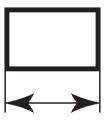
**Index**


| | | Page |
|---|---|---|
| | ON-OFF Switches for Panel Mounting | 306 |
| | ON-OFF Switches for Single Hole Mounting | 307 |
| | ON-OFF Switches for Base Mounting with Door Clutch | 308 |
| | ON-OFF Switches for Distribution Boards | 309 |
| | Main Switches for Panel Mounting | 310 |
| | Main Switches for Single Hole Mounting | 311 |
| | Main Switches for Base Mounting with Door Clutch | 312 |
| | Main Switches for Distribution Boards | 313 |
| | Main Switches in Plastic Enclosure | 314 |
| | Technical Datas<br>Approvals | 315<br>319 |
|  | Dimensions | 321 |

## Ratings

**Rated current**

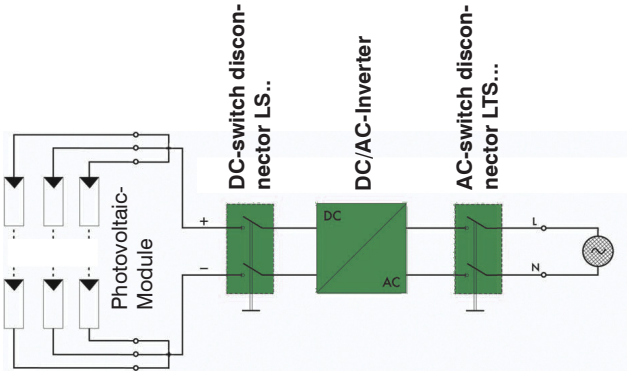
## DC-Switch Disconnectors

**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.



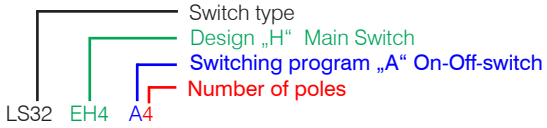

Switch disconnectors „LS..“ ensures a reliable switching up to 85A with 1500V in the category DC21B (DC-PV1).

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

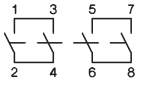
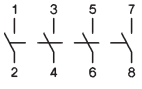
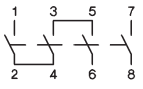
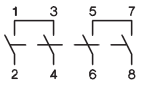
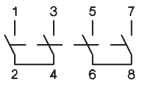
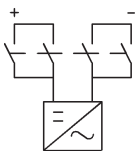
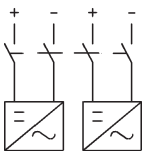
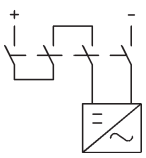
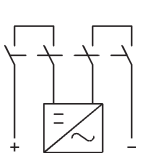
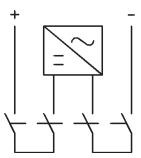
The switch disconnector has 2, 4, 6 or 8 contacts, by serial or parallel wiring of the contacts the contact rating will be increased. The switching speed at the manually operated handle does not have an effect on the switching attitude of the contacts.

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

## Ordering




## Switching programs

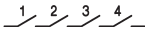
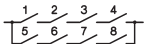
| Type | 2-pole | 2+2-pole 2 poles in series +2 poles parallel | 4-pole | 4-pole with jumpers Input on top Output bottom | 4-pole with jumpers Input and Output bottom | 4-pole with jumpers Input and Output on top |
|---|---|---|---|---|---|---|
| **LS16 ... LS55** | .. A2 | .. A2+2 | ..A4(2 x A2) | ..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

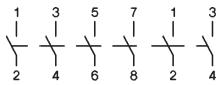
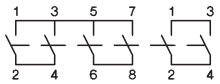
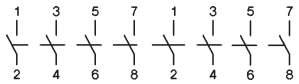
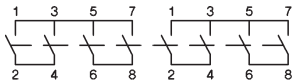
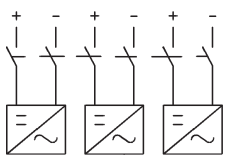
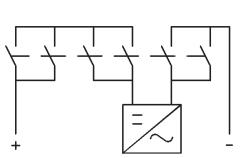
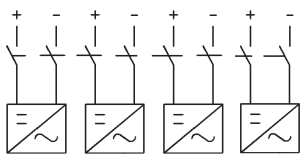
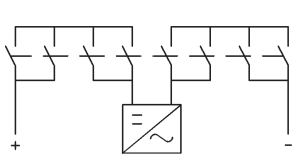
1) Protection in front and built in.

# 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

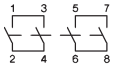
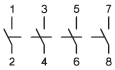
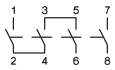
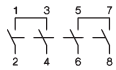
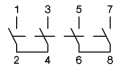
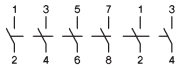
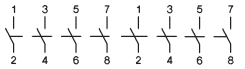
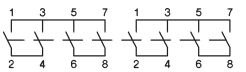
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **B ..A4B** | 16A | 16A | 4 | 1 | **LS16 VZV A4.** | 1 | 0,26 |
| | 25A | 25A | 4 | 1 | **LS25 VZV A4.** | 1 | 0,26 |
| | 32A | 32A | 4 | 1 | **LS32 VZV A4.** | 1 | 0,26 |
| **O ..A4O** | 45A | - | 4 | 1 | **LS38 VZV A4.** | 1 | 0,26 |
| | 48A | 40A | 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 |

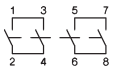
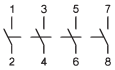
| | | | | | | |
|---|---|---|---|---|---|---|
| 16A | 10A | 2 | 4 | **LS16 VZV A8** | 1 | 0,43 |
| 25A | 11,5A | 2 | 4 | **LS25 VZV A8** | 1 | 0,43 |
| 32A | 13A | 2 | 4 | **LS32 VZV A8** | 1 | 0,43 |
| 45A | 20A | 2 | 4 | **LS38 VZV A8** | 1 | 0,43 |
| 48A | 29A | 2 | 4 | **LS40 VZV A8** | 1 | 1,10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

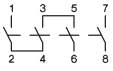
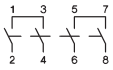
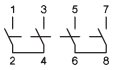
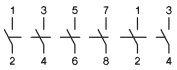
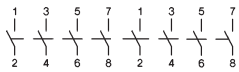
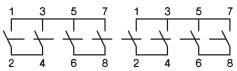
## ON-OFF Switches for Distribution Boards, IP40, cULus Open Type

| | | 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

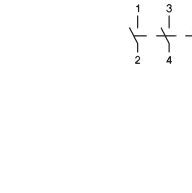
| | |
|---|---|
| Replace the Type „**ZH1**“ with „**ZOH1**“ | **LS.. ZOH1 A.** |

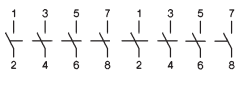
## Main Switches f. Base Mounting, Door Clutch f. Single Hole, Plate 64□, IP66, UL LISTED, c UL us Type 4X

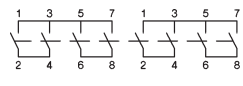
Depth is adjustable
see page 322
padlock device SV4

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

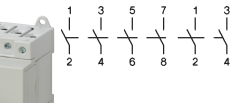
Padlock device SV1

Type suffix

**B ..A4B**

**O ..A4O**

**U ..A4U**

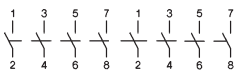


| DC21B / DC-PV1 600V DC | DC-PV1 1000V DC | Poles in series | Number of strings | Type | Pack pcs. | Weight kg/pcs. |
|---|---|---|---|---|---|---|
| 16A | 10A | 2 | 1 | **LS16 SMAH1 A2** | 1 | 0,19 |
| 25A | 11,5A | 2 | 1 | **LS25 SMAH1 A2** | 1 | 0,19 |
| 32A | 13A | 2 | 1 | **LS32 SMAH1 A2** | 1 | 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 |

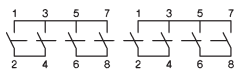




| | | | | | | |
|---|---|---|---|---|---|---|
| 16A | 10A | 2 | 3 | **LS16 SMAH1 A6** | 1 | 0,36 |
| 25A | 11,5A | 2 | 3 | **LS25 SMAH1 A6** | 1 | 0,36 |
| 32A | 13A | 2 | 3 | **LS32 SMAH1 A6** | 1 | 0,36 |
| 45A | 20A | 2 | 3 | **LS38 SMAH1 A6** | 1 | 0,36 |
| 48A | 29A | 2 | 3 | **LS40 SMAH1 A6** |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

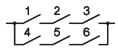
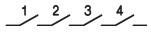
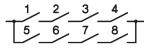
**Data according to IEC 60947-3, VDE 0660, GB/T14048.3 (CCC China)**

| **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.

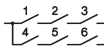
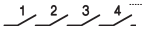
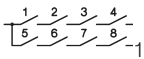
# Technical Data

**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 |

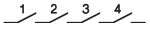
# Technical Data

**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 | 60 | 75 | 75 |
| A2+2 | 700V | A | 13 | 19 | 22 | 25 | 38 | 60 | 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 | 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.

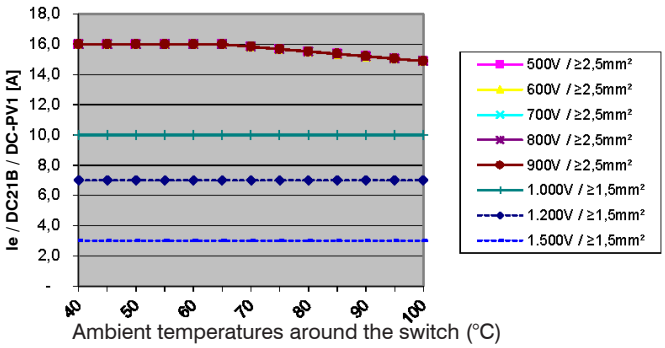
## Approvals

| 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

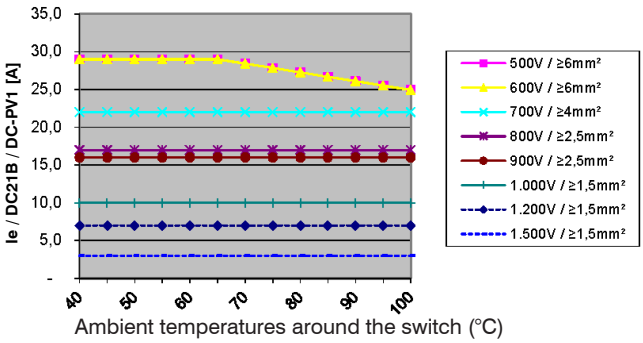
**Example for maximum currents according to ambient temperatures and cable cross sections:**

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



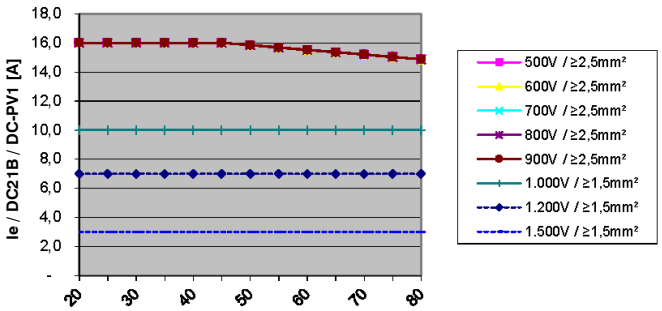

Ambient temperatures around the switch (°C)

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



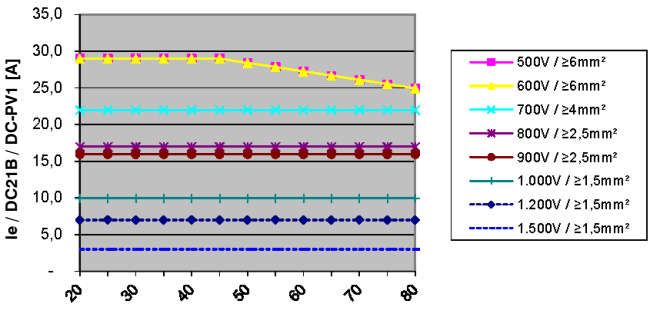

Ambient temperatures around the switch (°C)

**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)**

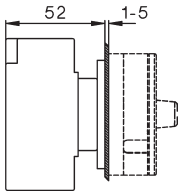



Ambient temperatures around the switch (°C)

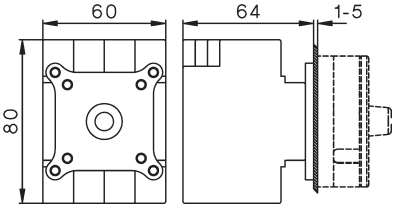
**All data about maximum currents according to ambient temperatures and cable cross sections for switches LS16.. to LS65.. (open or enclosed) please find under ➡ www.benedict.at (Button "Customers").**

## Dimensions

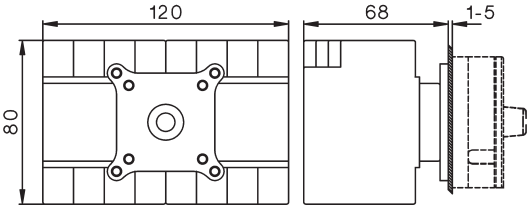
**LS16 E.., LS25 E.., LS32 E.., LS38E..**
**..A2**



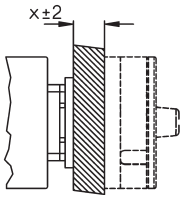

**..A2+2, ..A4.**



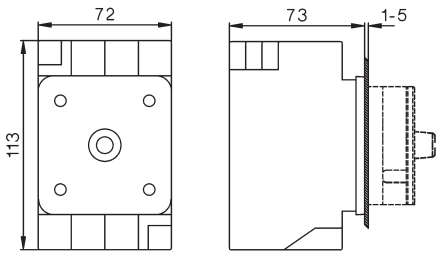

**LS16 E.., LS25 E.., LS32 E.., LS38 E**
**..A6, ..A8, ..A3+2, ..A4+2**



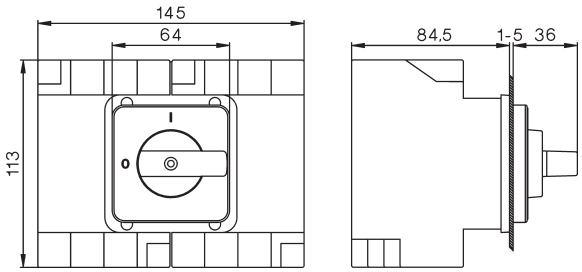

**LS... +VW"x"**
Extended Switch Shaft



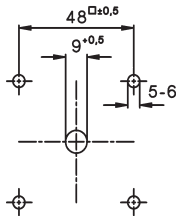

**LS40 E.., LS55 E.., LS65E..**
**..A2, ..A2+2, ..A4.**




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

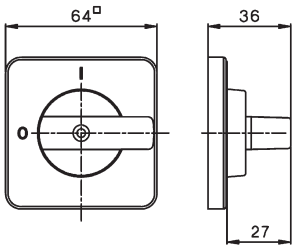



Mounting hole
Mounting screw:
S3631N M=1,2-1,4 Nm

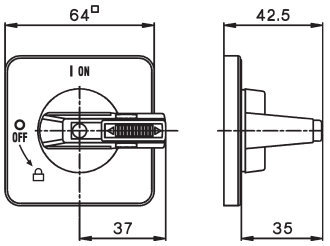



**Escutcheon plate 64□**

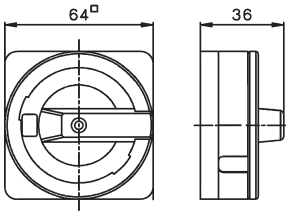
Handle



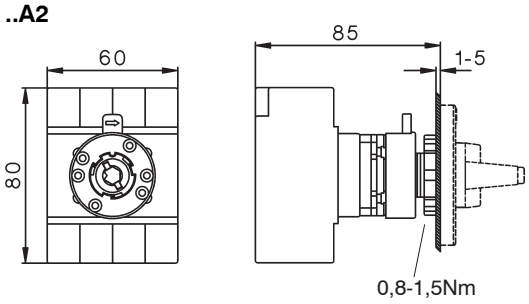

Padlock device SV1.



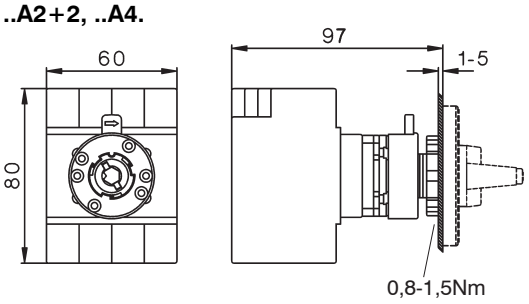

Padlock device SV4.



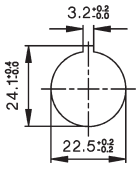

**LS16 Z.., LS25 Z.., LS32 Z.., LS38 Z..**
**..A2**




**..A2+2, ..A4.**

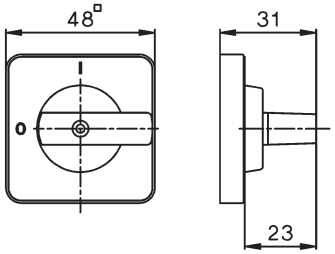



Mounting hole

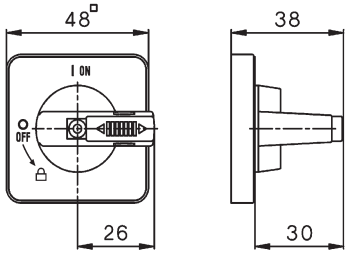



**Escutcheon plate 48□**

Handle

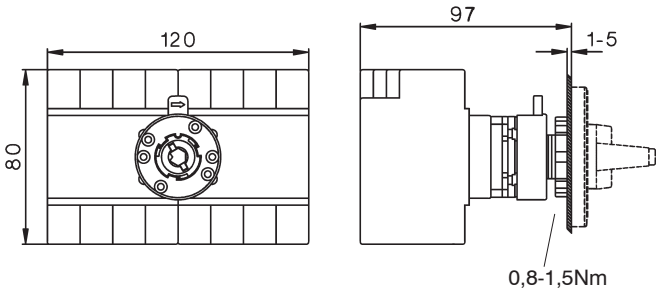



Padlock device SV1.

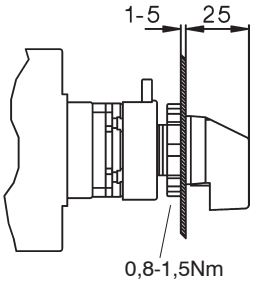


## Dimensions

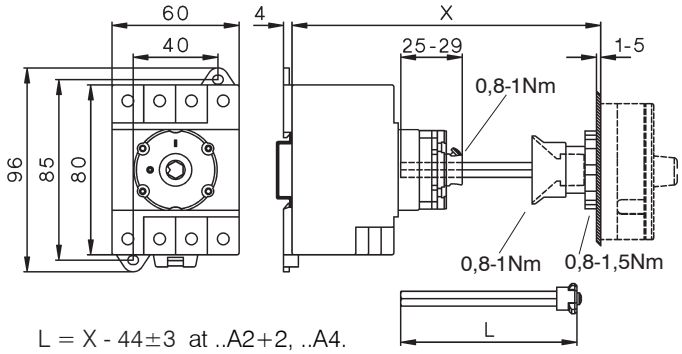
**LS16 Z.., LS25 Z.., LS32 Z.., LS38 Z..**
**..A6, ..A8, ..A3+2, ..A4+2**




**LS.. ZO..**




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



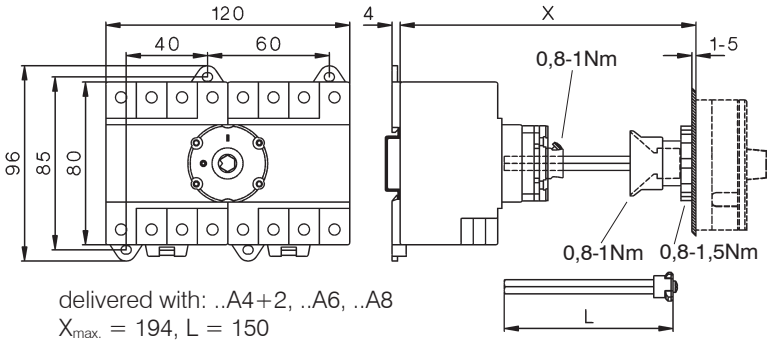

L = X - 44±3 at ..A2+2, ..A4.
L = X - 32±3 at ..A2

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

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

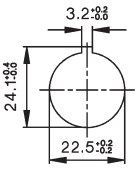
Bigger X-Dimensions on request

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



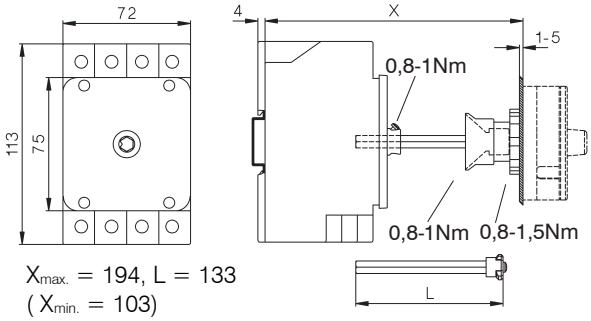

delivered with: ..A4+2, ..A6, ..A8
$X_{max.}$ = 194, L = 150
($X_{min.}$ = 95)

Mounting hole




L = X - 49±3

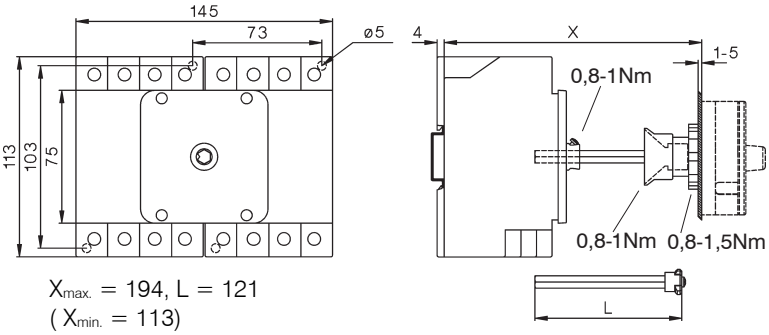
**LS40 VZV.., LS55 VZV.., LS65 VZV..**
**..A2, ..A2+2, ..A4.**




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

L = X - 61± 3

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

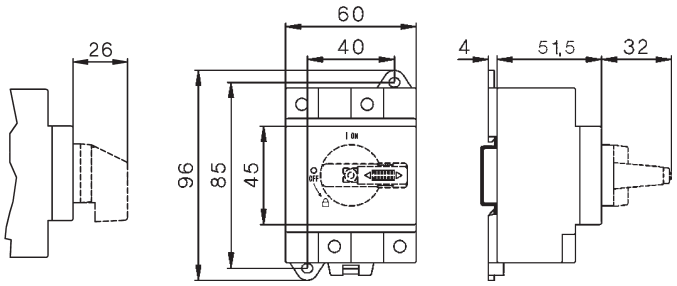



$X_{max.}$ = 194, L = 121
( $X_{min.}$ = 113)

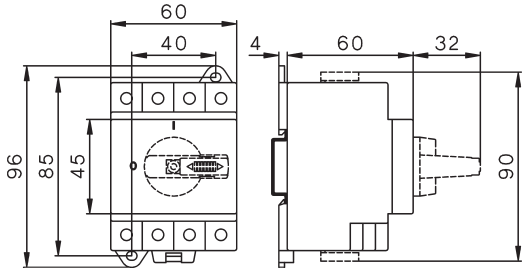
L = X - 73± 3

## Dimensions

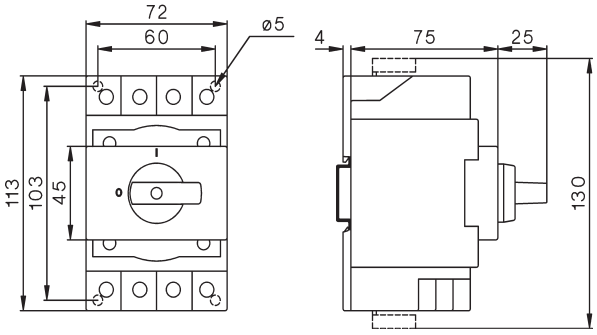
**LS16 SMA.., LS25 SMA.., LS32 SMA.., LS38 SMA..**
**..A2**



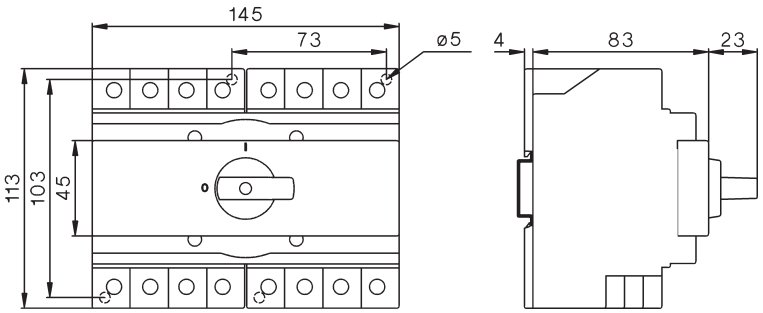

**..A2+2, ..A4**



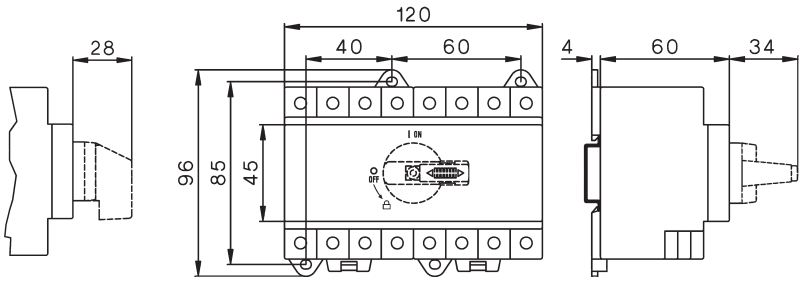

**LS40 SMA.., LS55 SMA.., LS65 SMA..**
**..A2, ..A2+2, ..A4**



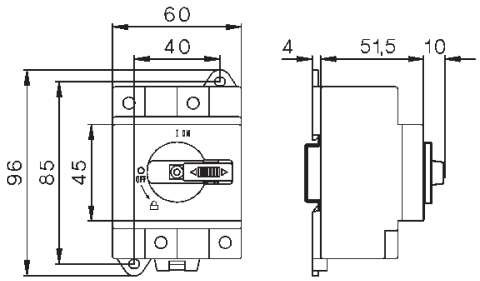

**LS40 SMA.., LS55 SMA.., LS65 SMA..**
**..A6, ..A8, ..A3+2, ..A4+2**



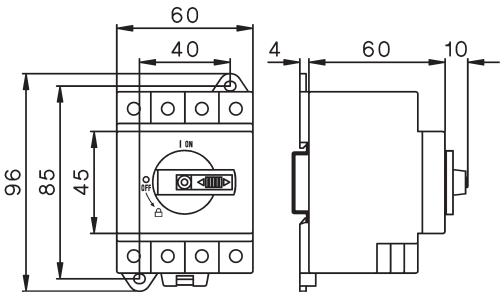

**LS16 SMA.., LS25 SMA.., LS32 SMA.., LS38 SMA..**
**..A6, ..A8, ..A3+2, ..A4+2**



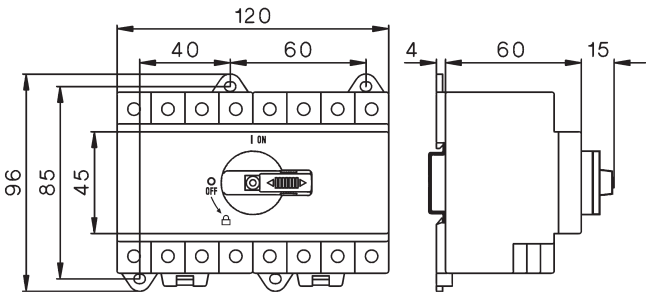

**LS.. SMAH1.. with low height handle**
**A2 +SV1N**




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



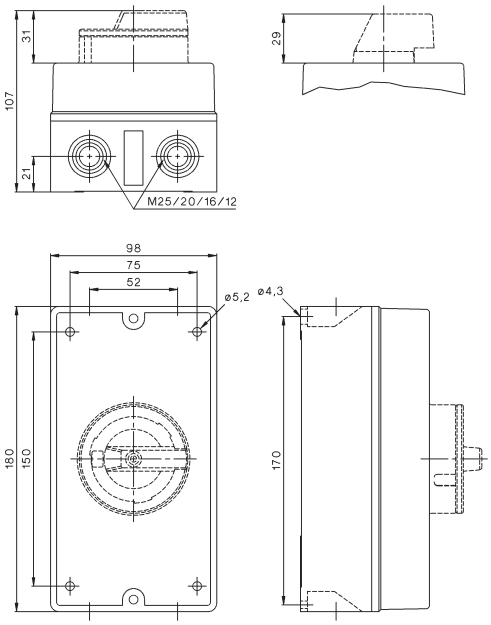

**A4+2 +SV1N, A6 +SV1N, A8 +SV1N**



## Dimensions

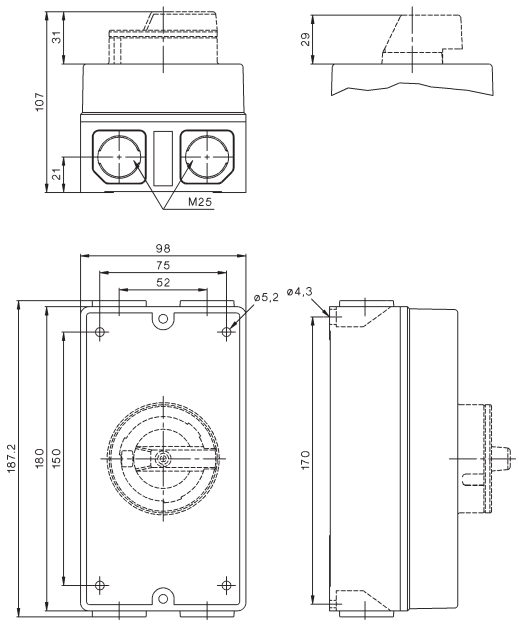
**LS16 PFL.., LS25 PFL.., LS32 PFL.., LS38 PFL..**
**..A2, ..A2+2, ..A4.**

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



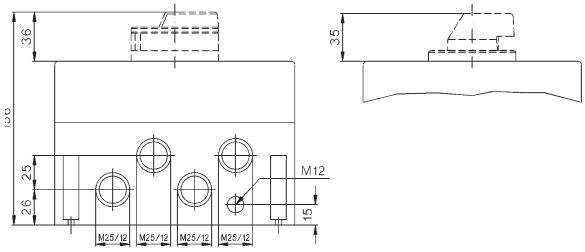

**LS16 PFL.., LS25 PFL.., LS32 PFL.., LS38 PFL..**
**..A2, ..A2+2, ..A4.**
**+ M25**

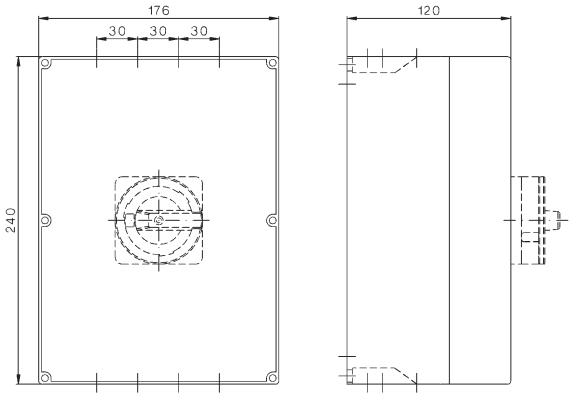
**Main-Switch (lockable)**
**LS..PFLH4 A..**

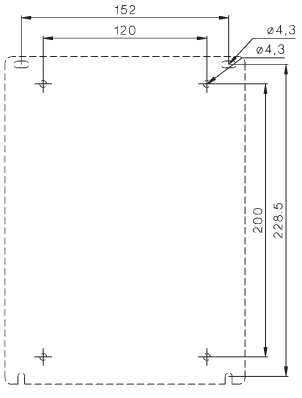



**LS16 PFL.., LS25 PFL.., LS32 PFL.., LS38 PFL..,**
**..A2, ..A4, ..A6, ..A8, ..A2+2, ..A3+2, ..A4+2**
**LS40 PFL.., LS55 PFL.., LS65 PFL..**
**..A6, ..A8, ..A3+2, ..A4+2**

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



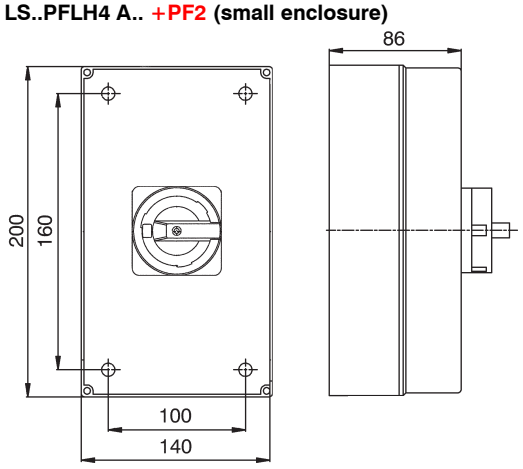



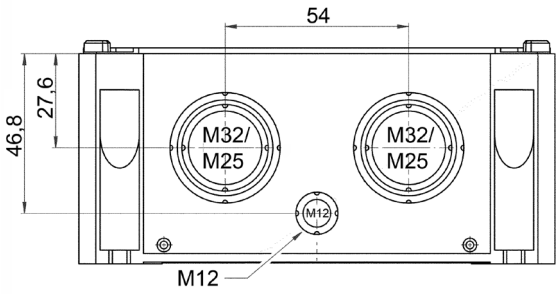



## Dimensions

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

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



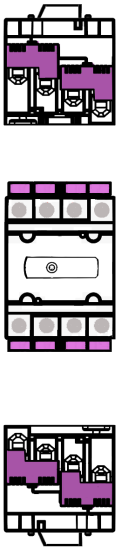

## Insulated jumpers LSV-.. for series- and parallel switching of contacts:

| 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. |

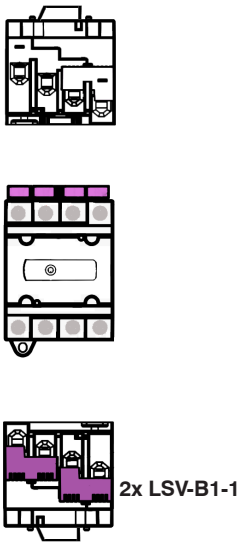
| Typ | LS16 LS25 LS32 | LS38 | LS40 LS55 LS65 |
|---|---|---|---|
| A4O<br>A4U<br>A4B | 2 x LSV-B1-1 N | 2 x LSV-B1-2 N | 2 x LSV-B2-2 N |
| A2+2 | 4 x LSV-B1-1 N | | 4 x LSV-B2-1 N |
| A4+2 | 8 x LSV-B1-1 N<br>2 x LSV-B1-2 N | | 8 x LSV-B2-1 N<br>2 x LSV-B2-2 N |

## Applications:

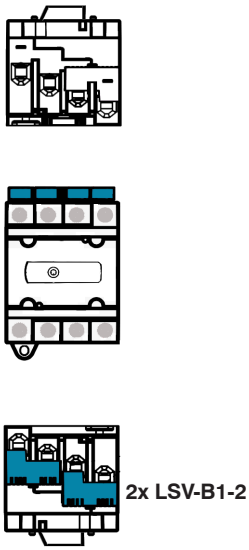
### LS16-38 VZV.. A2+2



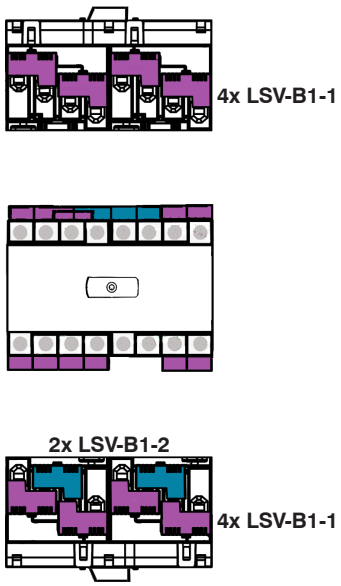

### LS16-32 VZV.. A4O



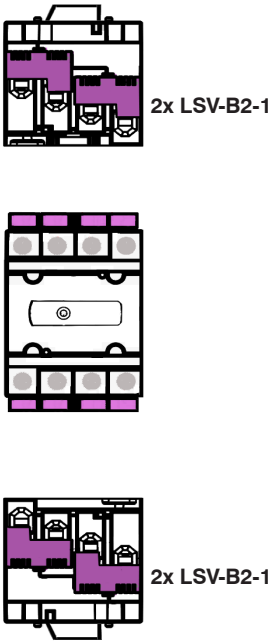

### LS38 VZV.. A4O



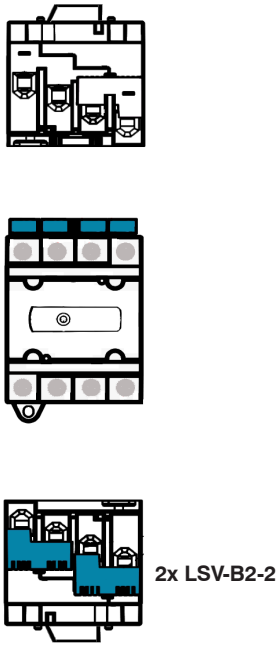

### LS16-38 VZV.. A4+2



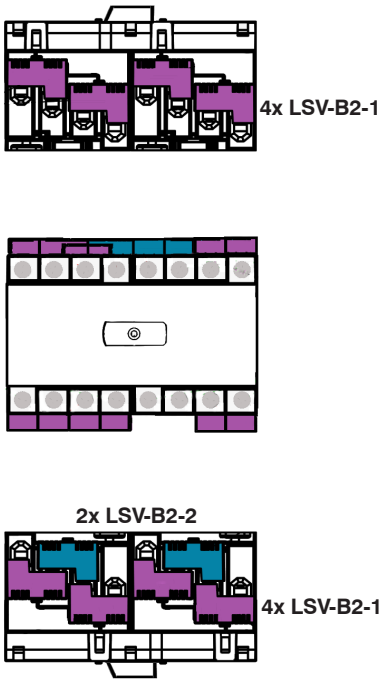

### LS40-65 VZV.. A2+2




### 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”).**