Index

Ratings

Rated current

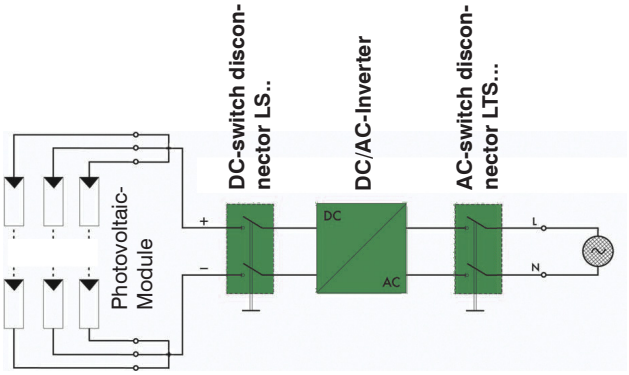
DC-Switch Disconnectors

Design

Type	I_{th} open A	DC21B(DC-PV1) 4 poles in series A	at U_e V	Panel mounting 4-hole mounting IP66[1] cULusType 3R	Single hole mounting Ø22,5mm IP66[1] cULusType 4X	Base mounting w. door coupling IP66[1] cULusType 4X	Modular switch IP40[1] cULusOpen Type
LS16	16	**16**	1500	.. E ..	.. Z(O) ..	.. VZV ..	.. SMA ..
LS25	25	**25**	1500	.. E ..	.. Z(O) ..	.. VZV ..	.. SMA ..
LS32	32	**32**	1500	.. E ..	.. Z(O) ..	.. VZV ..	.. SMA ..
LS38	38	**38**	1500	.. E ..	.. Z(O) ..	.. VZV ..	.. SMA ..
LS40	40	**40**	1500	.. E ..	-	.. VZV ..	.. SMA ..
LS55	55	**55**	1500	.. E ..	-	.. VZV ..	.. SMA ..
LS65	65	**65**	1500	.. E ..	-	.. VZV ..	.. SMA ..

Switch Disconnectors for Photovoltaic

Switch disconnectors „LS..“ are switch gears for interupting the DC/AC-Inverter from the solar-panels. Photovoltaic-installations have to be equipped with DC-isolators according to IEC 60364-7-712.



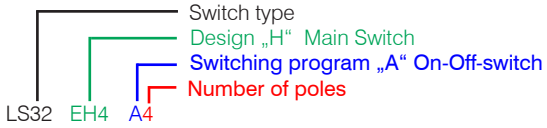
Switch disconnectors „LS..“ ensures a reliable switching up to 85A with 1500V in the category DC21B (DC-PV1).

The construction of the contacts and the material selection guarantee that no oxidation (small switching frequency) develops, and is thus prevented inadmissible heating-up.

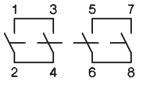
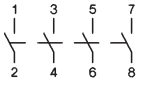
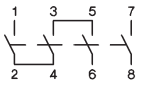
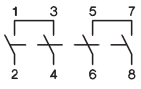
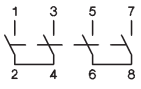
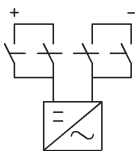
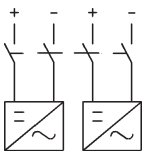
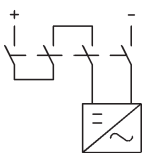
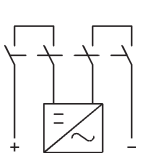
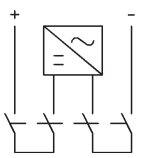
The switch disconnector has 2, 4, 6 or 8 contacts, by serial or parallel wiring of the contacts the contact rating will be increased. The switching speed at the manually operated handle does not have an effect on the switching attitude of the contacts.

Mounting positions:
No limitations, all kind of positions allowed.

Ordering



Switching programs

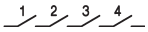
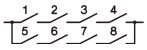
Type	2-pole	2+2-pole 2 poles in series +2 poles parallel	4-pole	4-pole with jumpers Input on top Output bottom	4-pole with jumpers Input and Output bottom	4-pole with jumpers Input and Output on top
LS16 ... LS55	.. A2	.. A2+2	..A4(2 x A2)	.. A4B	.. A4O	.. A4U
Contacts Wiring diagram						
Switching example						

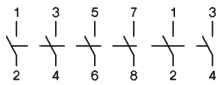
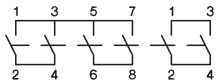
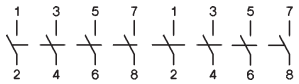
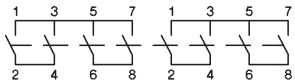
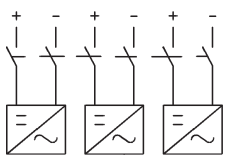
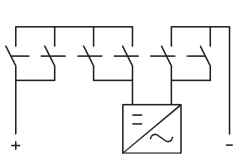
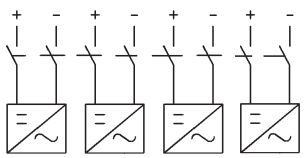
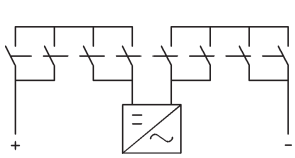
1) Protection in front and built in.

DC-Main Switches

Panel mounting Four-hole mounting IP66[1] cULus Type 3R	Single hole mounting Ø22,5mm IP66[1] cULus Type 4X	Base mounting with door coupling IP66[1] cULus Type 4X	Modular switch IP40[1] cULus Open Type	Plastic enclosed PFL..IP66/67 cULus Type 4X
				
.. EH4. ..	.. Z(O)H1 ..	.. VZVH4 ..	.. SMAH1 ..	.. PFLH4 ..
.. EH4. ..	.. Z(O)H1 ..	.. VZVH4 ..	.. SMAH1 ..	.. PFLH4 ..
.. EH4. ..	.. Z(O)H1 ..	.. VZVH4 ..	.. SMAH1 ..	.. PFLH4 ..
.. EH4. ..	.. Z(O)H1 ..	.. VZVH4 ..	.. SMAH1 ..	.. PFLH4 ..
.. EH4. ..	-	.. VZVH4 ..	.. SMAH1 ..	.. PFLH4 ..
.. EH4. ..	-	.. VZVH4 ..	.. SMAH1 ..	.. PFLH4 ..
.. EH4. ..	-	.. VZVH4 ..	.. SMAH1 ..	.. PFLH4 ..

Technical Data for DC, according to IEC 60947-3, VDE0660, more data find on page 315.

Type		DC-PV1 (=DC21B) 500V	600V	700V	800V	900V	1000V	1200V	1500V
2 Poles in series 	**LS16..** A	16	16	16	16	16	10	7	3
	LS25.. A	25	25	25	20	17	11,5	8,5	5
	LS32.. A	32	32	32	23	20	13	10	6
	LS38.. A	45	45	-	30	-	20	-	-
	LS40.. A	48	48	37	35	31	29	11	7,5
	LS55.. A	55	55	55	55	43	36	17	10
	LS65.. A	65	65	65	65	55	40	17	10
2 Poles in series+2 parallel 	**LS16..** A	29	29	22	17	16	10	7	3
	LS25.. A	45	36	27	19	17	11,5	8,5	5
	LS32.. A	58	55	32	23	20	13	10	6
	LS38.. A	-	-	-	30	-	20	-	-
	LS40.. A	72	68	49	42	31	29	11	7,5
	LS55.. A	85	85	77	63	43	36	17	10
	LS65.. A	85	85	80	65	55	40	17	10
4 Poles in series 	**LS16..** A	16	16	16	16	16	16	16	16
	LS25.. A	25	25	25	25	25	25	25	25
	LS32.. A	32	32	32	32	32	32	32	32
	LS38.. A	45	45	-	-	-	-	-	-
	LS40.. A	48	48	40	40	40	40	40	40
	LS55.. A	55	55	55	55	55	55	55	55
	LS65.. A	65	65	65	65	65	65	65	65
4 Poles in series+2 parallel 	**LS16..** A	29	29	29	29	29	29	29	20
	LS25.. A	45	45	45	45	45	45	45	26
	LS32.. A	58	58	58	58	58	58	50	32
	LS38.. A	-	-	-	-	-	-	-	-
	LS40.. A	72	72	72	72	72	72	56	42
	LS55.. A	85	85	85	85	85	85	65	55
	LS65.. A	85	85	85	85	85	85	65	55

Type	6-pole	3+2-pole 3 poles in series +2 poles parallel	8-pole	4+2-pole 4 poles in series +2 poles parallel
LS16 ... LS55	...A6	.. A3+2	...A8	.. A4+2
Contacts Wiring diagram				
Switching example				

Insulated jumpers LSV-.. for series and parallel switching of contacts see page 325.

1) Range and Details see page 329.

ON-OFF Switches for Panel Mounting, Escutcheon plate 64□, IP66, cULus Type 3R

DC21B / DC-PV1 600V DC	DC-PV1 1000V DC	Poles in series	Number of strings	Type	Pack pcs.	Weight kg/pcs.
16A	10A	2	1	**LS16 E A2**	1	0,20
25A	11,5A	2	1	**LS25 E A2**	1	0,20
32A	13A	2	1	**LS32 E A2**	1	0,20
45A	20A	2	1	**LS38 E A2**	1	0,20
48A	29A	2	1	**LS40 E A2**	1	0,41
55A	36A	2	1	**LS55 E A2**	1	0,41
65A	40A	2	1	**LS65 E A2**	1	0,41
29A	10A	2	1	**LS16 E A2+2**	1	0,25
36A	11,5A	2	1	**LS25 E A2+2**	1	0,25
55A	13A	2	1	**LS32 E A2+2**	1	0,25
-	20A	2	1	**LS38 E A2+2**	1	0,25
68A	29A	2	1	**LS40 E A2+2**	1	0,54
85A	36A	2	1	**LS55 E A2+2**	1	0,54
85A	40A	2	1	**LS65 E A2+2**	1	0,54
16A	10A	2	2	**LS16 E A4**	1	0,23
25A	11,5A	2	2	**LS25 E A4**	1	0,23
32A	13A	2	2	**LS32 E A4**	1	0,23
45A	20A	2	2	**LS38 E A4**	1	0,23
48A	29A	2	2	**LS40 E A4**	1	0,49
55A	36A	2	2	**LS55 E A4**	1	0,49
65A	40A	2	2	**LS65 E A4**	1	0,49

Type suffix

B	**..A4B**	16A	16A	4	1	**LS16 E A4.**	1	0,24
		25A	25A	4	1	**LS25 E A4.**	1	0,24
O	**..A4O**	32A	32A	4	1	**LS32 E A4.**	1	0,24
		45A	-	4	1	**LS38 E A4.**	1	0,24
		48A	40A	4	1	**LS40 E A4.**	1	0,52
U	**..A4U**	55A	55A	4	1	**LS55 E A4.**	1	0,52
		-	-	4	1	**LS65 E A4.**	1	0,52
16A	10A	2	3	**LS16 E A6**	1	0,36
25A	11,5A	2	3	**LS25 E A6**	1	0,36
32A	13A	2	3	**LS32 E A6**	1	0,36
45A	20A	2	3	**LS38 E A6**	1	0,36
48A	29A	2	3	**LS40 E A6**	1	0,99
55A	36A	2	3	**LS55 E A6**	1	0,99
-	-	2	3	**LS65 E A6**	1	0,99
16A	10A	2	4	**LS16 E A8**	1	0,41
25A	11,5A	2	4	**LS25 E A8**	1	0,41
32A	13A	2	4	**LS32 E A8**	1	0,41
45A	20A	2	4	**LS38 E A8**	1	0,41
48A	29A	2	4	**LS40 E A8**	1	1,09
55A	36A	2	4	**LS55 E A8**	1	1,09
-	-	2	4	**LS65 E A8**	1	1,09
29A	29A	4	1	**LS16 E A4+2**	1	0,46
45A	45A	4	1	**LS25 E A4+2**	1	0,46
58A	58A	4	1	**LS32 E A4+2**	1	0,46
-	-	4	1	**LS38 E A4+2**	1	0,46
72A	72A	4	1	**LS40 E A4+2**	1	1,20
85A	85A	4	1	**LS55 E A4+2**	1	1,20
85A	85A	4	1	**LS65 E A4+2**	1	1,20

Extended Switch Shaft for all switches for Panel Mounting

Type suffix **+VW"x"** x = panel thickness

ON-OFF Switches for Single Hole Mounting Ø22mm, Escutcheon plate 48□, IP66, cULus Type 4X

DC21B / DC-PV1 600V DC	DC21B / DC-PV1 1000V DC	Anzahl Pole in Serie	Anzahl Strings	Typ	VPE Stk.	Gewicht kg/Stk.
16A	10A	2	1	**LS16 Z A2**	1	0,21
25A	11,5A	2	1	**LS25 Z A2**	1	0,21
32A	13A	2	1	**LS32 Z A2**	1	0,21
45A	20A	2	1	**LS38 Z A2**	1	0,21
29A	10A	2	1	**LS16 Z A2+2**	1	0,26
36A	11,5A	2	1	**LS25 Z A2+2**	1	0,26
55A	13A	2	1	**LS32 Z A2+2**	1	0,26
-	20A	2	1	**LS38 Z A2+2**	1	0,26
16A	10A	2	2	**LS16 Z A4**	1	0,23
25A	11,5A	2	2	**LS25 Z A4**	1	0,23
32A	13A	2	2	**LS32 Z A4**	1	0,23
45A	20A	2	2	**LS38 Z A4**	1	0,23

Typenzusatz

B ..A4B
O ..A4O
U ..A4U

16A	16A	4	1	**LS16 Z A4.**	1	0,25
25A	25A	4	1	**LS25 Z A4.**	1	0,25
32A	32A	4	1	**LS32 Z A4.**	1	0,25
45A	-	4	1	**LS38 Z A4.**	1	0,25
16A	10A	2	3	**LS16 Z A6**	1	0,38
25A	11,5A	2	3	**LS25 Z A6**	1	0,38
32A	13A	2	3	**LS32 Z A6**	1	0,38
45A	20A	2	3	**LS38 Z A6**	1	0,38
16A	10A	2	4	**LS16 Z A8**	1	0,43
25A	11,5A	2	4	**LS25 Z A8**	1	0,43
32A	13A	2	4	**LS32 Z A8**	1	0,43
45A	20A	2	4	**LS38 Z A8**	1	0,43
29A	29A	4	1	**LS16 Z A4+2**	1	0,48
45A	45A	4	1	**LS25 Z A4+2**	1	0,48
58A	58A	4	1	**LS32 Z A4+2**	1	0,48
-	-	4	1	**LS38 Z A4+2**	1	0,48

ON-OFF Switches for Single Hole Mounting Ø22mm, without Escutcheon plate, IP66, cULus Type 4X

Replace the Type „**Z**“ with „**ZO**“	**LS.. ZO A.**

ON-OFF Switches f. Base Mounting w. Door Clutch f. Single Hole, Plate 64□, IP66, c UL us Type 4X

DC21B / DC-PV1 600V DC	DC-PV1 1000V DC	Poles in series	Number of strings	Type	Pack pcs.	Weight kg/pcs.
16A	10A	2	1	**LS16 VZV A2**	1	0,22
25A	11,5A	2	1	**LS25 VZV A2**	1	0,22
32A	13A	2	1	**LS32 VZV A2**	1	0,22
45A	20A	2	1	**LS38 VZV A2**	1	0,22
48A	29A	2	1	**LS40 VZV A2**	1	0,51
55A	36A	2	1	**LS55 VZV A2**	1	0,51
65A	40A	2	1	**LS65 VZV A2**	1	0,51

Depth is adjustable

29A	10A	2	1	**LS16 VZV A2+2**	1	0,27
36A	11,5A	2	1	**LS25 VZV A2+2**	1	0,27
55A	13A	2	1	**LS32 VZV A2+2**	1	0,27
-	20A	2	1	**LS38 VZV A2+2**	1	0,27
68A	29A	2	1	**LS40 VZV A2+2**	1	0,55
85A	36A	2	1	**LS55 VZV A2+2**	1	0,55
85A	40A	2	1	**LS65 VZV A2+2**	1	0,55

16A	10A	2	2	**LS16 VZV A4**	1	0,25
25A	11,5A	2	2	**LS25 VZV A4**	1	0,25
32A	13A	2	2	**LS32 VZV A4**	1	0,25
45A	20A	2	2	**LS38 VZV A4**	1	0,25
48A	29A	2	2	**LS40 VZV A4**	1	0,56
55A	36A	2	2	**LS55 VZV A4**	1	0,56
65A	40A	2	2	**LS65 VZV A4**	1	0,56

Type suffix

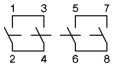
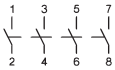
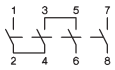
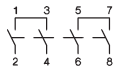
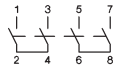
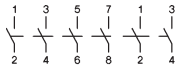
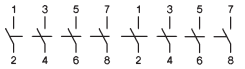
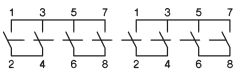
B ..A4B	16A	16A	4	1	**LS16 VZV A4.**	1	0,26
	25A	25A	4	1	**LS25 VZV A4.**	1	0,26
	32A	32A	4	1	**LS32 VZV A4.**	1	0,26
O ..A4O	45A	-	4	1	**LS38 VZV A4.**	1	0,26
	48A	40A	4	1	**LS40 VZV A4.**	1	0,58
	55A	55A	4	1	**LS55 VZV A4.**	1	0,58
U ..A4U	-	-	4	1	**LS65 VZV A4.**	1	0,58

16A	10A	2	3	**LS16 VZV A6**	1	0,38
25A	11,5A	2	3	**LS25 VZV A6**	1	0,38
32A	13A	2	3	**LS32 VZV A6**	1	0,38
45A	20A	2	3	**LS38 VZV A6**	1	0,38
48A	29A	2	3	**LS40 VZV A6**	1	1,00
55A	36A	2	3	**LS55 VZV A6**	1	1,00
-	-	2	3	**LS65 VZV A6**	1	1,00

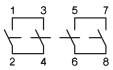
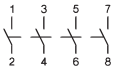
16A	10A	2	4	**LS16 VZV A8**	1	0,43
25A	11,5A	2	4	**LS25 VZV A8**	1	0,43
32A	13A	2	4	**LS32 VZV A8**	1	0,43
45A	20A	2	4	**LS38 VZV A8**	1	0,43
48A	29A	2	4	**LS40 VZV A8**	1	1,10
55A	36A	2	4	**LS55 VZV A8**	1	1,10
-	-	2	4	**LS65 VZV A8**	1	1,10

29A	29A	4	1	**LS16 VZV A4+2**	1	0,48
45A	45A	4	1	**LS25 VZV A4+2**	1	0,48
58A	58A	4	1	**LS32 VZV A4+2**	1	0,48
-	-	4	1	**LS38 VZV A4+2**	1	0,48
72A	72A	4	1	**LS40 VZV A4+2**	1	1,21
85A	85A	4	1	**LS55 VZV A4+2**	1	1,21
85A	85A	4	1	**LS65 VZV A4+2**	1	1,21

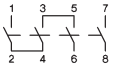
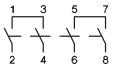
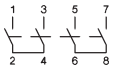
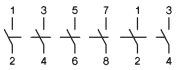
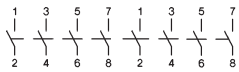
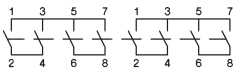
ON-OFF Switches for Distribution Boards, IP40, cULus Open Type

		DDC21B 600V DC	DC-PV1 1000V DC	Poles in series	Number of strings	**Type**	Pack pcs.	Weight kg/pcs.
		16A	10A	2	1	**LS16 SMA A2**	1	0,19
		25A	11,5A	2	1	**LS25 SMA A2**	1	0,19
		32A	13A	2	1	**LS32 SMA A2**	1	0,19
		45A	20A	2	1	**LS38 SMA A2**	1	0,19
		48A	29A	2	1	**LS40 SMA A2**	1	0.41
		55A	36A	2	1	**LS55 SMA A2**	1	0,41
		65A	40A	2	1	**LS65 SMA A2**	1	0,41
		29A	10A	2	1	**LS16 SMA A2+2**	1	0,24
		36A	11,5A	2	1	**LS25 SMA A2+2**	1	0,24
		55A	13A	2	1	**LS32 SMA A2+2**	1	0,24
		-	20A	2	1	**LS38 SMA A2+2**	1	0,24
		68A	29A	2	1	**LS40 SMA A2+2**	1	0,52
		85A	36A	2	1	**LS55 SMA A2+2**	1	0,52
		85A	40A	2	1	**LS65 SMA A2+2**	1	0,52
		16A	10A	2	2	**LS16 SMA A4**	1	0,22
		25A	11,5A	2	2	**LS25 SMA A4**	1	0,22
		32A	13A	2	2	**LS32 SMA A4**	1	0,22
		45A	20A	2	2	**LS38 SMA A4**	1	0,22
		48A	29A	2	2	**LS40 SMA A4**	1	0,45
		55A	36A	2	2	**LS55 SMA A4**	1	0,45
		65A	40A	2	2	**LS65 SMA A4**	1	0,45
Type suffix								
B ..A4B		16A	16A	4	1	**LS16 SMA A4.**	1	0,23
		25A	25A	4	1	**LS25 SMA A4.**	1	0,23
O ..A4O		32A	32A	4	1	**LS32 SMA A4.**	1	0,23
		45A	-	4	1	**LS32 SMA A4.**	1	0,23
		48A	40A	4	1	**LS40 SMA A4.**	1	0,49
U ..A4U		55A	55A	4	1	**LS55 SMA A4.**	1	0,49
		-	-	4	1	**LS65 SMA A4.**	1	0,49
		16A	10A	2	3	**LS16 SMA A6**	1	0,35
		25A	11,5A	2	3	**LS25 SMA A6**	1	0,35
		32A	13A	2	3	**LS32 SMA A6**	1	0,35
		45A	20A	2	3	**LS38 SMA A6**	1	0,35
		48A	29A	2	3	**LS40 SMA A6**	1	0,89
		55A	36A	2	3	**LS55 SMA A6**	1	0,89
		-	-	2	3	**LS65 SMA A6**	1	0,89
		16A	10A	2	4	**LS16 SMA A8**	1	0,40
		25A	11,5A	2	4	**LS25 SMA A8**	1	0,40
		32A	13A	2	4	**LS32 SMA A8**	1	0,40
		45A	20A	2	4	**LS38 SMA A8**	1	0,40
		48A	29A	2	4	**LS40 SMA A8**	1	0,99
		55A	36A	2	4	**LS55 SMA A8**	1	0,99
		-	-	2	4	**LS65 SMA A8**	1	0,99
		29A	29A	4	1	**LS16 SMA A4+2**	1	0,43
		45A	45A	4	1	**LS25 SMA A4+2**	1	0,43
		58A	58A	4	1	**LS32 SMA A4+2**	1	0,43
		-	-	4	1	**LS38 SMA A4+2**	1	0,43
		72A	72A	4	1	**LS40 SMA A4+2**	1	1,01
		85A	85A	4	1	**LS55 SMA A4+2**	1	1,01
		85A	85A	4	1	**LS65 SMA A4+2**	1	1,01

Main Switches for Panel Mounting, Escutcheon plate 64□, IP66, UL LISTED c UL us Type 3R

		DC21B / DC-PV1 600V DC	1000V DC	Poles in series	Number of strings	Type	Pack pcs.	Weight kg/pcs.
 padlock device SV4		16A	10A	2	1	**LS16 EH4 A2**	1	0,21
		25A	11,5A	2	1	**LS25 EH4 A2**	1	0,21
		32A	13A	2	1	**LS32 EH4 A2**	1	0,21
		45A	20A	2	1	**LS38 EH4 A2**	1	0,21
		48A	29A	2	1	**LS40 EH4 A2**	1	0,43
		55A	36A	2	1	**LS55 EH4 A2**	1	0,43
		65A	40A	2	1	**LS65 EH4 A2**	1	0,43
		29A	10A	2	1	**LS16 EH4 A2+2**	1	0,26
		36A	11,5A	2	1	**LS25 EH4 A2+2**	1	0,26
		55A	13A	2	1	**LS32 EH4 A2+2**	1	0,26
		-	20A	2	1	**LS38 EH4 A2+2**	1	0,26
		68A	29A	2	1	**LS40 EH4 A2+2**	1	0,57
		85A	36A	2	1	**LS55 EH4 A2+2**	1	0,57
		85A	40A	2	1	**LS65 EH4 A2+2**	1	0,57
		16A	10A	2	2	**LS16 EH4 A4**	1	0,24
		25A	11,5A	2	2	**LS25 EH4 A4**	1	0,24
		32A	13A	2	2	**LS32 EH4 A4**	1	0,24
		45A	20A	2	2	**LS38 EH4 A4**	1	0,24
		48A	29A	2	2	**LS40 EH4 A4**	1	0,50
		55A	36A	2	2	**LS55 EH4 A4**	1	0,50
		65A	40A	2	2	**LS65 EH4 A4**	1	0,50

Type suffix ↓ → **LS16 EH4 A4.** ↓

B ..A4B		16A	16A	4	1	**LS16 EH4 A4.**	1	0,25
		25A	25A	4	1	**LS25 EH4 A4.**	1	0,25
O ..A4O		32A	32A	4	1	**LS32 EH4 A4.**	1	0,25
		45A	-	4	1	**LS38 EH4 A4.**	1	0,25
		48A	40A	4	1	**LS40 EH4 A4.**	1	0,53
U ..A4U		55A	55A	4	1	**LS55 EH4 A4.**	1	0,53
		-	-	4	1	**LS65 EH4 A4.**	1	0,53
		16A	10A	2	3	**LS16 EH4 A6**	1	0,37
		25A	11,5A	2	3	**LS25 EH4 A6**	1	0,37
		32A	13A	2	3	**LS32 EH4 A6**	1	0,37
		45A	20A	2	3	**LS38 EH4 A6**	1	0,37
		48A	29A	2	3	**LS40 EH4 A6**	1	0,53
		55A	36A	2	3	**LS55 EH4 A6**	1	0,53
		-	-	2	3	**LS65 EH4 A6**	1	0,53
		16A	10A	2	4	**LS16 EH4 A8**	1	0,42
		25A	11,5A	2	4	**LS25 EH4 A8**	1	0,42
		32A	13A	2	4	**LS32 EH4 A8**	1	0,42
		45A	20A	2	4	**LS38 EH4 A8**	1	0,42
		48A	29A	2	4	**LS40 EH4 A8**	1	1,10
		55A	36A	2	4	**LS55 EH4 A8**	1	1,10
		-	-	2	4	**LS65 EH4 A8**	1	1,10
		29A	29A	4	1	**LS16 EH4 A4+2**	1	0,47
		45A	45A	4	1	**LS25 EH4 A4+2**	1	0,47
		58A	58A	4	1	**LS32 EH4 A4+2**	1	0,47
		-	-	4	1	**LS38 EH4 A4+2**	1	0,47
		72A	72A	4	1	**LS40 EH4 A4+2**	1	1,21
		85A	85A	4	1	**LS55 EH4 A4+2**	1	1,21
		85A	85A	4	1	**LS65 EH4 A4+2**	1	1,21

Extended Switch Shaft for all switches for panel mounting

Type suffix	**+VW"x"**	x = panel thickness

Main Switches for Single Hole Mounting Ø22mm, Escutcheon plate 48□, IP66, UL LISTED c UL us Type 4X

Sperrvorrichtung SV1

Typenzusatz

B ..A4B

O ..A4O

U ..A4U

DC21B / DC-PV1 600V DC	DC21B / DC-PV1 1000V DC	Poles in series	Number of strings	Type	Pack pcs.	Weight kg/pcs.
16A	10A	2	1	**LS16 ZH1 A2**	1	0,21
25A	11,5A	2	1	**LS25 ZH1 A2**	1	0,21
32A	13A	2	1	**LS32 ZH1 A2**	1	0,21
45A	20A	2	1	**LS38 ZH1 A2**	1	0,21
29A	10A	2	1	**LS16 ZH1 A2+2**	1	0,27
36A	11,5A	2	1	**LS25 ZH1 A2+2**	1	0,27
55A	13A	2	1	**LS32 ZH1 A2+2**	1	0,27
-	20A	2	1	**LS38 ZH1 A2+2**	1	0,27
16A	10A	2	2	**LS16 ZH1 A4**	1	0,24
25A	11,5A	2	2	**LS25 ZH1 A4**	1	0,24
32A	13A	2	2	**LS32 ZH1 A4**	1	0,24
45A	20A	2	2	**LS38 ZH1 A4**	1	0,24
16A	16A	4	1	**LS16 ZH1 A4.**	1	0,25
25A	25A	4	1	**LS25 ZH1 A4.**	1	0,25
32A	32A	4	1	**LS32 ZH1 A4.**	1	0,25
45A	-	4	1	**LS38 ZH1 A4.**	1	0,25

16A	10A	2	3	**LS16 ZH1 A6**	1	0,39
25A	11,5A	2	3	**LS25 ZH1 A6**	1	0,39
32A	13A	2	3	**LS32 ZH1 A6**	1	0,39
45A	20A	2	3	**LS38 ZH1 A6**	1	0,39
16A	10A	2	4	**LS16 ZH1 A8**	1	0,44
25A	11,5A	2	4	**LS25 ZH1 A8**	1	0,44
32A	13A	2	4	**LS32 ZH1 A8**	1	0,44
45A	20A	2	4	**LS38 ZH1 A8**	1	0,44
29A	29A	4	1	**LS16 ZH1 A4+2**	1	0,49
45A	45A	4	1	**LS25 ZH1 A4+2**	1	0,49
58A	58A	4	1	**LS32 ZH1 A4+2**	1	0,49
-	-	4	1	**LS38 ZH1 A4+2**	1	0,49

Main Switches, Single Hole Mounting Ø22mm, without Escutcheon plate, IP66, UL LISTED c UL us Type 4X

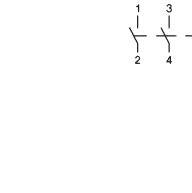
Replace the Type „**ZH1**“ with „**ZOH1**“	**LS.. ZOH1 A.**

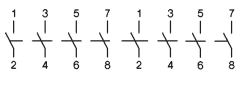
Main Switches f. Base Mounting, Door Clutch f. Single Hole, Plate 64□, IP66, UL LISTED, c UL us Type 4X

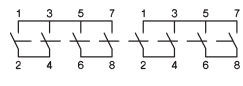
Depth is adjustable
see page 322
padlock device SV4

Type suffix

B ..A4B
O ..A4O
U ..A4U







DC21B / DC-PV1 600V DC	DC21B / DC-PV1 1000V DC	Poles in series	Number of strings	Type	Pack pcs.	Weight kg/pcs.
16A	10A	2	1	**LS16 VZVH4 A2**	1	0,23
25A	11,5A	2	1	**LS25 VZVH4 A2**	1	0,23
32A	13A	2	1	**LS32 VZVH4 A2**	1	0,23
45A	20A	2	1	**LS38 VZVH4 A2**	1	0,23
48A	29A	2	1	**LS40 VZVH4 A2**	1	0,51
55A	36A	2	1	**LS55 VZVH4 A2**	1	0,51
65A	40A	2	1	**LS65 VZVH4 A2**	1	0,51
29A	10A	2	1	**LS16 VZVH4 A2+2**	1	0,28
36A	11,5A	2	1	**LS25 VZVH4 A2+2**	1	0,28
55A	13A	2	1	**LS32 VZVH4 A2+2**	1	0,28
-	20A	2	1	**LS38 VZVH4 A2+2**	1	0,28
68A	29A	2	1	**LS40 VZVH4 A2+2**	1	0,65
85A	36A	2	1	**LS55 VZVH4 A2+2**	1	0,65
85A	40A	2	1	**LS65 VZVH4 A2+2**	1	0,65
16A	10A	2	2	**LS16 VZVH4 A4**	1	0,26
25A	11,5A	2	2	**LS25 VZVH4 A4**	1	0,26
32A	13A	2	2	**LS32 VZVH4 A4**	1	0,26
45A	20A	2	2	**LS38 VZVH4 A4**	1	0,26
48A	29A	2	2	**LS40 VZVH4 A4**	1	0,58
55A	36A	2	2	**LS55 VZVH4 A4**	1	0,58
65A	40A	2	2	**LS65 VZVH4 A4**	1	0,58
16A	16A	4	1	**LS16 VZVH4 A4.**	1	0,27
25A	25A	4	1	**LS25 VZVH4 A4.**	1	0,27
32A	32A	4	1	**LS32 VZVH4 A4.**	1	0,27
45A	-	4	1	**LS38 VZVH4 A4.**	1	0,27
48A	40A	4	1	**LS40 VZVH4 A4.**	1	0,62
55A	55A	4	1	**LS55 VZVH4 A4.**	1	0,62
-	-	4	1	**LS65 VZVH4 A4.**	1	0,62
16A	10A	2	3	**LS16 VZVH4 A6**	1	0,39
25A	11,5A	2	3	**LS25 VZVH4 A6**	1	0,39
32A	13A	2	3	**LS32 VZVH4 A6**	1	0,39
45A	20A	2	3	**LS38 VZVH4 A6**	1	0,39
48A	29A	2	3	**LS40 VZVH4 A6**	1	1,00
55A	36A	2	3	**LS55 VZVH4 A6**	1	1,00
-	-	2	3	**LS65 VZVH4 A6**	1	1,00
16A	10A	2	4	**LS16 VZVH4 A8**	1	0,44
25A	11,5A	2	4	**LS25 VZVH4 A8**	1	0,44
32A	13A	2	4	**LS32 VZVH4 A8**	1	0,44
45A	20A	2	4	**LS38 VZVH4 A8**	1	0,44
48A	29A	2	4	**LS40 VZVH4 A8**	1	1,11
55A	36A	2	4	**LS55 VZVH4 A8**	1	1,11
-	-	2	4	**LS65 VZVH4 A8**	1	1,11
29A	29A	4	1	**LS16 VZVH4 A4+2**	1	0,49
45A	45A	4	1	**LS25 VZVH4 A4+2**	1	0,49
58A	58A	4	1	**LS32 VZVH4 A4+2**	1	0,49
-	-	4	1	**LS38 VZVH4 A4+2**	1	0,49
72A	72A	4	1	**LS40 VZVH4 A4+2**	1	1,22
85A	85A	4	1	**LS55 VZVH4 A4+2**	1	1,22
85A	85A	4	1	**LS65 VZVH4 A4+2**	1	1,22

Main Switches for Distribution Boards, lockable, IP40, cULus Open Type

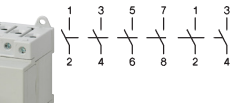
Padlock device SV1

Type suffix

B ..A4B

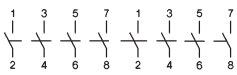
O ..A4O

U ..A4U

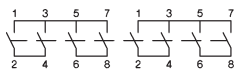


DC21B / DC-PV1 600V DC	DC-PV1 1000V DC	Poles in series	Number of strings	Type	Pack pcs.	Weight kg/pcs.
16A	10A	2	1	**LS16 SMAH1 A2**	1	0,19
25A	11,5A	2	1	**LS25 SMAH1 A2**	1	0,19
32A	13A	2	1	**LS32 SMAH1 A2**	1	0,19
45A	20A	2	1	**LS38 SMAH1 A2**	1	0,19
48A	29A	2	1	**LS40 SMAH1 A2**	1	0,40
55A	36A	2	1	**LS55 SMAH1 A2**	1	0,40
65A	40A	2	1	**LS65 SMAH1 A2**	1	0,40
29A	10A	2	1	**LS16 SMAH1 A2+2** [1]	1	0,25
36A	11,5A	2	1	**LS25 SMAH1 A2+2** [1]	1	0,25
55A	13A	2	1	**LS32 SMAH1 A2+2** [1]	1	0,25
-	20A	2	1	**LS38 SMAH1 A2+2** [1]	1	0,25
68A	29A	2	1	**LS40 SMAH1 A2+2**	1	0,54
85A	36A	2	1	**LS55 SMAH1 A2+2**	1	0,54
85A	40A	2	1	**LS65 SMAH1 A2+2**	1	0,54
16A	10A	2	2	**LS16 SMAH1 A4** [1]	1	0,22
25A	11,5A	2	2	**LS25 SMAH1 A4** [1]	1	0,22
32A	13A	2	2	**LS32 SMAH1 A4** [1]	1	0,22
45A	20A	2	2	**LS38 SMAH1 A4** [1]	1	0,22
48A	29A	2	2	**LS40 SMAH1 A4**	1	0,47
55A	36A	2	2	**LS55 SMAH1 A4**	1	0,47
65A	40A	2	2	**LS65 SMAH1 A4**	1	0,47
16A	16A	4	1	**LS16 SMAH1 A4.** [1]	1	0,23
25A	25A	4	1	**LS25 SMAH1 A4.** [1]	1	0,23
32A	32A	4	1	**LS32 SMAH1 A4.** [1]	1	0,23
45A	-	4	1	**LS38 SMAH1 A4.** [1]	1	0,23
48A	40A	4	1	**LS40 SMAH1 A4.**	1	0,50
55A	55A	4	1	**LS55 SMAH1 A4.**	1	0,50
-	-	4	1	**LS65 SMAH1 A4.**	1	0,50

16A	10A	2	3	**LS16 SMAH1 A6**	1	0,36
25A	11,5A	2	3	**LS25 SMAH1 A6**	1	0,36
32A	13A	2	3	**LS32 SMAH1 A6**	1	0,36
45A	20A	2	3	**LS38 SMAH1 A6**	1	0,36
48A	29A	2	3	**LS40 SMAH1 A6**	1	0,90
55A	36A	2	3	**LS55 SMAH1 A6**	1	0,90
-	-	2	3	**LS65 SMAH1 A6**	1	0,90



16A	10A	2	4	**LS16 SMAH1 A8**	1	0,41
25A	11,5A	2	4	**LS25 SMAH1 A8**	1	0,41
32A	13A	2	4	**LS32 SMAH1 A8**	1	0,41
45A	20A	2	4	**LS38 SMAH1 A8**	1	0,41
48A	29A	2	4	**LS40 SMAH1 A8**	1	0,41
55A	36A	2	4	**LS55 SMAH1 A8**	1	0,41
-	-	2	4	**LS65 SMAH1 A8**	1	0,41



29A	29A	4	1	**LS16 SMAH1 A4+2**	1	0,46
45A	45A	4	1	**LS25 SMAH1 A4+2**	1	0,46
58A	58A	4	1	**LS32 SMAH1 A4+2**	1	0,46
-	-	4	1	**LS38 SMAH1 A4+2**	1	0,46
72A	72A	4	1	**LS40 SMAH1 A4+2**	1	1,12
85A	85A	4	1	**LS55 SMAH1 A4+2**	1	1,12
85A	85A	4	1	**LS65 SMAH1 A4+2**	1	1,12

[1] Main Switches for Distribution Boards with low height handle, IP40, cULus Open Type

With type suffix „**+SV1N**“,	e.g.:	**LS.. SMAH1 A2+2 +SV1N**

Main Switches in Plastic Enclosure, Escutcheon plate 64□, IP66/67, cULus LISTED Type 4X

Padlock device SV4

DC21B / DC-PV1 600V DC	DC21B / DC-PV1 1000V DC	Poles in series	Number of strings	Type	Pack pcs.	Weight kg/pcs.
16A	10A	2	1	**LS16 PFLH4 A2**	1	0,43
25A	11,5A	2	1	**LS25 PFLH4 A2**	1	0,43
32A	13A	2	1	**LS32 PFLH4 A2**	1	0,43
45A	20A	2	1	**LS38 PFLH4 A2**	1	0,43
48A	29A	2	1	**LS40 PFLH4 A2** [1)]	1	1,59
55A	36A	2	1	**LS55 PFLH4 A2** [1)]	1	1,59
65A	40A	2	1	**LS65 PFLH4 A2** [1)]	1	1,59
29A	10A	2	1	**LS16 PFLH4 A2+2**	1	0,49
36A	11,5A	2	1	**LS25 PFLH4 A2+2**	1	0,49
55A	13A	2	1	**LS32 PFLH4 A2+2**	1	0,49
-	20A	2	1	**LS38 PFLH4 A2+2**	1	0,49
68A	29A	2	1	**LS40 PFLH4 A2+2** [1)]	1	1,74
85A	36A	2	1	**LS55 PFLH4 A2+2** [1)]	1	1,74
85A	40A	2	1	**LS65 PFLH4 A2+2** [1)]	1	1,74
16A	10A	2	2	**LS16 PFLH4 A4**	1	0,46
25A	11,5A	2	2	**LS25 PFLH4 A4**	1	0,46
32A	13A	2	2	**LS32 PFLH4 A4**	1	0,46
45A	20A	2	2	**LS38 PFLH4 A4**	1	0,46
48A	29A	2	2	**LS40 PFLH4 A4** [1)]	1	1,67
55A	36A	2	2	**LS55 PFLH4 A4** [1)]	1	1,67
65A	40A	2	2	**LS65 PFLH4 A4** [1)]	1	1,67

Type suffix

Type suffix	DC21B / DC-PV1 600V DC	DC21B / DC-PV1 1000V DC	Poles in series	Number of strings	Type	Pack pcs.	Weight kg/pcs.
B ..A4B	16A	16A	4	1	**LS16 PFLH4 A4.**	1	0,47
	25A	25A	4	1	**LS25 PFLH4 A4.**	1	0,47
	32A	32A	4	1	**LS32 PFLH4 A4.**	1	0,47
O ..A4O	45A	-	4	1	**LS38 PFLH4 A4.**	1	0,47
	48A	40A	4	1	**LS40 PFLH4 A4.** [1)]	1	1,70
	55A	55A	4	1	**LS55 PFLH4 A4.** [1)]	1	1,70
U ..A4U	-	-	4	1	**LS65 PFLH4 A4.** [1)]	1	1,70
16A	10A	2	3	**LS16 PFLH4 A6**	1	1,53
25A	11,5A	2	3	**LS25 PFLH4 A6**	1	1,53
32A	13A	2	3	**LS32 PFLH4 A6**	1	1,53
45A	20A	2	3	**LS38 PFLH4 A6**	1	1,53
48A	29A	2	3	**LS40 PFLH4 A6**	1	1,87
55A	36A	2	3	**LS55 PFLH4 A6**	1	1,87
-	-	2	3	**LS65 PFLH4 A6**	1	1,87
16A	10A	2	4	**LS16 PFLH4 A8**	1	1,58
25A	11,5A	2	4	**LS25 PFLH4 A8**	1	1,58
32A	13A	2	4	**LS32 PFLH4 A8**	1	1,58
45A	20A	2	4	**LS38 PFLH4 A8**	1	1,58
48A	29A	2	4	**LS40 PFLH4 A8**	1	1,94
55A	36A	2	4	**LS55 PFLH4 A8**	1	1,94
-	-	2	4	**LS65 PFLH4 A8**	1	1,94
29A	29A	4	1	**LS16 PFLH4 A4+2**	1	1,63
45A	45A	4	1	**LS25 PFLH4 A4+2**	1	1,63
58A	58A	4	1	**LS32 PFLH4 A4+2**	1	1,63
-	-	4	1	**LS38 PFLH4 A4+2**	1	1,63
72A	72A	4	1	**LS40 PFLH4 A4+2**	1	2,07
85A	85A	4	1	**LS55 PFLH4 A4+2**	1	2,07
85A	85A	4	1	**LS65 PFLH4 A4+2**	1	2,07

[1)] **Small Plastic Enclosure:** Type plus Type-suffix „**+PF2**“ z.B.: **LS.. PFLH4 A2+2 +PF2** (Dimensions see page 325)

Technical Data

Kind of current	Category		Typical applications	Test conditions for the number of on-load operating cycles (normal service) Make I/Ie	U/Ue	L/R	Break Ic/Ie	Ur/Ue	L/R	Test conditions for making and breaking capacities (operation in fault case) Make I/Ie	U/Ue	L/R	Break Ic/Ie	Ur/Ue	L/R
Direct current	**DC21A** frequent operation	**DC21B** infrequent operation	Switching of resistive loads including moderate overloads	1	1	1ms	1	1	1ms	1,5	1,05	1ms	1,5	1,05	1ms
	DC22A frequent operation	**DC22B** infrequent operation	Switching of mixed resistive a.induct. loads incl. moderate overloads (shunt motors)	1	1	2ms	1	1	2ms	4	1,05	2,5ms	4	1,05	2,5ms
	DC-PV1		Switching of single PV string(s) without reverse- and overcurrents.	1	1	1ms	1	1	1ms	1,5	1,05	1ms	1,5	1,05	1ms
	DC-PV2		Switching of several PV strings with reverse- and overcurrents.	1	1	1ms	1	1	1ms	4	1,05	1ms	4	1,05	1ms

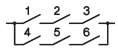
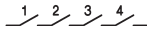
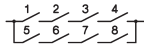
Data according to IEC 60947-3, VDE 0660, GB/T14048.3 (CCC China)

Main contacts			**Typ**	**LS16**	**LS25**	**LS32**	**LS38**	**LS40**	**LS55**
Rated thermal current I_{th}			A	16	25	32	45	48	55
Rated insulation voltage U_i 1)			V	1000	1000	1000	1000	1500	1500
Rated insulation voltage U_i 2)			V	1500	1500	1500	1500	1500	1500
Distance of contacts (per pole)			mm	8	8	8	8	8	8
Rated operational current I_e		300V	A	16	23	27	27	40	55
1 pole		400V	A	12/14	14/22	16/25	16/25	30/33	40/44
DC21A and DC21B	A1	500V	A	9/10	11/17	13/20	13/20	19/24	25/32
		600V	A	6/ 7	8 /12	10/15	10/15	15/19	20/25
		700V	A	4,5/ 5	6	7,5	7,5	10/12	15/18
		800V	A	3	4	5	5	8/10	10/13
		900V	A	2,5/ 3	3	4	4	6/ 8	8/ 10
		1000V	A	1,5/ 2	2	2,5/3	2,5/3	4 /5	6/ 8
only DC21B	2 poles in series	500V	A	16	25	32	- /45	48	55
	A2	600V	A	16	25	32	- /45	48	55
		700V	A	16	23/25	27/32	- /36	35/37	55
		800V	A	16/16	20	- / 23	- /30	35	45/55
		900V	A	13/16	16/17	- / 20	- /25	25/31	35/43
		1000V	A	9/10	11/11,5	13	- /20	25/29	- /36
		1200V	A	6/ 7	8 / 8,5	10	10	10/11	15/17
		1500V	A	3	4 / 5	5/ 6	-/ 6	6 /7,5	7,5/10
	2 poles in series	500V	A	29	45	58	- /65	72	85
	+ 2 poles parallel	600V	A	29	45	50/55		64/68	80/85
	A2+2	700V	A	16/ 22	23/27	27/32		35/49	55/77
		800V	A	16/ 17	20	- /23	- /30	35/42	45/63
		900V	A	13/ 16	16/17	- /20		25/31	35/43
		1000V	A	9/ 10	11/11,5	13	- /20	23/29	25/36
		1200V	A	6/ 7	8/ 8,5	10		10/11	15/17
		1500V	A	3	4/ 5	5/ 6	- / 6	6/7,5	7,5/10
	3 poles in series	500V	A	29	45	58		72	85
	+ 2 poles parallel	600V	A	29	45	50/58		72	85
	A3+2	700V	A	29	38/43	45/55		72	85
		800V	A	29	38/40	- /51		68	85
		900V	A	29	- /38	- /47		62	78
		1000V	A	29	- /38	- /45		58	70
		1200V	A	12	14/25	16/28			
		1500V	A	9	11/14	13/20			
	4 poles in series	500V	A	16	25	32	- /45	48	55
	A4	600V	A	16	25	32	- /45	48	55
		700V	A	16	25	32		40	55
		800V	A	16	25	32		40	55
		900V	A	16	25	32		40	55
		1000V	A	16	25	32	- /38	40	55
		1200V	A	16	25	32		40	55
		1500V	A	16	20/25	23/32	- / 32	30/40	40/55
	4 poles in series	500V	A	29	45	58	- / 65	72	85
	+ 2 poles parallel	600V	A	29	45	58		72	85
	A4+2	700V	A	29	45	- /58		72	85
		800V	A	29	45	- /58		72	85
		900V	A	29	45	- /58		72	85
		1000V	A	29	- /45	- /58	- /65	- /72	- /85
		1200V	A	29	- /45	50	- /50	- /56	- /65
		1500V	A	16	20/26	23/32	- /32	- /42	- /55
Rated operational current I_e									
AC21B	A2, A4	U_e max. 440V	A	16	25	32	45	48	55
	A2+2	U_e max. 440V	A	29	45	58		72	85

1) Suitable at overvoltage category I to III, pollution degree 3 (standard-industry): U_{imp} = 8kV.
2) Suitable at overvoltage category I to III, pollution degree 2 (min. IP55): U_{imp} = 8kV.

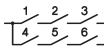
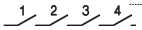
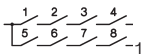
Technical Data

Data according to IEC 60947-3, VDE 0660

Main contacts	Type		LS16	LS25	LS32	LS38	LS40	LS55	LS65
Rated operational current I_e	300V	A	16	23	27	27	40	55	65
DC-PV1 1 Pole	400V	A	14	22	25	25	33	44	50
A1	500V	A	10	17	20	20	24	32	40
	600V	A	7	12	15	15	19	25	30
	700V	A	5	6	7,5	7,5	12	18	21
	800V	A	3	4	5	5	10	13	15
	900V	A	3	3	4	4	8	10	10
	1000V	A	2	2	3	3	5	8	8
2 Poles in series	500V	A	16	25	32	45	48	55	65
A2	600V	A	16	25	32	45	48	55	65
	700V	A	16	25	32	36	37	55	65
	800V	A	16	20	23	30	35	55	65
	900V	A	16	17	20	25	31	43	55
	1000V	A	10	11,5	13	20	29	36	40
	1100V	A	8	10	11,5	-	19	25	-
	1200V	A	7	8,5	10	10	11	17	17
	1300V	A	6	7	8	-	10	14	-
	1400V	A	5	6	7	-	9	12	-
	1500V	A	3	5	6	6	8	10	10
2 Poles in series	500V	A	29	45	58	65	72	85	85
+ 2 Pole parallel	600V	A	29	45	55	58	68	85	85
A2+2	700V	A	22	27	32	36	49	77	80
	800V	A	17	20	23	30	42	63	65
	900V	A	16	17	20	25	31	43	55
	1000V	A	10	11,5	13	20	29	36	40
	1100V	A	8	10	11,5	-	19	25	-
	1200V	A	7	8,5	10	10	11	17	17
	1300V	A	6	7	8	-	10	14	-
	1400V	A	5	6	7	-	9	12	-
	1500V	A	3	5	6	6	8	10	10
3 Poles in series	500V	A	29	45	58	-	72	85	-
+ 2 Poles parallel	600V	A	29	45	58	-	72	85	-
A3+2	700V	A	29	43	55	-	72	85	-
	800V	A	29	40	51	-	68	85	-
	900V	A	29	38	47	-	62	78	-
	1000V	A	29	38	45	-	58	70	-
	1100V	A	19	27	37	-	-	-	-
	1200V	A	17	25	28	-	-	-	-
	1300V	A	15	21	25	-	-	-	-
	1400V	A	12	18	22	-	-	-	-
	1500V	A	10	14	20	-	-	-	-
4 Poles in series	500V	A	16	25	32	45	48	55	65
A4	600V	A	16	25	32	45	48	55	65
	700V	A	16	25	32	45	48	55	65
	800V	A	16	25	32	45	48	55	65
	900V	A	16	25	32	45	48	55	65
	1000V	A	16	25	32	38	40	55	65
	1100V	A	16	25	32	-	40	55	65
	1200V	A	16	25	32	32	40	55	65
	1300V	A	16	25	32	-	40	55	65
	1400V	A	16	25	32	-	40	55	65
	1500V	A	16	25	32	32	40	55	65
4 Poles in series	500V	A	29	45	58	65	72	85	85
+ 2 Poles parallel	600V	A	29	45	58	65	72	85	85
A4+2	700V	A	29	45	58	65	72	85	85
	800V	A	29	45	58	65	72	85	85
	900V	A	29	45	58	65	72	85	85
	1000V	A	29	45	58	65	72	85	85
	1100V	A	29	45	54	-	60	68	-
	1200V	A	29	45	50	50	56	65	65
	1300V	A	26	39	44	-	50	61	-
	1400V	A	23	33	38	-	46	-	-
	1500V	A	20	26	32	32	42	55	55

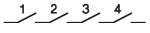
Technical Data

Data according to IEC 60947-3, VDE 0660

Main contacts	Type		LS16	LS25	LS32	LS38	LS40	LS55	LS65
Rated operational current I_e	300V	A	16	23	27	27	40	55	-
DC-PV2 1 Pole	400V	A	14	18	20	20	30	40	-
A1	500V	A	10	12	14	14	19	25	-
	600V	A	5	6	8	8	10	13	-
	700V	A	1,5	2	3	3	7	10	-
	800V	A	1,5	2	3	3	6	8	-
	900V	A	1	1,5	2	2	5	6	-
	1000V	A	1	1,5	2	2	3	4	-
2 Poles in series	500V	A	16	25	32	38	40	55	65
A2	600V	A	14	21	27	31	40	55	65
	700V	A	13	19	22	25	35	55	65
	800V	A	12	15	17	19	33	49	52
	900V	A	8	10	12	14	25	35	38
	1000V	A	4	5	6	7	16	20	20
	1100V	A	3	4	5	-	11	15	-
	1200V	A	2	3	4	4	8	12	12
	1300V	A	1,5	2	3	-	7	10	-
	1400V	A	1	2	3	-	7	9	-
	1500V	A	1	1,5	2	2	6	8	8
2 Poles in series	500V	A	25	39	50	58	72	85	85
+ 2 Poles parallel	600V	A	20	32	35	38	33	49	75
A2+2	700V	A	13	19	22	25	33	49	65
	800V	A	12	15	17	19	33	49	52
	900V	A	8	10	12	14	25	35	38
	1000V	A	4	5	6	7	16	20	20
	1100V	A	3	4	5	-	11	15	-
	1200V	A	2	3	4	4	8	12	12
	1300V	A	1,5	2	3	-	7	10	-
	1400V	A	1	2	3	-	7	9	-
	1500V	A	1	1,5	2	2	6	8	8
3 Poles in series	500V	A	24	45	58	65	72	85	-
+ 2 Poles parallel	600V	A	22	34	44	48	78	-	-
A3+2	700V	A	20	28	34	35	62	69	-
	800V	A	18	24	29	31	53	61	-
	900V	A	16	20	24	24	55	-	-
	1000V	A	14	18	20	20	35	50	-
	1100V	A	-	-	-	-	-	-	-
	1200V	A	11	13	15	15	-	-	-
	1300V	A	-	-	-	-	-	-	-
	1400V	A	-	-	-	-	-	-	-
	1500V	A	4	6	8	8	-	-	-
4 Poles in series	500V	A	16	25	32	45	48	55	65
A4	600V	A	16	25	32	45	48	55	65
	700V	A	16	25	32	45	48	55	65
	800V	A	16	25	32	38	40	55	65
	900V	A	16	25	32	38	40	55	65
	1000V	A	16	25	32	38	40	55	65
	1100V	A	15	25	32	-	-	55	-
	1200V	A	13,5	21	27	27	40	55	55
	1300V	A	12	19	24	-	-	50	-
	1400V	A	10,5	16	21	-	-	45	-
	1500V	A	9	14	18	18	30	40	40
4 Poles in series	500V	A	29	45	58	65	72	85	-
+ 2 Poles parallel	600V	A	29	45	58	65	72	85	-
A4+2	700V	A	25	40	53	65	72	80	-
	800V	A	21	35	45	60	67	75	-
	900V	A	18	30	37	55	59	70	-
	1000V	A	16	25	32	50	52	64	-
	1100V	A	-	-	-	-	44	59	-
	1200V	A	13,5	21	27	27	40	55	-
	1300V	A	-	-	-	-	36	50	-
	1400V	A	-	-	-	-	33	45	-
	1500V	A	9	14	18	18	30	40	-

Technical Data

Data according to IEC 60947-3, VDE 0660

Main contacts			**Type**	**LS16**	**LS25**	**LS32**	**LS38**	**LS40**	**LS55/LS65**
Rated operational current I_e		500V	A	1	1,25	1,5	x	x	2,5
DC22B	1 pole	600V	A	0,5	0,75	1	x	x	2,0
	A1	800V	A	0,3	0,4	0,5	x	x	1,5
		1000V	A	0,15	0,2	0,25	x	x	1,0
		1200V	A	-	-	-	x	x	x
		1500V	A	-	-	-	x	x	x
	2 poles in series	500V	A	7	8	9	x	x	x
	A2	600V	A	5,5	6	6,5	x	x	x
		800V	A	2	2,5	3	x	x	x
		1000V	A	1	1,5	2	x	x	x
		1200V	A	-	-	-	x	x	x
		1500V	A	-	-	-	x	x	x
	4 poles in series	500V	A	16	25	32	x	x	x
	A4	600V	A	16	25	27,5	x	x	x
		800V	A	11,5	12	12,5	x	x	x
		1000V	A	8	9	10	x	x	x
		1200V	A	-	-	-	x	x	x
		1500V	A	-	-	-	x	x	x
Rated conditional short-circuit current			kA_{eff}	5	5	5	5	10	10
Max. fuse size		gL (gG)	A	40	63	80	80	125	160
Mechanical life			$x10^3$	10	10	10	10	10	10
Rated short-time		Icw A2, A4, A6, A8	A	800	900	1000	1000	A2, A4: 1200	A2, A4: 1400
withstand current (1s)		A2+2, A3+2, A4+2	A	1300	1500	1700	1700	A2+2: 2000	A2+2: 2400
Short circuit		Icm A2, A4, A6, A8	A	800	900	1000	1000	A2, A4: 1200	A2, A4: 1400
making capacity		A2+2, A3+2, A4+2	A	1300	1500	1700	1700	A2+2: 2000	A2+2: 2400
Maximum cable cross sections (incl. jumper)				LSV-B1	LSV-B1	LSV-B1	LSV-B1	LSV-B2	LSV-B2
solid or stranded			mm^2	4 - 16	4 - 16	4 - 16	4-16	2,5 - 25	2,5 - 25
flexible			mm^2	4 - 10	4 - 10	4 - 10	4-10	2,5 - 16	2,5 - 16
flexible (+ multicore cable end)			mm^2	4 - 10	4 - 10	4 - 10	4-10	1,5 - 16	1,5 - 16
Size of terminal screw				M4 Pz2	M4 Pz2	M4 Pz2	M4 Pz2	M5 Pz2	M5 Pz2
Tightening torque			Nm	1,8 - 2	1,8 - 2	1,8 - 2	1,8 - 2	2,5 - 2,8	2,5 - 2,8
2 cables per terminal without jumper LSV-B1 / LSV-B2									
	solid or stranded		mm^2	16+(1,5-2,5) / 10+(1,5-6) / 6+(1,5-10) / 4+(1,5-10)				16+(1,5-2,5) / 10+(1,5-10) / 6+(1,5-10) / 4+(1,5-10)	
	flexible & flexible + multicore cable end		mm^2	16+(1,5-2,5) / 10+(1,5-4) / 6+(1,5-6)				16+(1,5-6) / 10+(1,5-10) / 6+(1,5-16) / 4+(1,5-16)	
	stranded		AWG	8+(16-12) / 10+(16-10) / 12+(16-8) 14+(16-8)				3+(18-10) / 4+(18-10) / 6+(18-8) 8+(18-8)	
	solid		AWG	10+(16-12) / 12+(16-10) 14+(16-10)				10+(16-10) / 12+(16-10) / 14+(16-10) 12+(16-10) /14+(16-10)	
Maximum ambient temperature									
Operation		open	°C	-40 to +65					
		enclosed	°C	-40 to +45					
Storage			°C	-50 to +90					
Power loss per switch at $I_{e\ max.}$				A	A	A		A	A
A2			(A)/W	(16)/ 1	(25)/ 2,3	(32)/ 3,7		(40)/ 4	(55)/ 7,5
A4			(A)/W	(16)/ 2	(25)/ 4,6	(32)/ 7,4		(40)/ 8	(55)/ 15
A6			(A)/W	(16)/ 3	(25)/ 6,9	(32)/ 11,1		(40)/ 12	(55)/ 22,5
A8			(A)/W	(16)/ 4	(25)/ 9,2	(32)/ 14,8		(40)/ 16	(55)/ 30
A2+2			(A)/W	(29)/1,5	(45)/ 3,7	(58)/ 6		(72)/ 6,5	(85)/ 9
A3+2			(A)/W	(29)/2,3	(45)/ 5,6	(58)/ 9		(72)/ 9,8	(85)/ 14
A4+2			(A)/W	(29)/3	(45)/ 7,4	(58)/ 12		(72)/ 13	(85)/ 18
Contact resistance per pole			mΩ	1,75	1,75	1,75		1,25	1,25

x pending

Technical Data

Daten according to UL508I File E359344 Category np.: NMSJ and UL508 File E332938, Category no.: NRNT2, NRNT8

Typ				LS16	LS25	LS32	LS38	LS40	LS55	LS65
Ampere-Rating "General use"		**DC**								
1 Pole		350V	A	4	5	6	6	7,1	10,0	10,0
		500V	A	4	5	6	6	5,7	7,0	7,0
		600V	A	4	5	6	6	5,0	5,8	5,8
		700V	A	-	-	-	-	3,9	5,0	5,0
		800V	A	-	-	-	-	3,2	4,4	4,4
		900V	A	-	-	-	-	2,5	3,5	3,5
		1000V	A	-	-	-	-	1,5	2,0	2,0
2 Poles in series A2		350V	A	16	25	32	45	48	55	65
		500V	A	16	25	32	45	48	55	65
		600V	A	16	25	32	36	40	55	65
		700V	A	-	-	-	-	32	46	50
		800V	A	-	-	-	-	26	37	40
		900V	A	-	-	-	-	20	28	32
		1000V	A	-	-	-	-	16	20	25
2 Poles in series + 2 Poles parallel A2+2		350V	A	29	45	58	58	72	85	85
		500V	A	29	41	43	45	53	66	73
		600V	A	21	30	33	36	42	55	65
		700V	A	-	-	-	-	35	47	50
		800V	A	-	-	-	-	30	40	40
		900V	A	-	-	-	-	26	32	32
		1000V	A	-	-	-	-	22	25	25
4 Poles in series A4		350V	A	16	25	32	45	48	55	65
		500V	A	16	25	32	45	48	55	65
		600V	A	16	25	32	36	40	55	65
		700V	A	-	-	-	-	40	55	65
		800V	A	-	-	-	-	40	55	65
		900V	A	-	-	-	-	40	55	65
		1000V	A	-	-	-	-	40	55	65
3 Poles in series + 2 Poles parallel A3+2		350V	A	29	45	58	58	72	85	85
		500V	A	29	41	50	50	56	80	85
		600V	A	21	38	45	45	52	65	72
		700V	A	-	-	-	-	46	58	66
		800V	A	-	-	-	-	40	51	60
		900V	A	-	-	-	-	36	45	54
		1000V	A	-	-	-	-	33	42	48
4 Poles in series + 2 Poles parallel A4+2		350V	A	29	45	58	58	80	85	85
		500V	A	29	45	58	58	71	85	85
		600V	A	29	45	50	50	65	85	85
		700V	A	-	-	-	-	58	76	85
		800V	A	-	-	-	-	51	71	76
		900V	A	-	-	-	-	45	67	73
		1000V	A	-	-	-	-	42	64	70
AC-Rating "General use"										
2 Poles in series	1 phase	600V	A	16	25	32	-	40	55	-
2 Poles in series + 2 Poles parallel	1 phase	277V	A	-	-	50	-	72	85	-
3 Poles parallel	3 phase	480V	A	-	-	32	-	40	55	-
Fuse size (RK5) Industrial Control Switch										
5kA / 600V			A	40	60	80	80	-	-	-
5kA/1000V			A	-	-	-	-	160	160	160
Max. cable cross sections incl. jumpers LSV-B1 / LSV-B2										
solid			AWG	12 - 10	12 - 10	12 - 10	12 - 10	16 - 10	16 - 10	
flexible or stranded			AWG	12 - 6	12 - 6	12 - 6	12 - 6	14 - 3	14 - 3	
flexible (+ multicore cable end)			AWG	12 - 6	12 - 6	12 - 6	12 - 6	16 - 4	16 - 4	
Size of terminal screw				M4 Pz2	M4 Pz2	M4 Pz2	M4 Pz2	M5 Pz2	M5 Pz2	
Tightening torque			Nm	1,8 - 2	1,8 - 2	1,8 - 2	1,8 - 2	2,5 - 2,8	2,5 - 2,8	
Protection class of terminals [1]				IP20	IP20	IP20	IP20	IP20	IP20	

1) Protection class of the terminals with connected, insulated conductors.

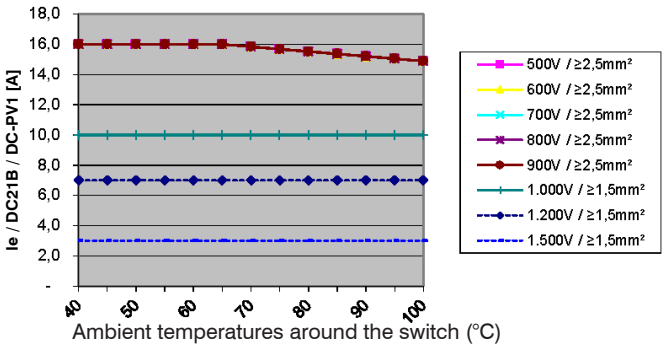
Approvals

Country / Type	USA, UL508I	US, Canada UL508	Europe	China CCC	CB-Certificates	EAC
LS16	o	o	/	o	o	o
LS25	o	o	/	o	o	o
LS32	o	o	/	o	o	o
LS38	o	o	/	o	o	o
LS40, LS55	o	o	/	o	o	o
LS65	o	o	/	-	o	o

o In standard version approved / No testing required CE x In test - Not provided for test

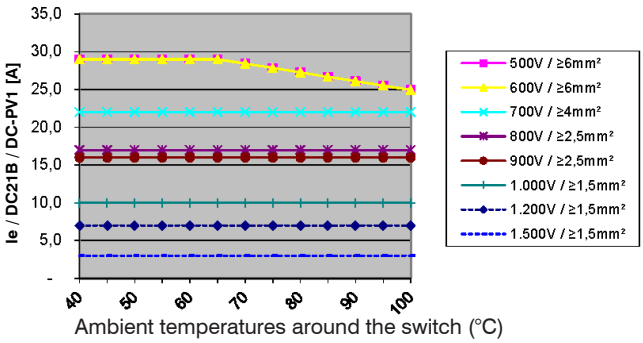
Example for maximum currents according to ambient temperatures and cable cross sections:

Switch open LS16.., 2 contacts in series (A2)



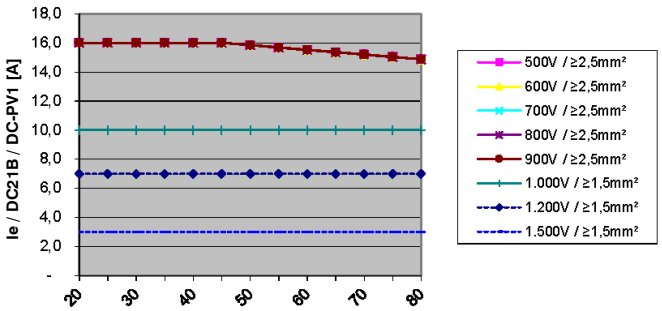
Ambient temperatures around the switch (°C)

Switch open LS16 .., 2 contacts in series + 2 parallel (A2+2)



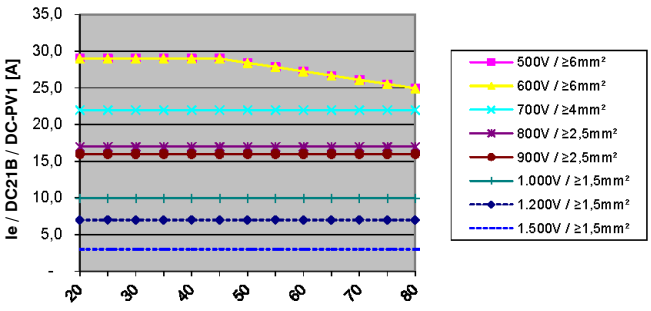
Ambient temperatures around the switch (°C)

Switch enclosed LS16 PFL.., 2 contacts in series (A2)



Ambient temperatures around the switch (°C)

Switch enclosed LS16 PFL.., 2 contacts in series + 2 parallel (A2+2)

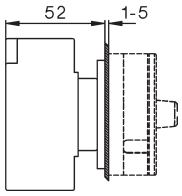


Ambient temperatures around the switch (°C)

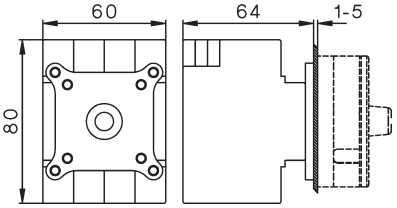
All data about maximum currents according to ambient temperatures and cable cross sections for switches LS16.. to LS65.. (open or enclosed) please find under ➡ www.benedict.at (Button "Customers").

Dimensions

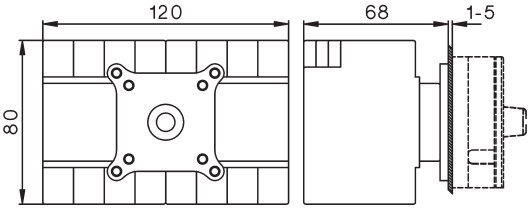
LS16 E.., LS25 E.., LS32 E.., LS38E..
..A2



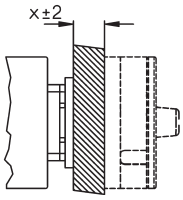
..A2+2, ..A4.



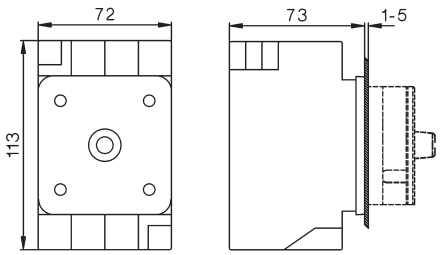
LS16 E.., LS25 E.., LS32 E.., LS38 E
..A6, ..A8, ..A3+2, ..A4+2



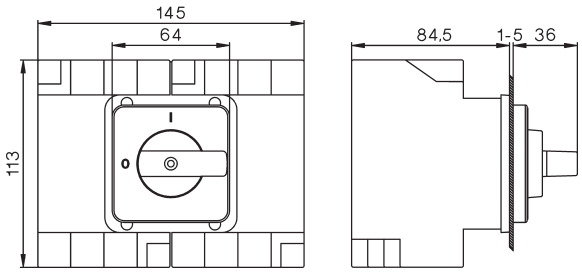
LS... +VW"x"
Extended Switch Shaft



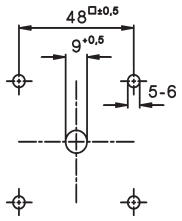
LS40 E.., LS55 E.., LS65E..
..A2, ..A2+2, ..A4.



LS40 E.., LS55 E.., LS65E..
..A6, ..A8, ..A3+2, ..A4+2

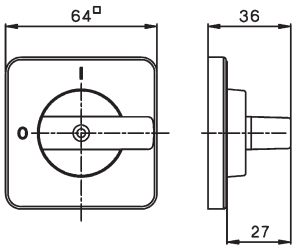


Mounting hole
Mounting screw:
S3631N M=1,2-1,4 Nm

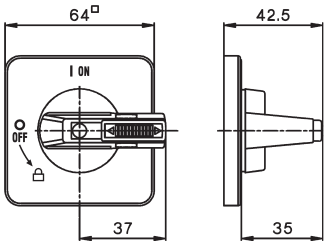


Escutcheon plate 64□

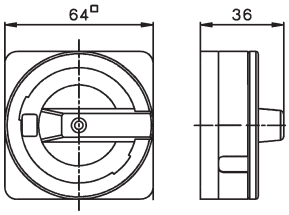
Handle



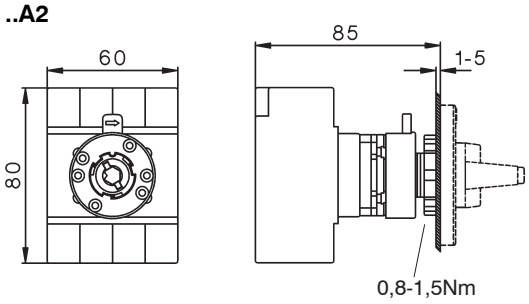
Padlock device SV1.



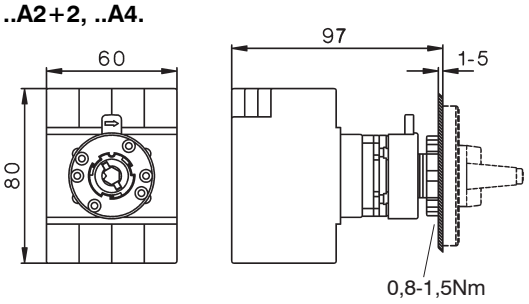
Padlock device SV4.



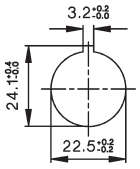
LS16 Z.., LS25 Z.., LS32 Z.., LS38 Z..
..A2



..A2+2, ..A4.

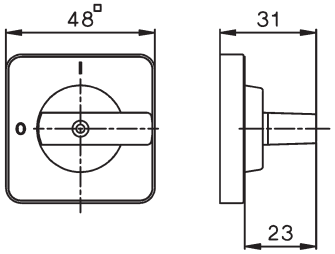


Mounting hole

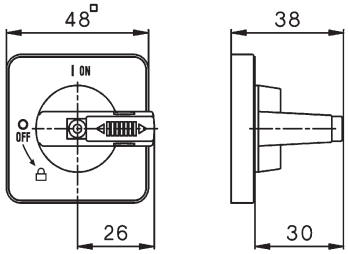


Escutcheon plate 48□

Handle

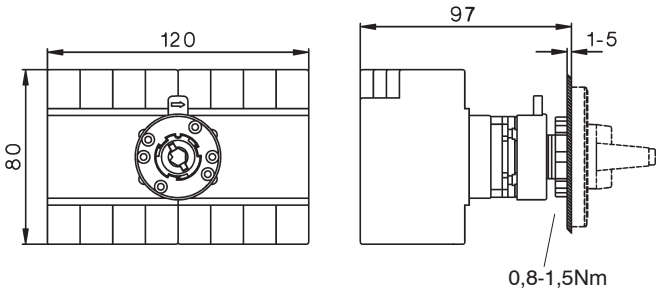


Padlock device SV1.

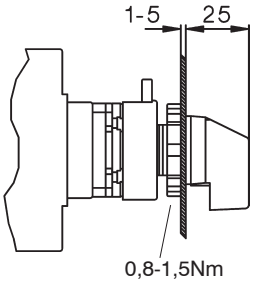


Dimensions

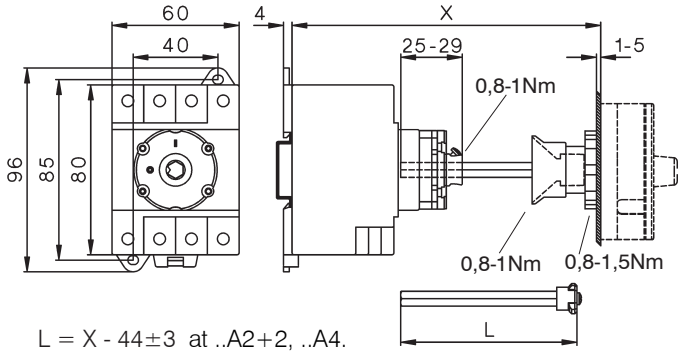
LS16 Z.., LS25 Z.., LS32 Z.., LS38 Z..
..A6, ..A8, ..A3+2, ..A4+2



LS.. ZO..



LS16 VZV.., LS25 VZV.., LS32 VZV.., LS38 VZV..
..A2, ..A2+2, ..A4



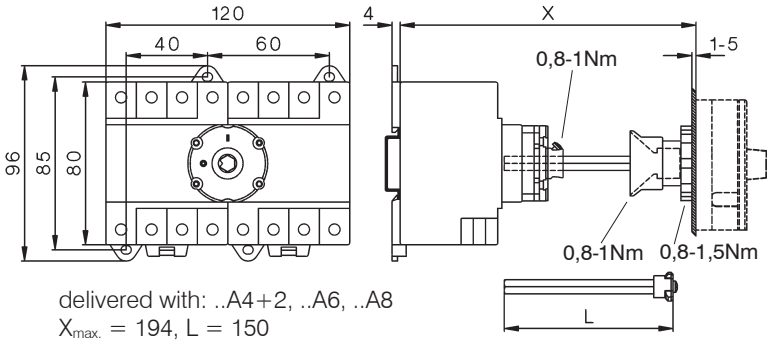
L = X - 44±3 at ..A2+2, ..A4.
L = X - 32±3 at ..A2

delivered with: ..A2+2, ..A4.
$X_{max.}$ = 194, L = 150
($X_{min.}$ = 89)

delivered with: ..A2
$X_{max.}$ = 182, L = 150
($X_{min.}$ = 77)

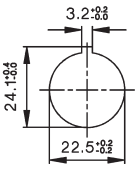
Bigger X-Dimensions on request

LS16 VZV.., LS25 VZV.., LS32 VZV.., LS38 VZV..
..A6, ..A8, ..A3+2, ..A4+2



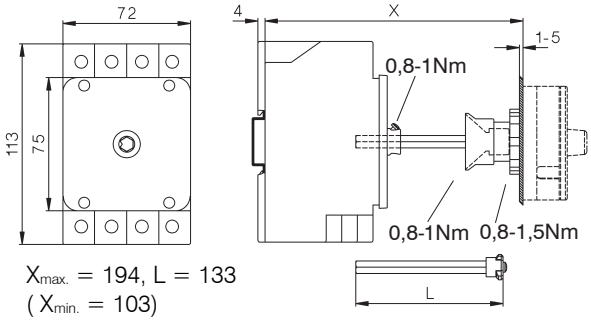
delivered with: ..A4+2, ..A6, ..A8
$X_{max.}$ = 194, L = 150
($X_{min.}$ = 95)

Mounting hole



L = X - 49±3

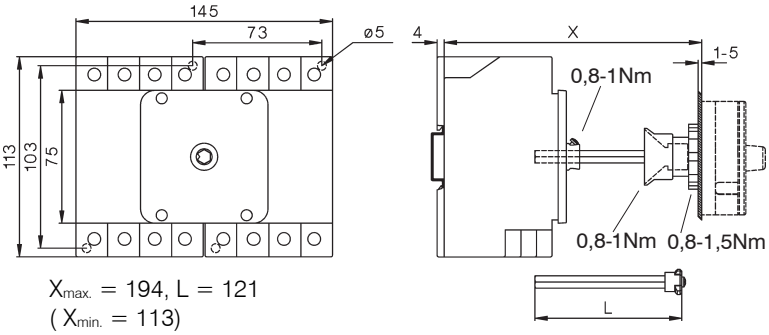
LS40 VZV.., LS55 VZV.., LS65 VZV..
..A2, ..A2+2, ..A4.



$X_{max.}$ = 194, L = 133
($X_{min.}$ = 103)

L = X - 61± 3

LS40 VZV.., LS55 VZV.., LS65 VZV..
..A6, ..A8, ..A3+2, ..A4+2

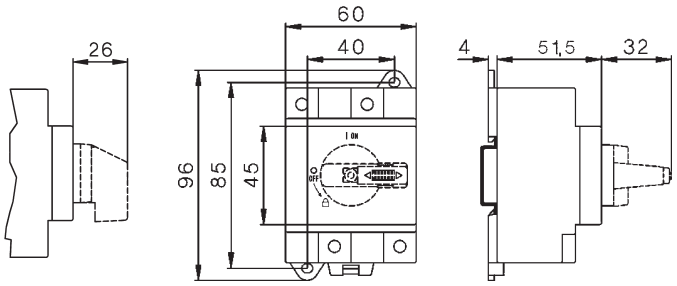


$X_{max.}$ = 194, L = 121
($X_{min.}$ = 113)

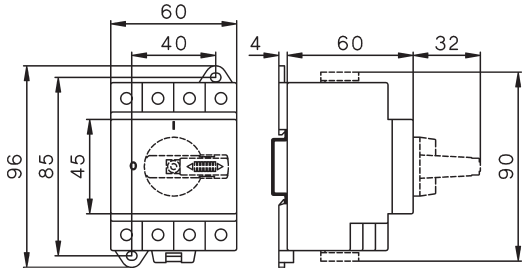
L = X - 73± 3

Dimensions

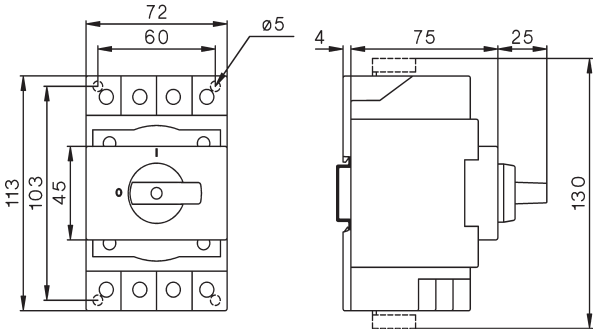
LS16 SMA.., LS25 SMA.., LS32 SMA.., LS38 SMA..
..A2



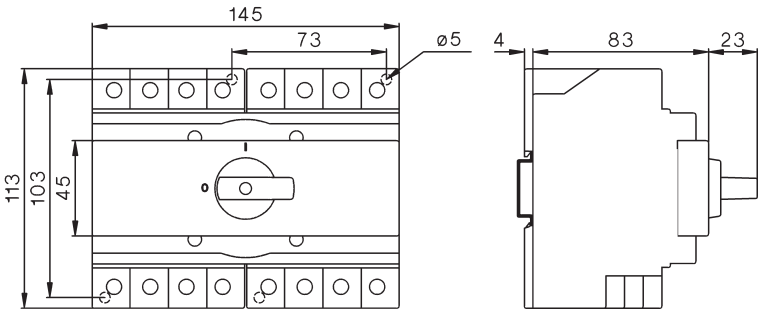
..A2+2, ..A4



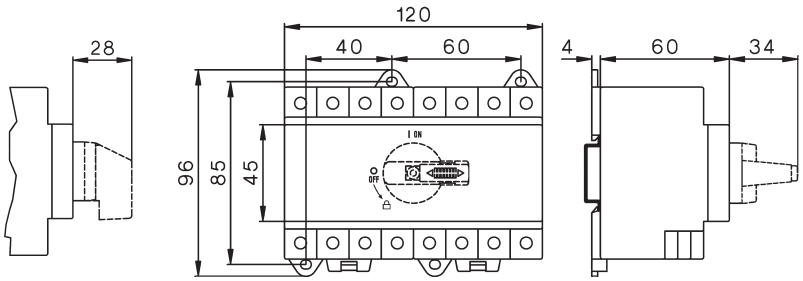
LS40 SMA.., LS55 SMA.., LS65 SMA..
..A2, ..A2+2, ..A4



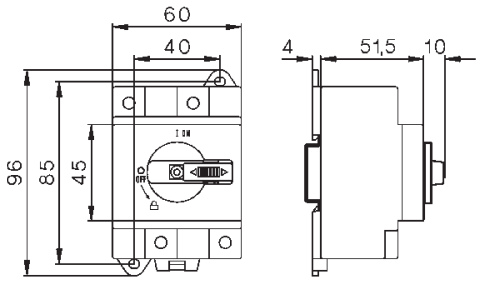
LS40 SMA.., LS55 SMA.., LS65 SMA..
..A6, ..A8, ..A3+2, ..A4+2



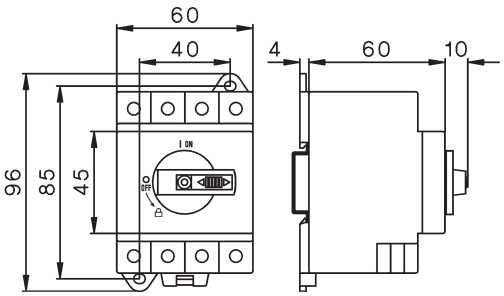
LS16 SMA.., LS25 SMA.., LS32 SMA.., LS38 SMA..
..A6, ..A8, ..A3+2, ..A4+2



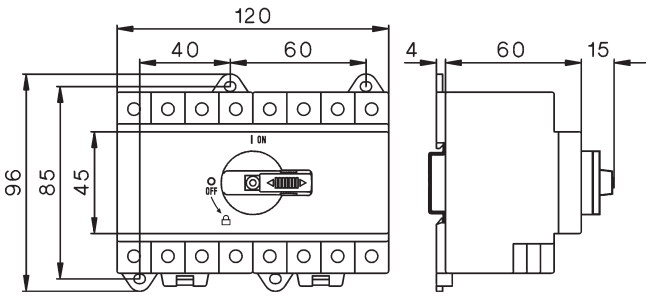
LS.. SMAH1.. with low height handle
A2 +SV1N



LS16 SMAH1.., LS25 SMAH1.., LS32 SMAH1.., LS38 SMAH1.. with low height handle
A2+2 +SV1N, A4 +SV1N



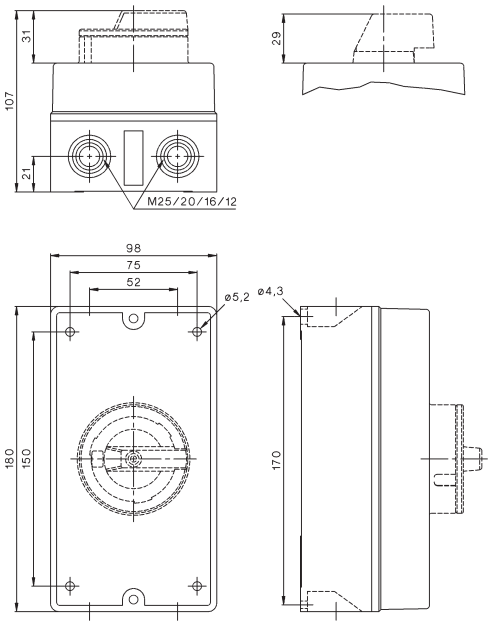
A4+2 +SV1N, A6 +SV1N, A8 +SV1N



Dimensions

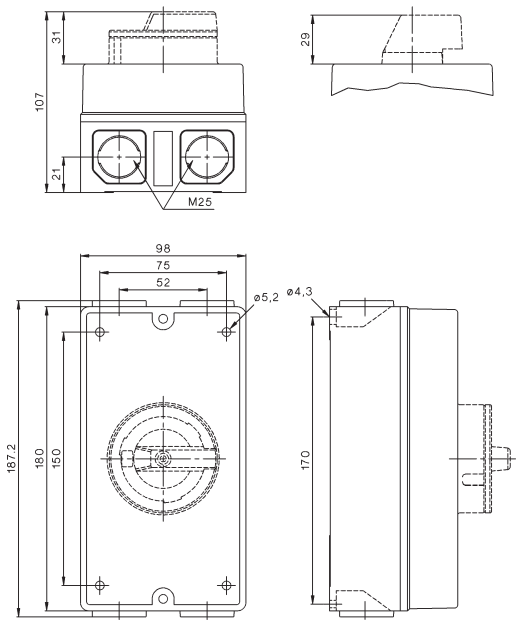
LS16 PFL.., LS25 PFL.., LS32 PFL.., LS38 PFL..
..A2, ..A2+2, ..A4.

Main-Switch (lockable)
LS..PFLH4 A..



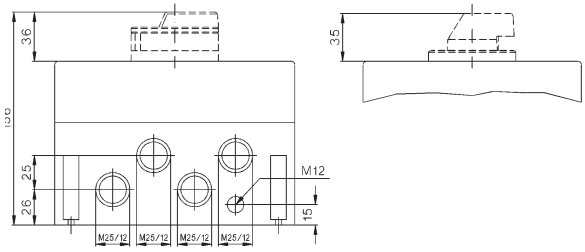
LS16 PFL.., LS25 PFL.., LS32 PFL.., LS38 PFL..
..A2, ..A2+2, ..A4.
+ M25

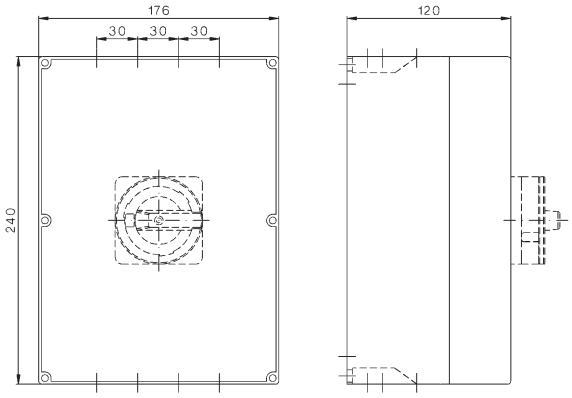
Main-Switch (lockable)
LS..PFLH4 A..

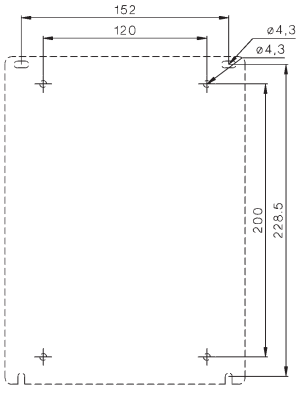


LS16 PFL.., LS25 PFL.., LS32 PFL.., LS38 PFL..,
..A2, ..A4, ..A6, ..A8, ..A2+2, ..A3+2, ..A4+2
LS40 PFL.., LS55 PFL.., LS65 PFL..
..A6, ..A8, ..A3+2, ..A4+2

Main-Switch (lockable)
LS..PFLH4 A..



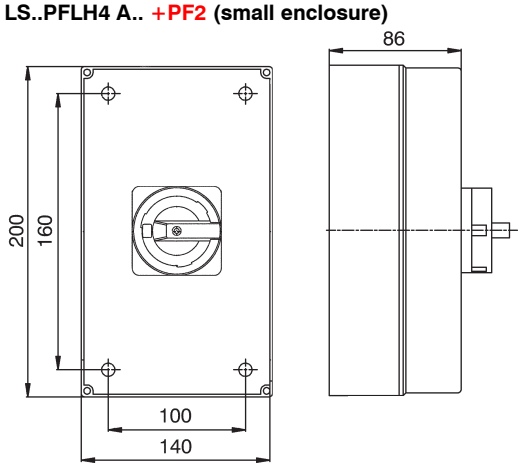


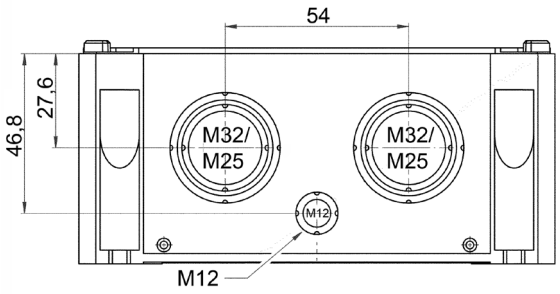


Dimensions

LS40 PFL.., LS55 PFL.., LS65 PFL..
..A2, ..A4, ..A2+2

Main switch (lockable)
LS..PFLH4 A.. +PF2 (small enclosure)





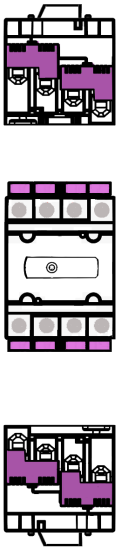
Insulated jumpers LSV-.. for series- and parallel switching of contacts:

for switches	Type	Pack	Weight
LS16, LS25, LS32, LS38	LSV-B1-1	100	7,0 g/pcs.
LS16, LS25, LS32, LS38	LSV-B1-2	100	12,0 g/pcs.
LS40, LS55, LS65	LSV-B2-1	100	9,0 g/pcs.
LS40, LS55, LS65	LSV-B2-2	100	17,0 g/pcs.

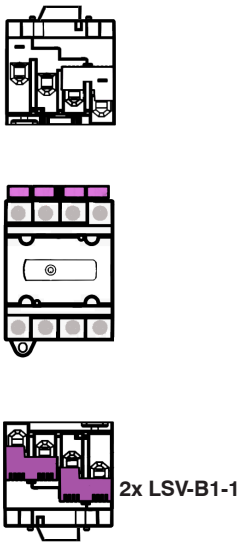
Typ	LS16 LS25 LS32	LS38	LS40 LS55 LS65
A4O A4U A4B	2 x LSV-B1-1 N	2 x LSV-B1-2 N	2 x LSV-B2-2 N
A2+2	4 x LSV-B1-1 N		4 x LSV-B2-1 N
A4+2	8 x LSV-B1-1 N 2 x LSV-B1-2 N		8 x LSV-B2-1 N 2 x LSV-B2-2 N

Applications:

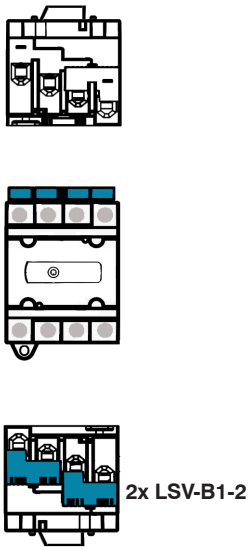
LS16-38 VZV.. A2+2



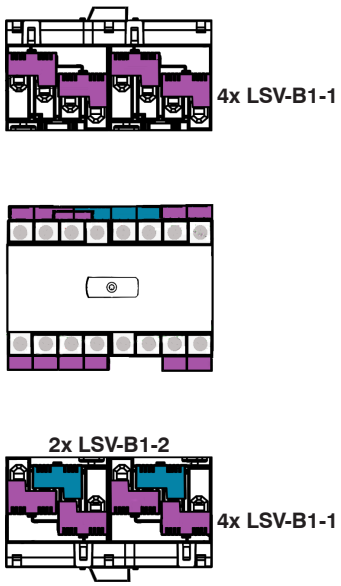
LS16-32 VZV.. A4O



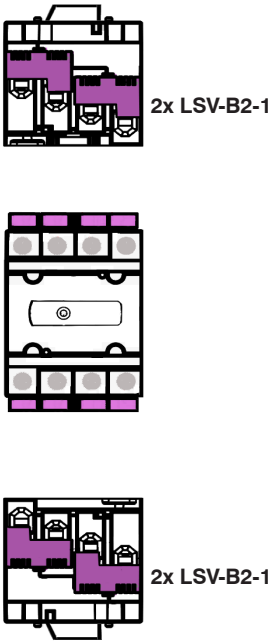
LS38 VZV.. A4O



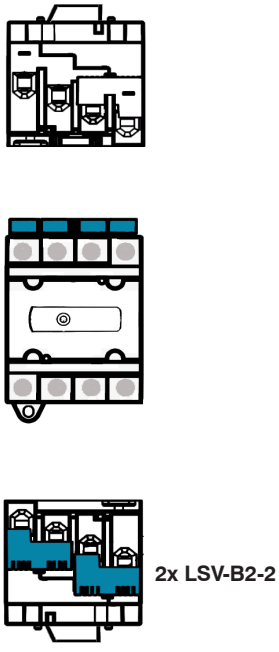
LS16-38 VZV.. A4+2



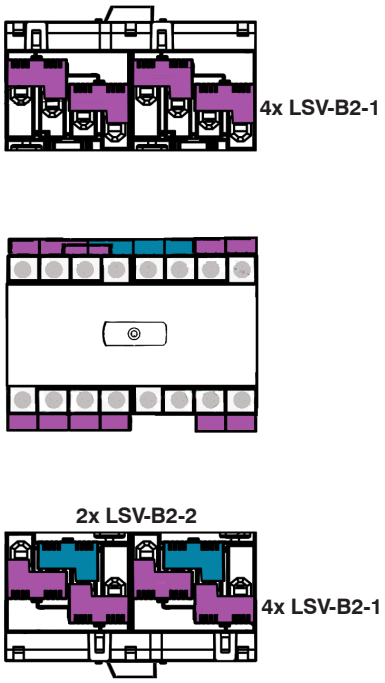
LS40-65 VZV.. A2+2



LS40-65 VZV.. A4O



LS40-65 VZV.. A4+2



Further applications for switches LS16.. up to LS65.. please find under ➡ www.benedict.at (Button “Customers”).