

















Contents		Page
Switch Disconnectors	Designs	2, 3
	Main Switches-Emergency-Stop	4 - 9
	Main Switches	10 -12
	ON-OFF-Switches	13, 14
	Add-on modules	15
	Technical Datas	16
	Dimensions	17 - 19
Cam Switches	Designs	20, 21
	Panel Mounting	22, 23
	Single Hole Mounting	24, 25
	Switches for Distribution Boards	26, 27
	Enclosed Switches	28
	Mini-Cam Switches	29
	Technical Datas	30, 31
	Dimensions	32

Switch Disconnectors

Type	Ratings			Protection degree from front in mounted position				Main Switch Emergency Stop		
	Rated current Therm. $I_{th\ open}$ A	AC21 A	at U_e V	Motor AC3 3~400V kW	AC23 3~400V A		Plate mm	Panel mounting IP65	Single hole mount. Ø22,5mm IP65	Base mounting with door coupling adjust. installation depth LTS.. IP65 LT.. IP40
LTS20	20	20	690	5,5	12	7,5	48□			
LTS25	25	25	690	7,5	16	10	48□	LTS25 EHN1 .. LTS25 EHN4 ..	LTS25 ZHN1 ..	LTS25 VZVHN4 .. LTS25 VHN4 ..
LTS32	32	32	690	11	23	12,5	48□	LTS32 EHN1 .. LTS32 EHN4 ..	LTS32 ZHN1 ..	LTS32 VZVHN4 .. LTS32 VHN4 ..
LTS40	40	40	690	15	30	16	48□	LTS40 EHN1 .. LTS40 EHN4 ..	LTS40 ZHN1 ..	LTS40 VZVHN4 .. LTS40 VHN4 ..
LTS63	63	63	690	18,5	45	22	48□	LTS63 EHN1 .. LTS63 EHN4 ..	-	LTS63 VZVHN4 .. LTS63 VHN4 ..
LTS80	80	80	690	18,5	45	22	48□	LTS80 EHN1 .. LTS80 EHN4 ..	-	LTS80 VZVHN4 .. LTS80 VHN4 ..
LT80	80	80	690	22	60	30	64□	LT80 EHN34 ..	-	LT80 VHN34 ..
LT100	100	100	690	30	72	37	64□	LT100 EHN34 ..	-	LT100 VHN34 ..
LT125	125	125	690	37	85	45	88□	LT125 EHN34 ..	-	LT125 VHN34 ..
LT160	160	160	690	45	110	55	88□	LT160 EHN34 ..	-	LT160 VHN34 ..

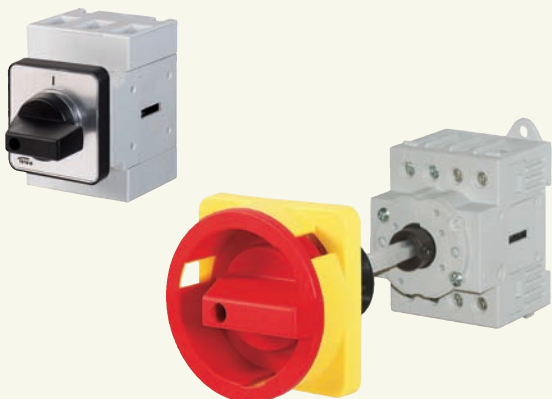
Switch disconnector LT.. 20 - 160A

Switch disconnectors are to be used as an ON-OFF-switch where a high breaking capacity with high contact pressure and in fact better short circuit behavior is necessary. These applications are:

Main switches according to IEC/EN 60204 respectively VDE0113 with interlocking device, terminal protection and restrictive contacts.

Switch disconnectors according to IEC/EN 60947-3 and VDE 0660 part 107 with break distance for 690V.

Motor switches 3-pole or 4-pole; according to IEC/EN 60947-3 respectively VDE 0660 part 107, motor switches series LT are dimensioned for switching high rated current AC3 and AC23A.



Main switches and Main switches with Emergency-Stop function

According to standards IEC/EN60204 or VDE0113, all electrical equipment of industrial machines must be equipped with a main switch. This must permit disconnection of all the electrical equipment during cleaning, maintenance and repair work, and other extended periods when it is stationary.

In case of two or more main switches, an interlock system must be used. It is recommended to use a multiple-pole main switch (cam switch).

Main switches have to correspond to:

- Switch disconnector according to IEC/EN 60947-3 and VDE 0660 part 107 for utilization category AC23-B or DC-23B.
- Disconnectors are selected according to thermal rated current. They must possess a contact that ensures load switching via the contactors (see switching program A3-10). This contact must have a sufficient AC15 switching capacity.
- The interruption capacity of the switch must equal or exceed the locked rotor current of the largest motor plus the total current of all other electrical equipment in the circuit.

Requirements:

Interruption of the electrical equipment, with only on and off positions clearly marked with O and I.

It must be lockable in the off setting.

The line terminals of the main switch must be protected according to utilization category IP2X.

Colour of handle black or grey.

Main switches with Emergency-Off function are additional supplied with red handles and contrasting yellow escutcheon plates.

Main Switch Emergency Stop Base mounting w. door coupling depth not adjustable IP65		for Distribution Boards IP40	Plastic enclosed IP65	Main Switch Panel mounting IP65	Base mounting with door coupling LTS.. IP65 LT.. IP40	Switch Disconnectors Panel mounting IP65 for Distribution Boards IP40	
LTS20 VZHN1 .. LTS20 VZHN4 ..	LTS20 SMAHN1 ..	LTS20 PFHN4 ..	LTS20 EH1 .. LTS20 EH4 ..	LTS20 VZVH4 .. LTS20 VH4 ..	LTS20 E ..	LTS20 SMA ..	
LTS25 VZHN1 .. LTS25 VZHN4 ..	LTS25 SMAHN1 ..	LTS25 PFHN4 ..	LTS25 EH1 .. LTS25 EH4 ..	LTS25 VZVH4 .. LTS25 VH4 ..	LTS25 E ..	LTS25 SMA ..	
LTS32 VZHN1 .. LTS32 VZHN4 ..	LTS32 SMAHN1 ..	LTS32 PFHN4 ..	LTS32 EH1 .. LTS32 EH4 ..	LTS32 VZVH4 .. LTS32 VH4 ..	LTS32 E ..	LTS32 SMA ..	
LTS40 VZHN1 .. LTS40 VZHN4 ..	LTS40 SMAHN1 ..	LTS40 PFHN4 ..	LTS40 EH1 .. LTS40 EH4 ..	LTS40 VZVH4 .. LTS40 VH4 ..	LTS40 E ..	LTS40 SMA ..	
LTS63 VZHN1 .. LTS63 VZHN4 ..	LTS63 SMAHN1 ..	LTS63 PFHN4 ..	LTS63 EH1 .. LTS63 EH4 ..	LTS63 VZVH4 .. LTS63 VH4 ..	LTS63 E ..	LTS63 SMA ..	
LTS80 VZHN1 .. LTS80 VZHN4 ..	LTS80 SMAHN1 ..	LTS80 PFHN4 ..	LTS80 EH1 .. LTS80 EH4 ..	LTS80 VZVH4 .. LTS80 VH4 ..	LTS80 E ..	LTS80 SMA ..	
-	LT80 SMAHN1 ..	LT80 PFHN34 ..	LT80 EH34 ..	LT80 VH34 ..	LT80 E ..	LT80 SMA ..	
-	LT100 SMAHN1 ..	LT100 PFHN34 ..	LT100 EH34 ..	LT100 VH34 ..	LT100 E ..	LT100 SMA ..	
-	-	LT125 PFHN34 ..	LT125 EH34 ..	LT125 VH34 ..	LT125 E ..	-	
-	-	LT160 PFHN34 ..	LT160 EH34 ..	LT160 VH34 ..	LT160 E ..	-	

Switch program

On-Off Switch 3-pole	●●●●● A3	
On-Off Switch 4-pole	●●●●● A4	
On-Off Switch 6-pole	●●●●● A6	
On-Off Switch 8-pole	●●●●● A8	
Changeover Switches 3-pole	●●●●● U3	
Changeover Switches 4-pole	●●●●● U4	
On-Off Switch 3-pole	●●●●● T300	(for LT80 - LT160)
On-Off Switch 4-pole	●●●●● T400	(for LT80 - LT160)



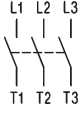


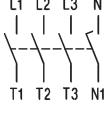


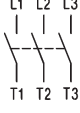


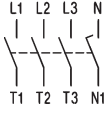
Order No. Code

IN 8 ● ● ● ● ●

Panel Mounting	E		2	20A
Single Hole Mounting	Z		3	25A
Base Mounting V	A		4	32A
Base Mounting VZ	B		5	40A
Base Mounting VZV	C		7	63A
Modular Switches	R		8	80A
Plastic enclosed	P			
			0	without Accessories
On-Off-Switch	0		2	with SV1
Main Switch	1		3	with SV4
Main Switch Emergency-Stop	2		4	with SV34
Changeover Switch	3			
Changeover Switch w. padlock device	5			number of poles

Technical Datas see page 16
Dimensions see page 17 - 19

Emergency-Stop-Main Switches for Panel Mounting, lockable, IP65


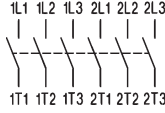

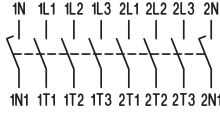
		max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV1 									
									
			20A	7,5kW	48 □ ¹⁾	LTS20 EHN1 A3		1	0,15
			25A	10kW	48 □ ¹⁾	LTS25 EHN1 A3		1	0,15
			32A	12,5kW	48 □ ¹⁾	LTS32 EHN1 A3		1	0,15
			40A	16kW	48 □ ¹⁾	LTS40 EHN1 A3		1	0,15
			63A	22kW	48 □ ¹⁾	LTS63 EHN1 A3		1	0,17
			80A	22kW	48 □ ¹⁾	LTS80 EHN1 A3		1	0,17
4-pole, padlock device SV1 									
									
			20A	7,5kW	48 □ ¹⁾	LTS20 EHN1 A4		1	0,19
			25A	10kW	48 □ ¹⁾	LTS25 EHN1 A4		1	0,19
			32A	12,5kW	48 □ ¹⁾	LTS32 EHN1 A4		1	0,19
			40A	16kW	48 □ ¹⁾	LTS40 EHN1 A4		1	0,19
			63A	22kW	48 □ ¹⁾	LTS63 EHN1 A4		1	0,21
			80A	22kW	48 □ ¹⁾	LTS80 EHN1 A4		1	0,21
6-pole, 8-pole, padlock device SV164						on request			
3-pole, padlock device SV4(34) 									
									
			20A	7,5kW	64 □	LTS20 EHN4 A3	IN 8E2 332	1	0,17
			25A	10kW	64 □	LTS25 EHN4 A3	IN 8E2 333	1	0,17
			32A	12,5kW	64 □	LTS32 EHN4 A3	IN 8E2 334	1	0,17
			40A	16kW	64 □	LTS40 EHN4 A3	IN 8E2 335	1	0,17
			63A	22kW	64 □	LTS63 EHN4 A3	IN 8E2 337	1	0,19
			80A	22kW	64 □	LTS80 EHN4 A3	IN 8E2 338	1	0,19
			80A	30kW	64 □	LT80 EHN34 T300	IN 805 780	1	0,46
			100A	37kW	64 □	LT100 EHN34 T300	IN 805 781	1	0,46
			125A	45kW	88 □	LT125 EHN34 T300		1	1,16
			160A	55kW	88 □	LT160 EHN34 T300		1	1,16
4-pole, padlock device SV4(34) 									
									
			20A	7,5kW	64 □ ²⁾	LTS20 EHN4 A4	IN 8E2 432	1	0,20
			25A	10kW	64 □ ²⁾	LTS25 EHN4 A4	IN 8E2 433	1	0,20
			32A	12,5kW	64 □ ²⁾	LTS32 EHN4 A4	IN 8E2 434	1	0,20
			40A	16W	64 □ ²⁾	LTS40 EHN4 A4	IN 8E2 435	1	0,20
			63A	22kW	64 □ ²⁾	LTS63 EHN4 A4	IN 8E2 437	1	0,23
			80A	22kW	64 □ ²⁾	LTS80 EHN4 A4	IN 8E2 438	1	0,23
			80A	30kW	64 □	LT80 EHN34 T400		1	0,57
			100A	37kW	64 □	LT100 EHN34 T400		1	0,57
			125A	45kW	88 □	LT125 EHN34 T400		1	1,55
			160A	55kW	88 □	LT160 EHN34 T400		1	1,55

Add-on modules see page 15


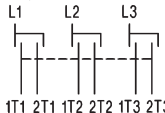

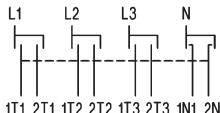
1) Types with padlock device 64 □ type suffix **64**, ordering example: LTS32 EHN164 A3, on request

2) Types with padlock device 88 □ type suffix **88**, ordering example: LTS32 EHN488 A3, on request


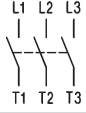

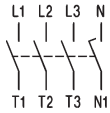
Emergency-Stop-Main Switches for Panel Mounting, lockable, IP65

		max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
6-pole, padlock device SV4 									
			20A	7,5kW	64 □	LTS20 EHN4 A6		1	0,30
			25A	10kW	64 □	LTS25 EHN4 A6		1	0,30
			32A	12,5kW	64 □	LTS32 EHN4 A6		1	0,30
			40A	16kW	64 □	LTS40 EHN4 A6		1	0,30
			63A	22kW	64 □	LTS63 EHN4 A6		1	0,34
	80A	22kW	64 □	LTS80 EHN4 A6		1	0,34		
8-pole, padlock device SV4 									
			20A	7,5kW	64 □	LTS20 EHN4 A8		1	0,38
			25A	10kW	64 □	LTS25 EHN4 A8		1	0,38
			32A	12,5kW	64 □	LTS32 EHN4 A8		1	0,38
			40A	16kW	64 □	LTS40 EHN4 A8		1	0,38
			63A	22kW	64 □	LTS63 EHN4 A8		1	0,42
	80A	22kW	64 □	LTS80 EHN4 A8		1	0,42		

Changeover Switch with Padlock Device for Panel Mounting, lockable IP65



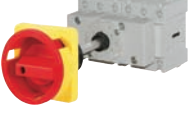

3-pole, padlock device SV4 									
			20A	7,5kW	64 □	LTS20 EHN4 U3		1	0,30
			25A	10kW	64 □	LTS25 EHN4 U3		1	0,30
			32A	12,5kW	64 □	LTS32 EHN4 U3		1	0,30
			40A	16kW	64 □	LTS40 EHN4 U3		1	0,30
			63A	22kW	64 □	LTS63 EHN4 U3		1	0,34
	80A	22kW	64 □	LTS80 EHN4 U3		1	0,34		
4-pole, padlock device SV4 									
			20A	7,5kW	64 □	LTS20 EHN4 U4		1	0,38
			25A	10kW	64 □	LTS25 EHN4 U4		1	0,38
			32A	12,5kW	64 □	LTS32 EHN4 U4		1	0,38
			40A	16kW	64 □	LTS40 EHN4 U4		1	0,38
			63A	22kW	64 □	LTS63 EHN4 U4		1	0,42
	80A	22kW	64 □	LTS80 EHN4 U4		1	0,42		

Main Switches Emergency-Stop for Single Hole Mounting, lockable, IP65

		max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV1 									
			20A	7,5kW	48 □	LTS20 ZHN1 A3	IN 8ZI 301	1	0,16
			25A	10kW	48 □	LTS25 ZHN1 A3		1	0,16
			32A	12,5kW	48 □	LTS32 ZHN1 A3	1	0,16	
	40A	16kW	48 □	LTS40 ZHN1 A3		1	0,16		
4-pole, padlock device SV1 									
			20A	7,5kW	48 □	LTS20 ZHN1 A4		1	0,20
			25A	10kW	48 □	LTS25 ZHN1 A4		1	0,20
			32A	12,5kW	48 □	LTS32 ZHN1 A4		1	0,20
	40A	16kW	48 □	LTS40 ZHN1 A4		1	0,20		

Add-on modules see page 15

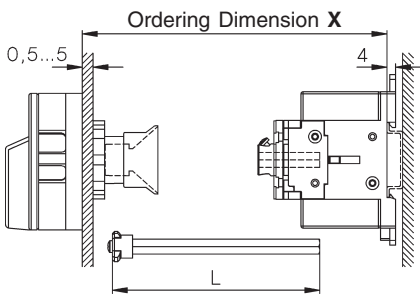
Emergency-Stop-Main Switches, Base Mounting with Door Clutch, Padlock Device for Single-Hole Mounting Depth X is adjustable (delivered with X_{max} see below), IP65

	max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV4 								
		20A	7,5kW	64 □ 1)	LTS20 VZVHN4 A3		1	0,19
		25A	10kW	64 □ 1)	LTS25 VZVHN4 A3		1	0,19
		32A	12,5kW	64 □ 1)	LTS32 VZVHN4 A3		1	0,19
		40A	16kW	64 □ 1)	LTS40 VZVHN4 A3		1	0,19
		63A	22kW	64 □ 1)	LTS63 VZVHN4 A3		1	0,22
		80A	22kW	64 □ 1)	LTS80 VZVHN4 A3		1	0,22
4-pole, padlock device SV4 								
		20A	7,5kW	64 □ 1)	LTS20 VZVHN4 A4		1	0,20
		25A	10kW	64 □ 1)	LTS25 VZVHN4 A4		1	0,20
		32A	12,5kW	64 □ 1)	LTS32 VZVHN4 A4		1	0,20
		40A	16kW	64 □ 1)	LTS40 VZVHN4 A4		1	0,20
		63A	22kW	64 □ 1)	LTS63 VZVHN4 A4		1	0,26
		80A	22kW	64 □ 1)	LTS80 VZVHN4 A4		1	0,26
6-pole, padlock device SV4 								
		20A	7,5kW	64 □	LTS20 VZVHN4 A6		1	0,32
		25A	10kW	64 □	LTS25 VZVHN4 A6		1	0,32
		32A	12,5kW	64 □	LTS32 VZVHN4 A6		1	0,32
		40A	16kW	64 □	LTS40 VZVHN4 A6		1	0,32
		63A	22kW	64 □	LTS63 VZVHN4 A6		1	0,37
		80A	22kW	64 □	LTS80 VZVHN4 A6		1	0,37
8-pole, padlock device SV4 								
		20A	7,5kW	64 □	LTS20 VZVHN4 A8		1	0,34
		25A	10kW	64 □	LTS25 VZVHN4 A8		1	0,34
		32A	12,5kW	64 □	LTS32 VZVHN4 A8		1	0,34
		40A	16kW	64 □	LTS40 VZVHN4 A8		1	0,34
		63A	22kW	64 □	LTS63 VZVHN4 A8		1	0,45
		80A	22kW	64 □	LTS80 VZVHN4 A8		1	0,45

Changeover Switch with Padlock Device for Base Mounting on request

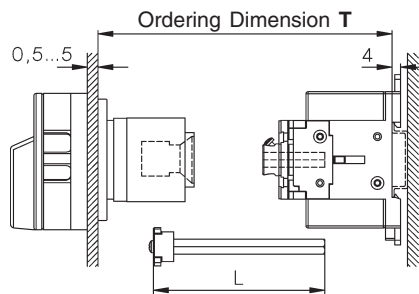
1) Types with padlock device 88 □ type suffix **88**, ordering example: LTS32 VZVHN**88** A3, on request

Depth
Single Hole Mounting Ø22mm
LTS.. VZV..



Type		X min	X max	L
LTS.. VZV..	3, 4-pole	91 -	190	X - 40±3
LTS.. VZV..	6, 8-pole	111 -	190	X - 60±3

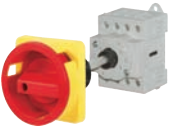

4-Hole Mounting
LTS.. V(HN).. (3, 4-pole)




Type		T min	T max	L
LTS.. VH..		111 -	190	T - 60±3
LT80 VH..		110 -	380	
LT100 VH..		110 -	450	
LT125/160 VH..		120 -	450	

greater X- and T-Dimensions (max. 380mm for LTS..) on request

Emergency-Stop-Main Switches, Base Mounting with Door Clutch, Padlock Device for Four-Hole Mounting Depth X is adjustable (delivered with T_{max} see page 6), IP65, (IP40)

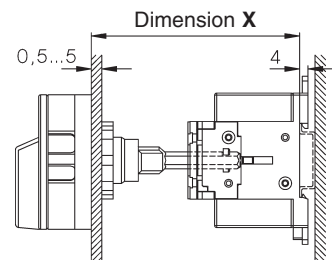
	max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV4(34) 								
		20A	7,5kW	64 □ ¹⁾	LTS20 VHN4 A3		1	0,20
		25A	10kW	64 □ ¹⁾	LTS25 VHN4 A3		1	0,20
		32A	12,5kW	64 □ ¹⁾	LTS32 VHN4 A3		1	0,20
		40A	16kW	64 □ ¹⁾	LTS40 VHN4 A3		1	0,20
		63A	22kW	64 □ ¹⁾	LTS63 VHN4 A3		1	0,24
		80A	22kW	64 □ ¹⁾	LTS80 VHN4 A3		1	0,24
		80A	30kW	64 □ ²⁾	LT80 VHN34 T300		1	0,60
		100A	37kW	64 □ ²⁾	LT100 VHN34 T300		1	0,61
		125A	45kW	88 □ ²⁾	LT125 VHN34 T300		1	1,38
		160A	55kW	88 □ ²⁾	LT160 VHN34 T300		1	1,38
4-pole, padlock device SV4(34) 								
		20A	7,5kW	64 □ ¹⁾	LTS20 VHN4 A4	IN 8A2 432	1	0,21
		25A	10kW	64 □ ¹⁾	LTS25 VHN4 A4	IN 8A2 433	1	0,21
		32A	12,5kW	64 □ ¹⁾	LTS32 VHN4 A4	IN 8A2 434	1	0,21
		40A	16kW	64 □ ¹⁾	LTS40 VHN4 A4	IN 8A2 435	1	0,21
		63A	22kW	64 □ ¹⁾	LTS63 VHN4 A4	IN 8A2 437	1	0,28
		80A	22kW	64 □ ¹⁾	LTS80 VHN4 A4	IN 8A2 438	1	0,28
		80A	30kW	64 □ ²⁾	LT80 VHN34 T400	IN 855 480	1	0,71
		100A	37kW	64 □ ²⁾	LT100 VHN34 T400		1	0,71
		125A	45kW	88 □ ²⁾	LT125 VHN34 T400		1	1,77
		160A	55kW	88 □ ²⁾	LT160 VHN34 T400		1	1,77
6-pole, 8-pole, padlock device SV4(34)					on request			

Emergency-Stop-Main Switches, Base Mounting with Door Clutch, Padlock Device for Single-Hole Mounting Depth X is not adjustable, declare depth X when ordering, IP65

	max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
4-pole, padlock device SV4 								
		20A	7,5kW	64 □	LTS20 VZHN4 A4 X..		1	0,18
		25A	10kW	64 □	LTS25 VZHN4 A4 X..		1	0,18
		32A	12,5kW	64 □	LTS32 VZHN4 A4 X..		1	0,18
		40A	16kW	64 □	LTS40 VZHN4 A4 X..		1	0,18
		63A	22kW	64 □	LTS63 VZHN4 A4 X..		1	0,25
		80A	22kW	64 □	LTS80 VZHN4 A4 X..		1	0,25
3-pole, 6-pole, 8-pole, padlock device SV4					on request			

Declare depth X when ordering



Type	Preference values for X
LTS..VZH..	80, 85, 104, 129 (tolerance -3, +1,5)


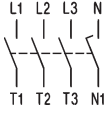



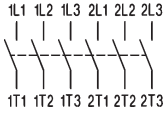
Add-on modules see page 15


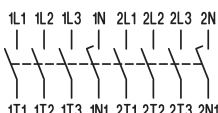
- Types with padlock device 88 □ type suffix **88**, ordering example: LTS32 VHN488 A3, on request
- LT80.. to LT160 protection degree IP40

Emergency-Stop-Main Switches for Distribution Boards, lockable IP40


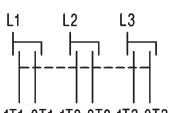
		max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV1  									
			20A	7,5kW	52x45	LTS20 SMAHN1 A3	IN 8R2 322	1	0,15
			25A	10kW	52x45	LTS25 SMAHN1 A3	IN 8R2 323	1	0,15
			32A	12,5kW	52x45	LTS32 SMAHN1 A3	IN 8R2 324	1	0,15
			40A	16kW	52x45	LTS40 SMAHN1 A3	IN 8R2 325	1	0,15
			63A	22kW	52x45	LTS63 SMAHN1 A3	IN 8R2 327	1	0,18
			80A	22kW	52x45	LTS80 SMAHN1 A3	IN 8R2 328	1	0,18
			80A	30kW	70x45	LT80 SMAHN1 T300	IN 885 780	1	0,37
			100A	37kW	70x45	LT100 SMAHN1 T300	IN 885 781	1	0,37

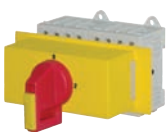
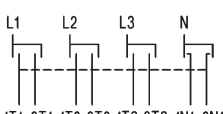
4-pole, padlock device SV1  									
			20A	7,5kW	52x45	LTS20 SMAHN1 A4	IN 8R2 422	1	0,16
			25A	10kW	52x45	LTS25 SMAHN1 A4	IN 8R2 423	1	0,16
			32A	12,5kW	52x45	LTS32 SMAHN1 A4	IN 8R2 424	1	0,16
			40A	16kW	52x45	LTS40 SMAHN1 A4	IN 8R2 425	1	0,16
			63A	22kW	52x45	LTS63 SMAHN1 A4	IN 8R2 427	1	0,21
			80A	22kW	52x45	LTS80 SMAHN1 A4	IN 8R2 428	1	0,21
			80A	30kW	70x45	LT80 SMAHN1 T400		1	0,51
			100A	37kW	70x45	LT100 SMAHN1 T400		1	0,51

6-pole, padlock device SV164  									
			20A	7,5kW	97x45	LTS20 SMAHN164 A6		1	0,29
			25A	10kW	97x45	LTS25 SMAHN164 A6		1	0,29
			32A	12,5kW	97x45	LTS32 SMAHN164 A6		1	0,29
			40A	16kW	97x45	LTS40 SMAHN164 A6		1	0,29
			63A	22kW	97x45	LTS63 SMAHN164 A6		1	0,34
			80A	22kW	97x45	LTS80 SMAHN164 A6		1	0,34

8-pole, padlock device SV164  									
			20A	7,5kW	97x45	LTS20 SMAHN164 A8		1	0,31
			25A	10kW	97x45	LTS25 SMAHN164 A8		1	0,31
			32A	12,5kW	97x45	LTS32 SMAHN164 A8		1	0,31
			40A	16kW	97x45	LTS40 SMAHN164 A8		1	0,31
			63A	22kW	126x45	LTS63 SMAHN164 A8		1	0,42
			80A	22kW	126x45	LTS80 SMAHN164 A8		1	0,42




Changeover Switch with Padlock Device for Distribution Boards, lockable IP40

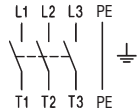
3-pole, padlock device SV164  									
			20A	7,5kW	97x45	LTS20 SMAHN164 U3		1	0,29
			25A	10kW	97x45	LTS25 SMAHN164 U3		1	0,29
			32A	12,5kW	97x45	LTS32 SMAHN164 U3		1	0,29
			40A	16kW	97x45	LTS40 SMAHN164 U3		1	0,29
			63A	22kW	97x45	LTS63 SMAHN164 U3		1	0,34
			80A	22kW	97x45	LTS80 SMAHN164 U3		1	0,34




4-pole, padlock device SV164  									
			20A	7,5kW	97x45	LTS20 SMAHN164 U4		1	0,31
			25A	10kW	97x45	LTS25 SMAHN164 U4		1	0,31
			32A	12,5kW	97x45	LTS32 SMAHN164 U4		1	0,31
			40A	16kW	97x45	LTS40 SMAHN164 U4		1	0,31
			63A	22kW	126x45	LTS63 SMAHN164 U4		1	0,42
			80A	22kW	126x45	LTS80 SMAHN164 U4		1	0,42

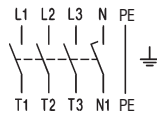
Add-on modules see page 15




Maintenance and Safety Switches, in Plastic Enclosure, lockable, IP65

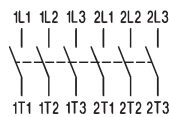
	max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV4(34)  								
		20A	7,5kW	64 □	LTS20 PFHN4 A3	IN 8P2 332	1	0,32
		25A	10kW	64 □	LTS25 PFHN4 A3	IN 8P2 333	1	0,32
		32A	12,5kW	64 □	LTS32 PFHN4 A3	IN 8P2 334	1	0,32
		40A	16kW	64 □	LTS40 PFHN4 A3	IN 8P2 335	1	0,32
		63A	22kW	64 □	LTS63 PFHN4 A3	IN 8P2 337	1	0,60
		80A	22kW	64 □	LTS80 PFHN4 A3	IN 8P2 338	1	0,60
		80A	30kW	64 □	LT80 PFHN34 T300		1	1,36
		100A	37kW	64 □	LT100 PFHN34 T300		1	1,36
		125A	45kW	88 □	LT125 PFHN34 T300		1	2,09
		160A	55kW	88 □	LT160 PFHN34 T300		1	2,09






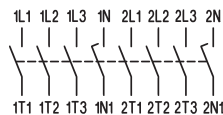
4-pole, padlock device SV4(34)  								
		20A	7,5kW	64 □	LTS20 PFHN4 A4	IN 8P2 432	1	0,33
		25A	10kW	64 □	LTS25 PFHN4 A4	IN 8P2 433	1	0,33
		32A	12,5kW	64 □	LTS32 PFHN4 A4	IN 8P2 434	1	0,33
		40A	16kW	64 □	LTS40 PFHN4 A4	IN 8P2 435	1	0,33
		63A	22kW	64 □	LTS63 PFHN4 A4	IN 8P2 437	1	0,64
		80A	22kW	64 □	LTS80 PFHN4 A4	IN 8P2 438	1	0,64
		80A	30kW	64 □	LT80 PFHN34 T400		1	1,50
		100A	37kW	64 □	LT100 PFHN34 T400		1	1,50
		125A	45kW	88 □	LT125 PFHN34 T400		1	2,47
		160A	55kW	88 □	LT160 PFHN34 T400		1	2,47






6-pole, padlock device SV4  								
		20A	7,5kW	64 □	LTS20 PFHN4 A6		1	1,39
		25A	10kW	64 □	LTS25 PFHN4 A6		1	1,39
		32A	12,5kW	64 □	LTS32 PFHN4 A6		1	1,39
		40A	16kW	64 □	LTS40 PFHN4 A6		1	1,39
		63A	22kW	64 □	LTS63 PFHN4 A6		1	1,42
		80A	22kW	64 □	LTS80 PFHN4 A6		1	1,42

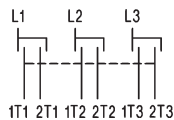





8-pole, padlock device SV4  								
		20A	7,5kW	64 □	LTS20 PFHN4 A8		1	1,44
		25A	10kW	64 □	LTS25 PFHN4 A8		1	1,44
		32A	12,5kW	64 □	LTS32 PFHN4 A8		1	1,44
		40A	16kW	64 □	LTS40 PFHN4 A8		1	1,44
		63A	22kW	64 □	LTS63 PFHN4 A8		1	1,50
		80A	22kW	64 □	LTS80 PFHN4 A8		1	1,50

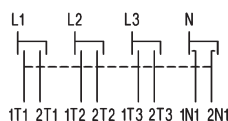


Changeover Switch with Padlock Device, lockable IP65




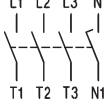



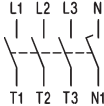
3-pole, padlock device SV4  								
		20A	7,5kW	64 □	LTS20 PFHN4 U3		1	1,39
		25A	10kW	64 □	LTS25 PFHN4 U3		1	1,39
		32A	12,5kW	64 □	LTS32 PFHN4 U3		1	1,39
		40A	16kW	64 □	LTS40 PFHN4 U3		1	1,39
		63A	22W	64 □	LTS63 PFHN4 U3		1	1,42
		80A	22kW	64 □	LTS80 PFHN4 U3		1	1,42



4-pole, padlock device SV4  								
		20A	7,5kW	64 □	LTS20 PFHN4 U4		1	1,44
		25A	10kW	64 □	LTS25 PFHN4 U4		1	1,44
		32A	12,5kW	64 □	LTS32 PFHN4 U4		1	1,44
		40A	16kW	64 □	LTS40 PFHN4 U4		1	1,44
		63A	22kW	64 □	LTS63 PFHN4 U4		1	1,50
		80A	22kW	64 □	LTS80 PFHN4 U4		1	1,50



Main Switches for Panel Mounting, lockable, IP65

	max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV1 								
								
		20A	7,5kW	48 □ 1)	LTS20 EH1 A3		1	0,15
		25A	10kW	48 □ 1)	LTS25 EH1 A3		1	0,15
		32A	12,5kW	48 □ 1)	LTS32 EH1 A3		1	0,15
		40A	16kW	48 □ 1)	LTS40 EH1 A3		1	0,15
		63A	22kW	48 □ 1)	LTS63 EH1 A3		1	0,17
		80A	22kW	48 □ 1)	LTS80 EH1 A3		1	0,17
4-pole, padlock device SV1 								
								
		20A	7,5kW	48 □ 1)	LTS20 EH1 A4		1	0,19
		25A	10kW	48 □ 1)	LTS25 EH1 A4		1	0,19
		32A	12,5kW	48 □ 1)	LTS32 EH1 A4		1	0,19
		40A	16kW	48 □ 1)	LTS40 EH1 A4		1	0,19
		63A	22kW	48 □ 1)	LTS63 EH1 A4		1	0,21
		80A	22kW	48 □ 1)	LTS80 EH1 A4		1	0,21
6-pole, 8-pole, padlock device SV164					on request			
3-pole, padlock device SV4(34) 								
								
		20A	7,5kW	64 □	LTS20 EH4 A3	IN 8E1 332	1	0,17
		25A	10kW	64 □	LTS25 EH4 A3	IN 8E1 333	1	0,17
		32A	12,5kW	64 □	LTS32 EH4 A3	IN 8E1 334	1	0,17
		40A	16kW	64 □	LTS40 EH4 A3	IN 8E1 335	1	0,17
		63A	22kW	64 □	LTS63 EH4 A3	IN 8E1 337	1	0,19
		80A	22kW	64 □	LTS80 EH4 A3	IN 8E1 338	1	0,19
		80A	30kW	64 □	LT80 EH34 T300	IN 805 880	1	0,46
		100A	37kW	64 □	LT100 EH34 T300	IN 805 881	1	0,46
		125A	45kW	88 □	LT125 EH34 T300		1	1,16
		160A	55kW	88 □	LT160 EH34 T300		1	1,16
4-pole, padlock device SV4(34) 								
								
		20A	7,5kW	64 □ 1)	LTS20 EH4 A4		1	0,20
		25A	10kW	64 □ 1)	LTS25 EH4 A4		1	0,20
		32A	12,5kW	64 □ 1)	LTS32 EH4 A4		1	0,20
		40A	16kW	64 □ 1)	LTS40 EH4 A4		1	0,20
		63A	22kW	64 □ 1)	LTS63 EH4 A4		1	0,23
		80A	22kW	64 □ 1)	LTS80 EH4 A4		1	0,23
		80A	30kW	64 □	LT80 EH34 T400		1	0,57
		100A	37kW	64 □	LT100 EH34 T400		1	0,57
		125A	45kW	88 □	LT125 EH34 T400		1	1,55
		160A	55kW	88 □	LT160 EH34 T400		1	1,55
6-pole, 8-pole, padlock device SV4					on request			



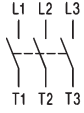


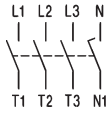


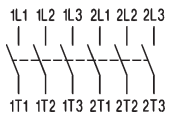


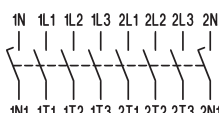
Add-on modules see page 15

1) Types with padlock device 64 □ type suffix **64**, ordering example: LTS32 EH1**64** A3, on request

2) Types with padlock device 88 □ type suffix **88**, ordering example: LTS32 EH4**88** A3, on request

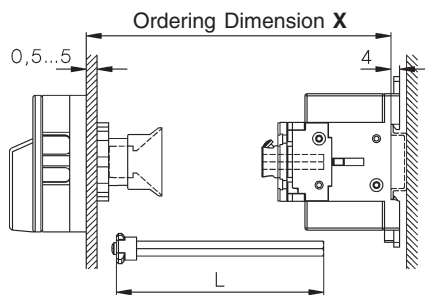
Main Switches, Base Mounting with Door Clutch, Padlock Device for Single-Hole Mounting

Depth X is adjustable (delivered with X_{max} see below), IP65

	max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV4 								
		20A	7,5kW	64 □ 1)	LTS20 VZVH4 A3		1	0,19
		25A	10kW	64 □ 1)	LTS25 VZVH4 A3		1	0,19
		32A	12,5kW	64 □ 1)	LTS32 VZVH4 A3		1	0,19
		40A	16kW	64 □ 1)	LTS40 VZVH4 A3		1	0,19
		63A	22kW	64 □ 1)	LTS63 VZVH4 A3		1	0,22
		80A	22kW	64 □ 1)	LTS80 VZVH4 A3		1	0,22
4-pole, padlock device SV4 								
		20A	7,5kW	64 □ 1)	LTS20 VZVH4 A4		1	0,20
		25A	10kW	64 □ 1)	LTS25 VZVH4 A4		1	0,20
		32A	12,5kW	64 □ 1)	LTS32 VZVH4 A4		1	0,20
		40A	16kW	64 □ 1)	LTS40 VZVH4 A4		1	0,20
		63A	22kW	64 □ 1)	LTS63 VZVH4 A4		1	0,26
		80A	22kW	64 □ 1)	LTS80 VZVH4 A4		1	0,26
6-pole, padlock device SV4 								
		20A	7,5kW	64 □	LTS20 VZVH4 A6		1	0,32
		25A	10kW	64 □	LTS25 VZVH4 A6		1	0,32
		32A	12,5kW	64 □	LTS32 VZVH4 A6		1	0,32
		40A	16kW	64 □	LTS40 VZVH4 A6		1	0,32
		63A	22kW	64 □	LTS63 VZVH4 A6		1	0,37
		80A	22kW	64 □	LTS80 VZVH4 A6		1	0,37
8-pole, padlock device SV4 								
		20A	7,5kW	64 □	LTS20 VZVH4 A8		1	0,34
		25A	10kW	64 □	LTS25 VZVH4 A8		1	0,34
		32A	12,5kW	64 □	LTS32 VZVH4 A8		1	0,34
		40A	16kW	64 □	LTS40 VZVH4 A8		1	0,34
		63A	22kW	64 □	LTS63 VZVH4 A8		1	0,45
		80A	22kW	64 □	LTS80 VZVH4 A8		1	0,45

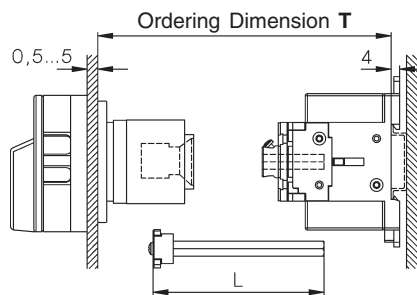
1) Types with padlock device 88 □ type suffix **88**, ordering example: LTS32 VZVH4**88** A3, on request

Depth
Single Hole Mounting Ø22mm
LTS.. VZV..



Type		X min	X max	L
LTS.. VZV..	3, 4-pole	91 -	190	X - 40±3
LTS.. VZV..	6, 8-pole	111 -	190	X - 60±3

4-Hole Mounting
LTS.. V(H).. (3, 4-pole)




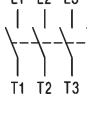


Type		T min	T max	L	Type	T min	T max
LTS.. VH..		111 -	190	T - 60±3	LT80 VH..	110 -	380
					LT100 VH..	110 -	450
					LT125/160 VH..	120 -	450

greater X- and T-Dimensions (max. 380mm for LTS..) on request

Main Switches, Base Mounting with Door Clutch, Padlock Device for Four-Hole Mounting

Depth X is adjustable (delivered with T_{max} see page 11), IP65, (IP40)

	max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV4(34)  								
		20A	7,5kW	64 □ 1)	LTS20 VH4 A3		1	0,20
		25A	10kW	64 □ 1)	LTS25 VH4 A3		1	0,20
		32A	12,5kW	64 □ 1)	LTS32 VH4 A3		1	0,20
		40A	16kW	64 □ 1)	LTS40 VH4 A3		1	0,20
		63A	22kW	64 □ 1)	LTS63 VH4 A3		1	0,24
		80A	22kW	64 □ 1)	LTS80 VH4 A3		1	0,24
		80A	30kW	64 □ 2)	LT80 VH34 T300		1	0,60
		100A	37kW	64 □ 2)	LT100 VH34 T300		1	0,61
		125A	45kW	88 □ 2)	LT125 VH34 T300		1	1,38
		160A	55kW	88 □ 2)	LT160 VH34 T300		1	1,38
4-pole, padlock device SV4(34)  								
		20A	7,5kW	64 □ 1)	LTS20 VH4 A4		1	0,21
		25A	10kW	64 □ 1)	LTS25 VH4 A4		1	0,21
		32A	12,5kW	64 □ 1)	LTS32 VH4 A4		1	0,21
		40A	16kW	64 □ 1)	LTS40 VH4 A4		1	0,21
		63A	22kW	64 □ 1)	LTS63 VH4 A4		1	0,28
		80A	22kW	64 □ 1)	LTS80 VH4 A4		1	0,28
		80A	30kW	64 □ 2)	LT80 VH34 T400		1	0,71
		100A	37kW	64 □ 2)	LT100 VH34 T400		1	0,71
		125A	45kW	88 □ 2)	LT125 VH34 T400		1	1,77
		160A	55kW	88 □ 2)	LT160 VH34 T400		1	1,77

6-pole, 8-pole

on request


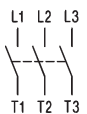


Main Switches, Base Mounting with Door Clutch, Padlock Device for Single-Hole Mounting

Depth X is not adjustable, declare depth X when ordering, IP65

3-pole to 8-pole

on request


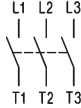

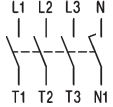

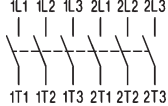

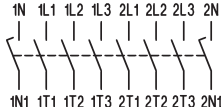

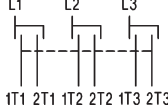

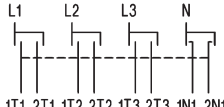
Main Switches for Distribution Boards, lockable IP40

	max. padlocks	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
3-pole, padlock device SV1  								
		20A	5,5kW	52x45	LTS20 SMAH1 A3	IN 8R1 322	1	0,15
		25A	7,5kW	52x45	LTS25 SMAH1 A3	IN 8R1 323	1	0,15
		32A	11kW	52x45	LTS32 SMAH1 A3	IN 8R1 324	1	0,15
		40A	15kW	52x45	LTS40 SMAH1 A3	IN 8R1 325	1	0,15
		63A	22kW	52x45	LTS63 SMAH1 A3	IN 8R1 327	1	0,18
		80A	22kW	52x45	LTS80 SMAH1 A3	IN 8R1 328	1	0,18
		80A	30kW	70x45	LT80 SMAH1 T300	IN 885 880	1	0,37
		100A	37kW	70x45	LT100 SMAH1 T300	IN 885 881	1	0,37
3-pole, padlock device SV1  								
		20A	5,5kW	52x45	LTS20 SMAH1 A4	IN 8R1 422	1	0,16
		25A	7,5kW	52x45	LTS25 SMAH1 A4	IN 8R1 423	1	0,16
		32A	11kW	52x45	LTS32 SMAH1 A4	IN 8R1 424	1	0,16
		40A	15kW	52x45	LTS40 SMAH1 A4	IN 8R1 425	1	0,16
		63A	22kW	52x45	LTS63 SMAH1 A4	IN 8R1 427	1	0,21
		80A	22kW	52x45	LTS80 SMAH1 A4	IN 8R1 428	1	0,21

1) Types with padlock device 88 □ type suffix **88**, ordering example: LTS32 VH488 A3, on request



2) LT80.. to LT160 protection degree IP40


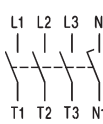
Switch Disconnectors for Panel Mounting, IP65


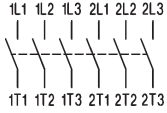
	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
On-Off Switches 3-pole							
 	20A	7,5kW	48 □	LTS20 E A3		1	0,15
	25A	10kW	48 □	LTS25 E A3		1	0,15
	32A	12,5kW	48 □	LTS32 E A3		1	0,15
	40A	16kW	48 □	LTS40 E A3		1	0,15
	63A	22kW	48 □	LTS63 E A3		1	0,17
	80A	22kW	48 □	LTS80 E A3		1	0,17
	80A	30kW	64 □	LT80 E T300		1	0,40
	100A	37kW	64 □	LT100 E T300		1	0,40
	125A	45kW	88 □	LT125 E T300		1	1,10
	160A	55kW	88 □	LT160 E T300		1	1,10
On-Off Switches 4-pole							
 	20A	7,5kW	48 □	LTS20 E A4		1	0,18
	25A	10kW	48 □	LTS25 E A4		1	0,18
	32A	12,5kW	48 □	LTS32 E A4		1	0,18
	40A	16kW	48 □	LTS40 E A4		1	0,18
	63A	22kW	48 □	LTS63 E A4		1	0,21
	80A	22kW	48 □	LTS80 E A4		1	0,21
	80A	30kW	64 □	LT80 E T400		1	0,50
	100A	37kW	64 □	LT100 E T400		1	0,50
	125A	45kW	88 □	LT125 E T400		1	1,50
	160A	55kW	88 □	LT160 E T400		1	1,50
On-Off Switches 6-pole							
 	20A	7,5kW	64 □	LTS20 E A6		1	0,30
	25A	10kW	64 □	LTS25 E A6		1	0,30
	32A	12,5kW	64 □	LTS32 E A6		1	0,30
	40A	16kW	64 □	LTS40 E A6		1	0,30
	63A	22kW	64 □	LTS63 E A6		1	0,36
	80A	22kW	64 □	LTS80 E A6		1	0,36
On-Off Switches 8-pole							
 	20A	7,5kW	64 □	LTS20 E A8		1	0,32
	25A	10kW	64 □	LTS25 E A8		1	0,32
	32A	12,5kW	64 □	LTS32 E A8		1	0,32
	40A	16kW	64 □	LTS40 E A8		1	0,32
	63A	22kW	64 □	LTS63 E A8		1	0,43
	80A	22kW	64 □	LTS80 E A8		1	0,43
Changeover Switches 3-pole							
 	20A	7,5kW	64 □	LTS20 E U3		1	0,31
	25A	10kW	64 □	LTS25 E U3		1	0,31
	32A	12,5kW	64 □	LTS32 E U3		1	0,31
	40A	16kW	64 □	LTS40 E U3		1	0,31
	63A	22kW	64 □	LTS63 E U3		1	0,37
	80A	22kW	64 □	LTS80 E U3		1	0,37
Changeover Switches 4-pole							
 	20A	7,5kW	64 □	LTS20 E U4		1	0,33
	25A	10kW	64 □	LTS25 E U4		1	0,33
	32A	12,5kW	64 □	LTS32 E U4		1	0,33
	40A	16kW	64 □	LTS40 E U4		1	0,33
	63A	22kW	64 □	LTS63 E U4		1	0,44
	80A	22kW	64 □	LTS80 E U4		1	0,44


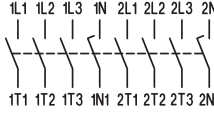
Add-on modules see page 15


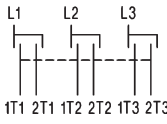
Switch Disconnectors for Distribution Boards


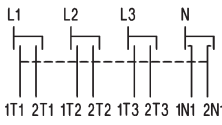
	AC21 690V	AC23 3x400V	plate IP65	Type	Order. No.	Pack pcs.	Weight kg/pcs.
On-Off Switches 3-pole  	20A	7,5kW	52x45	LTS20 SMA A3		1	0,15
	25A	10kW	52x45	LTS25 SMA A3		1	0,15
	32A	12,5kW	52x45	LTS30 SMA A3		1	0,15
	40A	16kW	52x45	LTS40 SMA A3		1	0,15
	63A	22kW	52x45	LTS63 SMA A3		1	0,17
	80A	22kW	52x45	LTS80 SMA A3		1	0,17
	80A	30kW	70x45	LT80 SMA T300		1	0,37
	100A	37kW	70x45	LT100 SMA T300		1	0,37

On-Off Switches 4-pole  	20A	7,5kW	52x45	LTS20 SMA A4		1	0,16
	25A	10kW	52x45	LTS25 SMA A4		1	0,16
	32A	12,5kW	52x45	LTS32 SMA A4		1	0,16
	40A	16kW	52x45	LTS40 SMA A4		1	0,16
	63A	22kW	52x45	LTS63 SMA A4		1	0,21
	80A	22kW	52x45	LTS80 SMA A4		1	0,21
	80A	30kW	70x45	LT80 SMA T400		1	0,48
	100A	37kW	70x45	LT100 SMA T400		1	0,48

On-Off Switches 6-pole  	20A	7,5kW	97x45	LTS20 SMA A6		1	0,29
	25A	10kW	97x45	LTS25 SMA A6		1	0,29
	32A	12,5kW	97x45	LTS30 SMA A6		1	0,29
	40A	16kW	97x45	LTS40 SMA A6		1	0,29
	63A	22kW	97x45	LTS63 SMA A6		1	0,34
	80A	22kW	97x45	LTS80 SMA A6		1	0,34













On-Off Switches 8-pole  	20A	7,5kW	97x45	LTS20 SMA A8		1	0,31
	25A	10kW	97x45	LTS25 SMA A8		1	0,31
	32A	12,5kW	97x45	LTS32 SMA A8		1	0,31
	40A	16kW	97x45	LTS40 SMA A8		1	0,31
	63A	22kW	126x45	LTS63 SMA A8		1	0,42
	80A	22kW	126x45	LTS80 SMA A8		1	0,42

Changeover Switches 3-pole  	20A	7,5kW	97x45	LTS20 SMA U3		1	0,30
	25A	10kW	97x45	LTS25 SMA U3		1	0,30
	32A	12,5kW	97x45	LTS32 SMA U3		1	0,30
	40A	16kW	97x45	LTS40 SMA U3		1	0,30
	63A	22kW	97x45	LTS63 SMA U3		1	0,35
	80A	22kW	97x45	LTS80 SMA U3		1	0,35

Changeover Switches 4-pole  	20A	7,5kW	97x45	LTS20 SMA U4		1	0,32
	25A	10kW	97x45	LTS25 SMA U4		1	0,32
	32A	12,5kW	97x45	LTS32 SMA U4		1	0,32
	40A	16kW	97x45	LTS40 SMA U4		1	0,32
	63A	22kW	126x45	LTS63 SMA U4		1	0,43
	80A	22kW	126x45	LTS80 SMA U4		1	0,43

Switch Disconnectors for Base Mounting on request

Add-on Modules for main switches and Switch Disconnectors

	for switch	for designs			Type	Order. No.	Pack	Weight
		panel-	base-	distrib.			pcs.	kg/pcs
		mounting	mounting	boards				
4th add-on neutral switching pole								
	N	LTS20 to LTS40	x	-	-	N40E	1	0,035
	N	LTS63 to LTS80	x	-	-	N80E	1	0,042
	N1	LTS20 to LTS40	-	x	x	N40V	1	0,035
	N1	LTS63 to LTS80	-	x	x	N80V	1	0,042
Aux. contact block 1NO + 1NC								
		LT30 to LT70	x	x	x	LH11	1	0,02
		LT80 to LT100	x	-	-	LTY-E11	1	0,02
		LT80 to LT100	-	x	x	LTY-V11	1	0,02
Aux. contact block 1NO + 1NC overlapping								
		LTS20 to LTS80	x	x	x	LH11X	1	0,02
		LT80 to LT100	x	-	-	LTY-E11U	1	0,02
		LT80 to LT100	-	x	x	LTY-V11U	1	0,02
PE-Terminal								
	PE	LTS20 to LTS80	x	-	-	PE80E	1	0,04
	PE	LT80 to LT100	x	x	-	LTY-E	1	0,1
	PE	LT125 to 160	x	-	-	LTXE-E/E	1	0,2
	PE	LTS20 to LTS80	-	x	-	PE80V	1	0,04
	PE	LT125 to 160	-	x	-	LTXE-E/V	1	0,2
N-Terminal								
	N	LTS20 to LTS80	x	-	-	PEN80E	1	0,04
	N	LT80 to LT100	x	x	-	LTY-N	1	0,1
	N	LT125/160	x	-	-	LTXE-N/E	1	0,2
	N	LTS20 to LTS80	-	x	-	PEN80V	1	0,04
	N	LT125 to 160	-	x	-	LTXE-N/V	1	0,2
Additional escutcheon plate yellow marked with: HAUPTSCHALTER								
	48mm	LT.. .HN1..	x	x	-	A91501	1	0,003
	64mm	LT.. .HN4..	x	x	-	E91501	1	0,005
Additional escutcheon plate yellow marked with: MAIN SWITCH								
	48mm	LT.. .HN1..	x	x	-	A91524	1	0,003
	64mm	LT.. .HN4..	x	x	-	E91524	1	0,005
Terminal cover plate 3-pole								
		LTS20 to LTS40	-	x	x	KLAD40	1	0,005
		LTS20 bis LTS40	x	-	-	KLAD70	1	0,005
		LTS63 to LTS80	x	x	x	KLAD70	1	0,005
		LT80 to LT100	x	x	-	Y-KLAD3	1	0,01
		LT125 to LT160	x	x	-	XX-KLAD3	1	0,02
Terminal cover plate for 4. Pole								
	Mains	LTS63 to LTS80	x	x	x	KLAD70N	1	0,002
	Load circuit	LTS63 to LTS80	x	x	x	KLAD70N1	1	0,002
Terminal cover plate 4-pole								
		LTS20 to LTS40	-	x	x	KLAD40	1	0,005
		LT80 to LT100	x	x	-	Y-KLAD4	1	0,01
		LT125 to LT160	x	x	-	XX-KLAD4	1	0,02
Flat Terminal 6,3 x 0,8mm								
		LTS20 to LTS40	-	x	x	LG11073	10	0,001

Technical Datas

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

Type		LTS20	LTS25	LTS32	LTS40	LTS63	LTS80	LT80	LT100	LT125	LT160	
Main contacts												
Rated thermal current I_{th} open	A	20	25	32	40	63	80	80	100	125	160	
Rated thermal current I_{the} enclosed	A	20	25	32	40	63	80	80/70 ²⁾	100/80 ²⁾	125	160	
Rated insulation voltage U_i ¹⁾	V	690	690	690	690	690	690	690	690	1000 ³⁾	1000 ³⁾	
Rated operational current I_e AC21A	A	20	25	32	40	63	80	80	100	125	160	
Making capacity I_{eff} 3x380-440V	A	160	190	220	300	370	440	600	725	850	1050	
Breaking capacity 3x220-240V	A	160	180	200	250	330	380	560	700	800	900	
	A	160	180	200	250	330	380	560	650	750	850	
	A	80	110	140	170	190	220	200	280	340	340	
Disconnection property performed up to	V	690	690	690	690	690	690	690	690	1000 ³⁾	1000 ³⁾	
	Motor Switch AC3 3x400V	A	9	12	16	23	30	37	45	60	72	85
	Motor Switch AC3 3x220-240V	kW	3	4	5,5	7,5	11	11	15	18,5	22	30
Direct switching of single motors 3x380-440V	kW	5,5	7,5	11	15	18,5	18,5	22	30	37	45	
	kW	5,5	7,5	11	15	18,5	18,5	18,5	22	30	37	
Main Switch AC23 3x400V	A	12	16	23	30	45	45	60	72	85	110	
Motor Switch, AC23A, 3x220-240V	kW	4	5,5	7,5	9	15	15	18,5	22	30	30	
Main Switch, AC23B 3x380-440V	kW	7,5	10	12,5	16	22	22	30	37	45	55	
Safety Switch 3x660-690V	kW	7,5	10	12,5	16	22	22	22	30	37	37	
Rated conditional short-circuit current	kA _{eff}	10	10	10	10	10	10	25	25	30	30	
Max. fuse size gL (gG)	A	25	35	40	50	63	80	80	100	125	160	
Mechanical life	x10 ³	200	200	200	200	100	100	100	100	100	100	
Rated short-time withstand current (1sec. current)	A	250	300	400	500	600	850	1600	1850	2500	3000	
Maximum cable cross sections												
solid	mm ²	10	10	10	10	25	25	35	35	95	95	
	AWG	8	8	8	8	4	4	2	2	3/0	3/0	
flexible (+ multicore cable end)	mm ²	6	6	6	6	16	16	25	25	50	50	
	AWG	10	10	10	10	6	6	5	5	1/0	1/0	
Size of terminal screw		M3,5	M3,5	M3,5	M3,5	M5	M5	-	-	-	-	
Tightening torque	Nm	0,8-1,7	0,8-1,7	0,8-1,7	0,8-1,7	2-4	2-4	3	3	14	14	
	lb.inch	7-15	7-15	7-15	7-15	18-35	18-35	26	26	124	124	
Auxiliary contacts												
Rated insulation voltage U_i ¹⁾	V	690	690	690	690	690	690	690	690	690	690	
Rated thermal current I_{th} , I_{the}	A	10	10	10	10	10	10	16	16	16	16	
Switching capacity AC15 220-240V	A	2,5	2,5	2,5	2,5	2,5	2,5	6	6	6	6	
	A	1,5	1,5	1,5	1,5	1,5	1,5	3	3	4	4	
Switching capacity AC15 380-440V	A	1,5	1,5	1,5	1,5	1,5	1,5	3	3	4	4	
	A	1,5	1,5	1,5	1,5	1,5	1,5	3	3	4	4	
Rated conditional short-circuit current	kA _{eff}	3	3	3	3	3	3	3	3	3	3	
Max. short circuit protection gL (gG)	A	10	10	10	10	10	10	16	16	16	16	
Maximum cable cross sections												
solid	mm ²	2,5	2,5	2,5	2,5	2,5	2,5	4	4	4	4	
	AWG	12	12	12	12	12	12	12	12	12	12	
flexible (+ multicore cable end)	mm ²	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	
	AWG	14	14	14	14	14	14	14	14	14	14	

Data according to cULus

Type		LTS20	LTS25	LTS32	LTS40	LTS63	LTS80	LT80	LT100	LT125	LT160
Rated voltage	V	600	600	600	600	600	600	600	600	600	600
Ampere-Rating "General use"	A	20	25	32	40	63	80	80	100	150	200
DOL-Rating 3-phase	110-120V	HP	0,75	1	1,5	2	3	5	7,5	10	15
	220-240V	HP	1,5	2	3	5	7,5	10	20	25	30
	440-480V	HP	3	5	7,5	10	15	20	40	50	60
	550-600V	HP	5	7,5	10	15	20	25	50	50	60
DOL-Rating 1-phase	110-120V	HP	0,3	0,5	0,5	1	1,5	2	3	5	-
	200-208V	HP	0,5	0,75	1	2	2	3	-	-	-
	220-240V	HP	0,7	1	1,5	3	3	5	10	15	-
Fuse size (RK5) 5kA / 600V	Manual Motor Controller	A	40	50	50	70	90	110	200 ⁴⁾	250 ⁴⁾	350 ⁴⁾
	Motor Disconnect	A	40	50	50	50	70	70	200 ⁴⁾	250 ⁴⁾	350 ⁴⁾

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

2) the values after the slash are valid for switches 6-pole or more

3) Suitable for no load applications(AC20A) above 690V

4) Fuse RK1 / 10kA / 600V

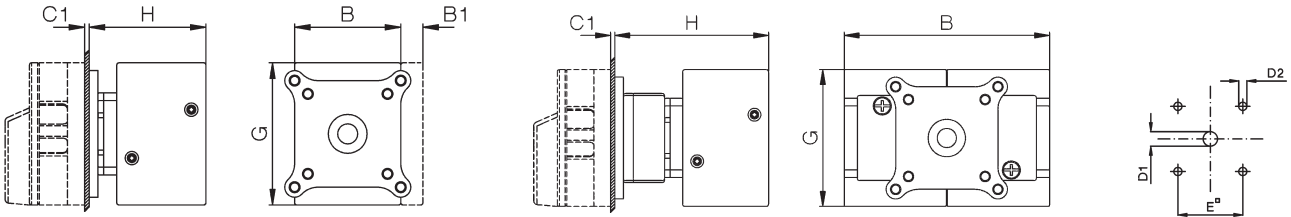
Dimensions (mm)

Main Switches, Switch Disconnectors LT(S)..

Panel mounting LT(S).. E(HN)..
On-OFF Switches 3-pole, 4-pole

On-OFF Switches 6-pole, 8-pole
Changeover Switches 3-pole, 4-pole

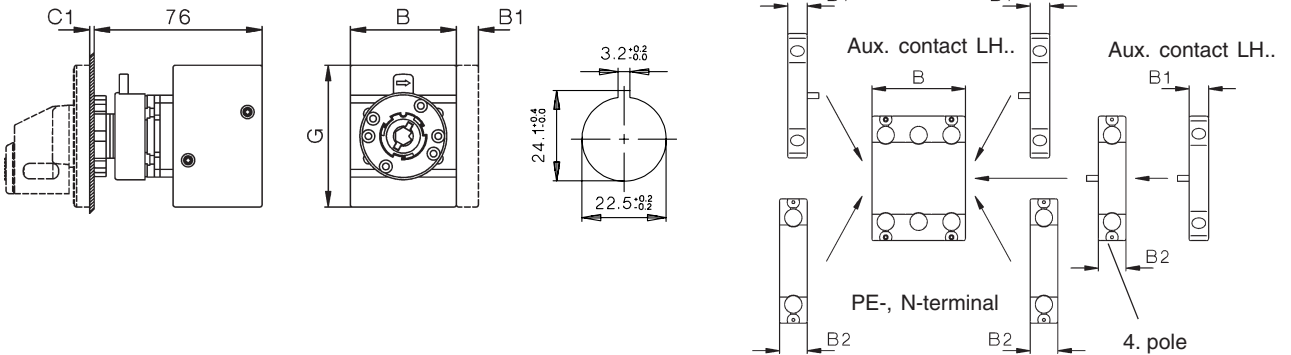
Mounting holes



Single hole mounting LTS.. Z(HN)..
On-OFF Switches 3-pole, 4-pole

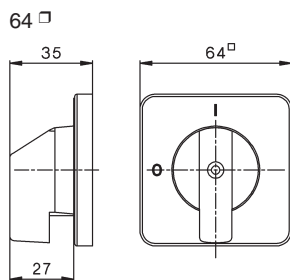
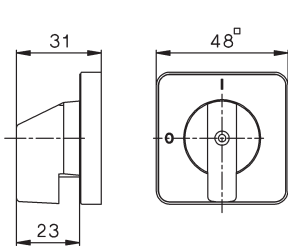
Mounting holes

Mounting of add-on modules
Panel mounting, Single hole mounting

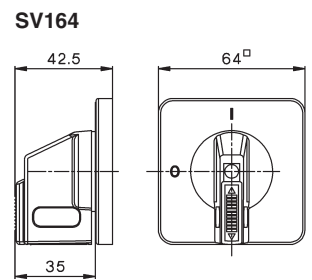
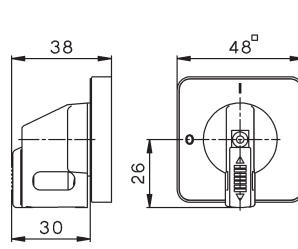


Type	Escutch. plate or padlock device	3-pole		4-pole		6-pole		8-pole		aux. contact B1	4 pole PE				G	3-pole 4-pole		6-pole 8-pole	
		A	B	B	B	B	B	B2	C1		D1	D2	E	F		H	H	H	
LTS..	48 □, SV1	48	48	62,5	-	-	-	10	14,5	1-5	10	5	36	-	64	54	-		
LTS..	64 □, SV4, SV164	64	48	62,5	97	126	-	10	14,5	1-5	10	5	48	-	64	54	74		
LT80..	64 □, SV34	64	70	92	140	-	-	11	-	1-4	10	5	48	40,2	80	71	82		
LT100..	64 □, SV34	64	70	92	140	-	-	11	-	1-4	10	5	48	40,2	80	71	82		
LT125/160	88 □, SV34	88	112	150	224	-	-	-	-	1-4	13	6	68	49,3	108	96	98		

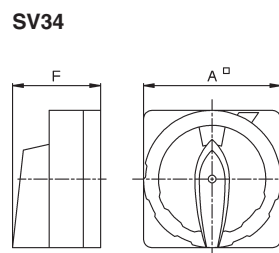
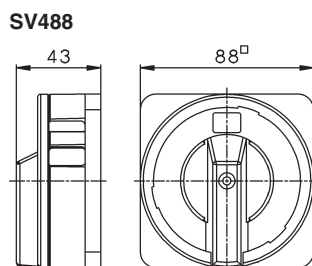
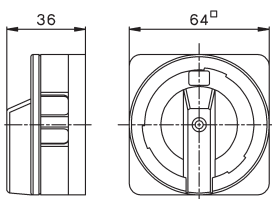
Escutcheon plate
48 □



Padlock devices
SV1



Padlock devices
SV4



Dimensions (mm)

Main Switches, Switch Disconnectors LT(S)..

Base mounting LTS.. VZV(HN)..

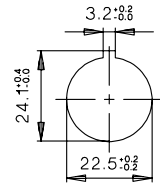
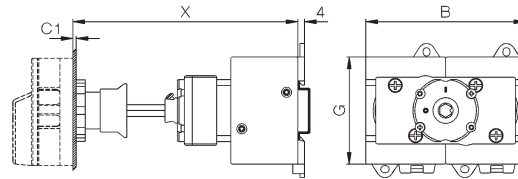
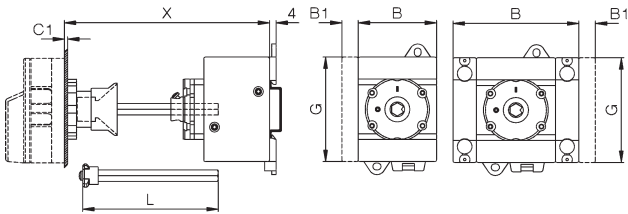
On-OFF Switches 3-pole, 4-pole

$$L = X - 40 \pm 3$$

6-pole
for LTS20 - 40 only
 $L = X - 40 \pm 3$

On-OFF Switches 6-pole, 8-pole
Changeover Switches 3-pole, 4-pole
 $L = X - 60 \pm 3$

Mounting holes



Base mounting LT(S).. V(HN)..

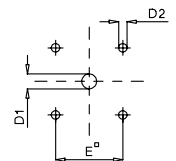
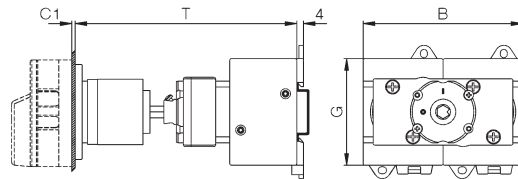
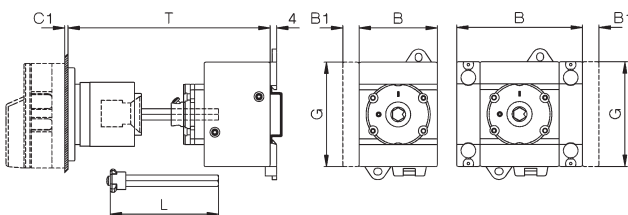
On-OFF Switches 3-pole, 4-pole

$$L = T - 60 \pm 3 \text{ for LTS20 - 80 only}$$

6-pole
for LTS20 - 40 only
 $L = X - 60 \pm 3$

On-OFF Switches 6-pole, 8-pole
Changeover Switches 3-pole, 4-pole
 $L = T - 80 \pm 3 \text{ for LTS20 - 80 only}$

Mounting holes



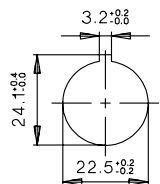
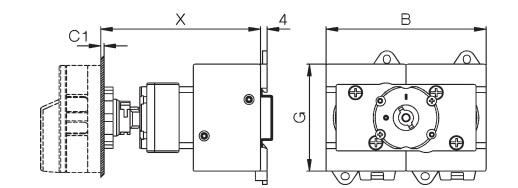
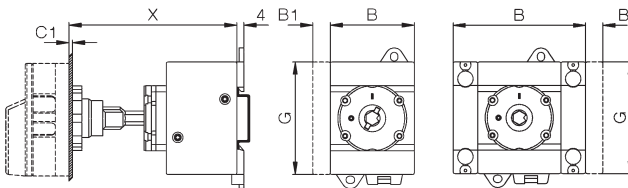
Base mounting LTS.. VZ(HN)..

On-OFF Switches 3-pole, 4-pole

6-pole
for LTS20 - 40 only

On-OFF Switches 6-pole, 8-pole
Changeover Switches 3-pole, 4-pole

Mounting holes



Type	Escutch. plate or padlock device	3-pole		4-pole		6-pole		8-pole		aux. contact B1	4.Pole PE B2	C1	D1	D2	D3	E	G	K	K1	J
		A	B	B	B	B	B													
LTS20 -40	64 □, SV4, SV164	64	48	48	77	97	10	14,5	1-5	10	5	M4	48	64	25	48	70			
LTS63, 80	64 □, SV4, SV164	64	48	62,5	97	126	10	14,5	1-5	10	5	M4	48	64	25	48	70			
LT80..	64 □, SV34	64	70	92	140	-	11	-	1-4	10/24 ¹⁾	5	M5	48	80	25	70	90			
LT100..	64 □, SV34	64	70	92	140	-	11	-	1-4	10/24 ¹⁾	5	M5	48	80	25	70	90			
LT125/160	88 □, SV34	88	112	150	224	-	-	-	1-4	13/27 ²⁾	6	M6	68	108	36	-	120			

Base mounting

On-OFF Switches LTS20 - LT100

3-pole, 4-pole

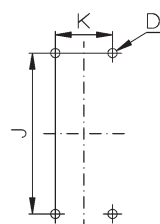
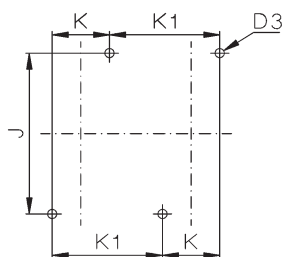
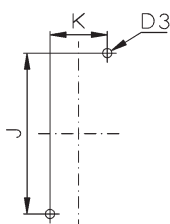
6-pole LTS20 -40

6-pole, 8-pole

Changeover Switches

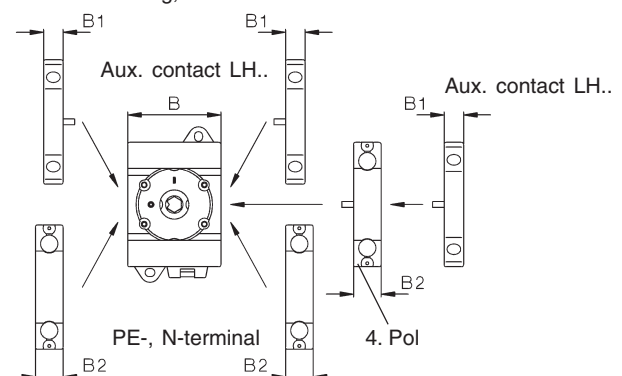
LT125, LT166

3-pole, 4-pole



Mounting of Accessories

Base mounting, for distribution boards



1) Ø 22-25 for LT80(100) VH(N)34 .. only

2) Ø 26-30 for LT125(160) VH(N)34 .. only

Dimensions (mm)

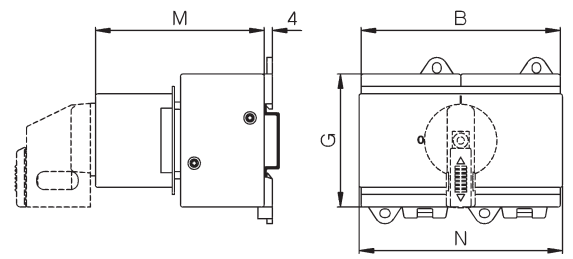
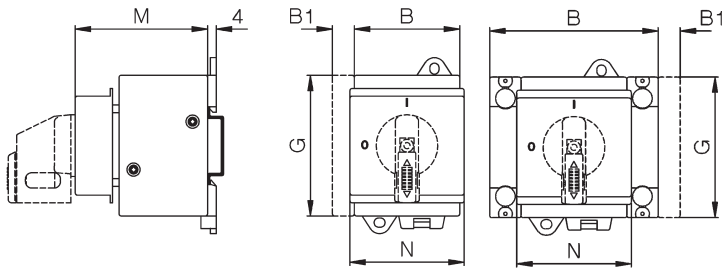
Hauptschalter, Lasttrennschalter LT(S)..

Switches for Distribution Boards LT(S).. SMA(HN)..

On-OFF Switches 3-pole, 4-pole

On-OFF Switches 6-pole
for LTS20 - 40 only

On-OFF Switches 6-pole, 8-pole
Changeover Switches 3-pole, 4-pole

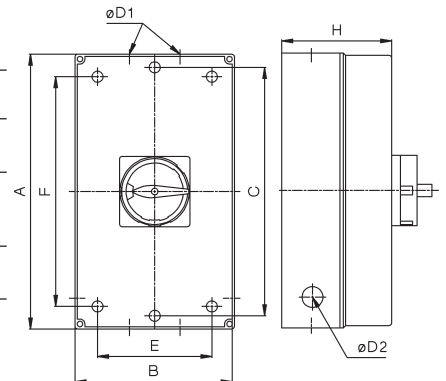


Type	padlock device	3-pole	4-pole	6-pole	8-pole	aux. contact	4.pole PE	G	3-pole	6-pole	8-pole	3-pole	6-pole	8-pole
		B	B	B	B	B1	B2		4-pole M	M	M	4-pole N	N	N
LTS20 - 40	SV1, SV164	48	48	77	96	10	14,5	64	60	60	74	52	52	97 ¹⁾
LTS63, 80	SV1, SV164	48	62,5	96	125	10	14,5	64	60	74	74	52	97 ¹⁾	126
LT80..	SV1	70	92	140	-	11	-	80	70	70	70	70	70	-
LT100..	SV1	70	92	140	-	11	-	80	70	70	70	70	70	-

1) inclusiv removable cover parts 126mm

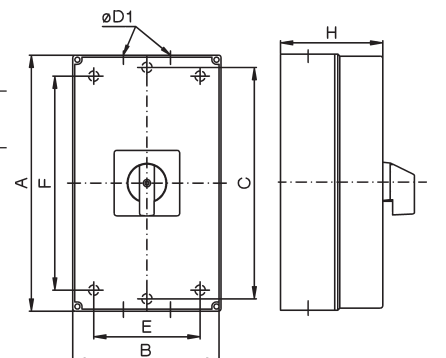
Maintenance and Safety Switches LT(S)..PF..

Type	Pole	A	B	D1	D2	E	F	H
LTS20 PFH.. A., LTS40 PFH.. A	3, 4	130	98	2x25,5/20,5	-	75	100	77
LTS63 PFH.. A., LTS80 PFH.. A.	3, 4	200	120	40,5/32,5 +16,5	-	95	165	86
LTS20 PFH.. A., LTS40 PFH.. A	6, 8	240	160	40,5/32,5	-	130	228	120
LTS63 PFH.. A., LTS80 PFH.. A.	6, 8	240	160	40,5/32,5	-	130	228	120
LT80 PFH.. A., LT100 PFH.. A.	3, 4	250	145	2x40,5	25,5	124	229	100
LT125 PFH.., LT160 PF..	3	300	200	2x50,5	25,5	172	272	172
LT125 PFH.., LT160 PF..	4	300	280	2x50,5	-	254	254	180



Switch Disconnectors in Plastic Enclosure LTS..PF..

Type	Pole	A	B	D1	E	F	H
LTS20 PF A., LTS40 PF A	3, 4	130	98	2x25,5/20,5	75	100	77
LTS63 PF A., LTS80 PF A.	3, 4	200	120	40,5/32,5 +16,5	95	165	86



Cam Switches

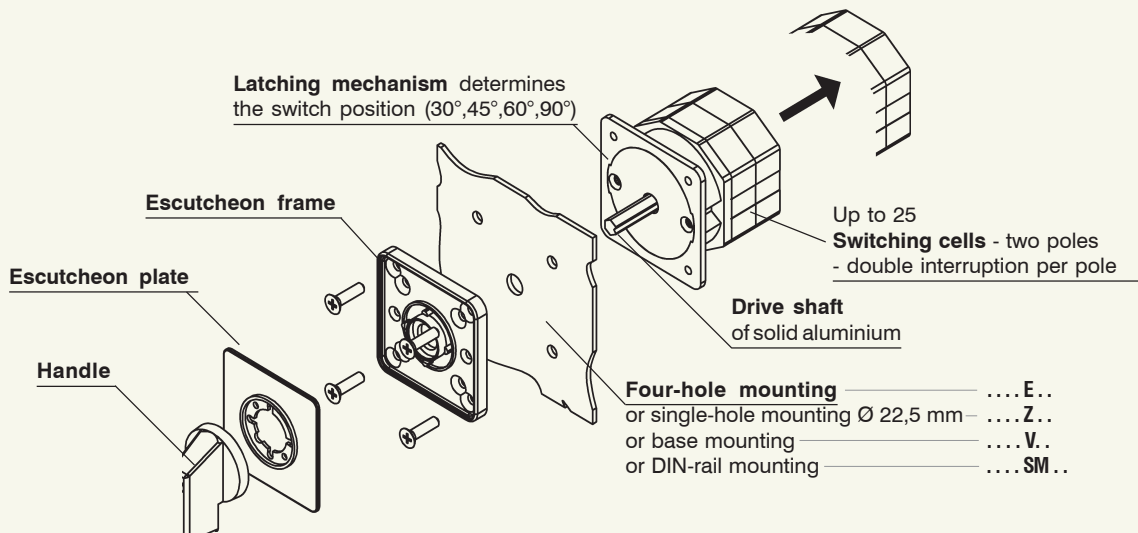
Typ	Ratings			Protection degree from front in mounted position				Designs			
	Rated current Therm. $I_{in\ open}$ A	AC21 A	atU_e V	Motor AC3 3~400V kW	AC23 3~400V A		Plate mm	Panel moun. M10H, M20 IP65 IP40	Single hole mount. $\varnothing 22,5$ mm with Plate IP65	without Plate IP65	Flush mount. IP40
M4H	10	10	440	2,2	6	3	30□	M4H E ●◆	M4H Z ●◆	M4H ZO ●◆	-
M10H	20	20	690	5,5	16	7,5	48□	M10H E ●◆	M10H Z ●◆	M10H ZO ●◆	-
M10	20	20	440	5,5	16	7,5	48□	-	-	-	M10 UP ●◆
M20	32	32	690	11	30	15	48□	M20 E ●◆	M20 Z ●◆	M20 ZO ●◆	-
N20	32	32	690	11	30	15	64□	N20 E ●◆	-	-	N20 UP ●◆
N33F	50	50	690	15	45	22	64□	N33F E ●◆	N33F Z ●◆	-	-
N32	40	40	690	11	30	15	64□	-	-	-	-
N40	63	63	690	15	45	22	88□	N40 E ●◆	-	-	-
N60	85	85	690	25	60	30	88□	N60 E ●◆	-	-	-
N80	115	115	690	30	85	45	88□	N80 E ●◆	-	-	-
L100	125	125	690	15	45	22	88□	L100 E ●◆	-	-	-
L160	180	180	690	25	60	30	88□	L160 E ●◆	-	-	-
N100	150	150	690	40	110	55	132□	N100 E ●◆	-	-	-
N200	250	250	690	70	140	70	132□	N200 E ●◆	-	-	-
L400	400	400	690	70	140	70	132□	L400 E ●◆	-	-	-
L600	600	400	690	70	140	70	132□	L600 E ●◆	-	-	-
L800	800	400	690	70	140	70	132□	L800 E ●◆	-	-	-
L1200	1200	400	690	70	140	70	132□	L1200 E ●◆	-	-	-









Cam Switches 10 - 250A

Cam switches can be used for virtually all purposes, e.g. as motor, main, control or instrument switches. Over and above the switching programs mentioned in the list, an effectively limitless number of special programs can be implemented.

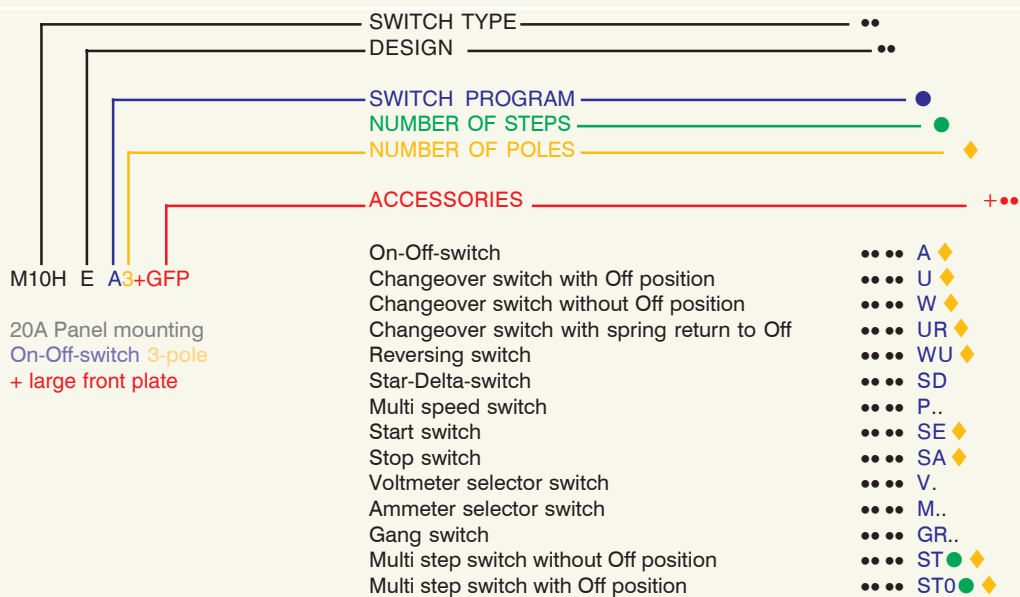
Load switch L.. 125 - 1200A

Load switches are primarily employed where resistive or slightly inductive current loads are to be switched on and off, or switching takes place without loading. Load switches are assembled by parallel switching of two or more of cam switch contacts. With customer built main terminal protection, load switch L.. can also be used as main switch.


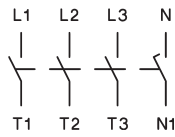


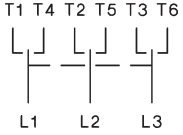

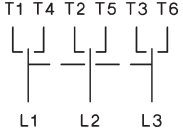

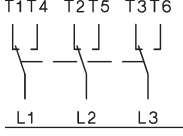

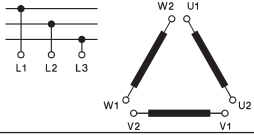

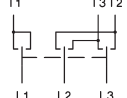


Designs Base mounting IP40	DIN-rail mounting IP40	for Distribution Boards IP40	Plastic enclosed ..P.. IP40 ..PF.. IP65	horizontal, IP65	Motor switch enclosed IP65	Terminal box mounting IP65	Cast enclosed ..G.. IP40 ..GF.. IP65
							
-	-	-	-	-	-	-	-
M10H V ♦♦	M10H SM ♦♦	M10H SMA ♦♦	-	-	M10H PM ♦♦	-	-
-	-	-	M10 P(F) ♦♦	-	-	M10 KE ♦♦	-
M20 V ♦♦	M20 SM ♦♦	M20 SMA ♦♦	-	-	-	-	-
N20 V ♦♦	N20 SM ♦♦	-	N20 P(F) ♦♦	-	N20 PM ♦♦	N20 KE ♦♦	N20 G(F) ♦♦
N33F V ♦♦	N33F SM ♦♦	-	N33F P(F) ♦♦	-	N33F PM ♦♦	N33F KE ♦♦	-
-	-	-	-	-	-	-	N32 G(F) ♦♦
N40 V ♦♦	-	-	N40 P(F) ♦♦	N40 PLF ♦♦	-	-	-
N60 V ♦♦	-	-	N60 P(F) ♦♦	N60 PLF ♦♦	-	-	-
N80 V ♦♦	-	-	N80 P(F) ♦♦	N80 PLF ♦♦	-	-	-
L100 V ♦♦	-	-	-	-	-	-	-
L160 V ♦♦	-	-	-	-	-	-	-
N100 V ♦♦	-	-	N100 P(F) ♦♦	-	-	-	-
N200 V ♦♦	-	-	N200 P(F) ♦♦	-	-	-	-
L400 V ♦♦	-	-	-	-	-	-	-
L600 V ♦♦	-	-	-	-	-	-	-
L800 V ♦♦	-	-	-	-	-	-	-
L1200 V ♦♦	-	-	-	-	-	-	-

Ordering



Cam Switches for Panel mounting IP65 (IP40)


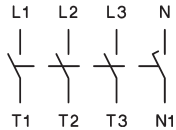

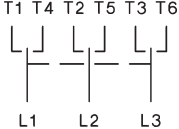

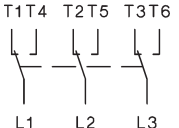

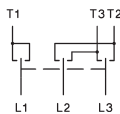



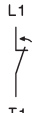

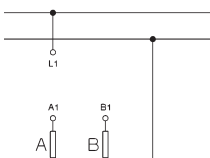
Wiring diagram		AC21 I_{th}	Motor 3x400V	Plate	Type	Order. No.	Pack pcs.	Weight kg/pcs.			
On-Off Switches											
	 <p>L1 L2 L3 N T1 T2 T3 N1</p>	1-pole	20A	-	48 □	M10H E A1	IN 005 120	1	0,07		
		1-pole	32A	-	48 □					M20 E A1	1
				2-pole	20A	-	48 □	M10H E A2	IN 005 220	1	0,08
				2-pole	32A	-	48 □				
				3-pole	20A	5,5kW	48 □	M10H E A3	IN 005 320	1	0,09
				3-pole	32A	11kW	48 □				
			3-pole	50A	15kW	64 □	N33F E A3 1)		1	0,18	
			1-pole	20A	-	48 □	M10H E A1+003S	IN 005 121	1	0,07	
			1-pole	32A	-	48 □					M20 E A1+003S
				2-pole	20A	-	48 □	M10H E A2+003S	IN 005 221	1	0,08
				2-pole	32A	-	48 □				
				3-pole	20A	5,5kW	48 □	M10H E A3+003S	IN 005 321	1	0,09
			3-pole	32A	11kW	48 □	M20 E A3+003S				
		3-pole	50A	15kW	64 □	N33F E A3+003S 1)		1	0,18		
Changeover Switches with 0											
	 <p>T1 T4 T2 T5 T3 T6 L1 L2 L3</p>	1-pole	20A	-	48 □	M10H E U1	IN 006 120	1	0,08		
		1-pole	32A	-	48 □					M20 E U1	1
				2-pole	20A	-	48 □	M10H E U2	IN 006 220	1	0,10
	2-pole			32A	-	48 □	M20 E U2				
			3-pole	20A	5,5kW	48 □	M10H E U3	IN 006 320	1	0,12	
			3-pole	32A	11kW	48 □					M20 E U3
		3-pole	50A	15kW	64 □	N33F E U3 1)		1	0,23		
	 <p>T1 T4 T2 T5 T3 T6 L1 L2 L3</p>	1-pole	20A	-	48 □	M10H E U1+088S	IN 006 121	1	0,08		
		1-pole	32A	-	48 □					M20 E U1+088S	1
				2-pole	20A	-	48 □	M10H E U2+088S	IN 006 221	1	0,10
	2-pole			32A	-	48 □	M20 E U2+088S				
			3-pole	20A	5,5kW	48 □	M10H E U3+088S	IN 006 321	1	0,12	
			3-pole	32A	11kW	48 □					M20 E U3+088S
		3-pole	50A	15kW	64 □	N33F E U3+088S 1)		1	0,23		
Changeover Switches without 0											
	 <p>T1 T4 T2 T5 T3 T6 L1 L2 L3</p>	1-pole	20A	-	48 □	M10H E W1	IN 007 122	1	0,08		
		1-pole	32A	-	48 □					M20 E W1	1
				2-pole	20A	-	48 □	M10H E W2	IN 007 222	1	0,10
	2-pole			32A	-	48 □	M20 E W2				
			3-pole	20A	5,5kW	48 □	M10H E W3+082S	IN 007 121	1	0,08	
			3-pole	32A	11kW	48 □					M20 E W3+082S
		2-pole	20A	-	48 □	M10H E W2+082S	IN 007 221	1	0,10		
		2-pole	32A	-	48 □					M20 E W2+082S	1
Star Delta Switches											
	 <p>L1 L2 L3 W1 W2 U1 V1 V2 U2</p>	32A	15kW	64 □	N20 E SD	IN 108 900	1	0,24			
Reversing Switches with 0											
	 <p>T1 T3 T2 L1 L2 L3</p>	3-pole	20A	5,5kW	48 □	M10H E WU3		1	0,12		

1) IP40

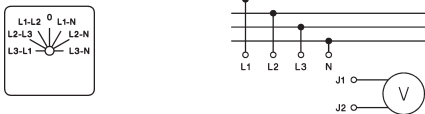
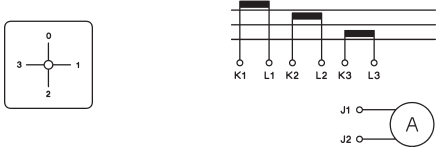



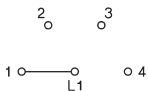

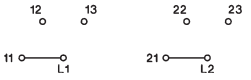

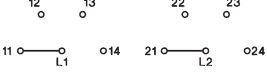



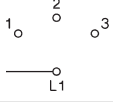

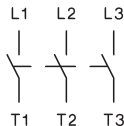
Cam Switches for Panel mounting IP65 (IP40)

Wiring diagram		AC21 I_{th}	Motor 3x400V	Plate	Type	Order. No.	Pack pcs.	Weight kg/pcs.	
Changeover Switches with spring return to 0									
		20A 32A	-	48 □ 48 □	M10H E UR1 M20 E UR1	IN 004 120	1 1	0,08 0,10	
Start Stop Switches									
		Start 1-pole	20A	-	48 □	M10H E SE	IN 008 120	1	0,07
		Stop 1-pole	20A	-	48 □	M10H E SA		1	0,07
Gang Switches 1-pole, 2 circuits									
		20A 32A	-	48 □ 48 □	M10H E GR11 M20 E GR11		1 1	0,08 0,10	
Voltmeter Selector Switches 3 line + 3 phase voltages									
		20A	-	48 □	M10H E V1+503	IN 009 V00	1	0,15	
Ammeter Selector Switches									
		1-pole	20A	-	48 □	M10H E M31+504	IN 009 A00	1	0,15
Multi Step Switches 1-pole without 0									
		3 steps 3 steps	20A 32A	-	48 □ 48 □	M10H E ST31 M20 E ST31	IN 003 121	1 1	0,09 0,12
		4 steps 4 steps	20A 32A	-	48 □ 48 □	M10H E ST41 M20 E ST41	IN 003 122	1 1	0,10 0,14
Multi Step Switches 2-pole without 0									
		3 steps 3 steps	20A 32A	-	48 □ 48 □	M10H E ST32 M20 E ST32	IN 003 123	1 1	0,12 0,16
		4 steps 4 steps	20A 32A	-	48 □ 48 □	M10H E ST42 M20 E ST42	IN 003 124	1 1	0,14 0,20
Multi Step Switches 1-pole with 0									
		2 steps 2 steps	20A 32A	-	48 □ 48 □	M10H E ST021 M20 E ST021		1 1	0,09 0,12
		3 steps 3 steps	20A 32A	-	48 □ 48 □	M10H E ST031 M20 E ST031		1 1	0,10 0,14


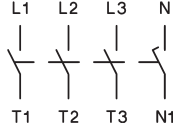

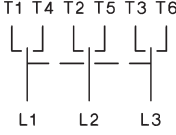




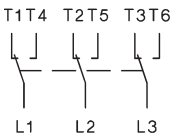

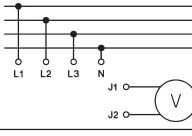

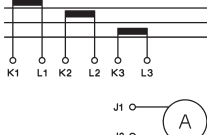
Cam Switches for single-hole mounting IP65 (IP40) Ø22mm IP65

Wiring diagram		AC21 I_{th}	Motor 3x400V	Plate	Type	Order. No.	Pack pcs.	Weight kg/pcs.	
On-Off Switches									
		1-pole	20A	-	48 □	M10H Z A1	IN 025 120	1	0,08
		1-pole	32A	-	48 □	M20 Z A1	IN 125 125	1	0,09
		2-pole	20A	-	48 □	M10H Z A2	IN 025 220	1	0,09
		2-pole	32A	-	48 □	M20 Z A2	IN 125 225	1	0,11
		3-pole	20A	5,5kW	48 □	M10H Z A3	IN 025 320	1	0,11
		3-pole	32A	11kW	48 □	M20 Z A3	IN 125 325	1	0,13
		4-pole	20A	5,5kW	48 □	M10H Z A4		1	0,12
		4-pole	32A	11kW	48 □	M20 Z A4		1	0,15
Changeover Switches with 0									
		1-pole	20A	-	48 □	M10H Z U1	IN 026 120	1	0,09
		1-pole	32A	-	48 □	M20 Z U1		1	0,11
		2-pole	20A	-	48 □	M10H Z U2	IN 026 220	1	0,11
		2-pole	32A	-	48 □	M20 Z U2		1	0,15
		3-pole	20A	5,5kW	48 □	M10H Z U3	IN 026 320	1	0,13
		3-pole	32A	11kW	48 □	M20 Z U3		1	0,17
Changeover Switches without 0									
		1-pole	20A	-	48 □	M10H Z W1	IN 027 120	1	0,09
		1-pole	32A	-	48 □	M20 Z W1		1	0,11
		2-pole	20A	-	48 □	M10H Z W2	IN 027 220	1	0,11
		2-pole	32A	-	48 □	M20 Z W2		1	0,15
		3-pole	20A	5,5kW	48 □	M10H Z W3	IN 027 320	1	0,13
		3-pole	32A	11kW	48 □	M20 Z W3		1	0,17
Reversing Switches with 0									
		3-pole	20A	5,5kW	48 □	M10H Z WU3		1	0,13
Start Stop Switches									
		Start 1-pole	20A	-	48 □	M10H Z SE	IN 02C 102	1	0,08
		Stop 1-pole	20A	-	48 □	M10H Z SA		1	0,08
Gang Switches 1-pole, 2 circuits									
			20A 32A	-	48 □ 48 □	M10H Z GR11 M20 Z GR11	IN 020 901	1 1	0,09 0,11

Cam Switches for single-hole mounting IP65 (IP40) Ø22mm IP65

Wiring diagram	AC21 I_{th}	Motor 3x400V	Plate	Type	Order. No.	Pack pcs.	Weight kg/pcs.
Voltmeter Selector Switches 3 line + 3 phase voltages							
	20A	-	48 □	M10H Z V1	IN 009 V02	1	0,14
Ammeter Selector Switches							
	1-pole	20A	48 □	M10H Z M31		1	0,14
Multi Step Switches 1-pole without 0							
	3 steps	20A	48 □	M10H Z ST31	IN 023 901	1	0,10
	3 steps	32A	48 □	M20 Z ST31		1	0,13
	4 steps	20A	48 □	M10H Z ST41	IN 023 902	1	0,11
	4 steps	32A	48 □	M20 Z ST41		1	0,15
Multi Step Switches 2-pole without 0							
	3 steps	20A	48 □	M10H Z ST32		1	0,13
	3 steps	32A	48 □	M20 Z ST32		1	0,17
	4 steps	20A	48 □	M10H Z ST42		1	0,15
	4 steps	32A	48 □	M20 Z ST42		1	0,21
Multi Step Switches 1-pole with 0							
	2 steps	20A	48 □	M10H Z ST021		1	0,10
	2 steps	32A	48 □	M20 Z ST021		1	0,13
	3 steps	20A	48 □	M10H Z ST031	IN 023 903	1	0,11
	3 steps	32A	48 □	M20 Z ST031		1	0,15
Key Operated On-Off Switches Loxk Ronis R455							
	1-pole	20A	48 □	M10H Z A1+SA	IN 025 122	1	0,11
	1-pole	32A	48 □	M20 Z A1+SA		1	0,12
	2-pole	20A	5,5kW	48 □	M10H Z A2+SA		0,12
	2-pole	32A	11kW	48 □	M20 Z A2+SA		0,14

Switches for Distribution Boards IP40

Wiring diagram		AC21 I_{th}	Motor 3x400V	Plate	Type	Order. No.	Pack pcs.	Weight kg/pcs.	
On-Off Switches									
		1-pole	20A	-	52x45	M10H SMA A1	IN 085 120	1	0,10
		1-pole	32A	-	52x45	M20 SMA A1		1	0,11
		2-pole	20A	-	52x45	M10H SMA A2	IN 085 220	1	0,11
		2-pole	32A	-	52x45	M20 SMA A2		1	0,13
		3-pole	20A	5,5kW	52x45	M10H SMA A3	IN 085 320	1	0,12
		3-pole	32A	11kW	52x45	M20 SMA A3		1	0,14
		4-pole	20A	5,5kW	52x45	M10H SMA A4		1	0,13
		4-pole	32A	11kW	52x45	M20 SMA A4		1	0,15
Changeover Switches with 0									
		1-pole	20A	-	52x45	M10H SMA U1	IN 086 120	1	0,11
		1-pole	32A	-	52x45	M20 SMA U1		1	0,13
		2-pole	20A	-	52x45	M10H SMA U2	IN 086 220	1	0,13
		2-pole	32A	-	52x45	M20 SMA U2		1	0,15
		3-pole	20A	-	52x45	M10H SMA U3	IN 086 320	1	0,15
		<hr/>							
		1-pole	20A	-	52x45	M10H SMA U1+009S	IN 086 121	1	0,11
		1-pole	32A	-	52x45	M20 SMA U1+009S		1	0,13
		<hr/>							
		1-pole	20A	-	52x45	M10H SMA U1+081S	IN 086 122	1	0,11
		1-pole	32A	-	52x45	M20 SMA U1+081S		1	0,13
		1-pole	20A	-	52x45	M10H SMA U1+143S	IN 086 123	1	0,11
		1-pole	32A	-	52x45	M20 SMA U1+143S		1	0,13
<hr/>									
Changeover Switches without 0									
		1-pole	20A	-	52x45	M10H SMA W1	IN 087 120	1	0,11
		1-pole	32A	-	52x45	M20 SMA W1		1	0,13
		2-pole	20A	-	52x45	M10H SMA W2	IN 087 220	1	0,13
		2-pole	32A	-	52x45	M20 SMA W2		1	0,15
		3-pole	20A	-	52x45	M10H SMA W3	IN 087 320	1	0,15
		<hr/>							
Voltmeter Selector Switches 3 line + 3 phase voltages									
			20A	-	52x45	M10H SMA V1	IN 009 V01	1	0,15
<hr/>									
Ammeter Selector Switches									
			20A	-	52x45	M10H SMA M31	IN 009 A01	1	0,15

Switches for Distribution Boards IP40

Wiring diagram		AC21 I_{th}	Motor 3x400V	Plate	Type	Order. No.	Pack pcs.	Weight kg/pcs.	
Multi Step Switches 1-pole without 0									
		3 steps	20A	-	52x45	M10H SMA ST31	IN 083 120	1	0,12
		3 steps	32A	-	52x45	M20 SMA ST31		1	0,14
		4 steps	20A	-	52x45	M10H SMA ST41	IN 083 220	1	0,13
		4 steps	32A	-	52x45	M20 SMA ST41		1	0,15
Multi Step Switches 2-pole without 0									
		3 steps	20A	-	52x45	M10H SMA ST32	IN 083 121	1	0,15
		4 steps	20A	-	52x45	M10H SMA ST42	IN 083 221	1	0,17
Multi Step Switches 1-pole with 0									
		2 steps	20A	-	52x45	M10H SMA ST021	IN 083 122	1	0,11
		2 steps	32A	-	52x45	M20 SMA ST021		1	0,13
		3 steps	20A	-	52x45	M10H SMA ST031		1	0,12
		3 steps	32A	-	52x45	M20 SMA ST031		1	0,14
Ein-Aus-Schlüsselschalter Lock Willenhal FT101									
		1-pole	20A	-	52x45	M10H SMA A1+SA		1	0,15
		1-pole	32A	-	52x45	M20 SMA A1+SA		1	0,16
		2-pole	20A	-	52x45	M10H SMA A2+SA		1	0,16
		2-pole	32A	-	52x45	M20 SMA A2+SA		1	0,18
		3-pole	20A	5,5kW	52x45	M10H SMA A3+SA		1	0,17
		3-pole	32A	11kW	52x45	M20 SMA A3+SA		1	0,19


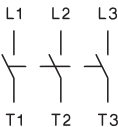

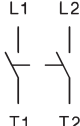

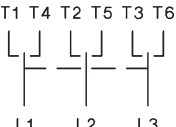

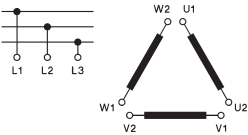

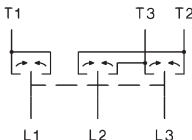

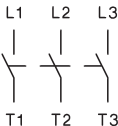

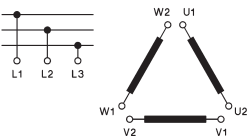
Spare Parts

Description	Type	Order. No.	Pack pcs.	Weight kg/pcs.
Toggle knob black for switches M10, M10H, M20	A1535	IN 160 01	1	0,006
Toggle knob blue for switches M10, M10H, M20	A1549	IN 160 00	1	0,006


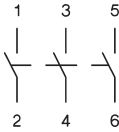

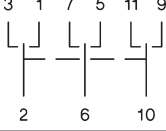

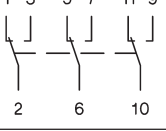





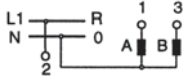

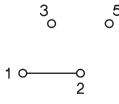

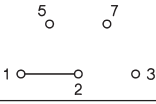



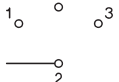
Escutcheon Plates

+003S	+009S	+081S	+082S	+088S	+143S	+90446S

Enclosed Cam Switches IP40

Wiring diagram		AC21 I_{th}	Motor 3x400V	Plate	Type	Order. No.	Pack pcs.	Weight kg/pcs.		
On-Off Switches, plastic enclosed										
	 L1 L2 L3 T1 T2 T3	1-pole	20A	-	48 □	M10 P A1+K6	IN 035 120	1	0,11	
		1-pole	32A	-	64 □	N20 P A1+K6		1	0,19	
			2-pole	20A	-	48 □	M10 P A2+K6	IN 035 220	1	0,12
			2-pole	32A	-	64 □	N20 P A2+K6		1	0,21
			3-pole	20A	5,5kW	48 □	M10 P A3+K6	IN 035 320	1	0,14
			3-pole	32A	11kW	64 □	N20 P A3+K6	IN 135 325	1	0,23
Heizungsnotschalter 2-pole										
	 L1 L2 T1 T2	2-pole	20A	-	48 □	M10 P A2+90446S	IN 032 009	1	0,12	
Changeover Switches with 0, plastic enclosed										
	 T1 T4 T2 T5 T3 T6 L1 L2 L3	1-pole	20A	-	48 □	M10 P U1	IN 036 120	1	0,12	
		1-pole	32A	-	64 □	N20 P U1		1	0,21	
			2-pole	20A	-	48 □	M10 P U2	IN 036 220	1	0,15
			2-pole	32A	-	64 □	N20 P U2		1	0,25
			3-pole	20A	5,5kW	48 □	M10 P U3	IN 036 320	1	0,17
			3-pole	32A	11kW	64 □	N20 P U3		1	0,29
Star Delta Switches, plastic enclosed										
	 L1 L2 L3 W1 W2 U1 U2 V1 V2	32A	15kW	64 □	N20 P SD	IN 138 325	1	0,40		
Reversing Switches with spring return to 0, plastic enclosed										
	 T1 T3 T2 L1 L2 L3	3-pole	20A	5,5kW	48 □	M10 P WU3R2+K6		1	0,17	
Key Operated On-Off Switches Lock Willenhal FT101										
	 L1 L2 L3 T1 T2 T3	1-pole	20A	-	48 □	M10 P A1+SA		1	0,16	
		1-pole	32A	-	64 □	N20 P A1+SA		1	0,24	
			2-pole	20A	-	48 □	M10 P A2+SA		1	0,17
			2-pole	32A	-	64 □	N20 P A2+SA		1	0,26
			3-pole	20A	5,5kW	48 □	M10 P A3+SA		1	0,19
			3-pole	32A	11kW	64 □	N20 P A3+SA		1	0,28
Star Delta Switches, cast enclosed										
	 L1 L2 L3 W1 W2 U1 U2 V1 V2	32A	15kW	64 □	N20 G SD	IN 978 325	1	0,64		

Mini-Cam Switches for single-hole mounting Ø16mm and Ø22mm IP65

Wiring diagram		AC21 I_{th}	Motor 3x400V	Plate	Type	Order. No.	Pack pcs.	Weight kg/pcs.	
On-Off Switches									
		1-pole	10A	-	30 □	M4H Z A1	IN 625 110	1	0,04
		2-pole	10A	-	30 □	M4H Z A2	IN 625 210	1	0,04
		3-pole	10A	-	30 □	M4H Z A3	IN 625 310	1	0,05
Changeover Switches with 0									
		1-pole	10A	-	30 □	M4H Z U1	IN 626 110	1	0,04
		2-pole	10A	-	30 □	M4H Z U2	IN 626 210	1	0,05
		3-pole	10A	-	30 □	M4H Z U3	IN 626 310	1	0,06
Changeover Switches without 0									
		1-pole	10A	-	30 □	M4H Z W1	IN 627 110	1	0,04
		2-pole	10A	-	30 □	M4H Z W2	IN 627 210	1	0,05
		3-pole	10A	-	30 □	M4H Z W3	IN 627 310	1	0,06
Start Stop Switches									
		Start 1-pole	10A	-	30 □	M4H Z SE		1	0,04
		Stop 1-pole	10A	-	30 □	M4H Z SA		1	0,04
Gang Switches 1-pole, 2 circuits									
			10A	-	30 □	M4H Z GR11	IN 620 901	1	0,04
Multi Step Switches 1-pole without 0									
		3 steps	10A	-	30 □	M4H Z ST31	IN 623 901	1	0,05
		4 steps	10A	-	30 □	M4H Z ST41		1	0,05
Multi Step Switches 1-pole with 0									
		2 steps	10A	-	30 □	M4H Z ST021	IN 623 902	1	0,05
		3 steps	10A	-	30 □	M4H Z ST031	IN 623 903	1	0,05

Cam Switches

Technical Datas

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

Type	M10 P	M10H	M20	N20	N32 G	N33F	N40	N60	N80	N100	N200
Rated therm. current I_{th} open A	20	20	32	32	40	50	63	85	115	150	250
Rated therm. current I_{the} encl. A	20	20	32	32	40	50	63	85	115	150	250
Rated operational voltage U_e V	440	690 ¹⁾	690 ¹⁾	690 ¹⁾	690 ¹⁾	690 ¹⁾	690 ¹⁾	690 ¹⁾	690 ¹⁾	690 ¹⁾	690 ¹⁾
Disconnection property ²⁾ acc. to VDE, IEC up to V	440	440	440	440	440	440	690	440	440	690	690
Breaking capacity I_{eff}											
3 x 220-440V A	160	160	220	220	260	260	380	520	740	900	1100
3 x 500V A	-	100	160	160	200	200	290	380	560	680	850
3 x 660-690V A	-	80	120	120	150	150	200	290	520	450	-
Utilization categ. AC21A, AC21B Switching of resistive loads including moderate overloads											
Rated operational current I_e A	20	20	32	32	40	50	63	85	115	150	250
Utilization categ. AC23A, AC23B Switching of motor loads or other highly inductive loads											
Rated current I_e 400V A	16	16	30	30	30	45	45	60	85	105	135
Power rating 220-240V kW	4	4	7,5	7,5	7,5	11	15	22	30	40	40
3-phase 3-pole 380-440V kW	7,5	7,5	15	15	15	22	22	30	45	55	70
500V kW	-	7,5	15	15	15	22	22	30	45	55	70
660-690V kW	-	7,5	15	15	15	22	18,5	30	45	45	-
Star-Delta-Switches for squirrel cage motors											
Power rating 220-240V kW	3,7	3,7	7,5	7,5	7,5	8	11	15	18,5	22	40
3-phase 3-pole 380-415V kW	7,5	7,5	15	15	15	18,5	18,5	25	30	40	70
Utilization category AC3 Switching of three-phase motors											
Rated current I_e 400V A	12	12	22	22	22	30	30	50	60	80	135
Power rating 220-240V kW	3	3	5,5	5,5	5,5	7,5	7,5	15	18,5	22	40
3-phase 3-pole 380-440V kW	5,5	5,5	11	11	11	15	15	25	30	40	70
500V kW	-	5,5	11	11	13	15	15	25	30	40	70
660-690V kW	-	5,5	11	11	13	15	15	25	30	40	-
Utilization category AC4 squirrel cage motors, inching											
Power rating 220-240V kW	0,55	0,55	2,2	2,2	3	3,7	4	5,5	6	11	18,5
3-phase 3-pole 380-440V kW	1,5	1,5	4	4	5,5	5,5	7,5	11	15	18,5	35
500V kW	-	1,5	4	4	5,5	5,5	7,5	11	15	22	35
660-690V kW	-	1,5	4	4	5,5	5,5	7,5	11	15	22	-
Utilization category AC15 Control of electromagnetic loads, contactors,											
Rated current I_e up to 240V A	6	6	12	12	16	16	-	-	-	-	-
380 -440V A	4	4	6	6	7	7	-	-	-	-	-
2-pole in series 500V A	-	5	8	8	10	10	-	-	-	-	-
Utilization categ. DC21A, DC21B Switching of resistive loads											
Time constant $L/R \leq 1ms$											
Rated current I_e 1-pole 30V A	20	20	32	32	40	40	63	80	100	150	250
60V A	4	4	6	6	20	20	30	30	30	-	-
110V A	0,6	0,6	3	3	4	4	6	6	6	-	-
220V A	0,3	0,3	0,8	0,8	0,8	0,8	1,3	1,3	1,3	2,5	2,5
440V A	-	-	0,4	0,4	0,4	0,4	0,6	0,6	0,6	0,7	0,7
Utilization category DC3 - DC5 Switching of shunt motors and series motors											
Time constant $L/R \leq 15ms$											
Rated current I_e 1-pole 30V A	8	8	13	13	16	16	25	32	40	60	100
60V A	1	1	2,4	2,4	4	4	12	12	12	-	-
110V A	0,3	0,3	0,5	0,5	1,6	1,6	2,4	2,4	2,4	-	-
Protection class of terminals	IP00	IP20	IP00	IP00	-	IP20	IP00	IP00	IP00	IP00	IP00

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

2) valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3.

Technical Datas

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

Type		M10 P	M10H	M20	N20	N32 G	N33F	N40	N60	N80	N100	N200
Cable cross-sections												
solid	mm ²	1-2,5	1-2,5 ¹⁾	1,5-6	1,5-6	2,5-10	2,5-10	2,5-16 ¹⁾	6-25 ¹⁾	6-35	10-50 ¹⁾	50-150
flexible	mm ²	0,75-2,5	0,75-2,5 ¹⁾	1-4	1-4	1,5- 6	1,5- 6	2,5-10 ¹⁾	6-25 ¹⁾	6-35	10-35 ¹⁾	35-120
flexible w. multicore cable end	mm ²	0,75-2,5	0,75-1,5	1-4	1-4	1,5- 6	1,5- 6	2,5-6	6-16	6-35	10-25	-
Conductors to clamp per pole		2	2	2	2	2	2	2	1	1	1	1
Size of terminal screw		M3	M3,5	M4	M4	M4	M4	M5	2xM5	2xM5	2xM6	M10
Tightening torque	Nm	0,6-1,2	0,8-1,4	1,2-1,8	1,2-1,8	1,2-1,8	1,2-1,8	2,5-3	2,5-3	2,5-3	3,5-4,5	10
	lb.inch	5-11	7-12	11-16	11-16	11-16	11-16	22-26	22-26	22-26	31-40	88
Short circuit protection												
Max. fuse size	gL (gG) A	20	20	35	35	50	50	63	100	125	160	250
Rated short-time withstand current (1sec. current)	A	250	250	400	400	500	500	800	1000	1400	1800	3000
Rated conditional short-circuit current	kA _{eff}	10	10	10	10	10	10	10	10	10	10	10
Short-time capacity												
Load duration	3s A	100	100	200	200	350	350	400	600	720	1000	2000
	10s A	60	60	130	130	230	230	250	400	480	600	1200
Note: Ratings applies to contacts already closed	30s A	35	35	85	85	110	110	160	250	300	500	600
	60s A	25	25	65	65	80	80	110	200	250	370	480
Power loss at AC21A												
per pole	A	20	20	32	32	40	50	63	85	115	150	250
	W	0,6	0,5	0,9	1,1	1,5	1,9	2	2,8	4,4	5,7	21
Switching of capacitive loads												
maximum making capacity up to 500V	A	140	140	300	300	350	350	400	600	700	900	1800

Data according to cULus

Type		M10 P	M10H	M20	N20	N33F	N80	N100	N200	L400
Rated voltage	V~	300	600	600	600	600	600	600	600	600
Rated operational current	"General Use" A	20	20	35	35	60	115	130	250	350
	with jumper A	15	-	25	25	40	80	-	-	-
DOL-Rating 3-phase	110-120V hp	1½	1½	5	5	7½	10	15	15	15
	200-208V hp	2	2	5	5	10	15	25	25	25
	220-240V hp	3	3	5	5	15	20	30	30	30
	440-480V hp	-	5	10	10	25	40	40	60	60
	550-600V hp	-	7½	15	15	30	50	50	75	75
DOL-Rating 1-phase	110-120V hp	½	½	1½	1½	3	5	7½	7½	7½
	200-208V hp	1	1	3	3	5	7½	15	15	15
	220-240V hp	1½	1½	5	5	7½	10	15	20	20
Fuse size (RK5) 5kA / 600V	Manual Motor Controller and Motor Disconnect A	40 ²⁾	40	80	80	150	200	300	350	350
Heavy pilot duty	AC	A300	A600	A600	A600	A600	-	-	-	-
Cable cross sections										
solid	AWG	12 - 20	12 - 20	10 - 18	10 - 18	10 - 12	10 - 12	10 - 14	-	-
flexible	AWG	14 - 20	14 - 20	8 - 18	8 - 18	6 - 12	2 - 12	1 - 14	250kcmil	500kcmil
Tightening torque	Nm	1.7	1-1.7	1.7-2.8	1.7-2.8	2.3-2.8	2.8	4.5	-	-
	lb.inch	15	9-15	15-25	15-25	20-25	25	40	-	-

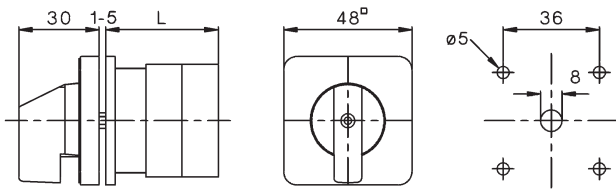
1) Maximum cable cross-section with prepared conductor

2) 5kA / 300V

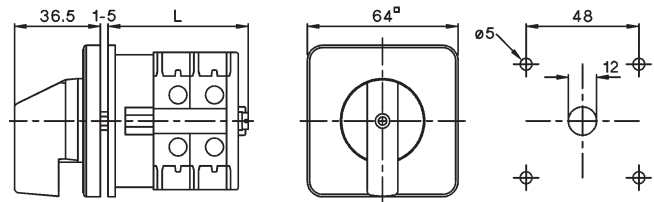
Cam Switches

Dimensions (mm)

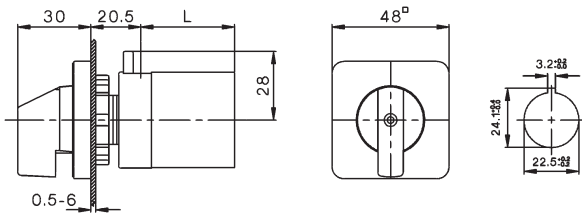
Cam Switches for Panel Mounting M10H E.. ; M20 E ..



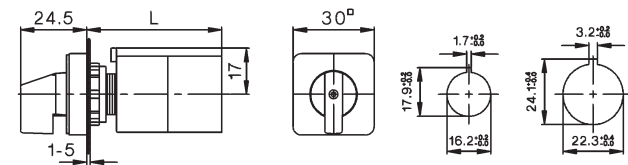
N20 E.., N33F E ..



Cam Switches for Single-Hole Mounting M10H Z.., M20 Z..



M4H Z..



Dimension L at switch programs

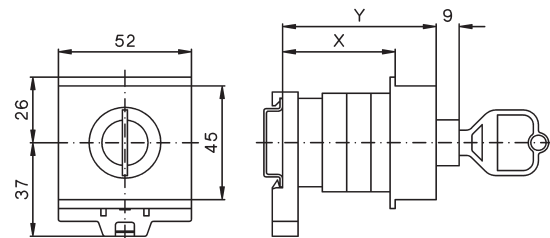
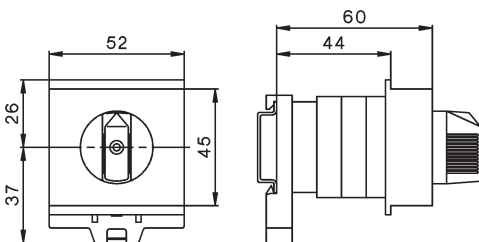
switch programs	A1, A2, U1, W1, UR1, SE, SA, GR11, ST021 1 cell	A3, A4, U2, W2, ST31, ST41, ST031 2 cells	U3, W3, WU3, V1, M31, ST32 3 cells	SD, ST42 4 cells
M4H	51	62,5	74,5	86,5
M10H	36,5	46	55,5	65
M20	38,5	51	63,5	76
N20	40,5	53	65,5	78
N33F	44	59,5	75	90,5

Switches for Distribution Boards

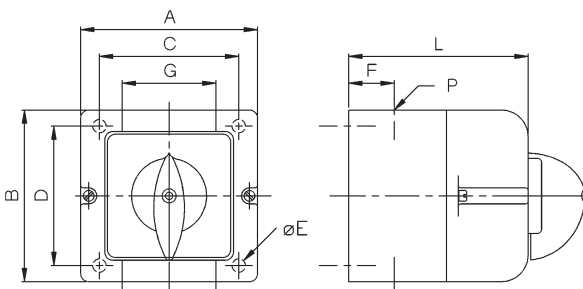
M10H SMA.. 1-3 cells
M20 SMA.. 1,2 cells

Key Operated Switches for Distribution Boards

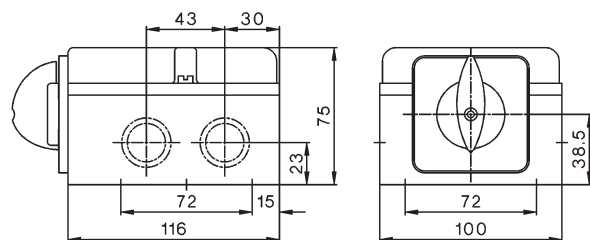
Type	Dimension X at ... cells				Dimension Y at ... cells		
	1	2	3	4	1	2	3
M10H	44	75	75	91	60	90	90
M20	59	75	75	91	75	90	90



Plastic Enclosed Switches M10 P.., N20 P..



Cast Enclosed Switches N20 G..



Type	Dimension L at ... cells								
	A	B	C	D	E	F	G	P	1 2 3 4
M10	66	64	50	36	5	15,5	26	M20	43 52 62 71
N20	82	78	57	53	4,5	17	35	M20	66 66 80 80