

AC Main & Disconnect Switches

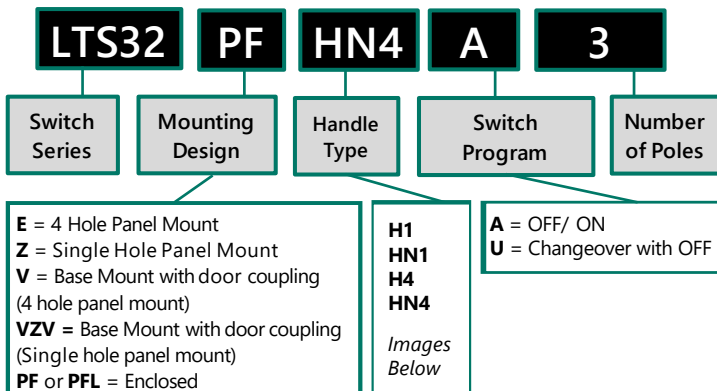
Series LTS20 to LT160 (20A to 200A)



		4-Hole Panel Mount	Single-Hole Mount (22.5mm)	Base Mount w/ Door Coupling (Handle 22.5mm Single Hole Mount)	Base Mount w/ DoorCoupling (Handle 4-Hole Mount)	Modular Switch (Base Mount)	Plastic Enclosed
		IP66	IP66	IP66	IP66	IP40	IP66
Series	UL						
LTS20	20A	LTS20 E..	LTS20 Z..	LTS20 VZV..	LTS20 V..	LTS20 SMA..	LTS20 PF(L) ¹⁾ ..
LTS25	25A	LTS25 E..	LTS25 Z..	LTS25 VZV..	LTS25 V..	LTS25 SMA..	LTS25 PF(L) ¹⁾ ..
LTS32	32A	LTS32 E..	LTS32 Z..	LTS32 VZV..	LTS32 V..	LTS32 SMA..	LTS32 PF(L) ¹⁾ ..
LTS40	40A	LTS40 E..	LTS40 Z..	LTS40 VZV..	LTS40 V..	LTS40 SMA..	LTS40 PF(L) ¹⁾ ..
LTS63	63A	LTS63 E..	-	LTS63 VZV..	LTS63 V..	LTS63 SMA..	LTS63 PFL..
LTS80	80A	LTS80 E..	-	LTS80 VZV..	LTS80 V..	LTS80 SMA..	LTS80 PFL..
LTS85	85A	LTS85 E..	-	LTS85 VZV..	LTS85 V..	LTS85 SMA..	LTS85 PFL..
LTS100	100A	LTS100 E..	-	LTS100 VZV..	LTS100 V..	LTS100 SMA..	LTS100 PFL..
LTS125	125A	LTS125 E..	-	LTS125 VZV..	LTS125 V..	LTS125 SMA..	LTS125 PFL..
LT160	200A	LT160 E..	-	-	LT160 V..	-	LT160 PF..

1) PFL... Larger Enclosure

Ordering Code Example:



H1 = 48x48mm silver plate with black, 1-padlock handle



HN1 = 48x48mm yellow plate with red, 1-padlock handle



H4 = 64x64mm silver plate with black 3-padlock handle



HN4 = 64x64mm yellow plate with red 3-padlock handle

Switching Programs:

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 LT160)
On-Off Switch 4-pole	• ...	T400 (for LT160)

Accessories Include:



4th Add-on Neutral Switching Pole



Auxiliary Contact Blocks



PE-Terminal



N-Terminal



Terminal Covers



Additional Escutcheon Plate Tab



Terminal

Technical Data

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	LTS85	LTS100	LTS125	LT160
Main contacts													
Rated thermal current I _{th} open	A			20	25	32	40	63	80	85	100	125	160
Rated thermal current I _{the} enclosed	A			20	25	32	40	63	80	85	100	110	160
Rated insulation voltage U _i ¹⁾	V			690	690	690	690	690	690	1000 ³⁾	1000 ³⁾	1000 ³⁾	1000 ³⁾
Rated operational current I _e AC21A	A			20	25	32	40	63	80	85	100	125	160
Rated operational voltage U _e max. AC21A	V			690	690	690	690	690	690	1000	1000	1000	690
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	480	580	680	900
3x380-440V	A			160	180	200	250	330	380	480	580	680	850
3x660-690V	A			80	110	140	170	190	220	250	330	420	340
Disconnection property performed up to	V			690	690	690	690	690	690	1000	1000	1000	1000
Motor Switch AC3 3x400V	A			12	16	23	30	37	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
3x660-690V	kW			5,5	7,5	11	15	18,5	18,5	22	30	37	37
Main Switch AC23 3x400V	A			16	20	25	32	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			5,5	7,5	11	15	18,5	18,5	22	30	37	37
Rated conditional short-circuit current 400V	kA _{eff}			10	10	10	10	10	10	10	10	5	30
Max. fuse size gL (gG) 400V	A			25	35	40	40	63	80	100	100	125	160
Rated conditional short-circuit current 690V	kA _{eff}			10	5	3	1	5	1,5	10	10	5	30
Max. fuse size gL (gG) 690V	A			20	25	32	40	63	80	85	100	125	-
Mechanical life x10 ³				200	200	200	200	100	100	100	100	100	100
Electrical life x10 ³				5	5	5	5	4	4	3	3	3	2
Rated short-time withstand current (1sec. current) A				250	300	400	500	600	850	1000	1200	1500	3000
Power loss per P/pole [W]	E, Z			0,322	0,503	0,824	1,288	2,739	4,416	3,851	5,330	8,328	-
pole AC21 = I _{th} V, SMA, PF				0,364	0,569	0,933	1,458	2,739	4,416	3,851	5,330	8,328	-
R/pole [mOhm] E, Z				0,805	0,805	0,805	0,805	0,690	0,690	0,533	0,533	0,533	-
V, SMA, PF				0,911	0,911	0,911	0,911	0,690	0,690	0,533	0,533	0,533	-
Maximum ambient temperature Operation open				-40°C to +60°C (90°C) ⁵⁾									+60°C
Storage enclosed													-40°C to +40°C
Storage				-50°C to +90°C ⁶⁾									+90°C ⁶⁾
Cable cross sections mm ²				0,5 - 10			1 - 25 ⁴⁾			4 - 50			max.95
solid or stranded AWG				20 - 8 (10)			16 - 3 (10)			10 - 00 (10)			max.3/0
flexible mm ²				0,5 - 6			4 - 16 ⁴⁾			10 - 35			max.70
flexible (+ multicore cable end) AWG				20 - 10			16 - 6			8 - 2			max.2/0
Size of terminal screw				0,5 - 6			0,75 - 16 ⁴⁾			6 - 35			max.50
Tightening torque Nm				20 - 10			16 - 6			8 - 2			max.1/0
				M3,5			M5			M6			M10
				1,7 - 2,3			2,8 - 4			1,7 - 4,5			14
Auxiliary contacts													
Rated insulation voltage U _i ¹⁾	V			690			690			690			690
Rated thermal current I _{th} , I _{the}	A			10			10			10			16
Switching capacity AC15 380-450V	A			2,5/1,5			2,5/1,5			2,5/1,5			6/4
DC13 60-110V	A			2/0,4			2/0,4			2/0,4			-
Rated conditional short-circuit current	kA _{eff}			3			3			3			3
Max. short circuit protection gL (gG)	A			10			10			10			16
Cable cross sections mm ²				0,75 - 2,5			0,75 - 2,5			0,75 - 2,5			
solid or stranded AWG				14 - 12			14 - 12			14 - 12			max.12
flexible (+ multicore cable end) mm ²				0,75 - 2,5 (1,5)			0,75 - 2,5 (1,5)			0,75 - 2,5 (1,5)			max.2,5
AWG				18 - 14			18 - 14			18 - 14			max.14
Data according to UL and cUL													
Type				LTS20	LTS25	LTS32	LTS40	LTS63	LTS80	LTS85	LTS100	LTS125	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	85	100	125	200
DOL-Rating 3-phase 110-120V	HP			1	1,5	2	2	3	5	7,5	10	15	20
220-240V	HP			3	5	5	5	10	10	20	25	30	40
440-480V	HP			7,5	10	10	10	20	20	40	50	60	60
550-600V	HP			10	10	15	15	25	25	50	60	60	60
DOL-Rating 1-phase 110-120V	HP			1	1	1	1	2	2	3	5	7,5	-
200-208V	HP			1	2	2	2	3	3	7,5	10	10	-
220-240V	HP			2	2	3	3	5	5	10	15	15	-
Fuse size (RK5) Manual Motor Controller A				40	50	50	70	90	110	125	125	125	400 ²⁾
5kA / 600V Motor Disconnect A				40	50	50	50	70	70	125	125	125	400 ²⁾
Tightening torque Nm				1,7-2,3	1,7-2,3	1,7-2,3	1,7-2,3	2,8-4	2,8-4	1,7-4,5	1,7-4,5	1,7-4,5	14
lb.inch				15-20	15-20	15-20	15-20	24-35	24-35	15-40	15-40	15-40	124

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

2) Fuse RK1 / 10kA / 600V

3) $U_{imp} = 8kV$

5) Derating acc. to cable cross sectio

6) for switches with transparent plates 48 □ max. +65°C

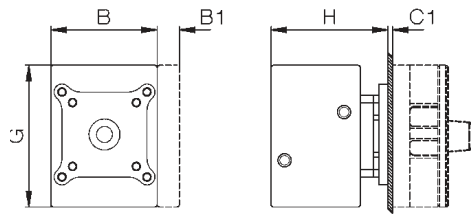
4) LTS63..U. stranded 16mm², flexible 10mm²

Dimensions (mm)

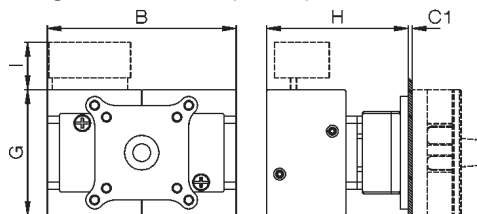
Main Switches, Switch Disconnectors LT(S)..

Panel mounting LT(S).. E(HN)..

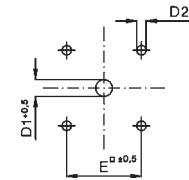
ON-OFF Switches 3-pole, 4-pole



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

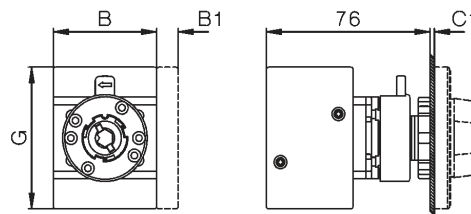


Mounting holes
Mounting screw: J3631N M=1,2-1,4 Nm

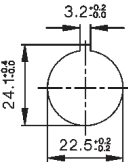


Single hole mounting LTS.. Z(HN)..

ON-OFF Switches 3-pole, 4-pole

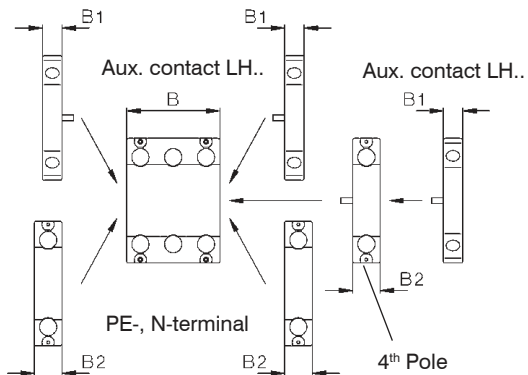


Mounting holes



Mounting of add-on modules LTS20 - LTS80

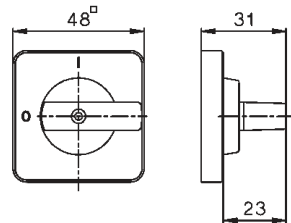
Panel mounting, Single hole mounting



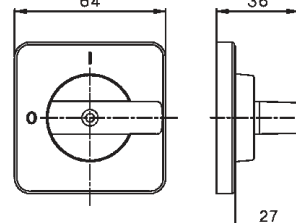
			Changeover ON-OFF		3-pole		4-pole	3-pole	4-pole	aux.	4. Pole						3,4-pole		3,4-pole
					3-pole	4-pole	6-pole	8-pole	contact	PE						3,4-pole		6,8-pole	6,8-pole
Type	Esc. plate	padlock dev	A	B	B	B	B	B1	B2	C1	D1	D2	E	F	G	H	I		
LTS20-80..	48 □, SV1		48	48	62,5	-	-	10	14,5	1-5	9	5	36	-	64	49	24		
LTS20-80..	64 □, SV4, SV164		64	48	62,5	97	126	10	14,5	1-5	9	5	48	-	64	49	74		
LTS85-125..	64 □, SV4		64	78	78	-	-	10	-	1-5	9	5	48	-	85	55	-	-	
LTS85-125..	88 □, SV488		88	78	78	-	-	10	-	1-5	9	6	68	-	85	55	-	-	
LT160	88 □, SV34		88	112	150	224	-	-	-	1-4	13-17	6	68	49,3	108	96	98		

Escutcheon plate

48 □

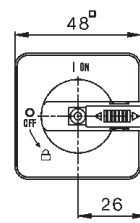


64 □

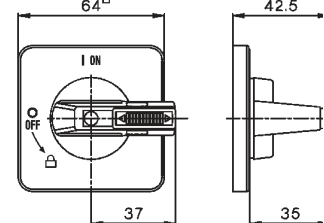


Padlock devices

SV1

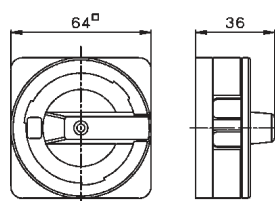


SV164

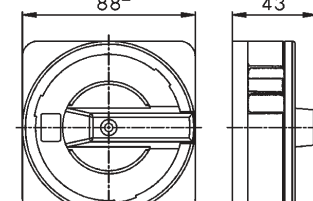


Padlock devices

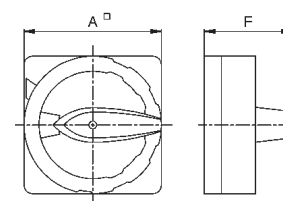
SV4



SV488

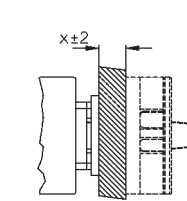


SV34



Extended Switch Shaft

+VW"x"



Dimensions (mm)

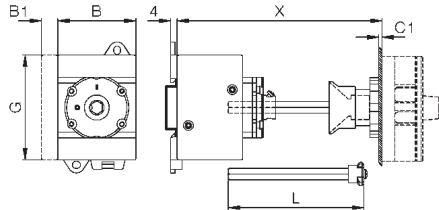
Main Switches, Switch Disconnectors LT(S) ..

Base mounting LTS.. VZV(HN) ..

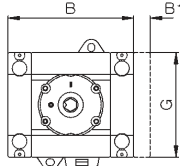
ON-OFF Switches 3-pole, 4-pole

$L = X - 40 \pm 3$ for LTS20 - 80

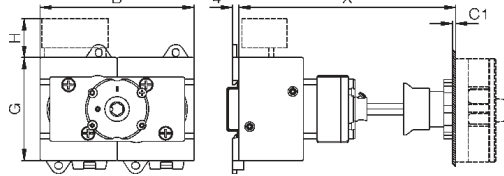
$L = X - 44 \pm 3$ for LTS85 - 125



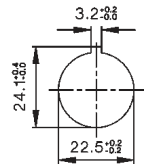
6-pole
for LTS20 - 40 only
 $L = X - 40 \pm 3$



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



Mounting
holes

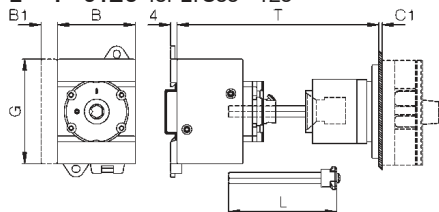


Base mounting LT(S) .. V(HN) ..

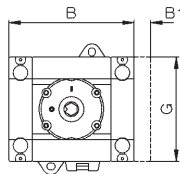
ON-OFF Switches 3-pole, 4-pole

$L = T - 60 \pm 3$ for LTS20 - 80

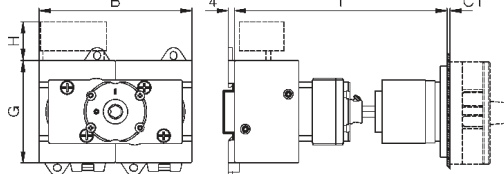
$L = T - 64 \pm 3$ for LTS85 - 125



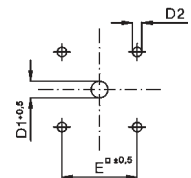
6-pole
for LTS20 - 40 only
 $L = T - 60 \pm 3$



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



Mounting
holes



Base mounting LTS.. VZ(HN) ..

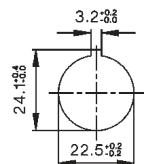
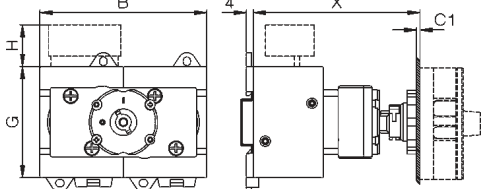
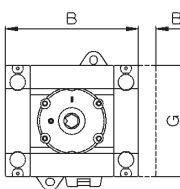
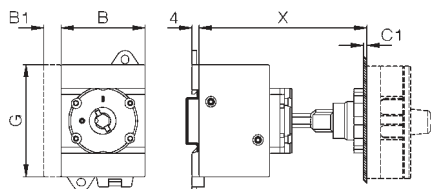
ON-OFF Switches 3-pole, 4-pole

Preference values for X: 80, 85, 104, 129

6-pole
for LTS20 - 40 only

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

Mounting
holes



Type	Changeover ON-OFF Escutch. plate or padlock device	3-pole 4-pole 6-pole 3,4-pole 8-pole					aux. 4 Pole contact											
		A	B	B	B	B	B1	B2	H	C1	D1	D2	D3	E	G	K	K1	J
LTS20 - 40	64 □, SV4, SV164	64	48	48	77	97	10	14,5		1-5	9	5	M4	48	64	25	48	70
LTS63, 80	64 □, SV4, SV164	64	48	62,5	97	126	10	14,5		1-5	9	5	M4	48	64	25	48	70
LTS85-125..	64 □, SV4	64	78	78	-	-	10	-		1-5	9	5	M4	48	85	38	-	90
LT125/160	88 □, SV34	88	112	150	224	-	-	-		1-4	13/27 ¹⁾	6	M6	68	108	36	-	120

Base mounting

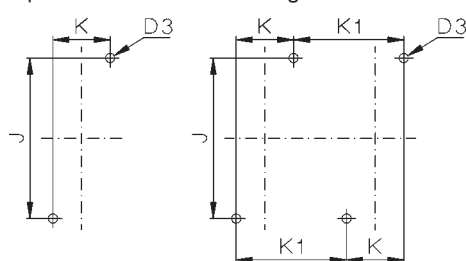
ON-OFF Switches LTS20 - LTS80

3-pole, 4-pole

6-pole LTS20 - 40

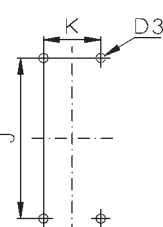
6-pole, 8-pole

Changeover Switches



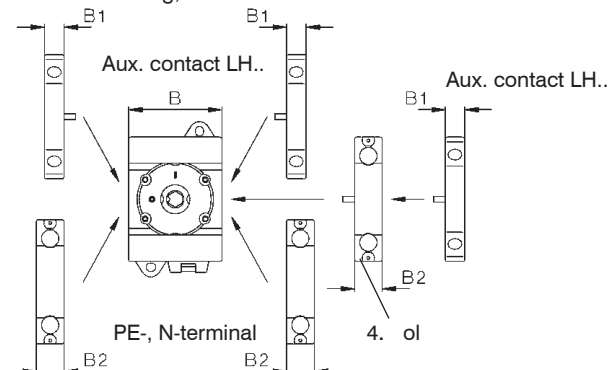
LTS85-125, LT160

3-pole, 4-pole



Mounting of Accessories LTS20 - LTS80

Base mounting, for distribution boards



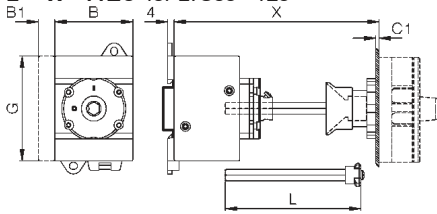
- 1) Ø 22-25 for T80(100) VH(N)34 .. only
- 2) Ø 26-30 for T125(160) VH(N)34 .. only

Dimensions (mm)

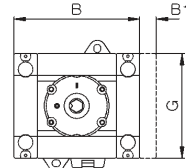
Main Switches, Switch Disconnectors LT(S).. Base mounting LTS.. VZV(HN)..

ON-OFF Switches 3-pole, 4-pole

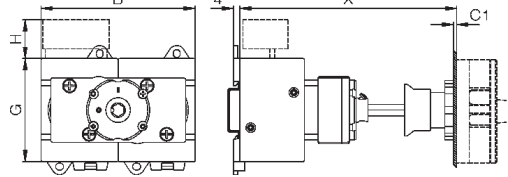
$L = X - 40 \pm 3$ for LTS20 - 80
 $L = X - 44 \pm 3$ for LTS85 - 125



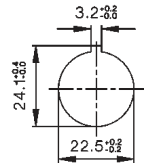
6-pole
for LTS20 - 40 only
 $L = X - 40 \pm 3$



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



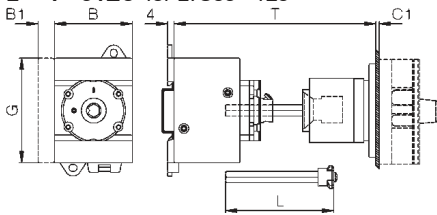
Mounting
holes



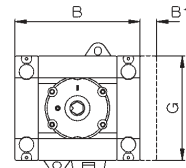
Base mounting LT(S).. V(HN)..

ON-OFF Switches 3-pole, 4-pole

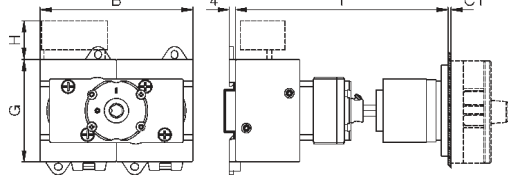
$L = T - 60 \pm 3$ for LTS20 - 80
 $L = T - 64 \pm 3$ for LTS85 - 125



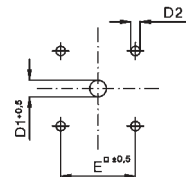
6-pole
for LTS20 - 40 only
 $L = T - 60 \pm 3$



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



Mounting
holes



Base mounting LTS.. VZ(HN)..

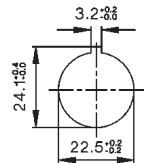
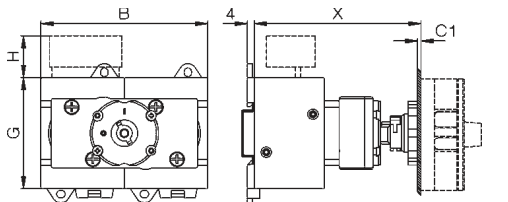
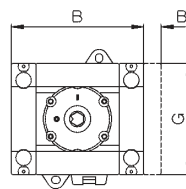
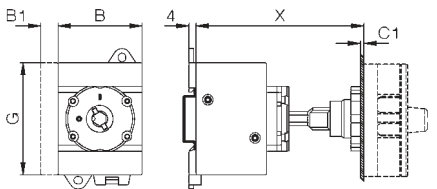
ON-OFF Switches 3-pole, 4-pole

Preference values for X: 80, 85, 104, 129

6-pole
for LTS20 - 40 only

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

Mounting
holes



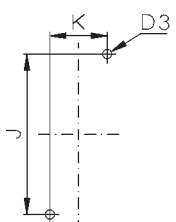
Type	Changeover ON-OFF Escutch. plate or padlock device					3,4-pole	aux. contact	4 Pole	H									
		3-pole	4-pole	6-pole	8-pole	B1		B2		C1	D1	D2	D3	E	G	K	K1	J
LTS20 -40	64 □, SV4, SV164	64	48	48	77	97	10	14,5		1-5	9	5	M4	48	64	25	48	70
LTS63, 80	64 □, SV4, SV164	64	48	62,5	97	126	10	14,5		1-5	9	5	M4	48	64	25	48	70
LTS85-125..	64 □, SV4	64	78	78	-	-	10	-		1-5	9	5	M4	48	85	38	-	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 - LTS80

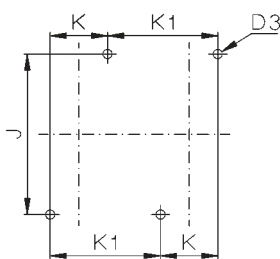
3-pole, 4-pole

6-pole LTS20 - 40



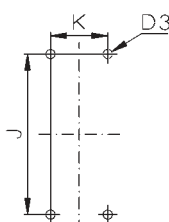
6-pole, 8-pole

Changeover Switches



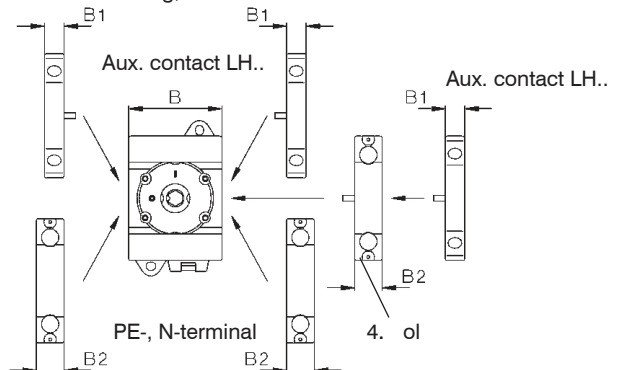
LTS85-125, LT160

3-pole, 4-pole



Mounting of Accessories LTS20 - LTS80

Base mounting, for distribution boards



- 1) Ø 22-25 for T80(100) VH(N)34 .. only
- 2) Ø 26-30 for T125(160) VH(N)34 .. only