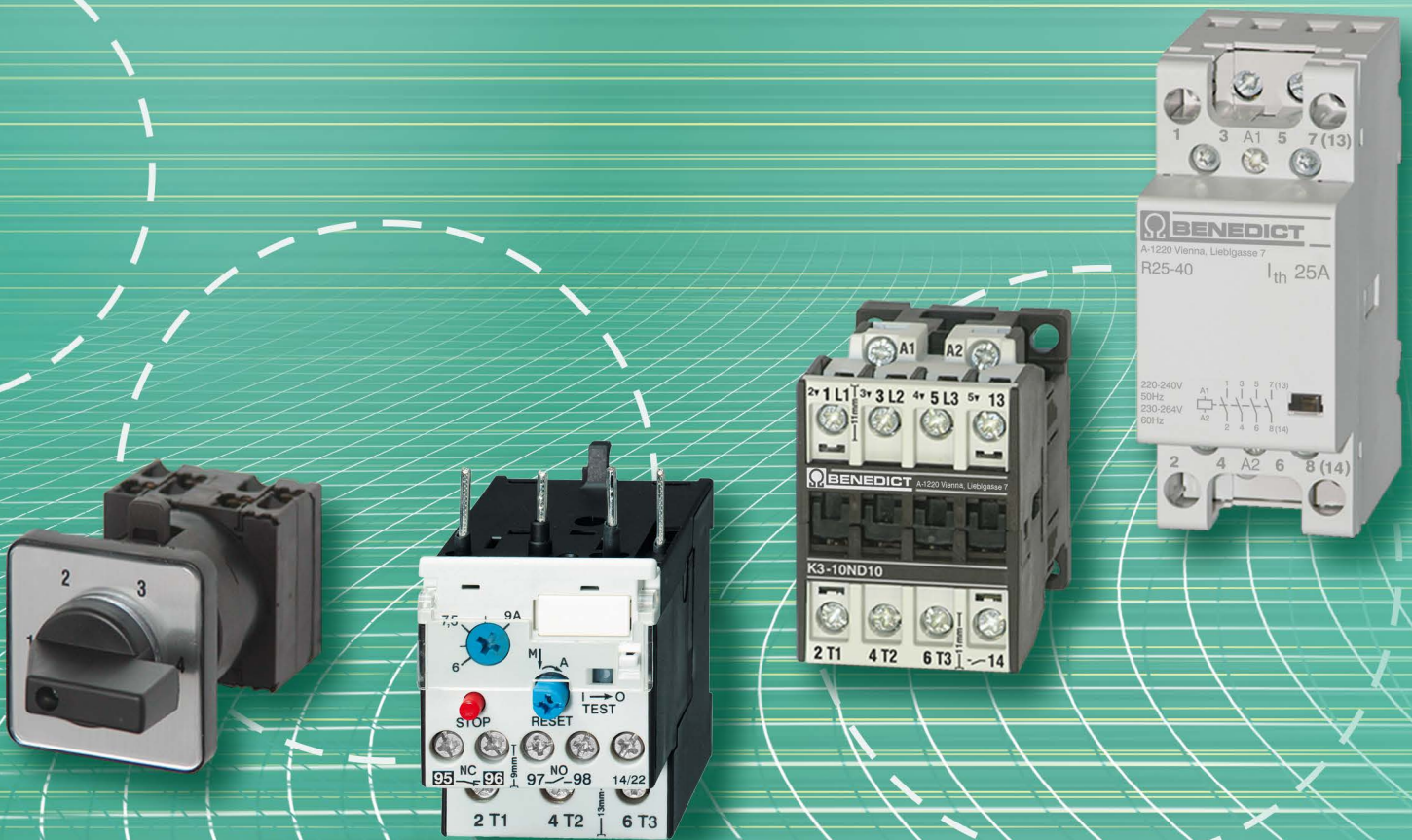


# Low Voltage Control Gear



Quality made in 

Short Form Catalogue D651E191

**General Catalogue**




Complete Assortment  
Technical Datas  
Dimensions  
Applicationen  
Distributors

Catalogue **D946E..**




**Circuit Breakers**




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

Catalogue **D795E..**




**Switches**




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

Catalogue **D371E..**




**Main Switches**




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

Catalogue **D656E..**




**Capacitor Switching Contactors**



Contactors for reactive and non reactive capacitor banks

Catalogue **D385E..**



**Manual Motorstarter**




MU25A up to 32A

Auxiliary Contact Blocks  
Trip Alarm Auxiliary Switches  
Busbar Connectors  
Enclosure

Catalogue **D509E..**




**Push Buttons**




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

Catalogue **D580E..**




**Modular Contactors**




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

Catalogue **D681E..**




**DC-Switchgear for Photovoltaic**



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

Catalogue **D911E..**



**Contactors Motor-Starter**



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

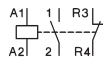
Catalogue **D677E..**



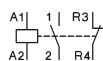
	Device	page	
Modular Contactors		Modular Contactors 2	
		Cam Switches 4	
		Main Switches 5	
Contactors and Overload Relays		Micro-Contactors K0 6	
		Mini-Contactors K1 6	
		Mini-Reversing Starters K1W 6	
		Contactors K3 8	
		Reversing Starters 9	
		Star Delta Starters 9	
		Contactors for DC Switching 9	
		Overload Relays for Contactors K1 7	
		Overload Relays for Contactors K3 10	
		D.O.L. Starters 11	
Circuit Breakers for Motor Protection		Circuit Breakers 12	
Manual Motor-Starters		Manual Motor-Starters 14	
Push Buttons		Assembled Stations 15	
		Push Button Sets 16	
		Push Buttos 18	
Switches		DC-Switch Disconnectors 20	
			Main Switches 21
			Cam Switches 23

# Modular Contactors, low noise

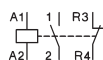
1-, 2-pole, 1 Modul (17,5mm)  
low noise, AC operated



1-, 2-pole, 1 Modul (17,5mm)  
low noise, AC/DC operated



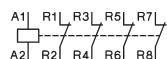
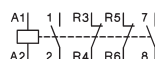
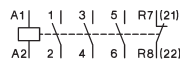
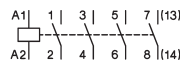
2-pole, 2 Module (35mm)  
low noise, AC operated



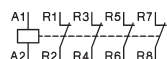
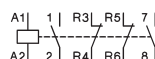
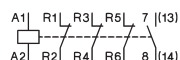
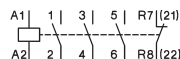
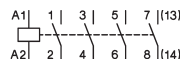
2-pole, 2 Module (35mm)  
low noise, AC operated



4-pole, 2 Module (35mm) <sup>1)</sup>  
low noise, AC operated



4-pole, 2 Module (35mm) <sup>2)</sup>  
low noise, AC/DC operated



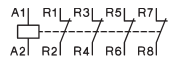
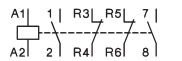
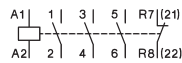
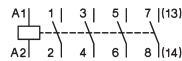
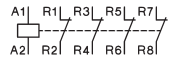
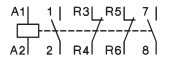
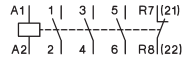
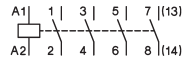
Rated current 400V AC1 A	Power Rating		Motor AC3 400V 3~ kW	Type		Pack Pcs.	Weight kg/pcs.
	AC1 230V 1~ kW	400V 3~ kW		NO NC	coil V~		
20	4,6	-	-	R20-10	230	12	0,12
20	4,6	-	-	R20-20	230	12	0,12
20	4,6	-	-	R20-20	24	12	0,12
20	4,6	-	-	R20-11	230	12	0,12
20	4,6	-	-	R20-11	24	12	0,12
20	4,6	-	-	R20-02	230	12	0,12
20	4,6	-	-	R20-02	24	12	0,12
20	4,6	-	-	R20-10	230VM	12	0,12
20	4,6	-	-	R20-20	230VM	12	0,12
20	4,6	-	-	R20-20	24VM	12	0,12
20	4,6	-	-	R20-11	230VM	12	0,12
20	4,6	-	-	R20-11	24VM	12	0,12
20	4,6	-	-	R20-02	230VM	12	0,12
20	4,6	-	-	R20-02	24VM	12	0,12
25	5,5	-	-	R25-20	230	12	0,14
25	5,5	-	-	R25-20	24	12	0,14
25	5,5	-	-	R25-11	230	12	0,14
25	5,5	-	-	R25-11	24	12	0,14
25	5,5	-	-	R25-02	230	12	0,14
25	5,5	-	-	R25-02	24	12	0,14
40	9	-	-	R40-20	230	6	0,23
63	14,3	-	-	R63-20	230	6	0,23
25	5,7	17	4	R25-40	230	6	0,21
25	5,7	17	4	R25-40	24	6	0,21
25	5,7	17	4	R25-31	230	6	0,21
25	5,7	17	4	R25-31	24	6	0,21
25	5,7	17	4	R25-13	230	6	0,21
25	5,7	17	4	R25-13	24	6	0,21
25	5,7	-	-	R25-22	230	6	0,21
25	5,7	-	-	R25-22	24	6	0,21
25	5,7	17	4	R25-04	230	6	0,21
25	5,7	17	4	R25-04	24	6	0,21
25	5,7	17	4	R25-40	230VM	6	0,22
25	5,7	17	4	R25-40	24VM	6	0,22
25	5,7	17	4	R25-31	230VM	6	0,22
25	5,7	17	4	R25-31	24VM	6	0,22
25	5,7	17	4	R25-13	230VM	6	0,22
25	5,7	17	4	R25-13	24VM	6	0,22
25	5,7	-	-	R25-22	230VM	6	0,22
25	5,7	-	-	R25-22	24VM	6	0,22
25	5,7	17	4	R25-04	230VM	6	0,22
25	5,7	17	4	R25-04	24VM	6	0,22

1) Sealable with Sealing Cover P721, available aux. contact block RH11

2) Sealable with Sealing Cover P721, available aux. contact block RH11-1

## Modular Contactors, low noise

4-pole, 3 Module (52,5mm)<sup>1)</sup>  
low noise, AC operated



Rated current 400V AC1 A	Power Rating AC1 230V 400V 1~ 3~ kW kW		Motor AC3 400V 3~ kW	Type NO NC coil V~	Pack Pcs.	Weight kg/pcs.
	230V	400V				
40	9	27,5	12,5	R40-40 230	4	0,35
40	9	27,5	12,5	R40-40 24	4	0,35
40	9	27,5	12,5	R40-31 230	4	0,35
40	9	27,5	12,5	R40-31 24	4	0,35
40	9	-	-	R40-22 230	4	0,35
40	9	-	-	R40-22 24	4	0,35
40	9	27,5	12,5	R40-04 230	4	0,35
40	9	27,5	12,5	R40-04 24	4	0,35
63	14,3	43	15	R63-40 230	4	0,36
63	14,3	43	15	R63-40 24	4	0,36
63	14,3	43	15	R63-31 230	4	0,36
63	14,3	43	15	R63-31 24	4	0,36
63	14,3	-	-	R63-22 230	4	0,36
63	14,3	-	-	R63-22 24	4	0,36
63	14,3	43	15	R63-04 230	4	0,36
63	14,3	43	15	R63-04 24	4	0,36

## Accessories for Installationsschütze

Auxiliary Contact Block, 1/2 Modul (8,75mm)



for R25 to R63 4-pole

for AC/DC operated



Rated current AC15 230V 400V A A	Thermal current Ith A	Type	Pack Pcs.	Weight kg/pcs.	
3	2	10	RH11	3	0,026
3	2	10	RH11-1	3	0,026

Sealing covers



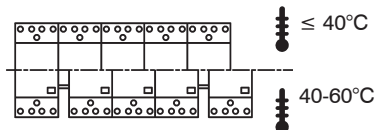
for R25.. (4-pole, 2 Module)	P721	10	0,002
for R40.. and R63.. (4-pole, 3 Module)	P690	10	0,003

Suppressor unit, 1 Modul (17,5mm)



for 2x R20.. and R63.. RC-Unit for 12V - 250V~	RC-R 230	2	0,05
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Spacing piece, 1/2 Modul (8,75mm)



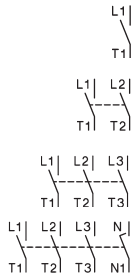
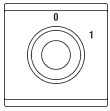
for ambient temperature >40°C  
we recommend to use spacing peaces.

for R20.. and R63..	P730	10	0,012
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1) Sealable with Sealing Cover P690, available aux. contact block RH11

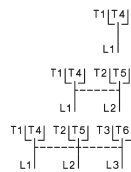
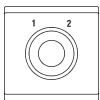
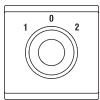
## Cam Switches for Installation boards, 60mm

### ON-OFF-Switches



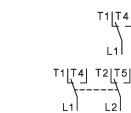
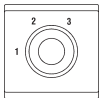
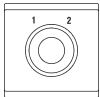
Pole	AC21 $I_{th}$ A	Motor 3x400V kW	Plate mm	Type	Pack Pcs.	Weight kg/pcs.
1	20	-	52x45	M10H SMA A1	1	0,095
1	32	-	52x45	M20 SMA A1	1	0,102
2	20	-	52x45	M10H SMA A2	1	0,1
2	32	-	52x45	M20 SMA A2	1	0,111
3	20	5,5	52x45	M10H SMA A3	1	0,105
3	32	11	52x45	M20 SMA A3	1	0,12
4	20	5,5	52x45	M10H SMA A4	1	0,11
4	32	11	52x45	M20 SMA A4	1	0,129

### Changeover Switches with 0-Position



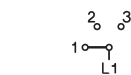
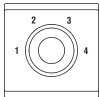
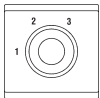
1	20	-	52x45	M10H SMA U1	1	0,1
2	20	-	52x45	M10H SMA U2	1	0,11
2	32	-	52x45	M20 SMA U2	1	0,129
3	20	-	52x45	M10H SMA U3	1	0,12

### Changeover Switches without 0-Position



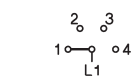
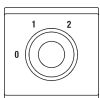
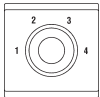
1	20	-	52x45	M10H SMA W1	1	0,1
2	20	-	52x45	M10H SMA W2	1	0,11
2	32	-	52x45	M20 SMA W2	1	0,129

### 3 Step Switches without 0-Position



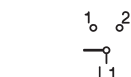
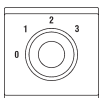
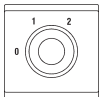
1	20	-	52x45	M10H SMA ST31	1	0,105
1	32	-	52x45	M20 SMA ST31	1	0,12

### 4 Step Switches without 0-Position



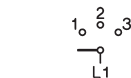
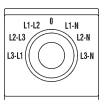
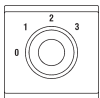
1	20	-	52x45	M10H SMA ST41	1	0,11
1	32	-	52x45	M20 SMA ST41	1	0,129

### 2 Step Switches with 0-Position



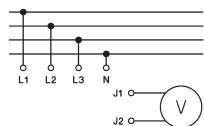
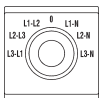
1	20	-	52x45	M10H SMA ST021	1	0,11
1	32	-	52x45	M20 SMA ST021	1	0,111

### 3 Step Switches with 0-Position



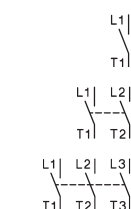
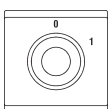
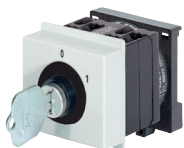
1	20	-	52x45	M10H SMA ST031	1	0,105
1	32	-	52x45	M20 SMA ST031	1	0,12

### Voltmeter Selector Switch, 3 line voltages, 3 phase voltages



	20	-	52x45	M10H SMA V1	1	0,12
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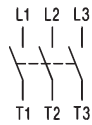
### ON-OFF-Switches Key operated Lock Willenhal FT101



1	20	-	52x45	M10H SMA A1+SA	1	0,117
1	32	-	52x45	M20 SMA A1+SA	1	0,129
2	20	-	52x45	M10H SMA A2+SA	1	0,122
2	32	-	52x45	M20 SMA A2+SA	1	0,137
3	20	5,5	52x45	M10H SMA A3+SA	1	0,142
3	32	11	52x45	M20 SMA A3+SA	1	0,161

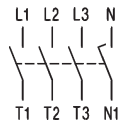
## Emergency - Stop - Main Switch, lockable

### 3-pole, for Installation board, 60mm, IP40



AC21 690V A	AC23 3x400V kW	Plate mm	Type	Pack Pcs.	Weight kg/pcs.
<b>20</b>	7,5	52x45	LTS20 SMAHN1 A3	1	0,15
<b>25</b>	10	52x45	LTS25 SMAHN1 A3	1	0,15
<b>32</b>	12,5	52x45	LTS32 SMAHN1 A3	1	0,15
<b>40</b>	16	52x45	LTS40 SMAHN1 A3	1	0,15
<b>63</b>	22	52x45	LTS63 SMAHN1 A3	1	0,18
<b>80</b>	22	52x45	LTS80 SMAHN1 A3	1	0,18
<b>85</b>	30	78x45	LTS85 SMAHN1 A3	1	0,37
<b>100</b>	37	78x45	LTS100 SMAHN1 A3	1	0,37
<b>125</b>	45	78x45	LTS125 SMAHN1 A3	1	0,37

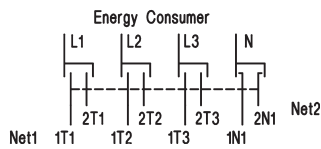
### 4-pole, for Installation board, 60mm, IP40



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

## Net Changeover Switches for emergency power systems

### 4-pole, for Installation board, 60mm, IP40



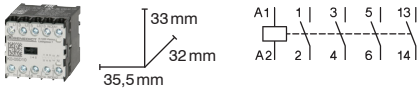
AC21 690V A	AC23 3x400V kW	Plate mm	Type	Pack Pcs.	Weight kg/pcs.
<b>20</b>	7,5	97x45	LTS20 SMA U4+841	1	<sup>1)</sup>
<b>25</b>	10	97x45	LTS25 SMA U4+841	1	<sup>1)</sup>
<b>32</b>	12,5	97x45	LTS32 SMA U4+841	1	<sup>1)</sup>
<b>40</b>	16	97x45	LTS40 SMA U4+841	1	<sup>1)</sup>
<b>63</b>	22	126x45	LTS63 SMA U4+841	1	<sup>1)</sup>

Other designs on request

<sup>1)</sup>Weight on request

## Micro-Contactors K0, Mini-Contactors K1

### Micro-Contactor, Coil AC



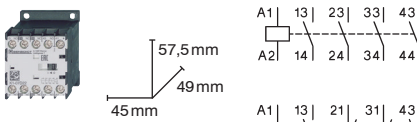
Motor AC2,AC3 kW	AC1 I <sub>th</sub> A	additionally Type of auxilliary contact blocks max.	Type NO NC V Coil	Pack Pcs.	Weight kg/pcs.
2,2	12	-	K0-05D10 230	1	0,07
2,2	12	-	K0-05D10 24	1	0,07

### Micro-Contactor, Coil DC



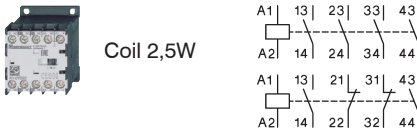
2,2	12	-	K0-05D10= 24	1	0,09
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### Mini-Contactor Relays, Coil AC



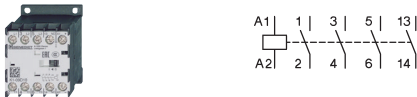
AC15 230V A	AC1 I <sub>th</sub> A	Type of additionally auxilliary contact blocks max.	Type NO NC V coil	Pack Pcs.	Weight kg/pcs.
3	10	1 HK..	K1-07D40 230	1	0,16
3	10	1 HK..	K1-07D40 24	1	0,16
3	10	1 HK..	K1-07D22 230	1	0,16
3	10	1 HK..	K1-07D22 24	1	0,16

### Mini-Contactors, Coil AC



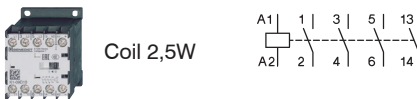
3	10	1 HK..	K1-07D40= 24	1	0,16
3	10	1 HK..	K1-07D22= 24	1	0,16

### Mini-Contactors, Coil DC



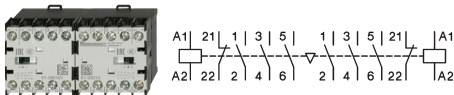
Motor AC2,AC3 kW	AC1 I <sub>th</sub> A	additionally Type of auxilliary contact blocks max.	Type NO NC V coil	Pack Pcs.	Weight kg/pcs.
4	20	1 HKM..	K1-09D10 230	1	0,16
4	20	1 HKM..	K1-09D10 24	1	0,16
5,5	20	1 HKM..	K1-12D10 230	1	0,16
5,5	20	1 HKM..	K1-12D10 24	1	0,16

### Mini-Contactors, Coil DC



4	20	1 HKM..	K1-09D10= 24	1	0,16
5,5	20	1 HKM..	K1-12D10= 24	1	0,16

### Mini-Reversing Starter, Coil AC



Motor AC2,AC3 kW	AC1 I <sub>th</sub> A	to accept Overload Relay	Type NO NC V coil	Pack Pcs.	Weight kg/pcs.
4	20	U12/16E.. K1	K1W09D01MC 230	1	0,32
5,5	20	U12/16E.. K1	K1W12D01MC 230	1	0,32

### Mini Contactors with Solder Pins



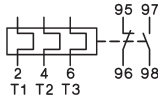
on request

Marking	Voltage range	Standard coil voltages: Coil AC	Standard coil voltages: Coil DC
24	24V 50/60Hz	24V=, 60V=, 110V= and 220V=	24V=, 60V=, 110V= and 220V=
230	220-230V 50Hz / 230-250V 60Hz		
	Other coil voltages on request		Other coil voltages on request



## Accessories for Micro-Contactors K0, Mini-Contactors K1

### Overload Relays for K1



Hand reset  
electrically insulated  
auxiliary contacts: 1NO + 1NC

Motor AC3 400V kW	Setting Range		Fuse acc. coordination		Type	Pack Pcs.	Weight kg/pcs.
	A		aM A	gL(gG) A "2"			
0,06 0,09	0,12	- 0,18	-	0,5	U12/16E 0,18 K1	1	0,1
	0,18	- 0,27	-	1,0	U12/16E 0,27 K1	1	0,1
	0,27	- 0,4	-	2	U12/16E 0,4 K1	1	0,1
0,12 0,18 0,25	0,4	- 0,6	-	2	U12/16E 0,6 K1	1	0,1
	0,6	- 0,9	-	4	U12/16E 0,9 K1	1	0,1
	0,8	- 1,2	2	4	U12/16E 1,2 K1	1	0,1
0,37 0,75 1,5	1,2	- 1,8	2	6	U12/16E 1,8 K1	1	0,1
	1,8	- 2,7	4	10	U12/16E 2,7 K1	1	0,1
	2,7	- 4	4	10	U12/16E 4 K1	1	0,1
2,2 3 4	4	- 6	6	16	U12/16E 6 K1	1	0,1
	6	- 9	10	25	U12/16E 9 K1	1	0,1
	8	- 11	16	25	U12/16E 11 K1	1	0,1
5,5	10	- 14	16	35	U12/16E 14 K1	1	0,1

### Auxiliary Contact Blocks for K1



for K1-07D...

AC15 230V A	Rated Current $I_{th}$	Contacts		Type	Pack Pcs.	Weight kg/pcs.
		NO	NC			
3	10	1	1	HK11	10	0,04
		0	2	HK02	10	0,04
		2	2	HK22	10	0,04
3	10	0	4	HK04	10	0,04
		4	0	HK40	10	0,04



for K1-09D10,  
K1-12D10

3	10	1	1	HKM11	10	0,04
		0	2	HKM02	10	0,04
		2	0	HKM20	10	0,04
3	10	2	2	HKM22	10	0,04
		3	1	HKM31	10	0,04

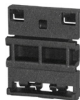
### Suppressor Units for K1



for K1-07.. to K1-12..

Voltage range	Execution	Type	Pack Pcs.	Weight kg/pcs.
12-24V~/=	RC	RC-K1 24	10	0,01
110-230V~/=	RC	RC-K1 230	10	0,01

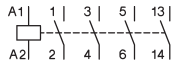
### Snap-On Adapter for K0 for DIN-rail 35mm



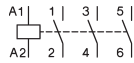
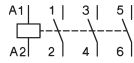
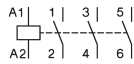
for Type	Description	Type	Pack Pcs.	Weight kg/pcs.
K0	for snap-on mounting	P1039	10	0,0061

## Contactors K3

### Contactors, Coil AC



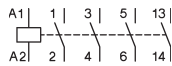
Motor AC2, AC3 kW	AC1 $I_{th}$ A	Type of additionally auxilliary contacts max.	Type	NO NC V Coil	Pack Pcs.	Weight kg/pcs.
4	25	4 HN..	K3-10ND10 230	↓	1	0,23
4	25	4 HN..	K3-10ND10 400	↓	1	0,23
5,5	25	4 HN..	K3-14ND10 230	↓	1	0,23
5,5	25	4 HN..	K3-14ND10 400	↓	1	0,23
7,5	32	4 HN..	K3-18ND10 230	↓	1	0,23
7,5	32	4 HN..	K3-18ND10 400	↓	1	0,23
11	32	4 HN..	K3-22ND10 230	↓	1	0,23
11	32	4 HN..	K3-22ND10 400	↓	1	0,23
11	50	4 HN..+2 HB..	K3-24A00 230	↓	1	0,48
15	65	4 HN..+2 HB..	K3-32A00 230	↓	1	0,48
18,5	80	4 HN..+2 HB..	K3-40A00 230	↓	1	0,48
22	110	4 HN..+2 HB..	K3-50A00 230	↓	1	0,85
30	120	4 HN..+2 HB..	K3-62A00 230	↓	1	0,85
37	130	4 HN..+2 HB..	K3-74A00 230	↓	1	0,85
45	160	7 HN..+2 HB..	K3-90A00 230	↓	1	2,2
55	200	7 HN..+2 HB..	K3-115A00 230	↓	1	2,2
75–680kW					on request	



### Contactors, Coil DC



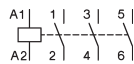
with integrated  
coil suppressor  
Coil 3W



4	25	4 HN..	KG3-10A10 24	1	0,53
5,5	25	4 HN..	KG3-14A10 24	1	0,53
7,5	32	4 HN..	KG3-18A10 24	1	0,53
11	32	4 HN..	KG3-22A10 24	1	0,53



with integrated  
coil suppressor  
Coil 4W



11	50	4 HN..+2 HB..	KG3-24A00 24	1	0,57
15	65	4 HN..+2 HB..	KG3-32A00 24	1	0,57
18,5	80	4 HN..+2 HB..	KG3-40A00 24	1	0,57

### Auxiliary Contact Blocks



for K3-10.. to K3-115..  
KG3-10.. to KG3-40..

AC15 230V A	AC1 $I_{th}$ A	Contacts NO NC	Type	Pack Pcs.	Weight kg/pcs.
3	10	1 0	HN10	10	0,02
3	10	0 1	HN01	10	0,02



for K3-24.. to K3-115..  
KG3-24.. to KG3-40..

3	10	1 1	HB11	10	0,02
3	10	0 2	HB02	10	0,02

Marking	Voltage range	Standard coil voltages: Coil AC	Standard coil voltages: Coil DC
24	24V 50/60Hz	24V=, 110V=, 230V= and 400V=	24V=, 60V=, 110V= and 220V=
110	110V 50Hz /110-120V 60Hz		
230	220-240V 50Hz / 230-240V 60Hz		
400	380-415V 50Hz / 400-415V 60Hz		

Other coil voltages on request

## Reversing Starter, Star-Delta Starter

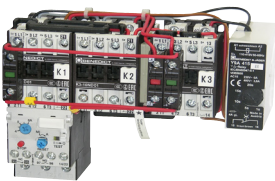
### Reversing Starter, Coil AC



Main- and Control lines are wired

Motor 400V kW	AC3 400V A	to accept Overload Relay	Type V Coil	Pack Pcs.	Weight kg/pcs.
4	10	U3/32..	K3NWU10 230	1	0,6
7,5	18	U3/32..	K3NWU18 230	1	0,6

### Star-Delta Starter, Coil AC



Main- and Control lines are wired

Motor 400V kW	AC3 400V A	to accept Overload Relay YD-Setting Range = 0,58 x I <sub>n</sub>	Type V Coil	Pack Pcs.	Weight kg/pcs.
7,5	16	U3/32..	K3NY15 230	1	0,9
15	30	U3/32..	K3NY26 230	1	0,9
22	45	U3/42..	K3Y40 230	1	1,4
30	60	U3/42..	K3Y52 230	1	1,8
45	85	U3/74..	K3Y80 230	1	3,5
55	109	U3/74..	K3Y100 230	1	3,7
75	150	U85..	K3Y140 230	1	6,6
110	205	U85..	K3Y200 230	1	7

### Suppressor Units

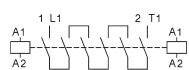
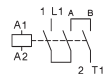
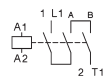


for K3-07N.. to K3-74..

Voltage range	Execution	Type	Pack Pcs.	Weight kg/pcs.
12-24V~/=	RC	RC-K3N 24	10	0,01
110-230V~/=	RC	RC-K3N 230	10	0,01
230-415V~/=	RC	RC-K3N 400	10	0,01

## Contactors for DC-Switching, as remote controlled fire predection defeat device for Photovoltaic-installation

### Contactors, coil AC



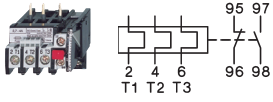
DC1 600V A	DC1 1000V A	Type of additionally auxilliary contacts max.	Type V Coil	Pack Pcs.	Weight kg/pcs.
20	-	2 HKA11	K3DC-20A00 230	1	0,45
48	-	+1 HKT.	K3DC-48A00 230	1	0,45
80	60	2 HKA11	K3DC-80A00 230	1	1,17
100	-	+1 HKT.	K3DC-100A00 230	1	1,8
30	30	2 HKA11	K3PV-30A00 2301	1	0,9
60	60	+1 HKT.	K3PV-60A00 2301	1	0,9
80	80	2 HKA11	K3PV-80A00 2301	1	1,35
100	100	+1 HKT.	K3PV-100A00 230	1	2,3

Contactors, Coil DC .. on request

## Overload Relays, for Contactors K3

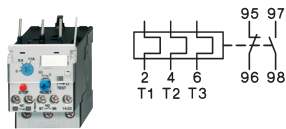
Motor AC3 400V kW	for contactor	Setting Range	Fuse acc. coordination	Type	Pack Pcs.	Weight kg/pcs.
		A	aM A	gL(gG) A "2"		

### Overload Relays for hand reset



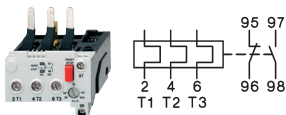
-	K(G)3-10..	0,12–0,18	-	0,5	U12/16E 0,18 K3	1	0,1
0,06	K(G)3-10..	0,18–0,27	-	1,0	U12/16E 0,27 K3	1	0,1
0,09	K(G)3-10..	0,27–0,4	-	2	U12/16E 0,4 K3	1	0,1
0,12	K(G)3-10..	0,4–0,6	-	2	U12/16E 0,6 K3	1	0,1
0,18	K(G)3-10..	0,6–0,9	-	4	U12/16E 0,9 K3	1	0,1
0,25	K(G)3-10..	0,8–1,2	2	4	U12/16E 1,2 K3	1	0,1
0,37	K(G)3-10..	1,2–1,8	2	6	U12/16E 1,8 K3	1	0,1
0,75	K(G)3-10..	1,8–2,7	4	10	U12/16E 2,7 K3	1	0,1
1,5	K(G)3-10..	2,7–4	4	10	U12/16E 4 K3	1	0,1
2,2	K(G)3-10..	4–6	6	16	U12/16E 6 K3	1	0,1
3	K(G)3-10..	6–9	10	25	U12/16E 9 K3	1	0,1
4	K(G)3-10..	8–11	16	25	U12/16E 11 K3	1	0,1
5,5	K(G)3-14..	10–14	16	35	U12/16E 14 K3	1	0,1
7,5	K(G)3-18..	13–18	20	35	U12/16E 18 K3	1	0,1
11	K(G)3-22..	17–23	25	35	U12/16E 23 K3	1	0,1

### Overload Relays for hand and automatic reset

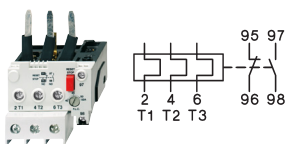


sealable

-	K(G)3-10..	0,12–0,18	-	0,5	U3/32 0,18	1	0,14
0,06	K(G)3-10..	0,18–0,27	-	1,0	U3/32 0,27	1	0,14
0,09	K(G)3-10..	0,27–0,4	-	2	U3/32 0,4	1	0,14
0,12	K(G)3-10..	0,4–0,6	-	2	U3/32 0,6	1	0,14
0,18	K(G)3-10..	0,6–0,9	-	4	U3/32 0,9	1	0,14
0,25	K(G)3-10..	0,8–1,2	2	4	U3/32 1,2	1	0,14
0,37	K(G)3-10..	1,2–1,8	2	6	U3/32 1,8	1	0,14
0,75	K(G)3-10..	1,8–2,7	4	10	U3/32 2,7	1	0,14
1,5	K(G)3-10..	2,7–4	4	10	U3/32 4	1	0,14
2,2	K(G)3-10..	4–6	6	16	U3/32 6	1	0,14
3	K(G)3-10..	6–9	10	25	U3/32 9	1	0,14
4	K(G)3-10..	8–11	16	25	U3/32 11	1	0,14
5,5	K(G)3-14..	10–14	16	35	U3/32 14	1	0,14
7,5	K(G)3-18..	13–18	20	35	U3/32 18	1	0,14
11	K(G)3-22..	17–24	25	35	U3/32 24	1	0,14
11	K(G)3-24A00	23–32	35	50	U3/32 32	1	0,14
15	K(G)3-32A00	23–32	35	50	U3/32 32	1	0,14



11	K3-24A00	20–28	35	50	U3/42 28	1	0,3
15	K3-32A00	28–42	50	50	U3/42 42	1	0,3
18,5	K3-40A00	28–42	50	50	U3/42 42	1	0,3



22	K3-50A00	40–52	63	100	U3/74 52	1	0,4
30	K3-62A00	52–65	50	125	U3/74 65	1	0,4
37	K3-74A00	60–74	80	125	U3/74 74	1	0,4

## D.O.L. Starter

Motor AC3 400V kW	Type of additionally aux. contacts max	to accept Overload Relay (order separate)	Type V Coil	Pack Pcs.	Weight kg/pcs.
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### D.O.L. Starter with Selector Switch, IP65



4	2 HN..	U12/16..K3	P1W10 230	1	0,6
4	2 HN..	U12/16..K3	P1W10 400	1	0,6
7,5	2 HN..	U12/16..K3	P1W18 230	1	0,6
7,5	2 HN..	U12/16..K3	P1W18 400	1	0,6

### D.O.L. Starter with Start-Stop / Reset Push Button, IP65



4	2 HN..	U12/16..K3	P1T10 230	1	0,6
4	2 HN..	U12/16..K3	P1T10 400	1	0,6
7,5	2 HN..	U12/16..K3	P1T18 230	1	0,6
7,5	2 HN..	U12/16..K3	P1T18 400	1	0,6

### D.O.L. Starter for Swimming pools, IP65



7,5	2 HN..	U12/16..K3	P1W18P 230	1	0,6
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with selector switch and pneumatic switch  
Pneumatic button and air pressure hose order separate

### Pneumatic Button



		P1LT	1	
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### Air Pressure Hose



Lenth: 5m		P1LS-5	1	
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### Pneumatic Switch



for refit of D.O.L. Starter P1W.. to P1W..P		P1-LDR	1	0,02
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## Circuit Breakers for Motor Control

Setting range Thermal Overload Release A	Suitable for motors AC3 400V kW	Instantaneous Short Circuit Release A	Short Circuit Breaking Capacity at 3~400V kA	Rated current $I_n$ A	Type	Pack Pcs.	Weight kg/pcs.
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### Circuit Breaker M4-32T-..



switch type

0,10–0,16	-	2,1	100	0,16	M4-32T-0,16	1	0,32
0,16–0,25	0,06	3,3	100	0,25	M4-32T-0,25	1	0,32
0,25–0,4	0,09	5,2	100	0,4	M4-32T-0,4	1	0,32
0,40–0,63	0,12	8,2	100	0,63	M4-32T-0,63	1	0,32
0,63–1	0,25	13	100	1	M4-32T-1	1	0,32
1,0–1,6	0,55	20,8	100	1,6	M4-32T-1,6	1	0,32
1,6–2,5	0,75	32,5	100	2,5	M4-32T-2,5	1	0,32
2,5–4	1,5	52	100	4	M4-32T-4	1	0,32
4–6	2,2	78	100	6	M4-32T-6	1	0,32
5–8	3	104	100	8	M4-32T-8	1	0,32
6–10	4	130	50	10	M4-32T-10	1	0,32
9–13	5,5	169	50	13	M4-32T-13	1	0,32
11–17	7,5	221	20	17	M4-32T-17	1	0,32
14–22	7,5	286	15	22	M4-32T-22	1	0,32
18–26	11	338	15	26	M4-32T-26	1	0,32
22–32	15	416	15	32	M4-32T-32	1	0,32

### Circuit Breaker M4-32R-..



rotary type

0,10–0,16	-	2,1	100	0,16	M4-32R-0,16	1	0,36
0,16–0,25	0,06	3,3	100	0,25	M4-32R-0,25	1	0,36
0,25–0,4	0,09	5,2	100	0,4	M4-32R-0,4	1	0,36
0,40–0,63	0,12	8,2	100	0,63	M4-32R-0,63	1	0,36
0,63–1	0,25	13	100	1	M4-32R-1	1	0,36
1,0–1,6	0,55	20,8	100	1,6	M4-32R-1,6	1	0,36
1,6–2,5	0,75	32,5	100	2,5	M4-32R-2,5	1	0,36
2,5–4	1,5	52	100	4	M4-32R-4	1	0,36
4–6	2,2	78	100	6	M4-32R-6	1	0,36
5–8	3	104	100	8	M4-32R-8	1	0,36
6–10	4	130	100	10	M4-32R-10	1	0,36
9–13	5,5	169	100	13	M4-32R-13	1	0,36
11–17	7,5	221	50	17	M4-32R-17	1	0,36
14–22	7,5	286	50	22	M4-32R-22	1	0,36
18–26	11	338	50	26	M4-32R-26	1	0,36
22–32	15	416	50	32	M4-32R-32	1	0,36

### Circuit Breaker M4-63R-..



rotary type

18–26	11	338	50	26	M4-63R-26	1	1
22–32	15	416	50	32	M4-63R-32	1	1
28–40	18,5	520	50	40	M4-63R-40	1	1
34–50	22	650	50	50	M4-63R-50	1	1
45–63	30	819	50	63	M4-63R-63	1	1



### Circuit Breaker M4-100R-..



rotary type

45–63	30	819	50	63	M4-100R-63	1	2,2
55–75	37	975	50	75	M4-100R-75	1	2,2
70–90	45	1170	50	90	M4-100R-90	1	2,2
80–100	-	1300	50	100	M4-100R-100	1	2,2

## Accessories for Circuit Breakers M4

contacts		Rated current			Type	Pack Pcs.	Weight kg/pcs.
NO	NC	AC15	AC1	AC1			
		24V A	240V A	240V A			

### Auxiliary Contact Block, transverse mounting max. 1pc. per circuit breaker



1	1	3	2	5	M4 HQ11	1	0,02
2	-	3	2	5	M4 HQ20	1	0,02

### Auxiliary Contact Block, left hand side mounting, max. 1pc. per circuit breaker



1	1	6	4	10	M4 HS11	1	0,02
2	-	6	4	10	M4 HS20	1	0,02
-	2	6	4	10	M4 HS02	1	0,02

### Signalling Switch, left hand side mounting, max. 1pc. per circuit breaker



1	1	6	4	10	M4 MA11	1	0,04
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### Undervoltage release, right hand side mounting, max. 1Pc. per circuit breaker

Trips the circuit-breaker when the voltage is interrupted.  
Prevents the motor from being restarted when voltage is restored suitable for EMERGENCY STOP (VDE0113)



24V 50Hz, 28V 60Hz	M4 U24	1	0,11
110-127V 50Hz, 120V 60Hz	M4 U110	1	0,11
220-230V 50Hz, 240-260V 60Hz	M4 U230	1	0,11
240V 50Hz, 277V 60Hz	M4 U240	1	0,11
380-400V 50Hz, 440-460V 60Hz	M4 U400	1	0,11
415-440V 50Hz, 460-480V 60Hz	M4 U415	1	0,11

### Shunt release, right hand side mounting, max. 1Pc. per circuit breaker

Trips the circuit-breaker when the release coil energized.



24V 50Hz, 28V 60Hz	M4 A24	1	0,12
110-127V 50Hz, 120V 60Hz	M4 A110	1	0,12
220-230V 50Hz, 240-260V 60Hz	M4 A230	1	0,12
240V 50Hz, 277V 60Hz	M4 A240	1	0,12
380-400V 50Hz, 440-460V 60Hz	M4 A400	1	0,12
415-440V 50Hz, 460-480V 60Hz	M4 A415	1	0,12

### Enclosure for circuit breaker M4 32R protection degree IP65



Plastic enclose with redary operating mechanism black-grey lockable, with N- and PE-terminal space for 1 transverse and side aux. contact + release	M4 32R PFH4	1	0,53
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Plastic enclose with redary operating mechanism yellow - red, lockable, with N- and PE-terminal space for 1 transverse and side aux. contact + release	M4 32R PFHN4	1	0,53
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## Manual Motor Starters and Accessories

### Manual Motor Starters



Thermal Overload release Setting Range A	Ratings AC3		Magnetic Short Circuit Trip A	Short Circuit Breaking Capacity at 3-400V in kA	Type	Pack Pcs.	Weight kg/pcs.
	400V kW	690V kW					
0,1-0,16	0,02	0,06	1,92	100	MU25A-0,16	1	0,25
0,16-0,25	0,06	0,12	3,0	100	MU25A-0,25	1	0,25
0,25-0,4	0,09	0,18	4,8	100	MU25A-0,4	1	0,25
0,4-0,63	0,12	0,25	7,6	100	MU25A-0,63	1	0,25
0,63-1	0,25	0,55	12,0	100	MU25A-1	1	0,25
1-1,6	0,55	1,1	19,2	100	MU25A-1,6	1	0,25
1,6-2,5	1,1	1,5	30	100	MU25A-2,5	1	0,25
2,5-4	1,5	3	48	100	MU25A-4	1	0,25
4-6,3	2,5	4	75,6	100	MU25A-6,3	1	0,25
6,3-10	4	7,5	120	6	MU25A-10	1	0,25
10-16	7,5	11	192	6	MU25A-16	1	0,25
16-20	11	15	240	6	MU25A-20	1	0,25
20-25	12,5	18,5	300	6	MU25A-25	1	0,25
25-32	15	18,5	384	6	MU25A-32	1	0,25

### Aux. Contact Blocks



13 | 21  
14 | 22

AC15/230V A	I <sub>th</sub> A	Mounting	Type Pcs.	Pack Pcs.	Weight kg/pcs.
1	5	snap-on, max. 1 Stk.	MU25A-PA11	10	0,02



11 | 23  
12 | 24

3,5	6	side, max 2Stk.	MU25A-PS11	10	0,03
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### Releases, mounting under the cover max. 1 pc.



Description	Control voltage	Type	Pack	Weight
Shunt release	220-240V 50Hz,	MU25A-A230	10	0,06
Undervoltage release	220-240V 50Hz	MU25A-U230	10	0,06

### Moulded Enclosure



Moulded Enclosure	Predection to IP55	MU25A-O55	1	0,24
Moulded Front plate	Predection to IP55	MU25A-C55	1	0,16



Moulded Enclosure for CEE-Plug 5-pole with built-in Phase reversing, predection to IP54		MU25A-GC1	1	0,4
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### Connectors












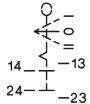

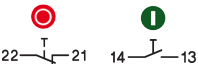

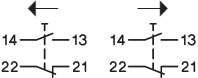

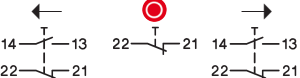

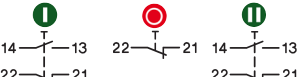

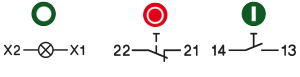










Execution	Description	Type	Pack	Weight
Busbar	for 2 units, length 99mm	MU25A-D99	10	0,036
	for 3 units, length 154mm	MU25A-D154	10	0,06
Busbar	for 4 units, length 208mm	MU25A-D208	10	0,084
	for 5 units, length 262mm	MU25A-D262	10	0,107
Supply Block	isolated, U, 690V, I <sub>u</sub> 63A	MU25A-DB	10	0,034





## Assembled Stations, IP66 and IP67

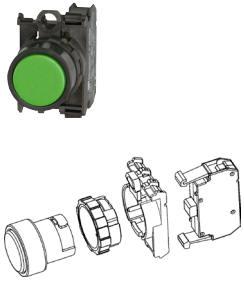
Knockout entries M20, up, left and right. Built-in contact blocks and lamp holders for base mounting (snapped into the rear shroud). Other combinations on request.



		Description	Type	Pack Pcs.	Weight kg/pcs.
		ON push button, green	BG10 GN	1	0,135
		OFF push button, red	BG10 RT	1	0,135
		Pilot light green Pilot light red	BG01 GN BG01 RT	1 1	0,135 0,135
		Key operated 0 - I, IP65 Lock Ronis R455	BG10SAR 0	1	0,165
		Key operated I-0-II, IP65 Lock Ronis R455	BG10SARR 0	1	0,172
		2 push buttons OFF - ON 0-I	BG20	1	0,2
		2 push buttons Up - Down with symbols (arrow left - arrow right)	BG20PF	1	0,2
		3 push buttons Up - 0 - Down with symbols (arrow left - 0 - arrow right)	BG30PF	1	0,283
		3 push buttons I-0-II	BG30	1	0,283
		2 push buttons OFF-ON with pilot light green	BG21 GN	1	0,27
		EMERGENCY STOP button unlock by turning Pilz Ø 40mm	BG10P34-11	1	0,187
		EMERGENCY STOP button acc. to EN418 unlock by pull	BG10P44-11	1	0,145
		EMERGENCY STOP button acc. EN418 unlock by key	BG10P44S3-11	1	0,145
		EMERGENCY STOP button unlock by turning Pilz Ø 70mm	BG10P34P-11	1	0,178
		Foot and Palm button grey mushroom button Ø 70mm	BG10P14P GR	1	0,178

## Push Buttons 22mm-Set, with Contact Block and Connector

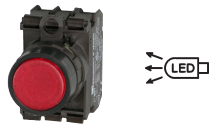
Actuator colour	complete with	LED	Type	Pack Pcs.	Weight kg/pcs.
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### Push Buttons, IP67

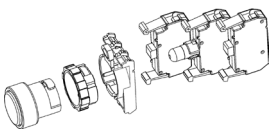


black	+connector +1NO	-	BS3D SW/10	1	0,037
green	+connector +1NO	-	BS3D GN/10	1	0,037
yellow	+connector +1NO	-	BS3D GE/10	1	0,037
blue	+connector +1NO	-	BS3D BL/10	1	0,037
red	+connector +1NC	-	BS3D RT/01	1	0,037
green 	+connector +1NO	-	BS3D GN-I/10	1	0,037
red 	+connector +1NC	-	BS3D RT-0/01	1	0,037

### Illuminated Push Buttons, IP66 and IP67



white	+connector +1NO +1NC +LED	20-30V AC/DC	BS3DL WS/11/L24	1	0,054
green	+connector +1NO +1NC +LED	20-30V AC/DC	BS3DL GN/11/L24	1	0,054
red	+connector +1NO +1NC +LED	20-30V AC/DC	BS3DL RT/11/L24	1	0,054
yellow	+connector +1NO +1NC +LED	20-30V AC/DC	BS3DL GE/11/L24	1	0,054
blue	+connector +1NO +1NC +LED	20-30V AC/DC	BS3DL BL/11/L24	1	0,054



white	+connector +1NO +1NC +LED	90-120V AC/DC	BS3DL WS/11/L110	1	0,054
green	+connector +1NO +1NC +LED	90-120V AC/DC	BS3DL GN/11/L110	1	0,054
red	+connector +1NO +1NC +LED	90-120V AC/DC	BS3DL RT/11/L110	1	0,054
yellow	+connector +1NO +1NC +LED	90-120V AC/DC	BS3DL GE/11/L110	1	0,054
blue	+connector +1NO +1NC +LED	90-120V AC/DC	BS3DL BL/11/L110	1	0,054

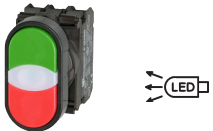
white	+connector +1NO +1NC +LED	200-250V AC/DC	BS3DL WS/11/L230	1	0,054
green	+connector +1NO +1NC +LED	200-250V AC/DC	BS3DL GN/11/L230	1	0,054
red	+connector +1NO +1NC +LED	200-250V AC/DC	BS3DL RT/11/L230	1	0,054
yellow	+connector +1NO +1NC +LED	200-250V AC/DC	BS3DL GE/11/L230	1	0,054
blue	+connector +1NO +1NC +LED	200-250V AC/DC	BS3DL BL/11/L230	1	0,054

### Double Push Buttons, IP65



green / red	+connector +1NO +1NC	-	BS3DT G/R/11	1	0,049
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### Double Push Buttons with Pilot Light, IP65



green / red	+connector +1NO +1NC +LED	20-30V AC/DC	BS3DT G/R/11/L24	1	0,066
green / red	+connector +1NO +1NC +LED	90-120V AC/DC	BS3DT G/R/11/L110	1	0,066
green / red	+connector +1NO +1NC +LED	200-250V AC/DC	BS3DT G/R/11/L230	1	0,066

### Pilot Lights, IP66 and IP67 with socket BA9S (without lamp)

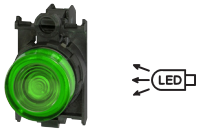


white	+connector +socket BA9S	-	B3R WS/0	1	0,037
green	+connector +socket BA9S	-	B3R GN/0	1	0,037
red	+connector +socket BA9S	-	B3R RT/0	1	0,037
yellow	+connector +socket BA9S	-	B3R GE/0	1	0,037

## Push Buttons 22mm-Set, with Contact Block and Connector

Actuator colour	complete with	LED	Type	Pack Pcs.	Weight kg/pcs.
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### Pilot Lights, IP66 and IP67 with LED



white	+ connector + socket BA9S	20–30V AC/DC	B3R WS/L24	1	0,042
green	+ connector + socket BA9S	20–30V AC/DC	B3R GN//L24	1	0,042
red	+ connector + socket BA9S	20–30V AC/DC	B3R RT/L24	1	0,042
yellow	+ connector + socket BA9S	20–30V AC/DC	B3R GE/L24	1	0,042
white	+ connector + socket BA9S	170–250V AC/DC	B3R WS/L230	1	0,042
green	+ connector + socket BA9S	170–250V AC/DC	B3R GN/L230	1	0,042
red	+ connector + socket BA9S	170–250V AC/DC	B3R RT/L230	1	0,042
yellow	+ connector + socket BA9S	170–250V AC/DC	B3R GE/L230	1	0,042

### Monoblock LED, IP65



red	-	20–30V AC/DC	B3-MB24 RTB	1	0,022
green	-	20–30V AC/DC	B3-MB24 GNB	1	0,022
blue	-	20–30V AC/DC	B3-MB24 BLB	1	0,022
yellow	-	20–30V AC/DC	B3-MB24 GEB	1	0,022
white	-	20–30V AC/DC	B3-MB24 WSB	1	0,022
red	-	170–250V AC	B3-MB230 RTB	1	0,022
green	-	170–250V AC	B3-MB230 GNB	1	0,022
blue	-	170–250V AC	B3-MB230 BLB	1	0,022
yellow	-	170–250V AC	B3-MB230 GEB	1	0,022
white	-	170–250V AC	B3-MB230 WSB	1	0,022

### EMERGENCY STOP Push Buttons, IP66 and IP67 Ø40mm



pull to release acc. EN418	+ connector + 1NO + 1NC	BS3P44 RT/11	1	0,061
key release acc. EN418	+ connector + 1NO + 1NC	BS3P44S3 RT/11	1	0,083
twist release	+ connector + 1NO + 1NC	BS3P34 RT-0/11	1	0,053

### Rotary Knobs, IP65



















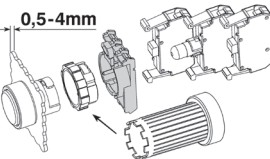
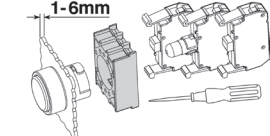





	+ connector + 1NO	-	BS3KN2/10	1	0,043
	+ connector + 1NO + 1NC	-	BS3KN2/11	1	0,053
	+ connector + 2NO	-	BS3KN3/20	1	0,053
	+ connector + 2NO	-	BS3KN1/20	1	0,053

### Key Operated Rotary Switch with lock Ronis 455, IP65



	key removeable in 0-position + connector + 1NO	BS3SAR 0/10	1	0,057
	key removeable in all positions + connector + 1NO	BS3SAR 01/10	1	0,057
	key removeable in 0-position + connector + 1NO	BS3SAT 0/10	1	0,057
	key removeable in all positions + connector + 2NO	BS3SARR 102/20	1	0,067
	key removeable in 0-position + connector + 2NO	BS3SARR 0/20	1	0,067

## Control Units, Ø 22,5 mm, IP66 and IP67

		Colour	Type	Pack Pcs.	Weight kg/pcs.
			 black <sup>1)</sup>		
<b>Push Buttons</b>  markable	red	BS3D RT	10	0,014	
	green	BS3D GN	10	0,014	
	blue	BS3D BL	10	0,014	
	yellow	BS3D GE	10	0,014	
	black	BS3D SW	10	0,014	
<b>Push Buttons, maintained</b>  markable	red	BS3DR RT	10	0,014	
	green	BS3DR GN	10	0,014	
	blue	BS3DR BL	10	0,014	
	yellow	BS3DR GE	10	0,014	
	black	BS3DR SW	10	0,014	
<b>Push Buttons illuminated</b>  markable	red	BS3DL RT	10	0,014	
	green	BS3DL GN	10	0,014	
	blue	BS3DL BL	10	0,014	
	yellow	BS3DL GE	10	0,014	
	white	BS3DL WS	10	0,014	
<b>Push Buttons illuminated, maintained</b>  markable	red	BS3DLR RT	10	0,014	
	green	BS3DLR GN	10	0,014	
	blue	BS3DLR BL	10	0,014	
	yellow	BS3DLR GE	10	0,014	
	white	BS3DLR WS	10	0,014	
<b>Rotary Knob</b> 	maintained 	BS3KN2	10	0,020	
	maintained 	BS3KN3	10	0,020	
	spring return 	BS3KN1	10	0,020	
<b>Key Operated Rotary Switch IP65</b>  key removable in position 0	maintained 	BS3SAR 0	1	0,044	
	maintained 	BS3SARR 0	1	0,044	
	spring return 	BS3SATT 0	1	0,044	
<b>Double Push Buttons IP65</b>  lamp BA9s max. 1,9 W	green / red	BS3DT G/R	10	0,016	
	white / black	BS3DT W/S	10	0,016	
	green-I / red-0	BS3DT GI/R0	10	0,016	
	white-I / black-0	BS3DT WI/S0	10	0,016	
<b>Emergency Stop Button Ø40mm</b> 	release by turning	BS3P34 RT-0	10	0,02	
	pull to release, according to EN418	BS3P44 RT	10	0,028	
	release by key, according to EN418	BS3P44S3	1	0,05	
	Yellow Disk Ø70 mm (markable)	B3-7603	10	0,004	
<b>Connector</b>  for panel width 0,5–4mm snap-on mounting		B3S	10	0,013	
		B3M	10	0,013	
<b>Contact Blocks max. 690V~</b> 	1 NC 	B3T01	10	0,02	
	1 NO 	B3T10	10	0,02	
<b>Lamp holder max. 415V~</b>  for all kind of lamps	Socket: BA9s 	B3F	10	0,012	

1) Ring in chrome and alu on request

## Lens Caps, Lamps and Accessories

### Lens Caps



	Colour		Type	Pack Pcs.	Weight kg/pcs.
markable	red		B3RF RT	10	0,09
	green		B3RF GN	10	0,09
	blue		B3RF BL	10	0,09
	yellow		B3RF GE	10	0,09
	white		B3RF WS	10	0,09
with Fresnel-Lense for high intensity	red		B3R RT	10	0,09
	green		B3R GN	10	0,09
	blue		B3R BL	10	0,09
	yellow		B3R GE	10	0,09
	white		B3R WS	10	0,09

### LED-Lamps, 10 years lifetime, Socket BA9S



Lamp voltage	for lens caps	Power consumption W	Type	Pack Pcs.	Weight kg/pcs.
20–30V AC/DC	red	0,4	B3-L24 RTB	10	0,005
20–30V AC/DC	green	0,4	B3-L24 GNB	10	0,005
20–30V AC/DC	blue	0,4	B3-L24 BLB	10	0,005
20–30V AC/DC	yellow	0,4	B3-L24 GEB	10	0,005
20–30V AC/DC	white	0,4	B3-L24 WSB	10	0,005
170–250V AC/DC	red	0,9	B3-L230 RTB	10	0,005
170–250V AC/DC	green	0,9	B3-L230 GNB	10	0,005
170–250V AC/DC	blue	0,9	B3-L230 BLB	10	0,005
170–250V AC/DC	yellow	0,9	B3-L230 GEB	10	0,005
170–250V AC/DC	white	0,9	B3-L230 WSB	10	0,005

### Glow-discharged Lamps, Socket BA9s



220-250V AC	red, yellow, white	0,3	B4-GL230K	100	0,005
220-250V AC	green	0,3	B4-GL230G	100	0,005

### Filament Lamps, Socket BA9s



24V AC/DC	all	1,2	B4-G24	100	0,005
48V AC/DC	all	1,2	B4-G48	100	0,005

### Enclosures



Enclosure - 1 unit		BG1	1	0,108
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Enclosure - 2 units		BG2	1	0,145
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Enclosure - 3 units		BG3	1	0,188
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### Wrench



for mounting of actuators, monoblocks, lens caps B3.. and Cam Switches with single hole mounting		J7049	1	0,02
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### Lamp Installer

used to install or replace lamps BA9S		B4-7408	1	0,002
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### Hole Plug

grey, for unused fixing holes Ø22,5mm		B3-DU GR	10	0,01
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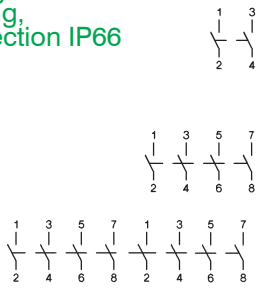
### Sealing Cover

Protection against coarse, petrol-resitant, ambient temperature 0° C to +50° C		P279-1	10	0,002
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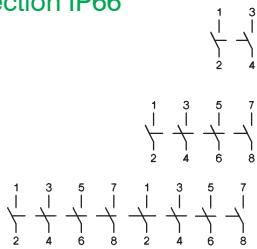
## DC-Switch Disconnecter, IP40

Panel mounting  
4-Hole mounting,  
plate 64□, protection IP66



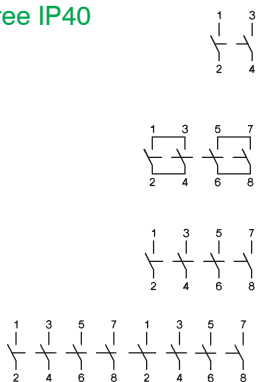
DC21B / PV1		Poles in series	Number of Strings	Type	Pack Pcs.	Weight kg/pcs.
600V DC A	1000V DC A					
16	10	2	1	LS16 EH4 A2	1	0,22
25	11,5	2	1	LS25 EH4 A2	1	0,22
32	13	2	1	LS32 EH4 A2	1	0,22
40	29	2	1	LS40 EH4 A2	1	0,48
55	36	2	1	LS55 EH4 A2	1	0,48
16	10	2	2	LS16 EH4 A4	1	0,29
25	11,5	2	2	LS25 EH4 A4	1	0,29
32	13	2	2	LS32 EH4 A4	1	0,29
40	29	2	2	LS40 EH4 A4	1	0,55
55	36	2	2	LS55 EH4 A4	1	0,55
16	10	2	4	LS16 EH4 A8	1	0,50
25	11,5	2	4	LS25 EH4 A8	1	0,50
32	13	2	4	LS32 EH4 A8	1	0,50

Base mounting  
Door Clutch for single hole mounting  
plate 64□, protection IP66



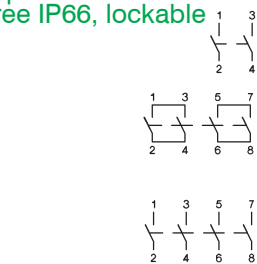
16	10	2	1	LS16 VZVH4 A2	1	0,22
25	11,5	2	1	LS25 VZVH4 A2	1	0,22
32	13	2	1	LS32 VZVH4 A2	1	0,22
16	10	2	2	LS16 VZVH4 A4	1	0,31
25	11,5	2	2	LS25 VZVH4 A4	1	0,31
32	13	2	2	LS32 VZVH4 A4	1	0,31
40	29	2	2	LS40 VZVH4 A4	1	0,58
55	36	2	2	LS55 VZVH4 A4	1	0,58
16	10	2	4	LS16 VZVH4 A8	1	0,51
25	11,5	2	4	LS25 VZVH4 A8	1	0,51
32	13	2	4	LS32 VZVH4 A8	1	0,51

Modular  
protection degree IP40



16	10	2	1	LS16 SMAH1 A2	1	0,19
25	11,5	2	1	LS25 SMAH1 A2	1	0,19
32	13	2	1	LS32 SMAH1 A2	1	0,19
40	29	2	1	LS40 SMAH1 A2	1	0,44
36	11,5	2	1	LS25 SMAH1 A2+2	1	0,28
55	13	2	1	LS32 SMAH1 A2+2	1	0,28
68	29	2	1	LS40 SMAH1 A2+2	1	0,54
85	36	2	1	LS55 SMAH1 A2+2	1	0,54
16	10	2	2	LS16 SMAH1 A4	1	0,25
25	11,5	2	2	LS25 SMAH1 A4	1	0,25
32	13	2	2	LS32 SMAH1 A4	1	0,25
40	29	2	2	LS40 SMAH1 A4	1	0,50
55	36	2	2	LS55 SMAH1 A4	1	0,50
40	29	2	4	LS40 SMAH1 A8	1	1,01

Main Switch, in plastic enclosure  
protection degree IP66, lockable



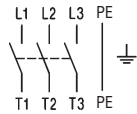
16	10	2	1	LS16 PFLH4 A2	1	0,49
25	11,5	2	1	LS25 PFLH4 A2	1	0,49
32	13	2	1	LS32 PFLH4 A2	1	0,49
36	11,5	2	1	LS25 PFLH4 A2+2	1	0,58
55	13	2	1	LS32 PFLH4 A2+2	1	0,58
16	10	2	2	LS16 PFLH4 A4	1	0,54
25	11,5	2	2	LS25 PFLH4 A4	1	0,54
32	13	2	2	LS32 PFLH4 A4	1	0,54
40	29	2	2	LS40 PFLH4 A4	1	1,40
55	36	2	2	LS55 PFLH4 A4	1	1,40

Technical data according to IEC 60947-3, VDE0660

DC21B	LS16..			LS25..			LS32..			LS40..			LS55..		
	600V A	800V A	1000V A	600V A	800V A	1000V A	600V A	800V A	1000V A	600V A	800V A	1000V A	600V A	800V A	1000V A
2 poles in series	16	16	9	25	20	11	32	23	13	40	30	20	55	45	36
4 poles in series	16	16	16	25	25	25	32	32	32	40	40	40	55	55	55
2 poles in series +2 parallel	29	16	9	45	20	11	50	23	13	64	30	20	80	45	36

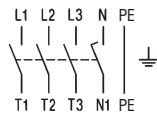
## Main Switches, lockable, IP66

### 3-pole Main Switch, in plastic enclosure UV-protected, sealable, lockable



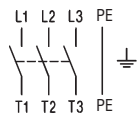
AC21 690V A	AC23 3x400V kW	Plate mm	Type	Pack Pcs.	Weight kg/pcs.
20	7,5	-	LTS20 PFH4 A3	1	0,32
25	10	-	LTS25 PFH4 A3	1	0,32
32	12,5	-	LTS32 PFH4 A3	1	0,32
40	16	-	LTS40 PFH4 A3	1	0,32
63	22	-	LTS63 PFH4 A3	1	0,6
80	22	-	LTS80 PFH4 A3	1	0,6
85	30	-	LTS85 PFH4 A3	1	0,78
100	37	-	LTS100 PFH4 A3	1	0,78
125	45	-	LTS125 PFH4 A3	1	0,78

### 4-pole Main Switch, in plastic enclosure UV-protected, sealable, lockable



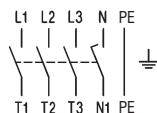
20	7,5	-	LTS20 PFH4 A4	1	0,33
25	10	-	LTS25 PFH4 A4	1	0,33
32	12,5	-	LTS32 PFH4 A4	1	0,33
40	16	-	LTS40 PFH4 A4	1	0,33
63	22	-	LTS63 PFH4 A4	1	0,64
80	22	-	LTS80 PFH4 A4	1	0,64
85	30	-	LTS85 PFH4 A4	1	0,83
100	37	-	LTS100 PFH4 A4	1	0,83
125	45	-	LTS125 PFH4 A4	1	0,83

### 3-pole Maintenance and Safety Switch in plastic enclosure, UV-protected, sealable, lockable



20	7,5	-	LTS20 PFHN4 A3	1	0,32
25	10	-	LTS25 PFHN4 A3	1	0,32
32	12,5	-	LTS32 PFHN4 A3	1	0,32
40	16	-	LTS40 PFHN4 A3	1	0,32
63	22	-	LTS63 PFHN4 A3	1	0,6
80	22	-	LTS80 PFHN4 A3	1	0,6
85	30	-	LTS85 PFHN4 A3	1	0,78
100	37	-	LTS100 PFHN4 A3	1	0,78
125	45	-	LTS125 PFHN4 A3	1	0,78

### 4-pole Maintenance and Safety Switch in plastic enclosure, UV-protected, sealable, lockable



20	7,5	-	LTS20 PFHN4 A4	1	0,33
25	10	-	LTS25 PFHN4 A4	1	0,33
32	12,5	-	LTS32 PFHN4 A4	1	0,33
40	16	-	LTS40 PFHN4 A4	1	0,33
63	22	-	LTS63 PFHN4 A4	1	0,64
80	22	-	LTS80 PFHN4 A4	1	0,64
85	30	-	LTS85 PFHN4 A4	1	0,83
100	37	-	LTS100 PFHN4 A4	1	0,83
125	45	-	LTS125 PFHN4 A4	1	0,83

## Add-on Switching Pole, attachable to 3- and 4-pole LTS.. Switches (max. 1 pole left and right)



for switches:

LTS20..-LTS40..  
LTS63.., LTS80..

LTS20..-LTS40  
LTS63.., LTS80..

Panel mounting	Base mounting Installation board	Type	Pack Pcs.	Weight kg/pcs.
yes	no	N40E	1	0,035
yes	no	N80E	1	0,042
no	yes	N40V	1	0,035
no	yes	N80V	1	0,042

## Auxiliary Contact Block 1NO + 1NC, attachable to LTS.. Switches, compatible electronic signal

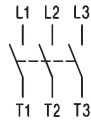
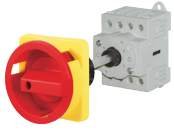


LTS20..-LTS125..

yes	yes	LH11	1	0,02
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## Emergency - Stop - Main Switch, lockable, Front IP66

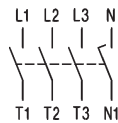
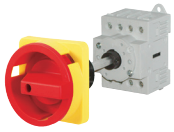
### 3-pole, Base mounting with Door Clutch



Single-Hole mounting, Ø 22,5mm ..VZV..

AC21 690V A	AC23 3x400V kW	Plate mm	Type	Pack Pcs.	Weight kg/pcs.
20	7,5	64 □	LTS20 VZVHN4 A3	1	0,2
25	10	64 □	LTS25 VZVHN4 A3	1	0,2
32	12,5	64 □	LTS32 VZVHN4 A3	1	0,2
40	16	64 □	LTS40 VZVHN4 A3	1	0,2
63	22	64 □	LTS63 VZVHN4 A3	1	0,24
80	22	64 □	LTS80 VZVHN4 A3	1	0,24
80	30	64 □	LTS85 VZVHN4 A3	1	0,4
100	37	64 □	LTS100 VZVHN4 A3	1	0,4
125	45	64 □	LTS125 VZVHN4 A3	1	0,4

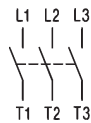
### 4-pole, Base mounting with Door Clutch



Single-Hole mounting, Ø 22,5mm ..VZV..

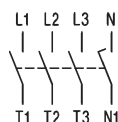
20	7,5	64 □	LTS20 VZVHN4 A4	1	0,21
25	10	64 □	LTS25 VZVHN4 A4	1	0,21
32	12,5	64 □	LTS32 VZVHN4 A4	1	0,21
40	16	64 □	LTS40 VZVHN4 A4	1	0,21
63	22	64 □	LTS63 VZVHN4 A4	1	0,28
80	22	64 □	LTS80 VZVHN4 A4	1	0,28
80	30	64 □	LTS85 VZVHN4 A4	1	0,45
100	37	64 □	LTS100 VZVHN4 A4	1	0,45
125	45	64 □	LTS125 VZVHN4 A4	1	0,54

### 3-pole, Panel mounting, 4-Hole mounting



20	7,5	64 □	LTS20 EHN4 A3	1	0,17
25	10	64 □	LTS25 EHN4 A3	1	0,17
32	12,5	64 □	LTS32 EHN4 A3	1	0,17
40	16	64 □	LTS40 EHN4 A3	1	0,17
63	22	64 □	LTS63 EHN4 A3	1	0,19
80	22	64 □	LTS80 EHN4 A3	1	0,19
85	30	64 □	LTS85 EHN4 A3	1	0,39
100	37	64 □	LTS100 EHN4 A3	1	0,39
125	45	64 □	LTS125 EHN4 A3	1	0,39

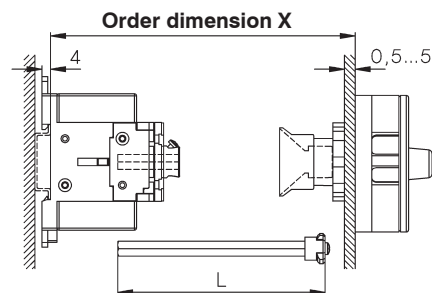
### 4-pole, Panel mounting, 4-Hole mounting



20	7,5	64 □	LTS20 EHN4 A4	1	0,2
25	10	64 □	LTS25 EHN4 A4	1	0,2
32	12,5	64 □	LTS32 EHN4 A4	1	0,2
40	16	64 □	LTS40 EHN4 A4	1	0,2
63	22	64 □	LTS63 EHN4 A4	1	0,23
80	22	64 □	LTS80 EHN4 A4	1	0,23
85	30	64 □	LTS85 EHN4 A4	1	0,44
100	37	64 □	LTS100 EHN4 A4	1	0,44
125	45	64 □	LTS125 EHN4 A4	1	0,44

## Ordering

Deviations from the Standard dimensions have to be indicated by order, max. 380 mm



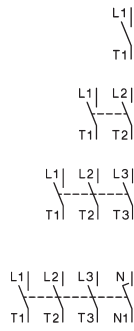
### Standard dimensions (mm)

Type	X	Type	X
LTS20 VZV..	90-190	LTS63 VZV..	90-190
LTS25 VZV..	90-190	LTS80 VZV..	90-190
LTS32 VZV..	90-190	LTS85 VZV..	95-190
LTS40 VZV..	90-190	LTS100 VZV..	95-190
		LTS125 VZV..	95-190



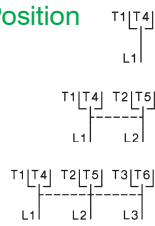
## Cam Switches for Panel mounting, 4-Hole mounting, IP65

### ON-OFF-Switches



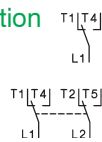
Pole	AC21 I <sub>th</sub> A	Motor 3x400V kW	Plate mm	Type	VPE. Pcs.	Weight kg/pcs.
1	20	-	48 □	M10H E A1+G2	1	0,065
1	32	-	48 □	M20 E A1+G2	1	0,072
2	20	-	48 □	M10H E A2+G2	1	0,07
2	32	-	48 □	M20 E A2+G2	1	0,08
3	20	5,5	48 □	M10H E A3+G2	1	0,085
3	32	11	48 □	M20 E A3+G2	1	0,107
3	50	15	64 □	N33F E A3+G2	1	0,208
4	20	5,5	48 □	M10H E A4+G2	1	29,47
4	32	11	48 □	M20 E A4+G2	1	39,97
4	50	15	64 □	N33F E A4+G2	1	69,43

### Changeover Switches with 0-Position



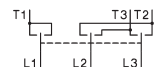
1	20	-	48 □	M10H E U1+G2	1	0,07
1	32	-	48 □	M20 E U1+G2	1	0,08
2	20	-	48 □	M10H E U2+G2	1	0,09
2	32	-	48 □	M20 E U2+G2	1	0,113
3	20	5,5	48 □	M10H E U3+G2	1	0,112
3	32	11	48 □	M20 E U3+G2	1	0,145
3	50	15	64 □	N33F E U3+G2	1	0,27

### Changeover Switches without 0-Position



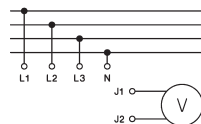
1	20	-	48 □	M10H E W1+G2	1	0,07
1	32	-	48 □	M20 E W1+G2	1	0,08
2	20	-	48 □	M10H E W2+G2	1	0,09
2	32	-	48 □	M20 E W2+G2	1	0,113

### Reversing Switch



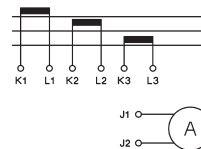
3	20	5,5	48 □	M10H E WU3+G2	1	0,107
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### Voltmeter Selector Switch 3 line voltages, 3 phase voltages



	20	-	48 □	M10H E V1+G2	1	0,112
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### Ammeter Selector Switch



1	20	-	48 □	M10H E M31+G2	1	0,113
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## Cam Switches for Panel mounting, 4-Hole mounting, IP65

### Start-Switch with spring return



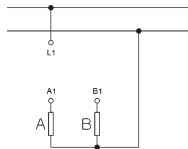
Pole	AC21 I <sub>th</sub> A	Motor 3x400V kW	Plate mm	Type	VPE. Pcs.	Weight kg/pcs.
1	20	-	48 □	M10H E SE+G2	1	0,065

### Start-Switch with spring return



1	20	-	48 □	M10H E SA+G2	1	0,065
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### Gang Switches 1-pole



1	20	-	48 □	M10H E GR11+G2	1	0,07
1	32	-	48 □	M20 E GR11+G2	1	0,08

### 3 Step Switches without 0-Position



1	20	-	48 □	M10H E ST31+G2	1	0,085
1	32	-	48 □	M20 E ST31+G2	1	0,107

### 4 Step Switches without 0-Position



1	20	-	48 □	M10H E ST41+G2	1	0,09
1	32	-	48 □	M20 E ST41+G2	1	0,113

### 2 Step Switches with 0-Position



1	20	-	48 □	M10H E ST021+G2	1	0,07
1	32	-	48 □	M20 E ST021+G2	1	0,08

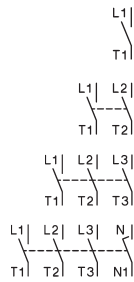
### 3 Step Switches with 0-Position



1	20	-	48 □	M10H E ST031+G2	1	0,085
1	32	-	48 □	M20 E ST031+G2	1	0,107

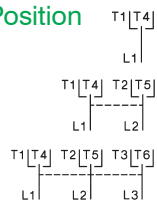
## Cam Switches, Single Hole mounting Ø 22,5 mm, IP65

### ON-OFF-Switches



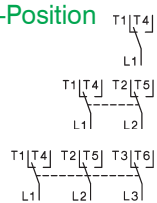
Pole	AC21 I <sub>th</sub> A	Motor 3x400V kW	Plate mm	Type	VPE. Pcs.	Weight kg/pcs.
1	20	-	48 □	M10H Z A1+G2	1	0,08
1	32	-	48 □	M20 Z A1+G2	1	0,087
2	20	-	48 □	M10H Z A2+G2	1	0,085
2	32	-	48 □	M20 Z A2+G2	1	0,095
3	20	5,5	48 □	M10H Z A3+G2	1	0,1
3	32	11	48 □	M20 Z A3+G2	1	0,122
4	20	5,5	48 □	M10H Z A4+G2	1	0,105
4	32	11	48 □	M20 Z A4+G2	1	0,128

### Changeover Switches with 0-Position



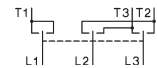
1	20	-	48 □	M10H Z U1+G2	1	0,085
1	32	-	48 □	M20 Z U1+G2	1	0,095
2	20	-	48 □	M10H Z U2+G2	1	0,105
2	32	-	48 □	M20 Z U2+G2	1	0,128
3	20	5,5	48 □	M10H Z U3+G2	1	0,127
3	32	11	48 □	M20 Z U3+G2	1	0,16

### Changeover Switches without 0-Position



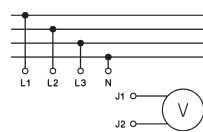
1	20	-	48 □	M10H Z W1+G2	1	0,085
1	32	-	48 □	M20 Z W1+G2	1	0,095
2	20	-	48 □	M10H Z W2+G2	1	0,105
2	32	-	48 □	M20 Z W2+G2	1	0,128
3	20	5,5	48 □	M10H Z W3+G2	1	0,127
3	32	11	48 □	M20 Z W3+G2	1	0,16

### Reversing Switch



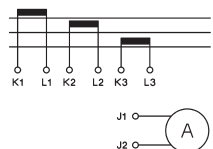
3	20	5,5	48 □	M10H Z WU3+G2	1	0,122
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### Voltmeter Selector Switch 3 line voltages, 3 phase voltages



	20	-	48 □	M10H Z V1+G2	1	0,127
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### Ammeter Selector Switch



1	20	-	48 □	M10H Z M31+G2	1	0,128
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## Cam Switches, Single Hole mounting Ø 22,5 mm, IP65

### Start-Switch with spring return



Pole	AC21 I <sub>th</sub> A	Motor 3x400V kW	Plate mm	Type	VPE. Pcs.	Weight kg/pcs.
1	20	-	48 □	M10H Z SE+G2	1	0,08

### Stop-Switch with spring return



1	20	-	48 □	M10H Z SA+G2	1	0,08
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### 3 Step Switches without 0-Position



1	20	-	48 □	M10H Z ST31+G2	1	0,1
1	32	-	48 □	M20 Z ST31+G2	1	0,122

### 4 Step Switches without 0-Position



1	20	-	48 □	M10H Z ST41+G2	1	0,105
1	32	-	48 □	M20 Z ST41+G2	1	0,128

### 2 Step Switches with 0-Position



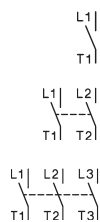
1	20	-	48 □	M10H Z ST021+G2	1	0,085
1	32	-	48 □	M20 Z ST021+G2	1	0,095

### 3 Step Switches with 0-Position



1	20	-	48 □	M10H Z ST031+G2	1	0,1
1	32	-	48 □	M20 Z ST031+G2	1	0,122

### ON-OFF-Switches Key operated Lock Ronis R455



1	20	-	48 □	M10H Z A1+SA	1	0,95
1	32	-	48 □	M20 Z A1+SA	1	0,102
2	20	-	48 □	M10H Z A2+SA	1	0,1
2	32	-	48 □	M20 Z A2+SA	1	0,11
3	20	5,5	48 □	M10H Z A3+SA	1	0,115
3	32	11	48 □	M20 Z A3+SA	1	0,137

## Cam Switches, Plastic enclosed, IP40 (IP65 on request)

### ON-OFF-Switches 20A

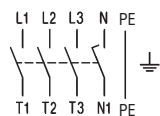
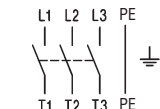


Pole	AC21 I <sub>th</sub> A	Motor 3x400V kW	Plate mm	Type	VPE. Pcs.	Weight kg/pcs.
1	20	-	48 □	M10 P A1+G2	1	0,107

2	20	-	48 □	M10 P A2+G2	1	0,112
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3	20	5,5	48 □	M10 P A3+G2	1	0,132
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### ON-OFF-Switches 32A



3	32	-	48 □	LTS32 PF A3	1	0,315
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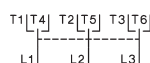
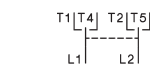
4	32	-	48 □	LTS32 PF A4	1	0,33
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### Heating EMERGENCY STOP Switch 2-pole with red Handle



2	20	-	48 □	M10 P A2+90446+G3	1	0,112
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### Changeover Switches with 0-Position



1	20	-	48 □	M10 P U1+G2	1	0,112
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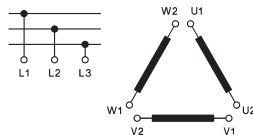
2	20	-	48 □	M10 P U2+G2	1	0,137
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2	32	-	64 □	N20 P U2+G2	1	0,233
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3	20	5,5	48 □	M10 P U3+G2	1	0,162
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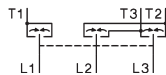
3	32	11	64 □	N20 P U3+G2	1	0,285
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### Star-Delta-Switch



3	32	15	64 □	N20 P SD+G2	1	0,335
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### Reversing Switch with reciprocally spring return



3	20	5,5	48 □	M10 P WU3R2+G2	1	0,156
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### ON-OFF-Switches Key operated Lock Willenhal FT101



1	20	-	48 □	M10 P A1+SA	1	0,165
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1	32	-	64 □	N20 P A1+SA	1	0,229
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2	20	-	48 □	M10 P A2+SA	1	0,169
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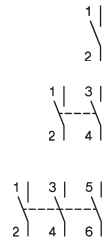
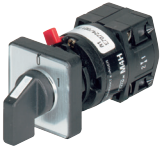
2	32	-	64 □	N20 P A2+SA	1	0,242
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3	20	5,5	48 □	M10 P A3+SA	1	0,188
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3	32	11	64 □	N20 P A3+SA	1	0,281
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## Mini-Cam Switches, Single Hole mounting Ø16 and 22,5mm, IP65

### ON-OFF-Switches

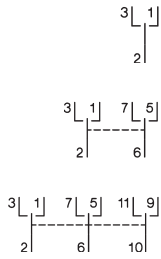


Pole	AC21 I <sub>th</sub> A	Motor 3x400V kW	Plate mm	Type	VPE. Pcs.	Weight kg/pcs.
1	10	-	30 □	M4H Z A1	1	0,036

2	10	-	30 □	M4H Z A2	1	0,038
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3	10	-	30 □	M4H Z A3	1	0,045
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### Changeover Switches with 0-Position

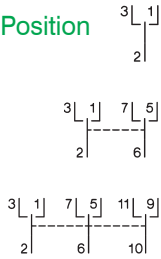


1	10	-	30 □	M4H Z U1	1	0,038
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2	10	-	30 □	M4H Z U2	1	0,048
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3	10	-	30 □	M4H Z U3	1	0,058
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### Changeover Switches with 0-Position plate HAND - 0 - AUTO

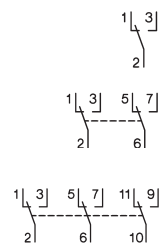


1	10	-	30 □	M4H Z U1+009	1	0,038
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2	10	-	30 □	M4H Z U2+009	1	0,048
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3	10	-	30 □	M4H Z U3+009	1	0,058
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### Changeover Switches without 0-Position



1	10	-	30 □	M4H Z W1	1	0,038
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2	10	-	30 □	M4H Z W2	1	0,048
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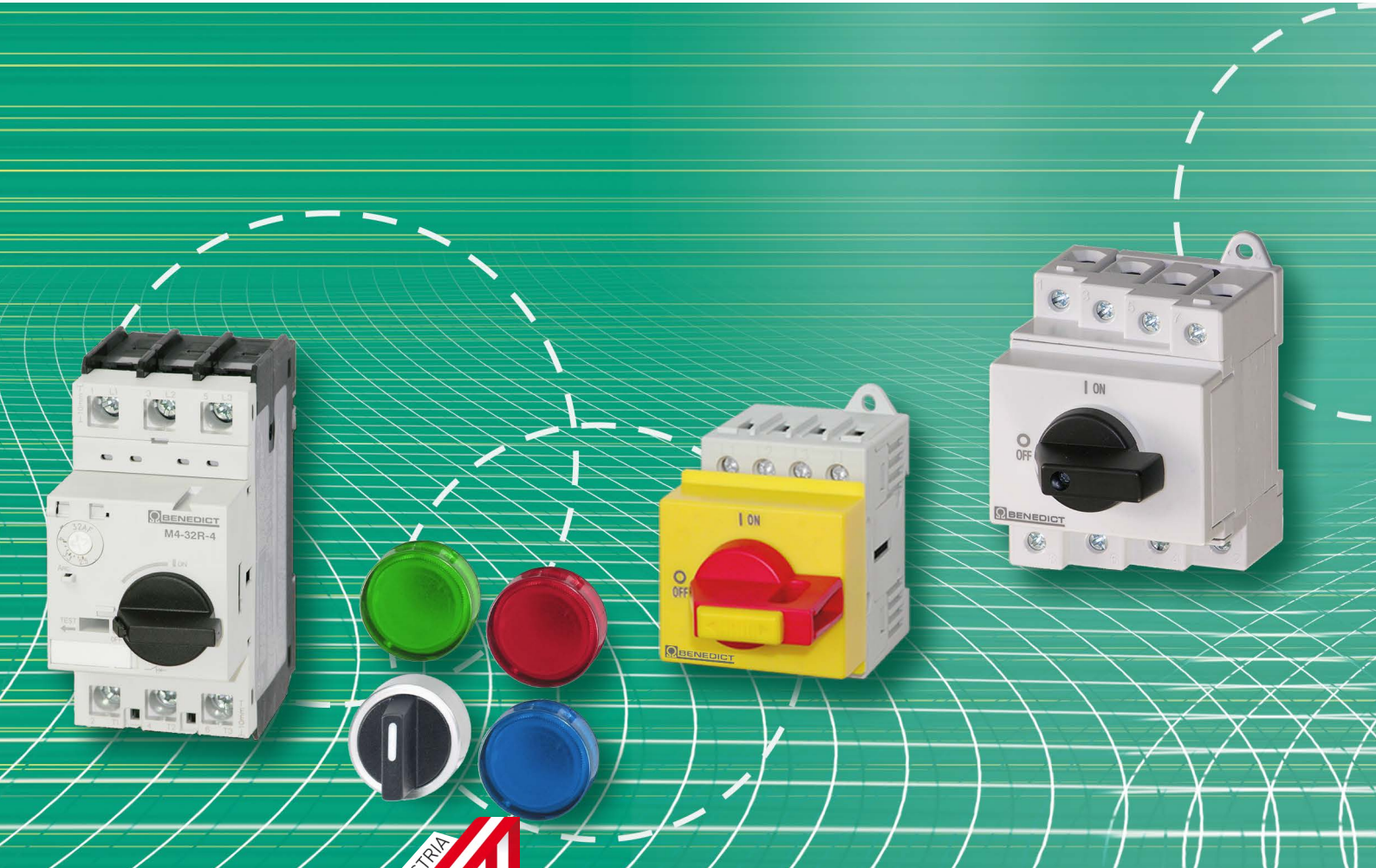
3	10	-	30 □	M4H Z W3	1	0,058
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### Start-Switch with spring return



1	10	-	30 □	M4H Z SE	1	0,036
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Notice:



Quality made in 

Short Form Catalogue D651E191



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