contact life		S x 10 ⁶	0,1	0,1	0,1	0,1	0,1	0,1	0,1	-
Minimum Switch Voltage		V/mA	24/100	24/100	24/100	24/100	24/100	24/100	24/100	17/5
Short time current ^{10s-current}		A	72	72	216	240	72	216	240	-
Power loss per pole at I _e /AC1		W	2	3	3	7	2	3	7	0,5
Utilization category AC2 and AC3 / AC7b										
Switching of three-phase motors										
Rated operational current I _e		A	-	-	-	-	9	27	30	-
Rated operational power of three-phase motors		kW	-	-	-	-	2,2	7,5	8	-
50-60Hz		220V	-	-	-	-	2,5	8	8,5	-
		230-240V	-	-	-	-	4	12,5	15	-
		380-415V	-	-	-	-	-	-	-	-
2-pole motors		230V	1,1 ²⁾	1,3	2,6	5	-	-	-	-
Contact life		S x 10 ⁶	0,15	0,15	0,15	0,15	0,15	0,15	0,15	-
Power consumption of coils										
AC operated		inrush VA	7 - 9	7 - 9	20 - 25	20 - 25	20 - 25	33 - 45	33 - 45	-
		sealed VA	2,2 - 4,2	2,2 - 4,2	4 - 6	4 - 6	4 - 6	6 - 8	6 - 8	-
		W	0,8 - 1,6	0,8 - 1,6	1,5 - 2,5	1,5 - 2,5	1,5 - 2,5	2 - 3,3	2 - 3,3	-
AC and DC-operated		W	2 - 3	2 - 3	-	-	3 - 4	-	-	-
Operation range of coils										
in multiples of control voltage U _s (-40° – +40°C)			0,85 - 1,1	0,85 - 1,1	0,85 - 1,1	0,85 - 1,1	0,85 - 1,1	0,85 - 1,1	0,85 - 1,1	-
Noise level (operation)										
acc. to EN ISO 3744										
from front, distance 0,5 m		dB	16 (0) ⁷⁾	16 (0) ⁷⁾	8	8	8 (0) ⁷⁾	< 4	< 4	-
Type			R20	R25 (2p.)	R25 (4p.)	R25-..VM	R40 (2p./4p.)	R63 (2p./4p.)	RH11	
Maximum ambient temperature										
Operation		open °C								
		enclosed °C								
Storage		°C								
Short circuit protection										
max. fuse Coordination-type "1"gL (gG)		A	35	35	35	35	63	80	-	
Rated short circuit current		"I _r " kA	3	3	3	3	3	3	-	
		"I _q " kA	3	3	10	10	10	10	-	
Switching time at control voltage U _s ± 10%										
		make time ms	7 - 16	7 - 16	9 - 15	17 - 50	11 - 15	11 - 15	-	
		release time ms	6 - 12	6 - 12	4 - 8	17 - 23	6 - 13	6 - 13	-	
		arc duration ms	10 - 15	10 - 15	10 - 15	10 - 15	10 - 15	10 - 15	-	
Cable cross-sections										
Main connector		solid or stranded mm ²	1,5 - 10	1,5 - 10	1,5 - 10	1,5 - 10	2,5 - 25	2,5 - 25	0,5 - 2,5 ³⁾	
		flexible mm ²	1,5 - 6	1,5 - 6	1,5 - 6	1,5 - 6	2,5 - 16	2,5 - 16	0,5 - 2,5 ³⁾	
		flexible with multicore cable end mm ²	1,5 - 6	1,5 - 6	1,5 - 6	1,5 - 6	2,5 - 16	2,5 - 16	0,5 - 1,5	
Clamps per pole			1	1	1	1	1	1	2	
Magnetic coil		solid or stranded mm ²	0,75 - 2,5	0,75 - 2,5	0,75 - 2,5	0,75 - 2,5	0,75 - 2,5	0,75 - 2,5	-	
		flexible mm ²	0,5 - 2,5	0,5 - 2,5	0,5 - 2,5	0,5 - 2,5	0,5 - 2,5	0,5 - 2,5	-	
		flexible with multicore cable end mm ²	0,5 - 1,5	0,5 - 2,5	0,5 - 1,5	0,5 - 1,5	0,5 - 1,5	0,5 - 1,5	-	
Clamps per pole			1	1	1	1	1	1	-	
Auxiliary Contacts ^{4) 5) 6)}										
Rated insulation voltage U _i ¹⁾										
Thermal rated current I _{th}		A	-	-	25	25	40	63	10	
Ambient temperature		60°C A	-	-	25	25	40	63	6	

1) Suitable for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry): $U_{imp} = 4kV$.

2) AC7b motor 2-pole 230V 1,1kW

3) Maximum cable cross-section with prepared conductor

4) Rated frequency 50/60Hz

5) Max. occ. switching overvoltage <4kV

6) Duty cycle: 100%

7) 0 dB for contactors type "VM" (AC/DC operated)

Modular Contactors

Data according to IEC60 947-4-1, IEC 60947-5-1, VDE 0660-5-1

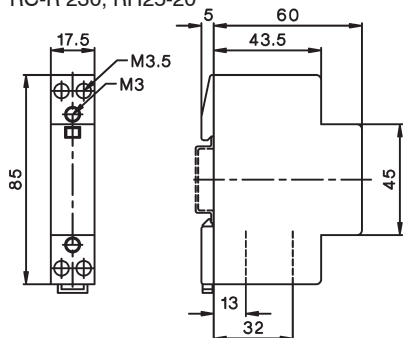
Type		R20	R25 (2p.)	R25 (4p.)	R25-..VM	R40 (2p./4p.)	R63 (2p./4p.)	RH11
Utilization category AC15								
Rated operational current I_e	220-240V A	-	-	3	3	3	3	3
	380-415V A	-	-	2	2	2	2	2
	440V A	-	-	1,6	1,6	1,6	1,6	1,6
Utilization category DC13								
Rated operational current I_e	24-60V A	-	-	2	2	2	2	2
	110V A	-	-	0,4	0,4	0,4	0,4	0,4
per pole	220V A	-	-	0,1	0,1	0,1	0,1	0,1
Short circuit protection								
short-circuit current 1kA, contact welding not accepted max. fuse size	gL (gG) A	-	-	10	10	10	10	10

Data according to UL508

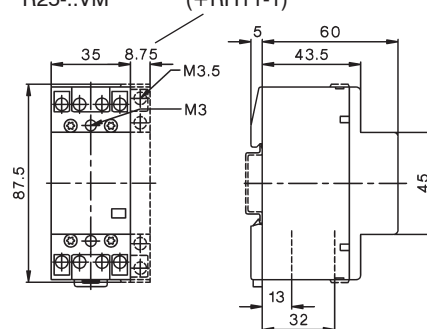
Main Contacts (cULus)	Type	R20	R25 (2p.)	R25 (4p.)	R40 (2p./4p.)	R63 (2p./4p.)	RH11
Rated operational current "General Use"	A	20	25	25	40	63	10
Rated operational power of three-phase motors at 60Hz (3ph)	110-120V hp	-	-	1	2	3	-
	200-208V hp	-	-	2	5	7½	-
	220-240V hp	-	-	3	7½	10	-
	265-277V hp	-	-	3	7½	10	-
Rated operational power of AC motors at 60Hz (1ph)	110-120V hp	½	½	½	1	1½	-
	200-208V hp	1	1	1	2	3	-
	220-240V hp	1½	1 ½	1½	3	5	-
	265-277V hp	1½	2	2	3	5	-
Fuses	A	40	40	40	80	80	-
Suitable for use on a capability of delivering not more than	rms A	5000	5000	5000	5000	5000	-
	V	300	300	300	300	300	300
Rated operation voltage	V~	300	300	300	300	300	300
Auxiliary Contacts (cULus)	heavy pilot duty AC	-	-	-	-	-	C300

Dimensions

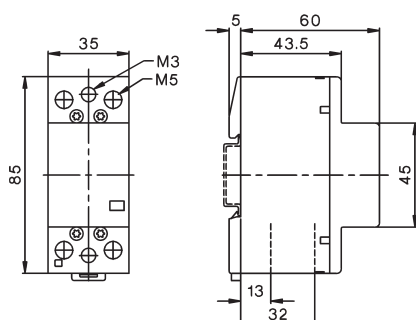
R20-..., R25-... (2-pole)
RC-R 230, RH25-20



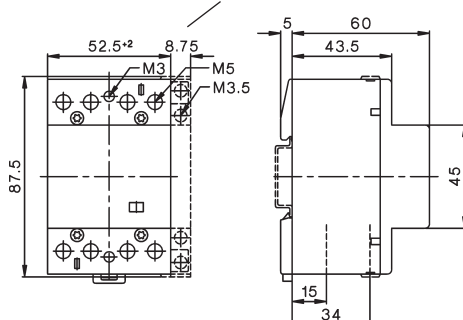
R25-... (4-pole) (+RH11)
R25-...VM (+RH11-1)



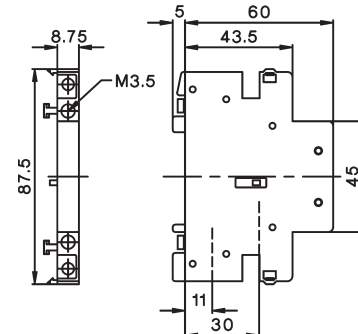
R40-... (2-pole)
R63-... (2-pole)



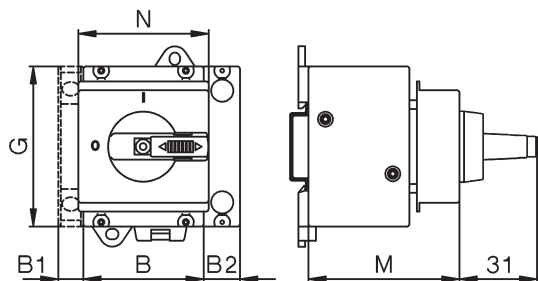
R40-... (4-pole) (+RH11)
R63-... (4-pole) (+RH11)



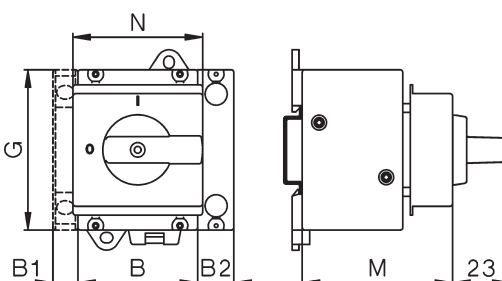
Aux. contact block
RH11, RH11-1



Main Switch LTS.. SMAHN..
LTS20 - LTS125

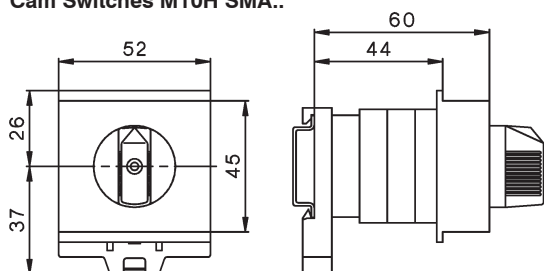


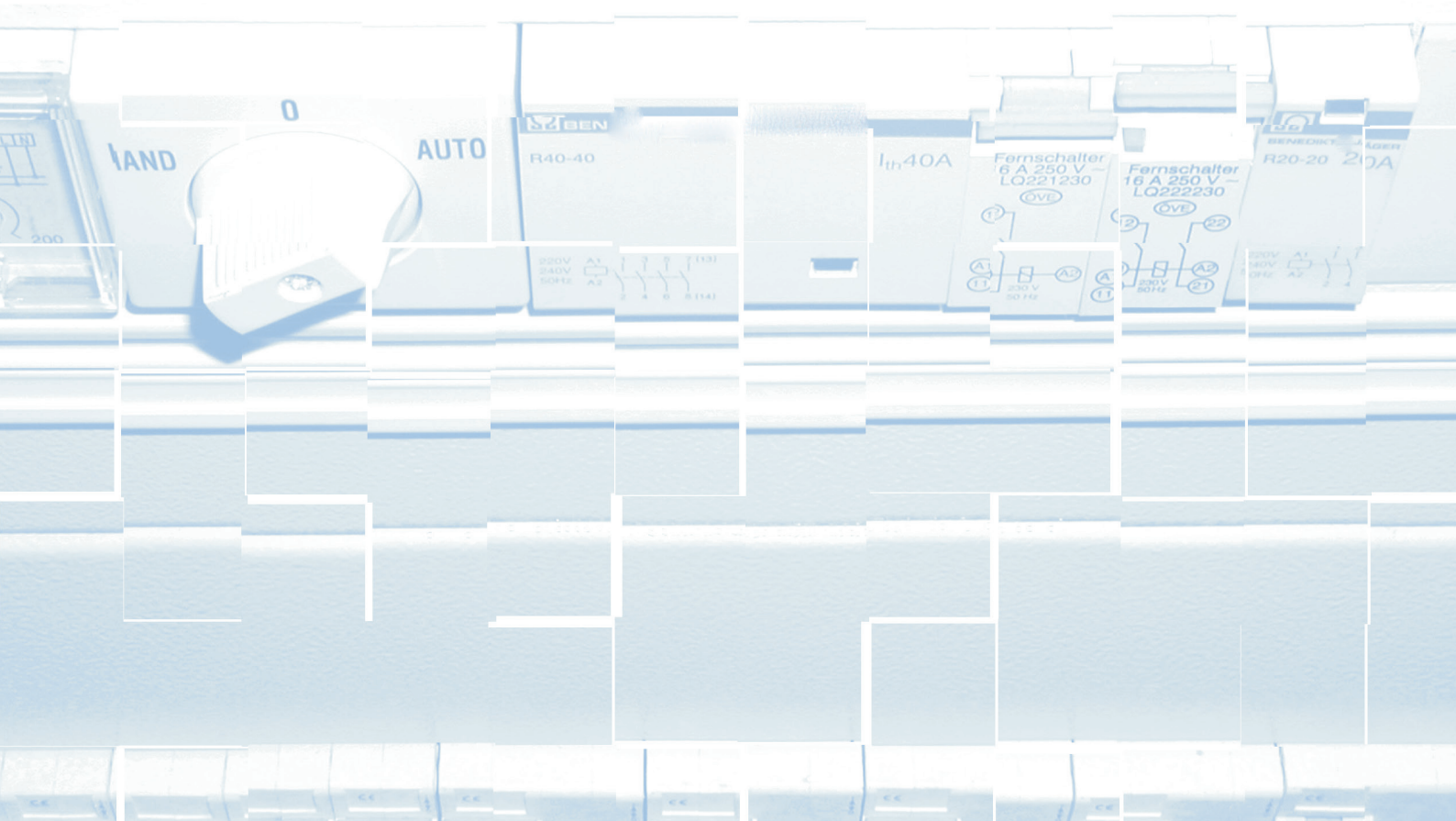
Switch Disconnector LTS.. SMA..
LTS20 - LTS125



Type	3-pole		4-pole	aux. contact		4.Pole PE	G	M	N
	A	B	B	B1	B2				
LTS20 to LTS40	-	48	48	10	-	54	60	52	
LTS63, LTS80	-	48	62,5	10	14,5	54	60	52	
LTS85 to LTS125	-	78	78	10	-	85	70	78	

Cam Switches M10H SMA..





Liebigasse 7, A-1220 Wien
 Telefon: +43 1 251 51- 0
 Fax: +43 1 251 51-89
 e-mail: sales@benedict.at
www.benedict.at

