### Ordering Guide

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<td>72 splice cassettes (36 units either side) = max. 12 sets (6 units either side)</td>
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<tr>
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<td>Cable entry set 10-20mm, LWL-SEC/KES/10-20.. Max. 4 units</td>
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<td>Oval cable entry set, LWL-SEC/KES/OVAL.. Max. 1 unit for 2 uncut cables of 10-25mm</td>
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### Fibre Optic Enclosures

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<td>Splice cassette set 6xSE sandwich</td>
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<td>Cable entry set 10-25mm</td>
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<tr>
<td></td>
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<tr>
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<td>Holder - 12 sandwich splice protectors</td>
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<td>237477</td>
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<td>Ground wire entry</td>
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<tr>
<td></td>
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</table>
### Accessories for Dome Enclosures Type SEC

<table>
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<tr>
<th>Version</th>
<th>Type Designation</th>
<th>Article No.</th>
<th>Units per Package</th>
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<td>Triple Ø 5-9/10* mm</td>
<td>LWL-SEC/ME/3</td>
<td>761317008</td>
<td>1</td>
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<tr>
<td>Quadruple Ø 3-8/9* mm</td>
<td>LWL-SEC/ME/4</td>
<td>761317009</td>
<td>1</td>
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<tr>
<td>* for 25 mm connection bushes</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

| Sealing Set for Optical Ground Wires - OPGW (LES), LWL-SEC/AS/LES |                  |             |                   |
| Sealing set                                                      | LWL-SEC/AS/LES   | 761317010   | 1                 |

| Round Pole Mounting Set, LWL-SEC../RM/.                          |                  |             |                   |
| Round Pole Mounting Set SEC15                                   | LWL-SEC15/RM     | 966316703   | 1                 |
| Round Pole Mounting Set SEC23                                   | LWL-SEC23/RM     | 966411503   | 1                 |
| High-grade steel strip 19x0.75mm                                | LWL-SEC23/RM/ESB | 165920023   | 1                 |
| Closing buckles f. steel strip                                  | LWL-SEC23/RM/VL  | 165920024   | 1                 |
| Tightening device                                               | LWL-SEC23/RM/5G  | 165920025   | 1                 |

| External Strain Relief Set*, LWL-SEC../KZX                        |                  |             |                   |
| External strain relief set SEC15                                 | LWL-SEC15/KZX    | 966316705   | 1                 |
| External strain relief set SEC23                                 | LWL-SEC23/KZX    | 966411301   | 1                 |
| * suitable clamps on page 82                                     |                  |             |                   |

| Distribution Set for Optical Ground Wires with a Large Number of Integrated Fibres, LWL-SEC/LES/A |                  |             |                   |
| Distribution set for optical ground wires SEC23                  | LWL-SEC23/LES/A  | 761317011   | 1                 |

| Fibre Protection Tubes, LWL-FSR/2,1/0,3...                        |                  |             |                   |
| Fibre protection tubes 10 m                                      | LWL-FSR/2,1/0,3   | 761317050   | 1                 |
| Fibre protection tubes 250 m*                                    | LWL-FSR/2,1/0,3/250 | 050941500   | 250 m             |

* Article no. is listed per meter
**Fibre Optic Enclosures**

**SEC23 Tubeless, Individual Assembly, LWL-S...**

**Description**
- Tubeless version suitable especially for Single Circuit (SC) and Single Element (SE).
- Single Circuit: Distribution of the fibres from one multi-fibre loose tube to several splice cassettes through fibre guiding channels
- Tubeless laying of the fibres from entry to splice cassette
- Up to 144 individual splice cassettes thanks to the “cassette in a cassette“ system
- In-line connection and branch-off enclosure
- Suitable for ground, duct, wall, pole and tower mounting
- Suitable for uncut cables

**Base Enclosure, LWL-SEC23/TL/GM/M**

- Assembly/disassembly of the dome without any tools
- Sealings can be used again
- Separate strain relief points for central strength member and Kevlar reinforcement
- An entry module permits fibre guidance to any desired cassette entry
- Cable entries
  - 2 cables 10-25 mm, uncut
  - 2 cables 10-25 mm, 4 cables 10-20 mm
- Splice cassettes
  - 72 x SK123 or SK223
  - Available in cassette sets of 6 splice cassettes each ⇒ max. 12 sets (6 units on either side).
  - Splice cassettes engaged in a slanted position
  - Pivoting splice cassettes (90°) to provide easy access to each splice
- Degree of protection > IP68
- Max. splice capacity
  - Splice protection tube: SE: 1152
  - Sandwich splice protector: SE: 1728
  - 2 splices per cassette: SC: 288
- Tests
  - According to DIN 47624 Draft 4/97
  - Mechanical strength
    - Load (15 min): 1000 N at centre of the enclosure, contact area 5 cm²
    - Impact (once): 1 kg steel ball, 2 m fall, centre of the enclosure
  - Pressure resistance
    - Permanent pressure: 0.4 bar above atmospheric
    - Tight from -40°C to +70°C
  - Tightness with cable
    - Strain (15 min): 1000 N
    - Shearing/bending (twice): Deflection 45° or a max. of 500 N bending force,
      Point of application 250 mm from cable entry
    - Torsion (twice): ±90° rotation angle or a max. torque of 50 Nm,
      Point of application 500 mm from cable entry
    - Vibration: 168 hours; both cable ends fastened,
      Amplitude ±3 mm, frequency 10 Hz
  - Temperature changes
    - -40°C to +70°C, 10 times
  - Immersion in wetting agent: 168 hours
  - External pressure resistance: 4 m water column
  - Water vapour permeation: < 600 µg/h at 10°C
- Material
  - Base plate, dome, locking ring and snap-in lock: Environmentally friendly, UV-resistant polypropylene
  - Strain relief angle: Stainless steel
  - Cassette support: Powder-coated aluminium sheet, RAL 7035
- Weight: Approx. 4 kg
- Scope of delivery
  - Base plate, dome, locking ring with snap-in lock, securing pin, sealing ring, cassette support, drying agent, instructions for installation, 2 entry modules incl. cover
- Dimensions (mm)

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**Moeller**
**Fibre Optic Enclosures**

### Storage Frame for Reserve Lengths, LWL-SEC23//TL/US..
- The storage frame for reserve lengths serves for storing uncut multi-fibre loose tubes
- Version for SEC23 Tubeless Short and SEC23 Tubeless
- Installation is possible on either side of the SEC23 Tubeless base enclosure
- Material: Powder-coated aluminium sheet, RAL 7035
- Weight: Approx. 0.3 kg
- Scope of delivery: Storage frame for reserve lengths, fastening material

### Splice Cassette Set, LWL-SEC23/TL/KS/6SK.23/S./M
- The splice cassette set serves for guiding fibres from the entry module to the splice cassette and for splice storage of all kinds of optical fibres
- Installation of max. 12 splice cassette sets (6 on either side) in the SEC23 Tubeless base enclosure
- Cassette base plate with guiding channels for fibres and fastening options for a max. of 6 LWL-SK123 or LWL-SK223 splice cassettes
- Versions for heat-shrinkable (splice protection tubes) and sandwich (sandwich splice protectors)
- Material: Polycarbonate VL94HB, colour RAL 9001
- Weight: SK123: 0.3 kg; SK223: 0.47 kg
- Scope of delivery: See table below

**Scope of delivery**

<table>
<thead>
<tr>
<th>Splice cassette set LWL-SEC-23/TL/KS/...</th>
<th>Cassette base plate</th>
<th>Splice cassette LWL-SK123</th>
<th>Splice cassette LWL-SK223</th>
<th>Splice protection holders ...-SRHB ...-SWH12</th>
<th>Max. number of splices (Cassettes per set x splices per cassette)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...6SK123/SR/M</td>
<td>1 unit</td>
<td>6 units</td>
<td>–</td>
<td>12 units</td>
<td>6x16 = 96 Heat-shrinkable splice prot.</td>
</tr>
<tr>
<td>...6SK123/SW/M</td>
<td>1 unit</td>
<td>6 units</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>...6SK223/SR/M</td>
<td>1 unit</td>
<td>–</td>
<td>6 units</td>
<td>–</td>
<td>6x2*4 = 48 Heat-shrinkable splice prot.</td>
</tr>
<tr>
<td>...6SK223/SW/M</td>
<td>1 unit</td>
<td>–</td>
<td>6 units</td>
<td>–</td>
<td>6x2*6 = 72 Sandwich splice protect.</td>
</tr>
</tbody>
</table>

* Twice the number thanks to the “cassette in a cassette” system
Fibre Optic Enclosures

Accessories for Dome Enclosures Type SEC..

Standard Cable Entry Set, LWL-SEC/KES/...

- Sealing set for standard connection bushes of the SEC 15 and SEC 23 versions
- For sealing cables with a PE-jacket
- Cable diameters
  - Set for Ø 10-20 mm and Ø 10-25 mm
  - Oval cable entry set for 2 cables Ø 10-25mm, uncut
- Excellent tightness and mechanical strength
- Material: Cross-linked polyolefine, inside coated with thermoplastic adhesive
- Scope of delivery: Heat-shrinkable sleeve, emery cloth, cable cleaning cloth, cable tie wraps, installation material; 1 additional branch-off clamp coming with the oval cable entry set

Multiple Cable Entry Set, LWL-SEC/ME/..

- Sealing set for entry of 3 or 4 cables in standard connection bushes for the SEC15 and SEC 23 versions
- Suitable for connection bushes of Ø 20 and 25 mm
- Cable diameters
  - 20 mm connection bush: Ø 5-9mm
  - 25 mm connection bush: Ø 5-10mm
- For sealing cables with a PE-jacket
- Excellent tightness and mechanical strength
- Material: Cross-linked polyolefine, inside coated with thermoplastic adhesive
- Scope of delivery: Heat-shrinkable cap, emery cloth, cable cleaning cloth, cable tie wraps, installation material

Additional Cable Entry Set, LWL-SEC23/KEZ/...

- Only for SEC23 Single Element I and II and for Management I and II
- Expansion to up to 11 cable entries per enclosure
- Max. 3 units to be installed in the base plate
- Cable diameters from 3 to 16 mm
- Additional cable entries pre-installed
  - LWL-SEC23/KEZ/3B/M 3 blank entries installed
  - LWL-SEC23/KEZ/3B+3K/M 3 blank entries installed and 3 cable entries with heat-shrinkable sleeve of 16 mm supplied. Blank entries need to be replaced by cable entries with a heat-shrinkable sleeve of 16 mm (LWL-KDF/S/3/16) for further cables.
- Additional cable entry for on-site retrofitting
  - LWL-SEC23/KEZ/1K for 1 cable entry with a 16 mm heat-shrinkable sleeve
  - LWL-SEC23/KEZ/3K for 3 cable entries with a 16 mm heat-shrinkable sleeve
- Fastening material for strain relief element (e.g. Kevlar reinforcement)
- Material: Cross-linked polyolefine, inside coated with thermoplastic adhesive
- Scope of delivery: Varies depending on the version

Sealing Set for Optical Ground Wires - OPGW (LES), LWL-SEC/AS/LES

- Sealing set for entry of 2 optical ground wires with up to 3 high-grade steel tubes with integrated fibres
- Suitable for connection bushes of Ø 20 and 25 mm
- Suitable for use in connection with the external strain relief set
- Material: Cross-linked polyolefine, inside coated with thermoplastic adhesive
- Scope of delivery: Heat-shrinkable sleeve, cable cleaning cloth, additional adhesive, installation material for 2 optical ground wires

Wall-mounting Set, LWL-SEC../WM

- Fastening angle for convenient wall-mounting
- Material: Powder-coated 3-mm aluminium sheet, RAL 7035
- Scope of delivery: Wall-mounting set
Fibre Optic Enclosures

Steel Tower Mounting Set, LWL-SEC../SM

- Clamping support for steel lattice towers
- For angle sections with a leg length of 40 - 125 mm
- Section angle 60°-90°
- No drilling required
- Vertical adjustment of the enclosure along 2 axes
- Enclosure can be engaged
- Material: Powder-coated 3-mm aluminium sheet, RAL 7035
- Scope of delivery: Steel tower mounting set, installation material

Round Pole Mounting Set, LWL-SEC../RM...

- Fastening set for securing the enclosure to a round pole
- U-shaped support plate is secured to the pole by means of steel strips
- No drilling required
- Independent of pole diameter (min.: 100mm)
- Enclosure can be engaged
- Material: Powder-coated 3-mm aluminium sheet, RAL 7035
- Steel strip and closing buckles not included
- Scope of delivery: Round pole mounting set, installation material

Corner Post Mounting Set - Small and Large, LWL-SEC../EK/0...

- Clamping support for corner sections of steel lattice towers
- No drilling required
- For angle sections with a leg length of a = 100-200 mm (version 01) or up to 320 mm (version 02)
- Enclosure can still be engaged on any mounting set
- Material: Powder-coated 3-mm aluminium sheet, RAL 7035
- Scope of delivery: Corner post mounting set, installation material

External Strain Relief Set, LWL-SEC../KZX

- Especially for cables resistant to bending and torsion (e.g. optical ground wires)
- External clamping by means of aluminium clamps
- In case of round connection bushes, double clamping with aluminium clamps up to size 2 is possible
- Suitable for installation on any mounting set
- Material: Powder-coated 3-mm aluminium sheet, RAL 7035
- Clamps and mounting set not included
- Scope of delivery: Strain relief angle, 4 strain relief rails, installation material

Distribution Set for OPGW with a Large Number of Integrated Fibres, LWL-SEC23/LES/A

- For the distribution of optical ground wires with high-grade steel tubes with a large number of integrated fibres
- The fibre distribution head is mounted onto the strain relief plates by means of a support (max. 2 fibre distribution heads per support)
- Onward routing of the fibre protection tubes either directly to the cassettes or for further distribution (in type SEC 23 Management)
- Suitable for use with external strain relief
- Fibre protection tubes and tie wraps not included in scope of delivery
- Material of support: Aluminium sheet
- Scope of delivery: 4 Fibre distribution heads, 2 supports for 2 cables
- Only required for SEC23 Single Element and Management
# Fibre Optic Enclosures

## Fibre Protection Tubes, LWL-FSR/2,1/0,3..
- PTFE-protection tube for optical fibres
- Protects the fibres between the fibre distribution head and the splice cassette
- Excellent sliding properties
- Transparent
- Suitable for the LWL-FATK/2/6 fibre distribution head
- For 1 to 12 optical fibres
- Available as a 10 m bundle or a 250 m coil

## Ground Wire Entry Set, LWL-SEC/ED..
- The ground wire entry set serves for connecting metallic parts inside the enclosure with an external ground wire
- Material:
  - Grounding pin: Nickel-plated brass
  - Washers and nuts: Stainless steel
- Scope of delivery: 1 Grounding pin, 1 ground wire of 4 mm²

## Shield Connection Set, LWL-SEC/SVS
- The shield connection set serves for connecting metallic jackets of fibre optic cables
- Suitable for use in connection with the ground wire entry set
- Scope of delivery: 4 Shield connection cables of 2.5 mm², 1 adhesive tape, fastening material

## Mounting Support SEC23, LWL-SEC23/MH
- Mounting support for horizontal and vertical positioning of the SEC23 enclosure during installation
- Material: Aluminium
- Scope of delivery: 1 Mounting support

## Patch angle, LWL-SEC23/TL/PW
- Patch angle for mounting of adaptors in a dome enclosure SEC23 Tubeless
- 12x FC or 24x SC simplex
- Mounting space: 2 splice cassette sets
- Material: steel sheet powder coated RAL 7011
- Scope of delivery: 1 angle, installation material