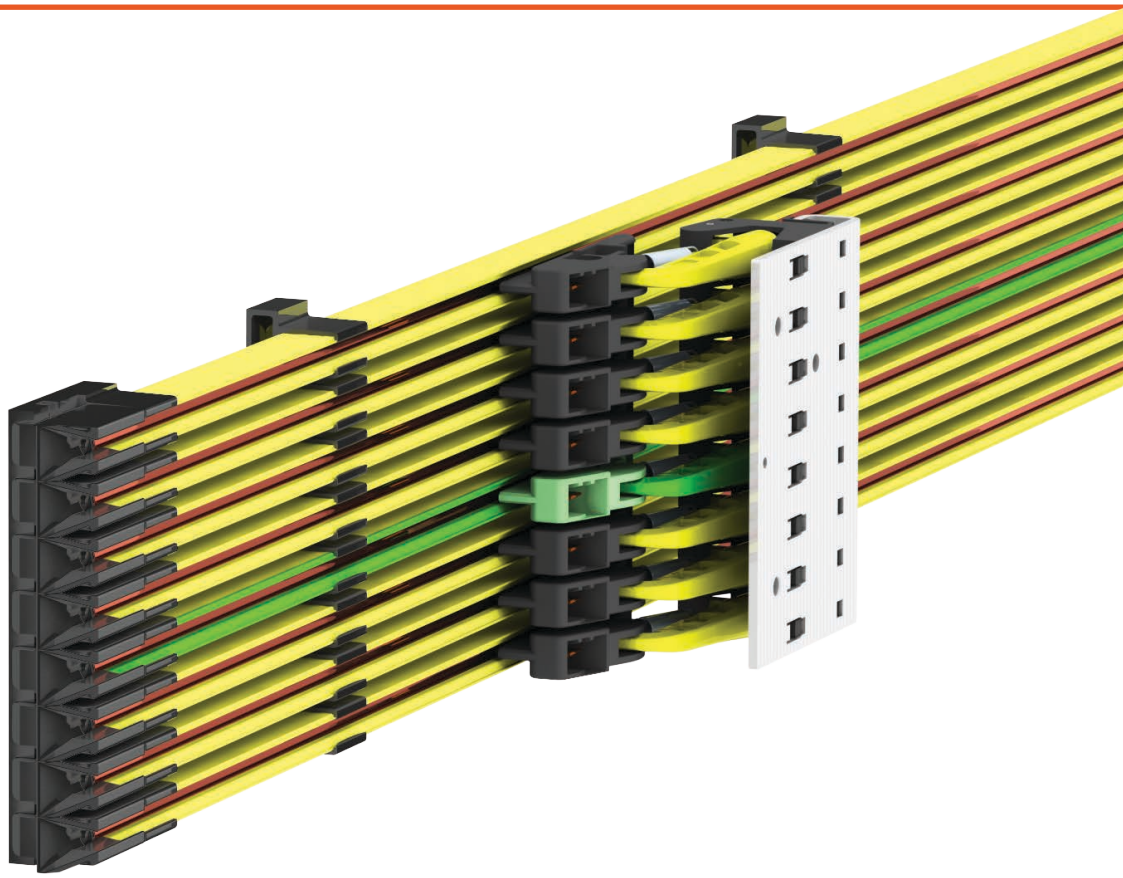
# Single-Pole Insulated Conductor Rail Program 0815



CONDUCTIX wampfler




**KAT 0815-0004 – for General Applications**
- Linear and curved applications
- Circular arrangements




**KAT 0815-0003 – for Electrified Monorail Systems**




**KAT 0835 – for Shuttle Systems**

## Complementary Documents

**Operating Instruction:**
BAL0815-0001-EN SingleFlexLine

**Installation Instruction:**
MV0815-0008-0001-EN Mounting the BCB support profile (SEW)

**Operating Instructions (for electrified monorail systems only):**
BAL0800-0002-EN Operating Instructions Rail Cleaner
BAL0815-0001-EN Collector Brush Sensor Unit

**Maintenance Instructions:**
WV0800-0001-EN Cleaning of Conductor Rails
WV0800-0002-EN Maintenance Schedule Conductor Rails
WV0800-0004-EN Copper Rail Applications

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# System Description

The single-pole insulated conductor rail from the 0815 program is touch-protected and suitable for use in dry indoor environments for any track layout.

- 100 Amps
- protected against direct contact
- little space requirement
- vertical and horizontal installation
- easy and quick installation

### Conductor Rails

The conductor rails are available in copper and are insulated with a plastic cover. The standard delivery lengths are 4 m. The protective conductor insulation profile is marked yellow-green on both sides and along the entire length of the rail.

### Curves

Curves for horizontal and vertical bends can be manufactured at the factory or on-site.

### Suspension

The conductor rails are clipped into the rail brackets. The mounting spacing is max. 500 mm on straight sections and 400 mm on curves. Depending on the model, rail brackets are either securely screwed to an existing substructure or quickly clipped into it.

Thanks to our modular design, custom solutions are often possible.

### Rail Connections

The individual conductor rails are connected using a proven and durable screw-based system. The connectors are easily accessible from the front of the conductor rail and can be easily removed and reused during maintenance and repair. Full finger protection in accordance with IP2X is maintained even at the connector.

### Power Feed

Power is supplied via a connector or end cap feed. With the connector feed, power can be supplied at any point in place of a connector.

The connection is made using crimp terminals for wire cross-sections ranging from 1.5 $mm^2$ to 10 $mm^2$. Another feed-in option is available at the end cap for transfers or separation points. This feed-in is achieved using crimp terminals for wire cross-sections ranging from 1.5 $mm^2$ to 6 $mm^2$.

### End Caps for Transfer Points

For the transition at switches, end caps for transfer points are used, which enable a clean and effortless crossing.

### Current Collectors

The current collector unit, which is very compact and constructed from just a few parts, consists of individual, fully insulated current collector arms that are movable in all directions.
The individual current collectors are particularly easy to install and replace thanks to clip-on technology. The protective conductor current collector is marked green and equipped with an anti-confusion mounting feature. The current collector heads can be inspected without disassembly and can be replaced quickly and easily. The current collector units are available in multi-pole versions. Copper-graphite is available as the brush material for high currents, and pure graphite for particularly long service life.

Selecting the correct material has a significant impact on the overall performance of the system.

Please contact us regarding this topic!

### Installation

The installation of a conductor rail system should only be performed by trained personnel.

Comprehensive installation instructions and short, concise videos are available online to assist with installation.
See also: Operating Instruction (BAL0815-0001-EN SingleFlexLine)

### Protection against Direct Contact

A fully installed 0815 conductor rail system has protection class IP2X. This also applies to the current collectors when they are fully engaged with the conductor rail.

# SingleFlexLine 0815 – Project Planning

The conductor rail system SingleFlexLine 0815 has been in use for several decades in a variety of applications, and has been adapted at component level for a wide variety of applications.

## Intended Use

Moving indoor industrial applications with straight or curved tracks, e.g., logistics applications, packaging machines, and similar equipment. Indoor industrial applications in non-public areas where the equipment is installed out of reach or secured by other appropriate measures.

## Technical Characteristics and Warranty

The components of the conductor rail system are designed for use and operation as a power supply in dry indoor environments. The system warranty becomes void if the system is used outside of this application, if operating parameters differ, or if third-party components are used or customer modifications are made.

## Current Rating of Our Components

The rated current specifications apply at 100% duty cycle and an ambient temperature of 20°C. Please note, however, that in cases of prolonged idle operation, a high proportion of non-linear loads, or heavily contaminated environments, these values must be verified for the specific application.

## Fuse Protection for Our Components

In terms of current-carrying capacity, sliding contact cables can be treated like standard PVC cables. Current loads exceeding the rated current for short durations—such as those possible in applications with standard circuit breakers and residual current devices—do not pose a problem.

## Connection Cables

Connection cables differ, among other things, in conductor cross-section and outer jacket diameter. Under certain circumstances, not all outer diameters may be suitable for our feed-in systems. The maximum possible outer diameters can be found in the data sheet for the respective feed-in system.

## Temperature-dependent expansion

Changes in ambient temperature result in thermal expansion. This expansion is compensated for by expansion modules. The design of the expansion modules is based on the system layout and ambient temperatures.

## Product approvals

The conductor rail was developed in accordance with European and international standards, guidelines, and specifications. The applicable standards met are documented in the product data sheets or on the product labels.

# SingleFlexLine 0815 – Project Planning

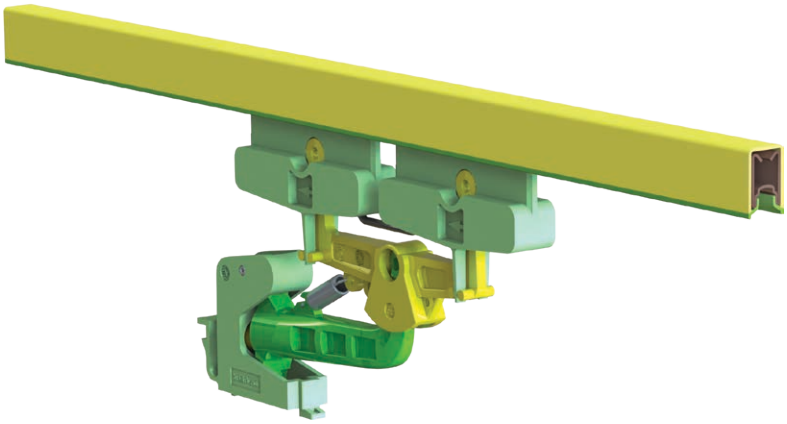
## $PE_{plus}$ Protective Conductor System

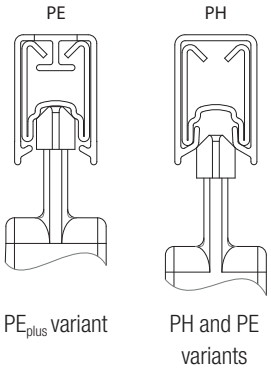
The PE protective conductor system provides reliable protective earthing in accordance with DIN VDE 0100-410. PH and PE current collectors, as well as current collector heads, are color-coded and equipped with protection against incorrect installation. To achieve the necessary safety level, we recommend a redundant design for the PE current collectors.

The $PE_{plus}$ protective conductor system reliably prevents the PE current collector from coming into contact with a phase rail.
The PE current collector head is designed to be wider than the PH conductor rail. No electrical contact occurs between the PE current collector head and the electrically conductive parts of the PH conductor rail.
$PE_{plus}$ was developed specifically for the requirements of automotive applications and can also enhance the safety level in other sectors. The redundant use of an additional PE current collector is also strongly recommended for $PE_{plus}$.

### PE-Position

The PE position can often be freely selected in the 0815 conductor rail system. However, to ensure compatibility with common standards, we strongly recommend positioning the PE on the 4th pole. For pole counts less than 4, the PE is typically placed on the 1st or last pole.






$PE_{plus}$ variant

PH and PE variants



# Technical Data

| General Information | |
|---|---|
| Conductor Rail | Conductor material: Cu-EPT; insulating sleeve: PVC |
| Type | 0815 SingleFlexLine |
| Scope of application | Moving industrial indoor applications with linear and curved track paths, e.g., logistics applications, packaging machines, and similar systems |
| Installation orientation | Horizontal installation of the conductor rail, with the current collector engaging from the side or from below |
| PE Position | By default, the 4th pole – other positions are possible, but not recommended |

| Mechanical Parameters | |
|---|---|
| Rail length | 4000 mm |
| Pole spacing | 14 mm |
| Insulation material for rails | Rigid PVC, color RAL 1018 (yellow) |
| Max. mounting distance | 500 mm on linear sections; varies on curved sections |
| Max. lateral offset at transitions with end caps/transition caps | ± 3 mm, horizontal and vertical, for End Caps 081574 and 081577 |
| Max. gap size at transitions with end caps/transition caps | 5 mm |
| Maximum crossing speed on pickup guides | No pickup guides in the 0815 program |
| Installation clearances, on all sides | 4 mm |
| Speed during engagement | Maximum 400 m/min, on a linear path |

| Temperature Range | |
|---|---|
| Ambient temperature during operation | -15 °C to +55 °C |
| Air humidity during operation | Max. 50% rel. at 40 °C |
| Storage temperature range | -30 °C to +55 °C, dry, no condensation |
| Max. component temperature | 80° C |

| Electrical Parameters | |
|---|---|
| Rated voltage | 500 V |
| System rated current at 100% duty cycle | 100 A |
| Rated current of the current collector | 16 A to 35 A |
| Cross-sectional area of the conductor rail | 25 $mm^2$ |
| Protection class | IP2X (systems with the current collector in full contact and without transfers, exit points, or pickup guides) |
| Ohmic resistance | 0.000778 at 20°C |
| Impedance at 14 mm pole spacing/50 Hz | 0.0008071 Ohm/m at 20°C |
| Degree of contamination | 3. Dry conductive contamination; conductivity caused by condensation |
| Dielectric strength | 22.4 kV/mm according to DIN 53481 |

**All rated current specifications are based on CE-relevant EN/IEC standards.**
**Different national standards may apply in other markets.**

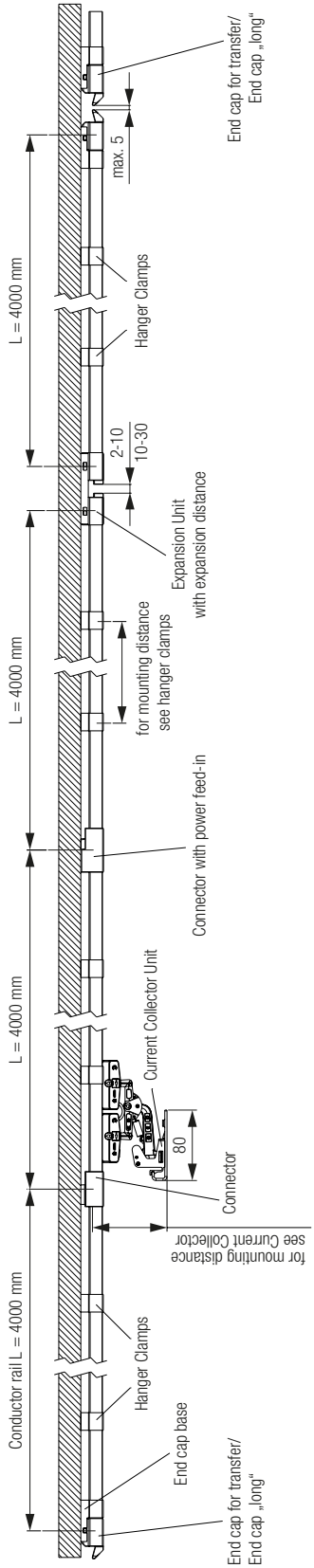
# Technical Data

| Relevant standards | |
|---|---|
| **Insulation Coordination for Electrical Equipment in Low-Voltage Installations - Part 1: Principles, Requirements, and Tests** | IEC 60664-1:2007<br>EN 60664-1:2007<br>DIN EN 60664-1<br>VDE 0110-1 |
| **Safety of machinery - Electrical equipment of machines - Part 1: General requirements** | IEC 60204 - 1:2005<br>EN 60204-1:2006<br>DIN EN 60204-1<br>VDE 0113-1: 2007-06 |
| **Protection against accidental contact / Enclosure protection ratings** | IEC 60529:1989 + A1:1999 + A2:2013<br>EN 60529:1991 A1:2000 A2:2013<br>DIN EN 60529<br>VDE 0470-1: 2014-09<br>VDE 0470 Part 1 / EN 60 529 / IEC 60 529<br>EN 60 204 Part 1/32 |
| **UL Classification/Flammability Requirements for insulation materials regarding flame resistance and self-extinguishing properties** | UL94-V0<br>(IEC) DIN EN 60695-11-10B3, 3 |
| **Clearance and creepage distances** | according to pollution degree 3; creepage distances according to DIN VDE 0110 Part 1 |
| **Overvoltage category** | Category III according to DIN VDE 0100-443 |

**Note:** Subject to technical changes. For applications other than those described here or under different operating conditions, please consult us to verify technical feasibility. Technical specifications may be mutually exclusive. In case of doubt, we also recommend verifying suitability.

# System Layout

## Program 0815 – Symbolic Representation



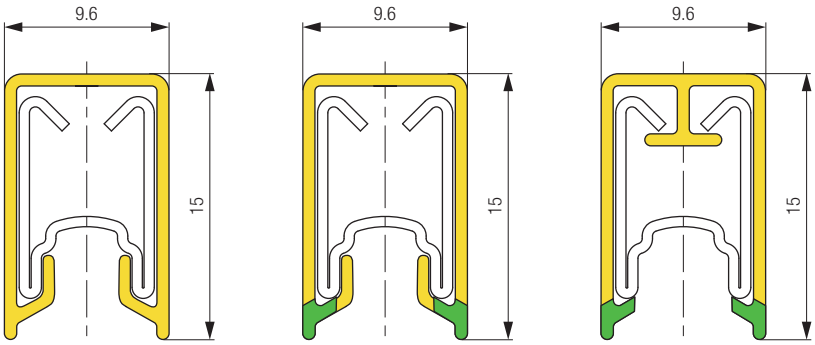

**Notes on Layout/Installation Guidelines:**

- Observe the installation spacing even when the track is not linear (curves)
- Observe the wheel contact point in applications with curves
- Current collector cables must be laid without tension, allow for free movement, and be highly flexible
- Install the current collectors so that the connecting cables cannot become snagged and the movement of the arms cannot be restricted (e.g., by mounting screws that are too long)

# Basic Components

## Conductor Rails

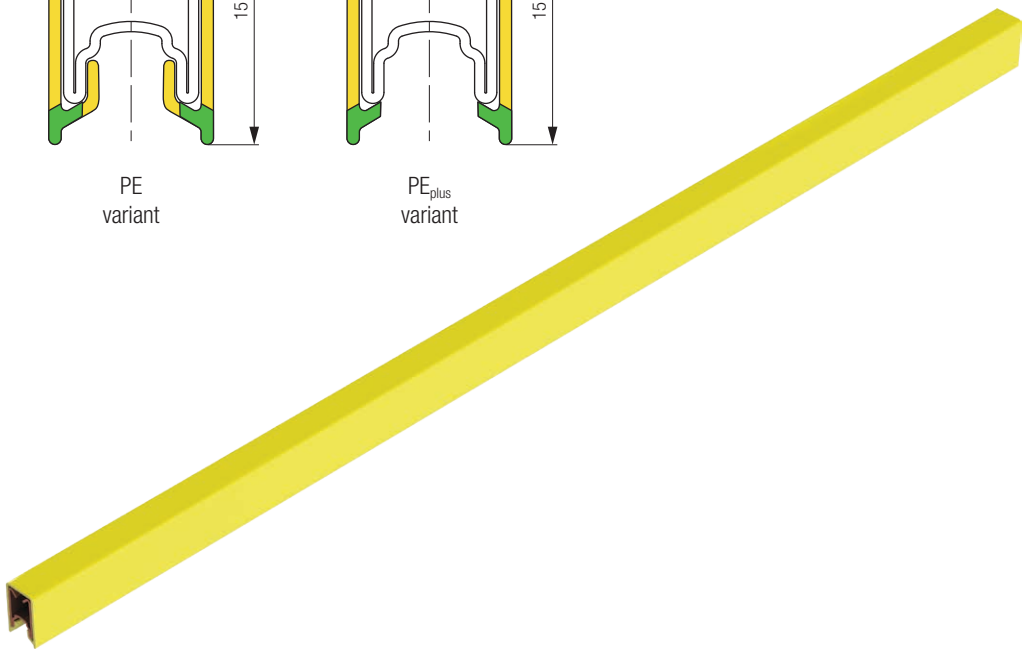
The SingleFlexLine 0815 is available as a phase rail and a PE rail, each in 4-meter lengths.
The conductor material consists of high-quality Cu-EPT and offers maximum electrical conductivity. The insulation material is made of durable PVC and ensures safe operation over a long period of time.
The two available PE protective conductor systems each have a different application focus. We are happy to assist you with any questions.




PH variant

PE variant

$PE_{plus}$ variant



| Part No. | Type | Rated current | Length | Usage | Conductor material | Insulation material | Weight |
|---|---|---|---|---|---|---|---|
| **081516-4X11** | CONDUCTOR RAIL 0815 CU100A PVCPH 4M | 100 A | 4 m | PH | copper | PVC | 1.06 kg |
| **081516-4X12** | CONDUCTOR RAIL 0815 CU100A PVCPE 4M | 100 A | 4 m | PE | copper | PVC | 1.06 kg |
| **081516-4X14** | CONDUCTOR RAIL 0815 CU100A PVCPE+ 4M | 100 A | 4 m | $PE_{plus}$ | copper | PVC | 1.06 kg |
| **081516-4X15** | CONDUCTOR RAIL 0815 CU100A PVCPE+ 4M | 100 A | 4 m | $PE_{plus}$ curves | copper | PVC | 1.06 kg |

Shorter lengths with configurator 08151-X#

# Optional Parts

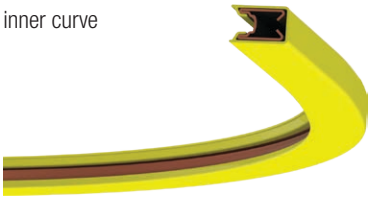
## Curved Conductor Rails

Curved Conductor Rails are manufactured at the factory using a special process that ensures a perfect fit for rings and segmented curves. No further processing of the bends is required for installation.

Curved Conductor Rails and curves have a different mounting spacing than straight conductor rails.
For more information on this, see the Hanger Clamps section.

**Vertical rail arrangement**

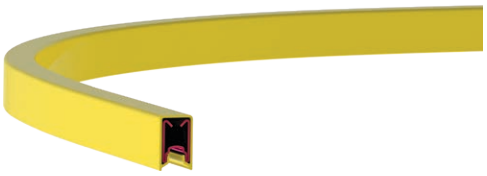
inner curve



outer curve



**Horizontal rail arrangement**



| Part No. | Type | Weight |
|---|---|---|
| **08151X-XNB** | Curved Conductor Rail 0815 PH/PE/PE configured | variable |

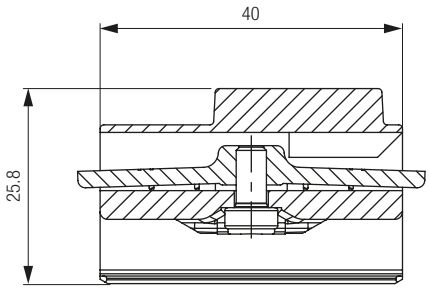
| Parameter | Explanation |
|---|---|
| **Rated current & conductor material** | Which conductor rail should be used as the basis for the curve? |
| **PH, PE or $PE_{plus}$** | Depending on the intended use of the rail: Phase, PE, or $PE_{plus}$ |
| **Type of curve** | For any application where you want to directly use a radius from a drawing, the CIRCLE variant is the right choice. You will then receive a conductor rail bend that can be installed to form a circle with your specified radius.<br>For special applications and existing systems, the STRAIGHT SECTION variant is the right choice. Please contact us! |
| **Radius** | The minimum and maximum radii that can be produced depend on the bending direction and the choice of material.<br>Typical bending lengths for program 0815 from 800 mm to approximately 5,000 mm. Please contact us! |
| **Opening angle** | Opening angle in degrees. Please also refer to the explanation of the curve type. |

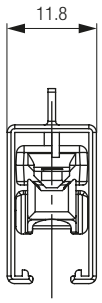
# Basic Components

## Connectors

Rail connectors establish a secure electrical and mechanical connection between two conductor rails.
Our standard connector 081521 is the best choice for almost all applications, but other connectors may be used in specific cases.

081521

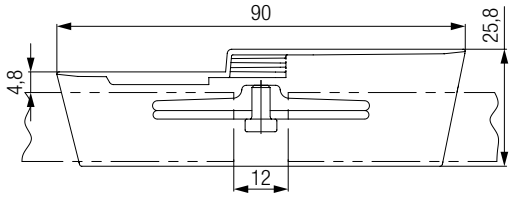


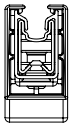






Connector 081522 is designed for use with expansion units 081561*

081522





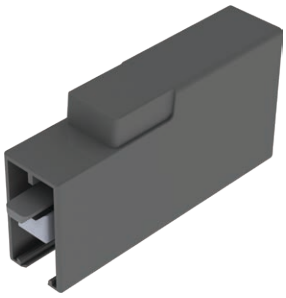
| Part No. | Type | Usage | PH / PE / $PE_{plus}$ | Weight |
|---|---|---|---|---|
| **081521** | CONNECTOR 0815 1P SC | for standard applications | all variants | 0.016 kg |
| **081522** | CONNECTOR 0815 SC | for use with expansion units or for easier insertion* | all variants | 0.022 kg |

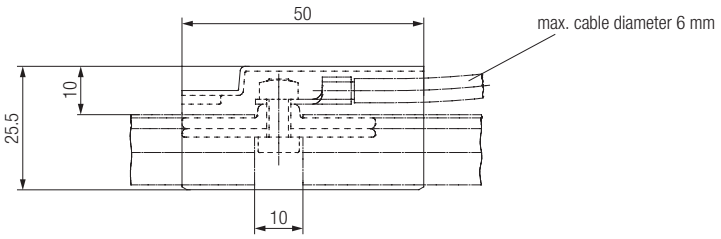
* For use only with a notching tool

# Basic Components

## Connectors with Power Feed-In

The power supply is based on the basic principle of a rail connector but provides an additional power supply point. Please note that there are restrictions on the outer diameter of the connecting cables; most common cable types are compatible up to a cross-sectional area of 6 mm² (cables with thinner sheaths, up to 10 mm² depending on the type). In the Connecting Cables section, you will find suitable, pre-assembled connecting cables for this component.



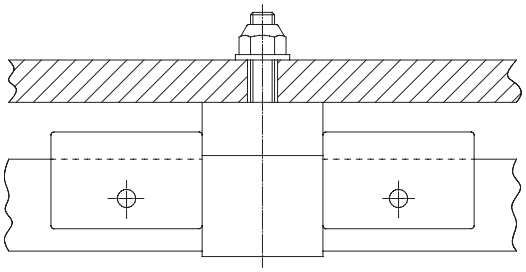



| Part No. | Type | Usage | Max. cable cross-section | PH / PE / $PE_{plus}$ | Weight |
|---|---|---|---|---|---|
| **081551-1** | POWER FEED L 0815 2,5 MM2 | for all uses | 1,5-2,5 mm² | all variants | 0.022 kg |
| **081551-2** | POWER FEED L 0815 6 MM2 | for all uses | 4-6 mm² | all variants | 0.022 kg |
| **081551-3** | POWER FEED L 0815 10 MM2 | for all uses | 5-10 mm² | all variants | 0.022 kg |

## Anchor Point

To prevent the conductor rail from moving due to thermal expansion and friction, it must be secured in place. This is achieved by installing two anchor points per pole, mounted on either side of the rail clamp. If a rail clamp is only clamped in place, we recommend screwing it down for a more secure hold. The position and number of anchor points depend on the system layout. The number and position of the anchor points are determined during system design.





| Part No. | Type | Weight |
|---|---|---|
| **081531** | 1 x Anchor Point | 0.002 kg |

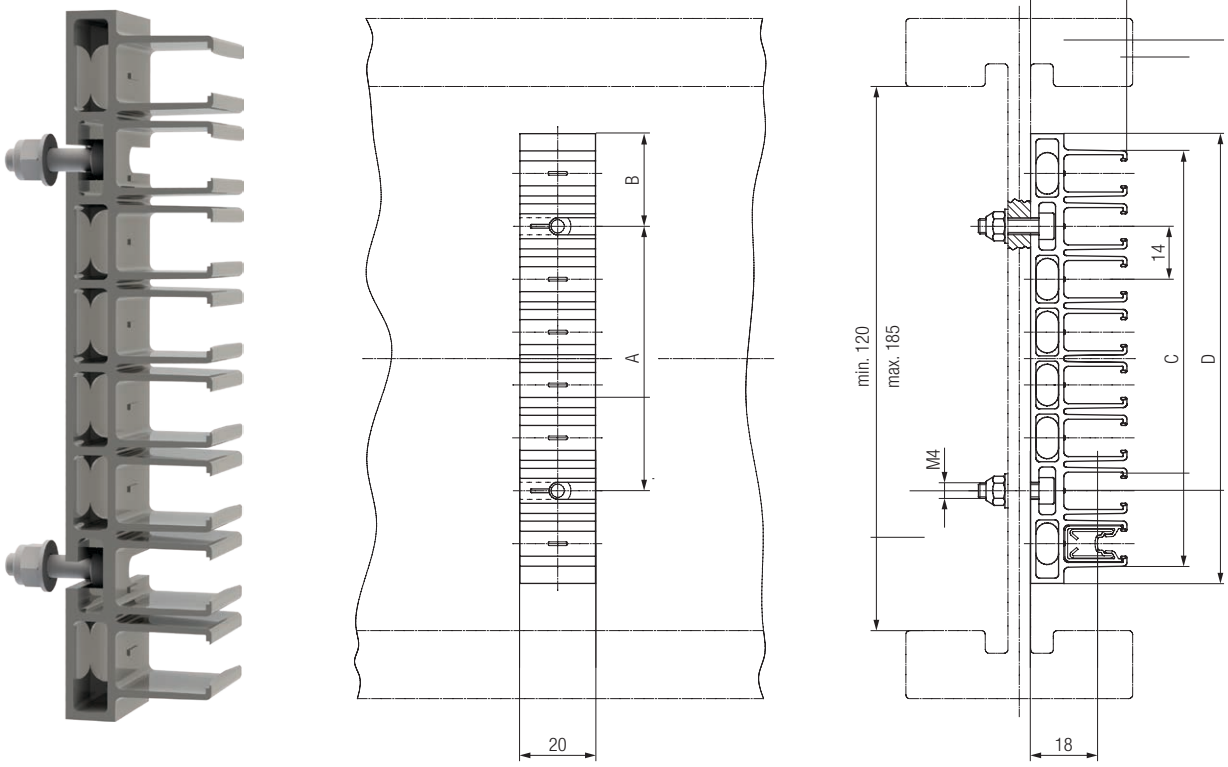
**Note:** Two anchor point caps are required per pole and anchor point

# Basic Components

## Hanger Clamps

Hanger clamps are used to secure the conductor rail to the customer's substructure. The hanger clamp allows for movement or expansion in the axial direction. Among other things, this compensates for thermal expansion but can also be helpful during installation. Depending on the type of installation, we recommend different mounting spacings.

Recommended mounting distance:
- 500 mm on linear sections
- 400 mm on vertically curved conductor rails
- 250 mm on horizontally curved conductor rails



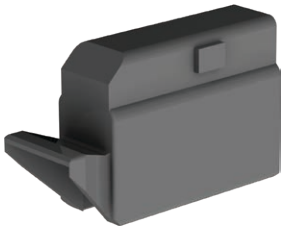

| Part No. | Type | No. of poles | A [mm] | B [mm] | C [mm] | D [mm] | Weight |
|---|---|---|---|---|---|---|---|
| **081543-02X14** | HANGER CLAMP 0815 2P14 6KT PC | 2 | - | 21 | 26 | 28 | 0.009 kg |
| **081543-03X14** | HANGER CLAMP 0815 3P14 6KT PC | 3 | - | 21 | 40 | 42 | 0.01 kg |
| **081543-04X14** | HANGER CLAMP 0815 4P14 6KT PC | 4 | 28 | 7 | 54 | 56 | 0.019 kg |
| **081543-05X14** | HANGER CLAMP 0815 5P14 6KT PC | 5 | 28 | 21 | 68 | 70 | 0.021 kg |
| **081543-06X14** | HANGER CLAMP 0815 6P14 6KT PC | 6 | 42 | 21 | 82 | 84 | 0.023 kg |
| **081543-08X14** | HANGER CLAMP 0815 8P14 6KT PC | 8 | 70 | 24.5 | 110 | 119 | 0.025 kg |

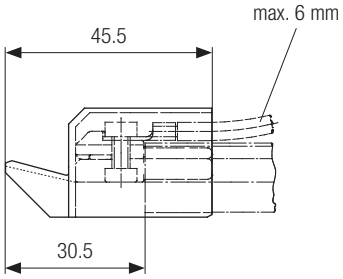
Delivery includes mounting kit (DIN 912 4x16 screw + washers + nuts)

# Basic Components

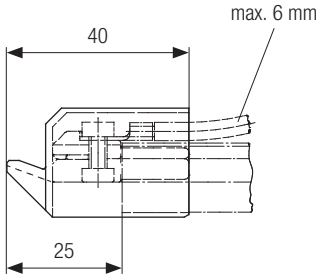
## End Caps

End caps are required at both ends of every conductor rail system. They serve as terminations and also provide a feed-in option for cables with an outer diameter of up to 6 mm. When combined with an end cap base, this design is also suitable for transfers.






**For all applications, including those involving transfers. However, for mere electrified monorail systems, we recommend type 08157A.**



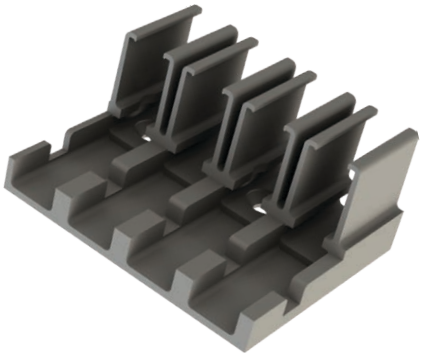

A component **not recommended for transfers,** requiring slightly less space.

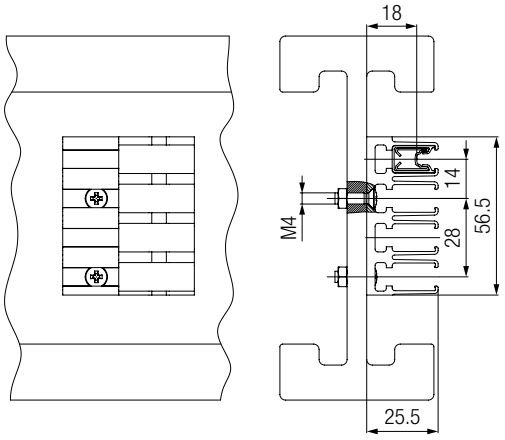
| Part No. | Use case | Cross-section | Weight |
|---|---|---|---|
| 081574-01x14x0 | End cap 40 mm for 14 mm pole spacing | without power feed | 0.016 kg |
| 081574-01x14x2 | | 1.5 - 2.5 mm² | 0.018 kg |
| 081574-01x14x6 | | 4.0 - 6.0 mm² | 0.018 kg |
| 081576-01x14x0 | End cap for transfer points 45 mm for 14 mm pole spacing, lateral deviation ± 5 mm | without power feed | 0.016 kg |
| 081576-01x14x2 | | 1.5 - 2.5 mm² | 0.018 kg |
| 081576-01x14x6 | | 4.0 - 6.0 mm² | 0.018 kg |

# Basic Components

## End Cap Base for End Caps, types 081574 and 081576

End caps are snapped into an end cap base. This base holds the end caps in place and helps secure them against each other during transfers. An end cap base serves as and replaces an anchor point. Please also refer to the “Expansion” section. However, for applications involving multiple transfers, we recommend the end cap unit for ProEMS.





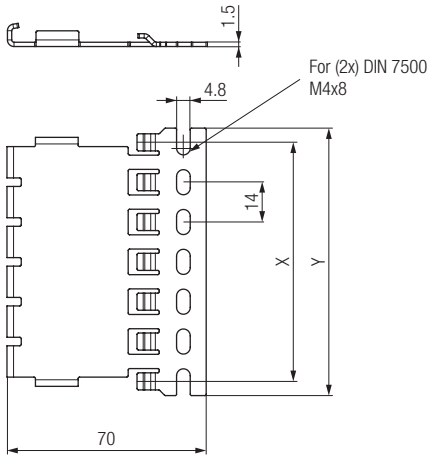

| Part No. | Type | No. of poles | Fastener position | Width | weight |
|---|---|---|---|---|---|
| **08-E012-0178** | END CAP BASE 0815 1P L=47MM | 1 | Symmetrical | 14 mm | 0.003 kg |
| **08-E012-0374** | END CAP BASE 0815 2P L=47MM LE oder R | 2 | Asymmetrical | 28 mm | 0.008 kg |
| **08-E012-0224** | END CAP BASE 0815 3P L=47MM | 3 | Symmetrical | 42 mm | 0.013 kg |
| **08-E012-0177** | END CAP BASE 0815 4P L=47MM LE | 4 | Asymmetrical | 56 mm | 0.030 kg |
| **08-E012-0185** | END CAP BASE 0815 5P L=47MM LE oder R | 5 | Asymmetrical | 70 mm | 0.019 kg |
| **08-E012-0399** | END CAP BASE 0815 6P L=47MM | 6 | Symmetrical | 84 mm | 0.025 kg |
| **08-E012-0075** | END CAP BASE 0815 8P L=47MM | 8 | Symmetrical | 112 mm | 0.030 kg |

# Basic Components

## End Cap 08157A, specifically for Electrified Monorail Systems (EMS)

These assemblies were specifically designed for transfers in EMS track profiles and always have the PE on the 4th pole.
They can be positioned perpendicular to the direction of travel and allow for easy adjustment of end caps at switch points.
Like all end caps at transfers, this assembly also secures the rail firmly to the supporting surface and therefore always serves as a fixed point.





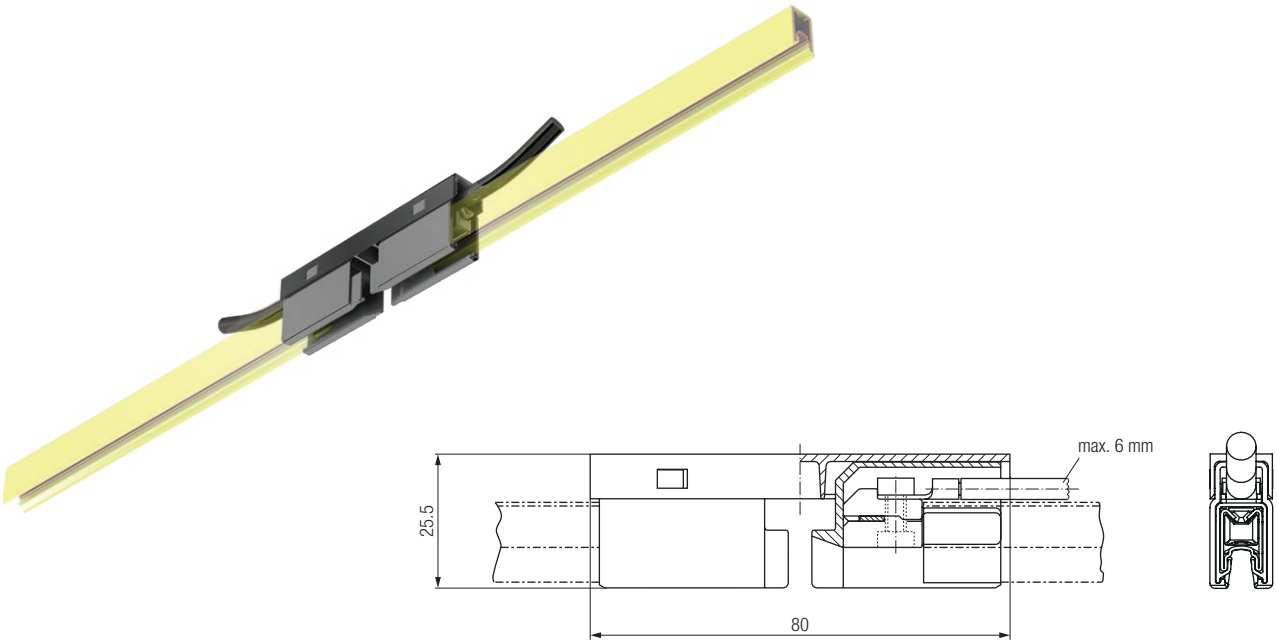

**Transfer clearance (cap to cap):** max. 5 mm
**Vertical deviation:** max. ± 3 mm
**Lateral deviation:** max. ± 5 mm

| Part No. | Type | Version | X | Y | Weight |
|---|---|---|---|---|---|
| **08157A-04x14x5** | End cap unit complete with clamping piece and ring terminal 1.5 - 2.5 mm², without cable | 4-pole (3 x PH + 1 x $PE_{plus}$) | 56 mm | 66 mm | 0.13 kg |
| **08157A-06x14x5** | | 6-pole (5 x PH + 1 x $PE_{plus}$) | 84 mm | 94 mm | 0.19 kg |
| **08157A-08x14x5** | | 8-pole (7 x PH + 1 x $PE_{plus}$) | 112 mm | 122 mm | 0.25 kg |
| **08157A-04x14x7** | End cap unit complete with clamping piece and ring terminal 4 - 6 mm², without cable | 4-pole (3 x PH + 1 x $PE_{plus}$) | 56 mm | 66 mm | 0.13 kg |
| **08157A-06x14x7** | | 6-pole (5 x PH + 1 x $PE_{plus}$) | 84 mm | 94 mm | 0.19 kg |
| **08157A-08x14x7** | | 8-pole (7 x PH + 1 x $PE_{plus}$) | 112 mm | 122 mm | 0.25 kg |

# Optional Parts

## Air Gap Insulation Sections

Air gaps are like connectors and establish a mechanical, but not an electrical, connection between two conductor rails.
They can be single-pole or multi-pole and are typically used to separate signal or safety blocks. The separation is always safe and complies with all creepage distances. However, current collectors or current collector heads can bypass this separation.




| Part No. | Type | Cross-section | PH/PE/$PE_{plus}$ | Weight |
|---|---|---|---|---|
| **081594-2** | AIR GAP SECTION 0815 1P LT=4,5MM | 1.5 – 2.5 $mm^2$ | PH/PE | 0.04 kg |
| **081594-5** | AIR GAP SECTION 0815 1P LT=4,5MM PEplus | 1.5 – 2.5 $mm^2$ | $PE_{plus}$ | 0.04 kg |
| **081594-3** | AIR GAP SECTION 0815 1P LT=4,5MM | 4.0 – 6.0 $mm^2$ | PH/PE | 0.04 kg |
| **081594-7** | AIR GAP SECTION 0815 1P LT=4,5MM PE+ | 4.0 – 6.0 $mm^2$ | $PE_{plus}$ | 0.04 kg |

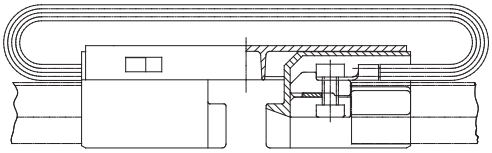
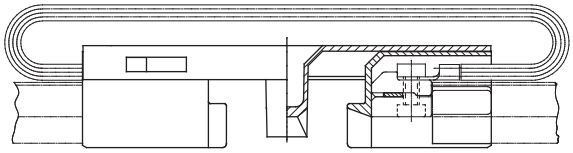
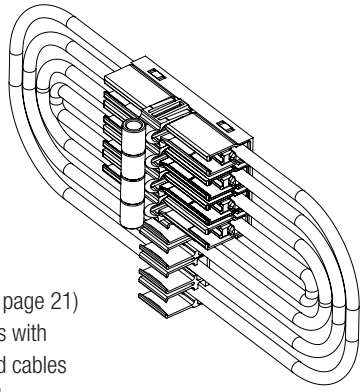
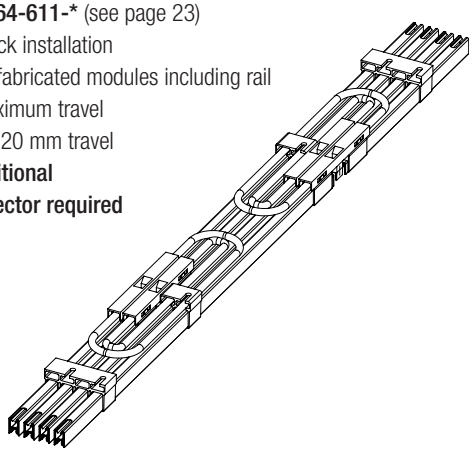
# Optional Parts

## Expansion Joints – Overview

Expansion units or expansion modules compensate for changes in length within the conductor rail system. A change in length may be caused by the substructure, a change in ambient temperature, or the system's own heat generation. If length compensation is not provided, damage to the conductor rail system may occur that is not easy to repair.

Various expansion units and expansion modules are available for different applications.
Single-pole units are flexible in application but require more installation time.
Multi-pole modules are installed more quickly but require slightly more preparation and planning.

All expansion units have a continuous rated current of 54 A and reduce the continuous rated current of the entire system accordingly.

| | 8 mm | 20 mm |
|---|---|---|
| **Expansion units** | <br>**081561-311** (see page 20)<br>+ Versatile<br>+ 1 x 8 mm<br>- Individual part<br>- Note wiring<br>- Short intermediate length | <br>**081562-311** (see page 22)<br>+ Maximum extension travel for individual component<br>+ Versatile application<br>+ 1 x 20 mm<br>- Individual component<br>- Note wiring |
| **Expansion modules** | <br>**081561-3*** (see page 21)<br>+ Individual parts with pre-assembled cables<br>+ 1x8 mm travel<br>- Individual parts | **081564-611-*** (see page 23)<br>+ Quick installation<br>+ Prefabricated modules including rail<br>+ Maximum travel<br>+ 1 x 20 mm travel<br>**! Additional connector required**<br> |

# Optional Parts

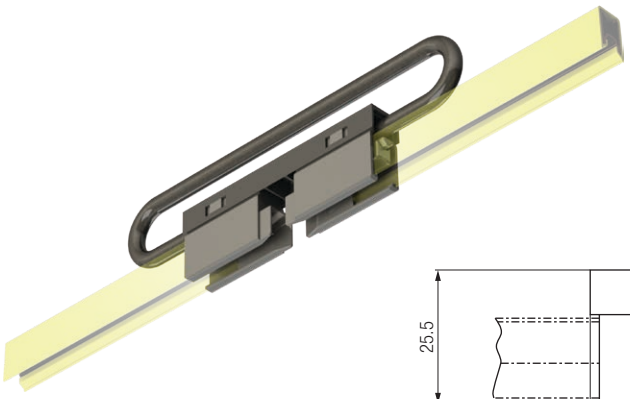
## Expansion Unit 8 mm, single-pole for flexible use

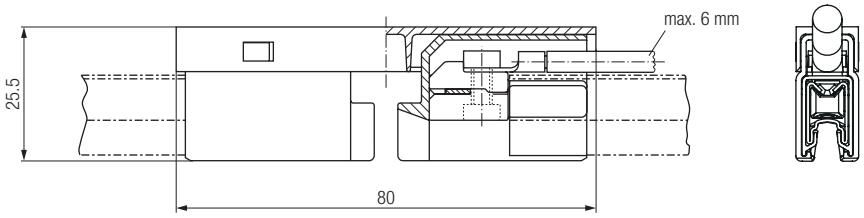
The 8 mm expansion unit is the standard expansion unit for the 0815 series. It can be used in all applications without restriction.

### Technical Data

- Max. expansion travel per element and pole: 8 mm
- Available as single-pole and multi-pole units
- Different versions for PH & PE and PEplus
- Compatible with all 0815 pantographs
- Rated current: 54 A

## Single-pole connector for flexible use






| Part No. | Type | No. of poles | PH/PE/$PE_{plus}$ | Expansion distance | Rated current | PE position |
|---|---|---|---|---|---|---|
| **081561-311** | EXPANSION UNIT 0815 1P WC54A GA | 1 | PH & PE | 8 mm | 54 A | any |
| **081561-3114** | EXPANSION UNIT 0815 WC50A PE+GA | 1 | $PE_{plus}$ | 8 mm | 54 A | any |

| For 1 x 8 mm Expansion Unit | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | No expansion joints required | Intermediate length a | Open ends in one direction | Examples: Number of expansion units required with 2 open ends | | | | |
| | | | | | 1 | 2 | 3 | 4 | 5 |
| $\Delta t_{total}$ | 10 K | < 8 m | 48 m | 100 m | 148 m | 196 m | 244 m | 292 m | 340 m |
| | 20 K | < 8 m | 24 m | 100 m | 124 m | 148 m | 172 m | 196 m | 220 m |
| | 30 K | < 8 m | 16 m | 100 m | 116 m | 132 m | 148 m | 164 m | 180 m |
| | 40 K | < 8 m | 12 m | 100 m | 112 m | 124 m | 136 m | 148 m | 160 m |
| | 50 K | < 8 m | 10 m | 100 m | 110 m | 119 m | 129 m | 139 m | 148 m |

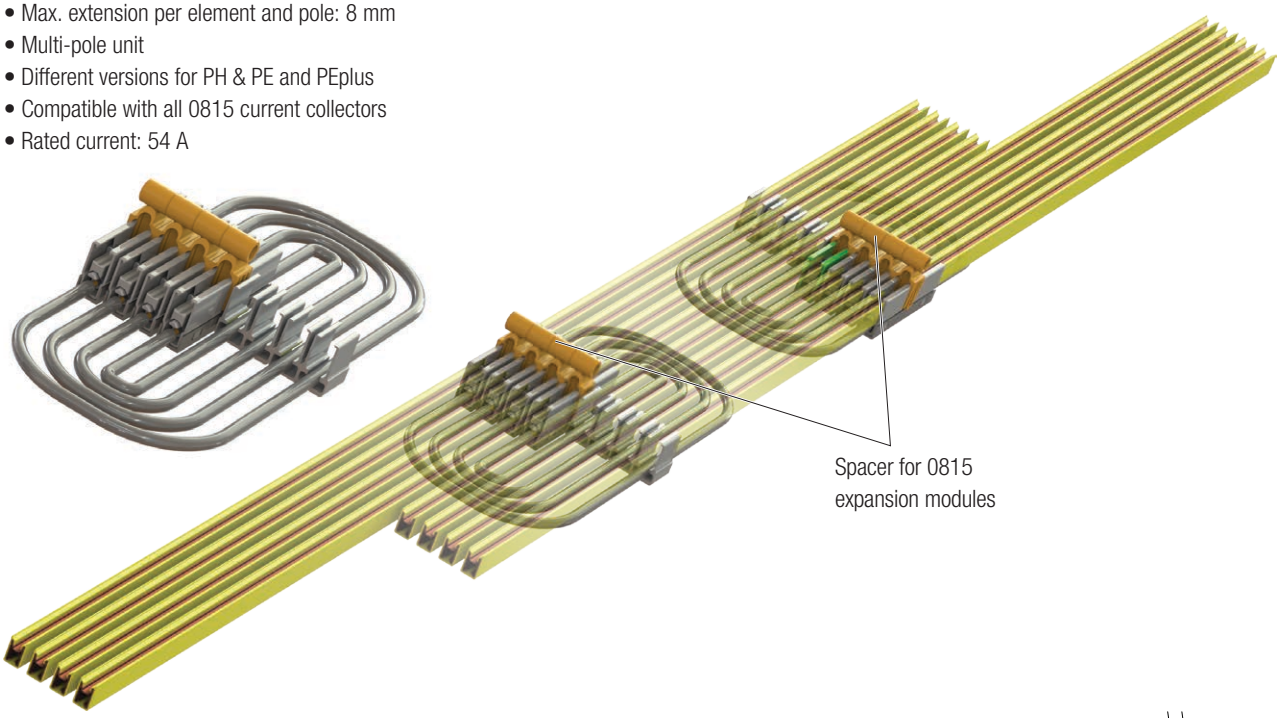
# Optional Parts

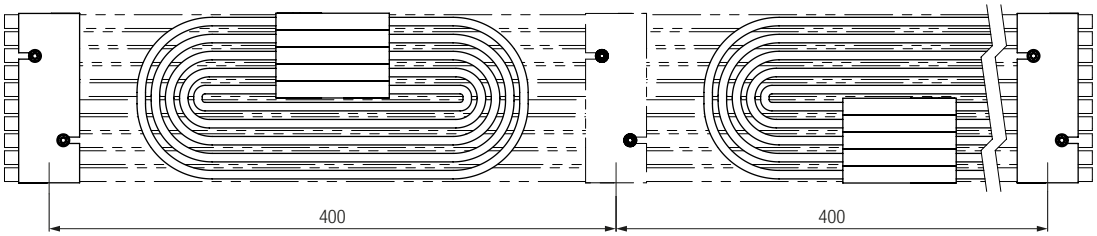
## Expansion Module 8 mm, for quick installation

The modules are delivered as kits and must be assembled on-site. Using spacer 08-Z009-0014P, the otherwise very time-consuming process of adjusting the expansion gaps can be reduced to just a few seconds. The spacers are reusable and can be used for many installations. All 0815 connectors can be used with these modules.

### Technical Specifications

- Max. extension per element and pole: 8 mm
- Multi-pole unit
- Different versions for PH & PE and PEplus
- Compatible with all 0815 current collectors
- Rated current: 54 A




| Part No. | Type | No. of poles | PH/PE/$PE_{plus}$ | Expansion distance | Rated current | PE position |
|---|---|---|---|---|---|---|
| **081561-341** | EXPANSION UNIT 0815 4P WC54A GA | 4 | PH & PE | 8 mm | 54 A | 4 |
| **081561-3415** | EXPANSION UNIT 0815 4P WC50A PE+GA | 4 | $PE_{plus}$ | 8 mm | 54 A | 4 |
| **081561-361** | EXPANSION UNIT 0815 6P WC54A GA | 6 | PH & PE | 8 mm | 54 A | 4 |
| **081561-3615** | EXPANSION UNIT 0815 6P WC50A PE+GA | 6 | $PE_{plus}$ | 8 mm | 54 A | 4 |
| **081561-381** | EXPANSION UNIT 0815 8P WC54A GA | 8 | PH & PE | 8 mm | 54 A | 4 |
| **081561-3815** | EXPANSION UNIT 0815 8P WC50A PE+GA | 8 | $PE_{plus}$ | 8 mm | 54 A | 4 |
| **081561-301** | EXPANSION UNIT 0815 10P WC54A GA | 10 | PH & PE | 8 mm | 54 A | 4 |
| **08-Z009-0014P** | ADJUSTING AID SET EXPANSION MODULE 0815 * | 1 | all variants | 8 mm | 54 A | – |

* If the installation aid is used, different tables must be used to determine the number of expansion units.
See Installation Instruction MAL 0815 for more information.

# Optional Parts

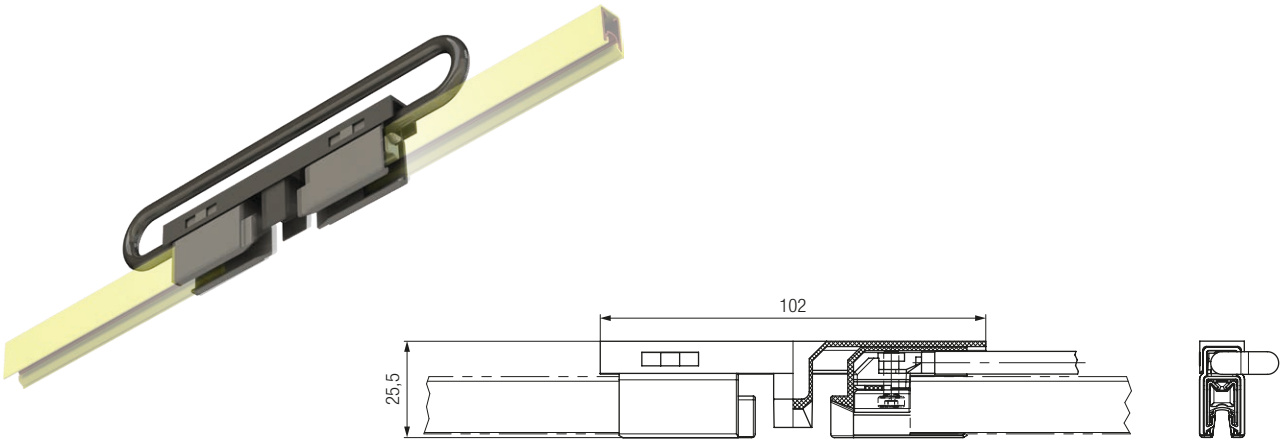
## Expansion Unit 20 mm, single-pole for flexible use

The 20-mm expansion unit provides more expansion travel per unit than the 8-mm expansion units, but is less suitable for use with single current collectors, as these cannot pass through the expanding section without interruption.

### Technical Specifications

- Max. travel per element and pole: 20 mm
- Available as single-pole and multi-pole units
- Different versions for PH & PE and PEplus
- Rated current: 54 A

## Single-pole connector for flexible use




| Part No. | Type | No. of poles | PH/PE/$PE_{plus}$ | Expansion distance | Rated current | PE position |
|---|---|---|---|---|---|---|
| **081562-311** | EXPANSION UNIT 0815 1P WC54A GA | 1 | PH & PE | 20 mm | 54 A | any |
| **081562-3114** | EXPANSION UNIT 0815 1P WC54A PEplus GA | 1 | $PE_{plus}$ | 20 mm | 54 A | any |

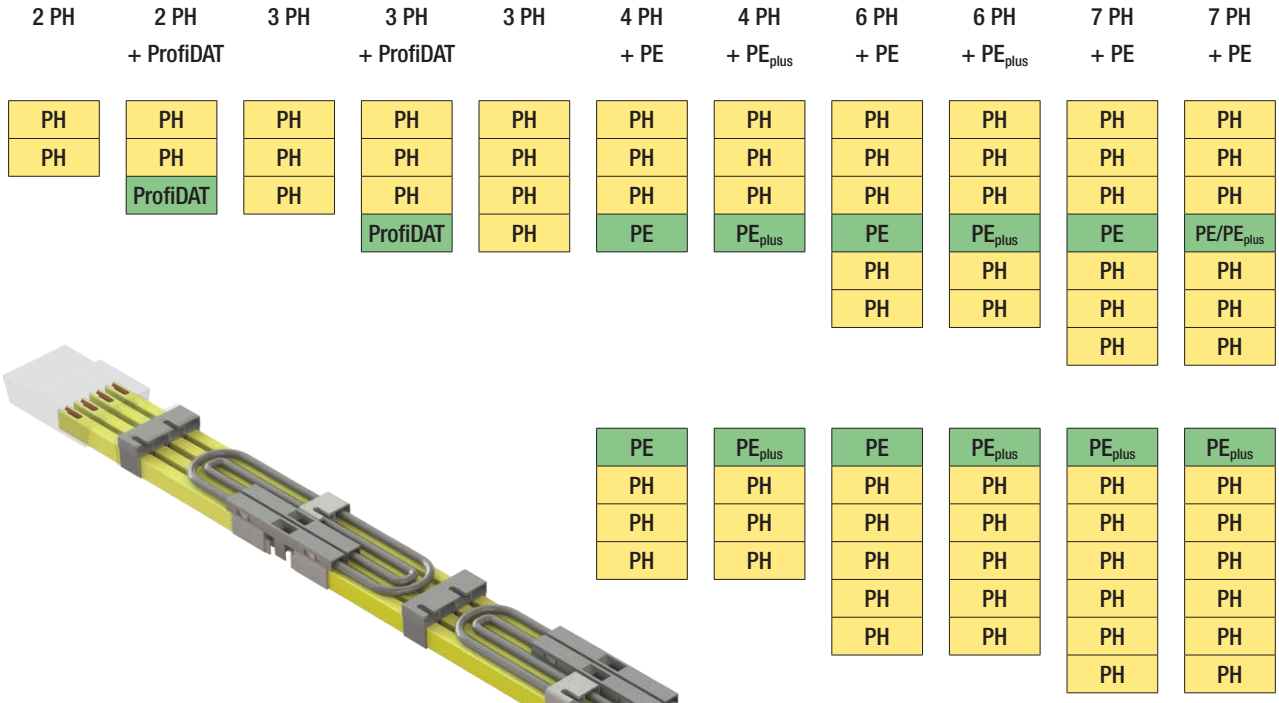
| For 1 x 20 mm Expansion Unit | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | No expansion joints required | Intermediate length a | Open ends in one direction | Examples: Number of expansion units required with 2 open ends | | | | |
| | | | | | 1 | 2 | 3 | 4 | 5 |
| $\Delta t_{total}$ | 10 K | < 8 m | 121 m | 100 m | 221 m | 342 m | 463 m | 584 m | 705 m |
| | 20 K | < 8 m | 60 m | 100 m | 160 m | 220 m | 280 m | 340 m | 400 m |
| | 30 K | < 8 m | 40 m | 100 m | 140 m | 180 m | 220 m | 260 m | 300 m |
| | 40 K | < 8 m | 30 m | 100 m | 130 m | 160 m | 190 m | 220 m | 250 m |
| | 50 K | < 8 m | 24 m | 100 m | 124 m | 148 m | 173 m | 197 m | 221 m |

# Optional Parts

## Expansion Module 20 mm, for quick installation

Type 081564-611x expansion modules are pre-assembled modules that include cabling. These modules allow for quick and easy installation by simply sliding them into place and reduce installation time to a minimum. We recommend them primarily for Electrified Monorail Systems (EMS). However, in principle, the modules can be used for all types of applications.

The modules are available in 2-, 3-, and 4-pole versions and can be combined with other modules as desired. By combining modules, any number of poles can be created.




Expansion module 20 mm
4-pole

| Part No. | Type | No. of poles | PH/PE/$PE_{plus}$ | Expansion distance | Rated current | PE position |
|---|---|---|---|---|---|---|
| **081564-611-3211** | EXPANSION UNIT 0815 2P CU54A PH | 2 | PH | 23 mm | 54 A | PH only |
| **081564-611-3311** | EXPANSION UNIT 0815 3P CU54A PH | 3 | PH | 23 mm | 54 A | PH only |
| **081564-611-3411** | EXPANSION UNIT 0815 4P CU54A PH | 4 | PH | 23 mm | 54 A | PH only |
| **081564-611-3412** | EXPANSION UNIT 0815 4P CU54A PE | 4 | PE | 23 mm | 54 A | 4 |
| **081564-611-3415** | EXPANSION UNIT 0815 4P CU54A PEplus | 4 | $PE_{plus}$ | 23 mm | 54 A | 4 |
| **081522** | CONNECTOR 0815 SC | 1 | for all variants | 23 mm | 54 A | - |
| **08-S902-0002P** | ADJUSTING AID DV 0815 20MM 50% OPEN | 1 | for all variants | 23 mm | 54 A | - |

* If the installation aid is used, different tables must be used to determine the number of expansion units.
See Installation Instruction MAL 0815 for more information.

Special connectors (081522) **are required on both sides for installation** in all cases; these are not included with the expansion modules.

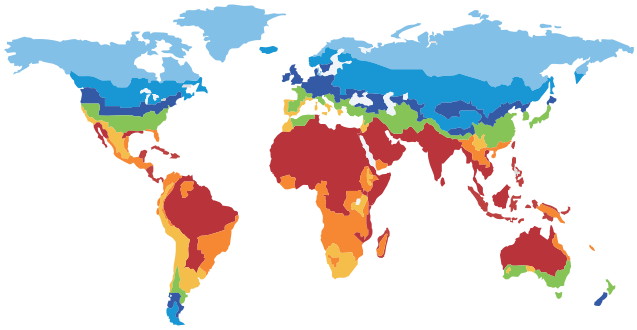
# Optional Parts

## Design of Systems with Expansion Units

The thermal expansion of a system always depends on the actual temperature difference in a specific application. The temperature difference is composed of various factors:

1. Changes in ambient temperature
2. Self-heating due to electrical current
3. Radiant heat from the surroundings
4. Cooling effects caused by environmental factors
5. Cooling by convection

etc.



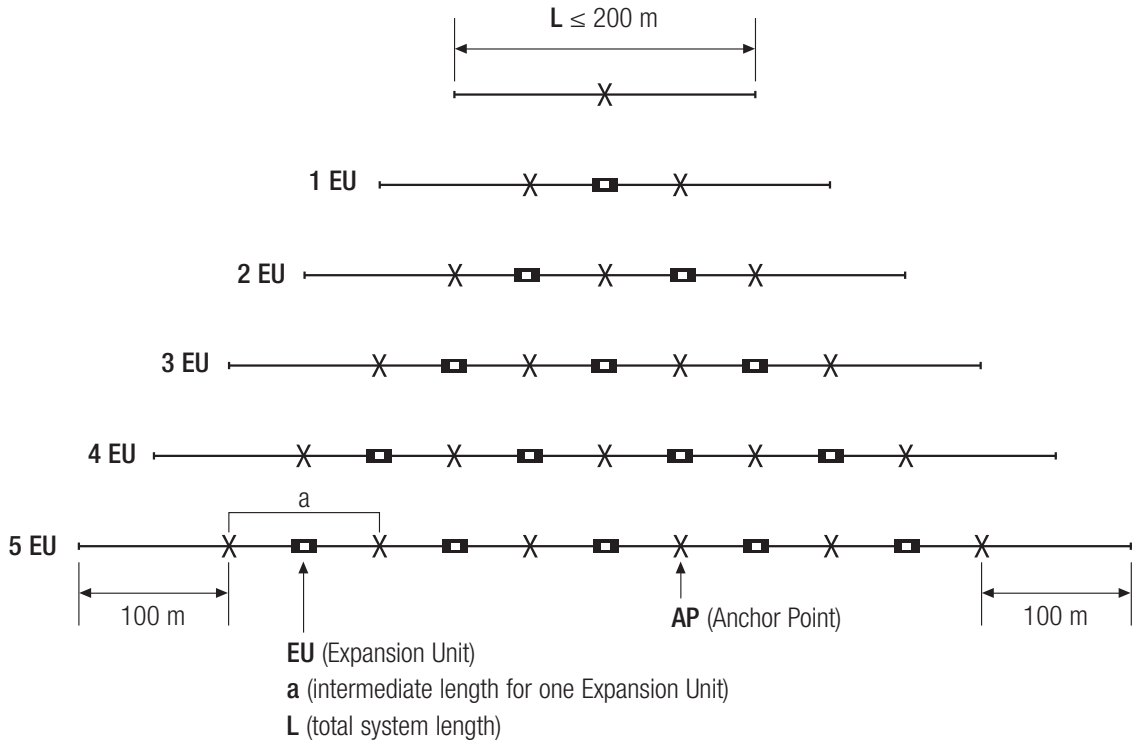
In addition, the installation location and the type or workload of the system influence the temperature. A true value can therefore hardly be determined theoretically; a measurement in the specific application is often the only way to determine exact values.

In practice, it is therefore often easier to work with empirical values.

| Installation location | Assessment of conditions | Examples | Temperature difference |
|---|---|---|---|
| Inside | Normal working environment | Warehouses, workshops | 20 K to 30 K |
| Inside | Harsh environments | Electrolytic cells, smelting furnaces, cold storage facilities | 40 K to 60 K |
| Outside* | Continental climates | Much of the United States, Canada, Russia | 70 K to 80 K |
| Outside* | Maritime climates | Central Europe | 60 K to 70 K |
| Outside* | Highly maritime climates | Ports in tropical regions | 40 K to 50 K |

* Only products suitable for this purpose, such as Program 0812 or 0813
We'd be happy to advise you on the development, design, and installation of your expansion concept!

# Optional Parts




**• Intermediate length**

The distance between two anchor points, or other components that act as anchor points (pickup guides, end caps with end cap bases, curves). This distance should never be exceeded, but it is usually not necessary to cut the standard rail to size for this reason.

**• Free length**

The free length is the distance a conductor rail can extend in one direction without requiring expansion joints. One end is fixed, and the other end can extend freely without external forces.

**• Anchor point**

Anchor points are actual components and must be installed separately. However, other components have a similar effect and must be included in the planning if necessary (pickup guides, funnels, end cap bases, etc.). As a rule of thumb: an additional fixed point should always be installed for curves and pickup guides; on long straight sections, this can be omitted in case of doubt, e.g., to bridge large expansion points in the substructure.

**• Curves, transfers, and funnels**

Various components can limit or restrict the expansion of the conductor rail, including pickup guides, crossings, and funnels. In these cases, they must always be treated as fixed points. However, since these components often lack the mechanical stability to fulfill this function, we recommend setting an additional fixed point just before the component in such cases.

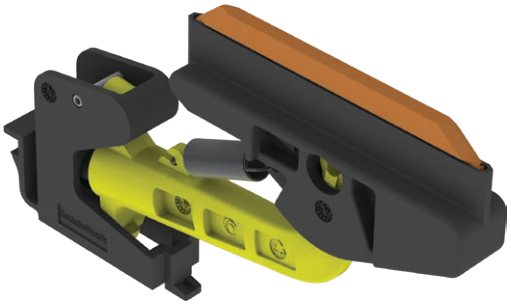
**• Expansion elements**

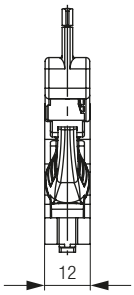
Expansion elements must be set to an exact value during installation. You can find more information on this in our installation instructions.

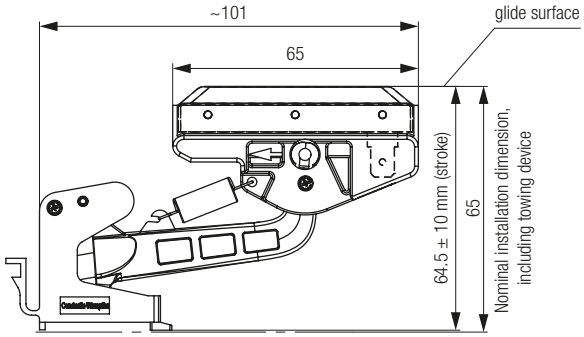
# Basic Components

## Current Collectors 14 mm pole spacing, individual part

Single-pole current collectors with a simple current collector head as a single component. The corresponding towing device is required for installation. For rated currents up to 35 A.





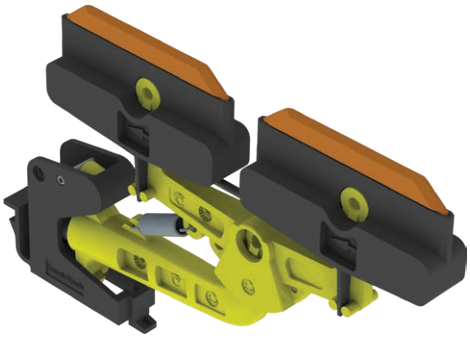

**Connection:** 6.3 mm flat plug
**Model shown:** universal
**Max. stroke:** ± 10 mm
**Max. lateral offset:** ± 10 mm

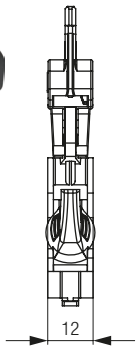
| Part No. | Rated current | Material | Working direction | PH / PE / $PE_{plus}$ | Remarks |
|---|---|---|---|---|---|
| **081506-0141** | 16 A | Graphite | Towing and reversing | PH | Collector |
| **081506-0142** | 16 A | Graphite | Towing and reversing | PE | For low voltage and older systems only |
| **081506-0142-CE** | 16 A | Graphite | Towing and reversing | PE | With misconnection protection, CE-compliant |
| **081507-0141** | 35 A | Copper-graphite | Towing and reversing | PH | Collector |
| **081507-0142** | 35 A | Copper-graphite | Towing and reversing | PE | For low voltage and older systems only |
| **081507-0142-CE** | 35 A | Copper-graphite | Towing and reversing | PE | With misconnection protection, CE-compliant |

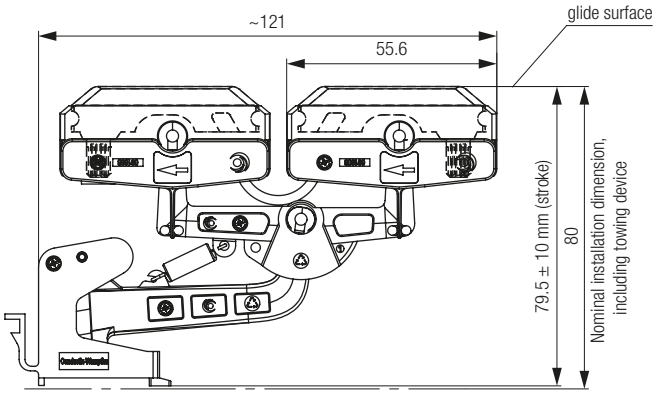
# Basic Components

## Dual Current Collectors with 2 x 50 mm contact length for 2 x 16 A / 2 x 25 A, 1-pole; with 2 plug connections

Single-pole current collectors with a dual-head design as a single unit. This current collector features a dual-head design that provides better electrical contact. The corresponding towing device is required for installation.
For rated currents up to 25 A.






**Connection:** flat plug
**Model shown:** towing operation
**Max. stroke:** ± 10 mm
**Max. lateral offset:** ± 10 mm

| Part No. | Rated current | Material | Working direction | PH / PE / $PE_{plus}$ | Remarks |
|---|---|---|---|---|---|
| **081508-0141** | 2 x 16 A | Graphite | Towing | PH | |
| **081508-0142** | 2 x 16 A | Graphite | Towing | PE | For low voltage and older systems only |
| **081508-0144** | 2 x 16 A | Graphite | Towing | $PE_{plus}$ | With misconnection protection, CE-compliant, with $PE_{plus}$ |
| **081508-0142-CE** | 2 x 16 A | Graphite | Towing | PE | With misconnection protection, CE-compliant |
| **081508-01415** | 2 x 16 A | Graphite | Reversing | PH | |
| **081508-01425** | 2 x 16 A | Graphite | Reversing | PE | For low voltage and older systems only |
| **081508-01425-CE** | 2 x 16 A | Graphite | Reversing | PE | With misconnection protection, CE-compliant |
| **081509-0141** | 2 x 25 A | Copper-graphite | Towing | PH | |
| **081509-0142** | 2 x 25 A | Copper-graphite | Towing | PE | For low voltage and older systems only |
| **081509-0144** | 2 x 25 A | Copper-graphite | Towing | $PE_{plus}$ | With misconnection protection, CE-compliant, with $PE_{plus}$ |
| **081509-0142-CE** | 2 x 25 A | Copper-graphite | Towing | PE | With misconnection protection, CE-compliant |
| **081509-01415** | 2 x 25 A | Copper-graphite | Reversing | PH | |
| **081509-01425** | 2 x 25 A | Copper-graphite | Reversing | PE | For low voltage and older systems only |
| **081509-01425-CE** | 2 x 25 A | Copper-graphite | Reversing | PE | With misconnection protection, CE-compliant |

# Basic Components

## Towing Devices

Drivers are screwed onto a customer-supplied substructure.
Current collectors are snapped onto the towing device without tools.
To comply with standards, the PE can only be mounted on one side.

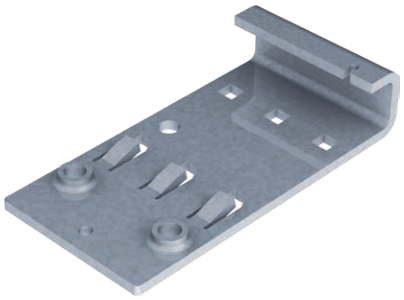
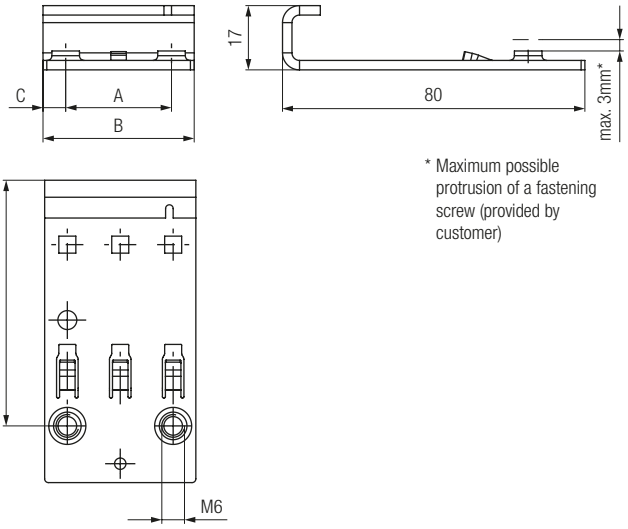


**Fig.:**
3-pole towing device



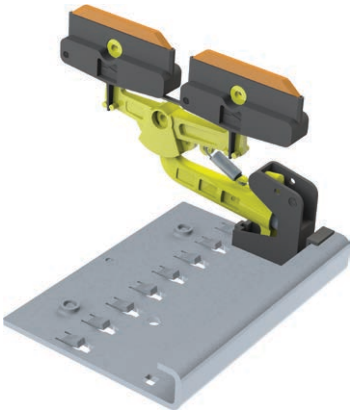

* Maximum possible protrusion of a fastening screw (provided by customer)

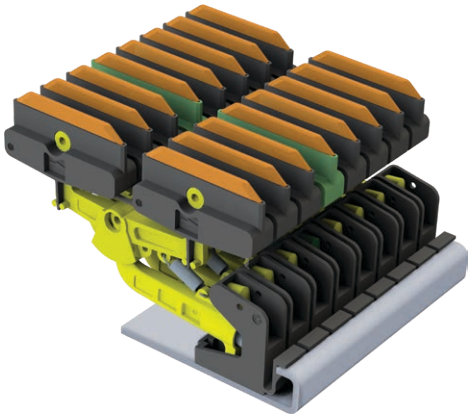
| Part No. | No. of poles | Weight | PE position | A | B | C |
|---|---|---|---|---|---|---|
| 081055-14X02X000X000 | 2P | 0.049 kg | no PE position | 15 mm | 26 mm | 5.5 mm |
| 081055-14X02X001X000 | | | 1 | | | |
| 081055-14X02X002X000 | | | 2 | | | |
| 081055-14X03X000X000 | 3P | 0.075 kg | no PE position | 28 mm | 40 mm | 6 mm |
| 081055-14X03X001X000 | | | 1 | | | |
| 081055-14X03X002X000 | | | 2 | | | |
| 081055-14X03X003X000 | | | 3 | | | |
| 081055-14X04X000X000 | 4P | 0.102 kg | no PE position | 42 mm | 54 mm | 6 mm |
| 081055-14X04X001X000 | | | 1 | | | |
| 081055-14X04X002X000 | | | 2 | | | |
| 081055-14X04X003X000 | | | 3 | | | |
| 081055-14X04X004X000 | | | 4 | | | |
| 081055-14X05X000X000 | 5P | 0.128 kg | no PE position | 56 mm | 68 mm | 6 mm |
| 081055-14X05X001X000 | | | 1 | | | |
| 081055-14X05X002X000 | | | 2 | | | |
| 081055-14X05X003X000 | | | 3 | | | |
| 081055-14X05X004X000 | | | 4 | | | |
| 081055-14X05X005X000 | | | 5 | | | |
| 081055-14X06X000X000 | 6P | 0.155 kg | no PE position | 70 mm | 82 mm | 6 mm |
| 081055-14X06X001X000 | | | 1 | | | |
| 081055-14X06X002X000 | | | 2 | | | |
| 081055-14X06X003X000 | | | 3 | | | |
| 081055-14X06X004X000 | | | 4 | | | |
| 081055-14X06X005X000 | | | 5 | | | |
| 081055-14X06X006X000 | | | 6 | | | |

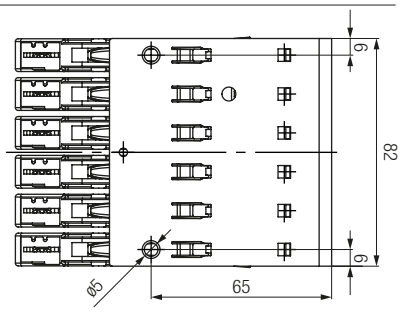
# Basic Components

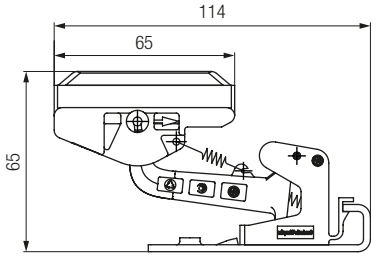
## Current Collector Modules

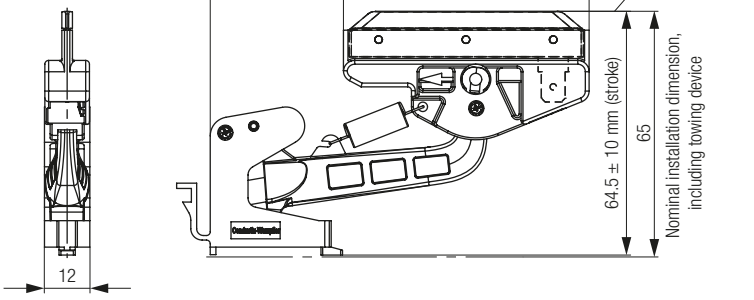
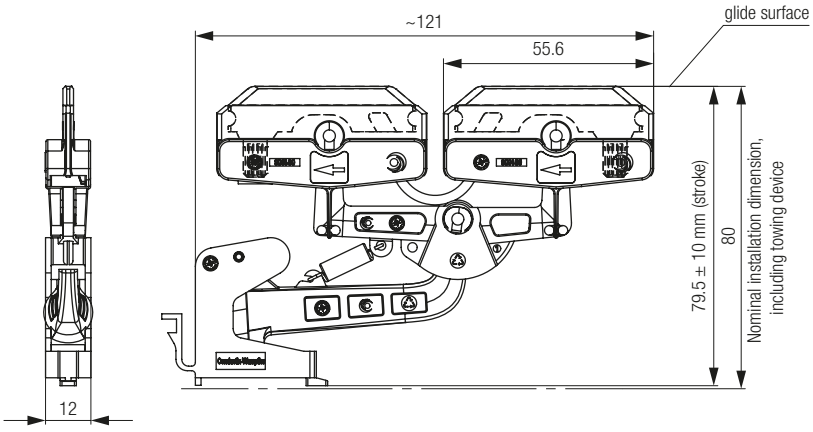
Individual current collectors are assembled into current collector modules together with towing devices. Current collectors and modules are available individually or as pre-assembled modules. Using modules can be easier in new installations. Modules can be easily customized to your specifications in terms of the number of poles, type of current collector, and orientation.








| Part No. | Type | Electrical Data | Mechanical Data |
|---|---|---|---|
| 081506-X# |   | 16 A Graphite | Max. stroke: ± 10 mm Max. lateral offset: ± 10 mm<br>Common version for reversing and towing operation |
| 081507-X# | | 35 A Copper-graphite | |
| 081508-X# |   | 2 x 16 A Graphite | Max. stroke: ± 10 mm Max. lateral offset: ± 10 mm<br>a special version for each of the reversing and towing modes |
| 081509-X# | | 2 x 25 A Copper-graphite | |

# Basic Components

## Configuration Options

**Single current collectors, Types 081506 & 081507**
should always be installed in pairs; we recommend using a single unit only after extensive testing or a corresponding standards compliance test.

**Dual current collectors, Types 081508 & 081509**
feature dual contacts in a single component and provide a significantly more reliable electrical connection. Using them as a single component is simpler in this case. However, for applications with PE, we always recommend a second current collector for redundant protection.

**ProEMS current collectors, types 08150A & 08150B**
are a further development of our current collectors specifically for Electrified Monorail Systems (EMS) applications. They feature an integrated connection cable with a terminal block for direct cable connection. ProEMS current collectors can be installed in all towed applications but, due to their design, are not suitable for prolonged operation or operations with regular impacts.

**Copper-graphite < > Pure graphite**
Copper-graphite is a mixture of copper and graphite optimized for high current levels. Its higher toughness and hardness also make it ideal for running in a new system. Any minor burrs are ground down, improving performance over time.

Pure graphite consists largely of graphite and has a significantly higher service life per carbon brush. However, pure graphite is softer than copper-graphite and cannot grind down minor burrs on its own; we therefore recommend only copper-graphite for the initial equipment of your system.

**Number of Poles**
Total number of poles, including PH and PE.

**Protective conductor**
Applications at a certain voltage require a protective conductor and thus a PE collector.

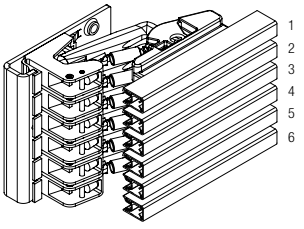
**PE position**
The PE position can be freely selected for types 081506 through 081509. However, to ensure compatibility with common industry standards and other components, we always recommend placing the PE in the 4th position from the top.

**Entry Sliding Contact**
The 0815 is designed for side entry. The current collectors are optimized for this operating mode and require no special adaptation.

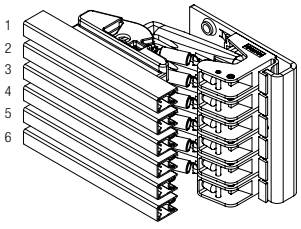
**Variant**
Current collectors can be mounted in two directions (Variant 1 and Variant 2). Since not all current collectors can be easily rotated, they must be ordered in the correct variant for the specific application.

In this example, the 6th pole is connected to the PE rail in each case:

**Variant 1**




**Variant 2**




**Reversing < > Towing operation**
For some of our current collectors, a small compensation for friction forces at the head is necessary to achieve a long service life. In these cases, there are two different variants: a “towing” and a “reversing” current collector.
Towing means that the current collector points backward in the direction of travel and is towed behind the vehicle. Towing-type current collectors can also be operated in reversing mode for short periods; however, this operating mode must be the exception, as it can otherwise lead to malfunctions or significantly increased wear.

# Basic Components

## Connecting Cables

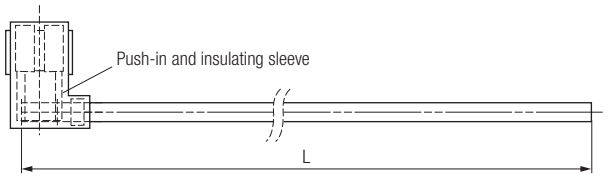
Our connecting cables are highly flexible and optimized for use with current collectors. Thanks to their high flexibility, they reduce the forces acting on the current collector and increase the service life of the entire system.

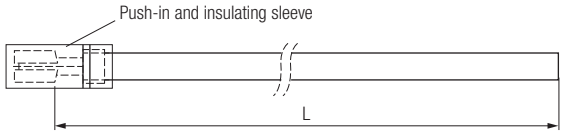
Double-insulated connecting cables are often required for outdoor installation—in cases where additional protection is already in place, a single-insulated connecting cable may also be used.

The connectors we use allow for only one orientation when plugging in, thereby preventing accidental damage to the connector.

Current collector connection cables can be configured in terms of
- length
- cross-section
- PH or PE
- and connection type

For applications in Program 0815, cross-sections ranging from 1.5 mm² to 4 mm² are suitable.




**Connection cables can be ordered via the 081X09-L# configurator**

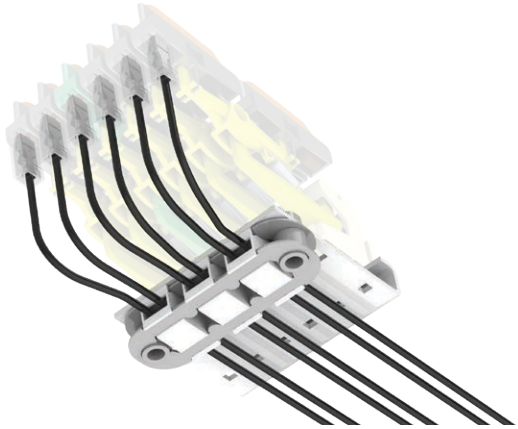
| Part No. | Cross-section | AWG | PH / PE | Insulation | Cable end | straight / 90° | Cable diameter | Current strength |
|---|---|---|---|---|---|---|---|---|
| **080009-01.00X01.5X1112** | 1.5 mm² | 16 | PH | single | push-in sleeve | straight | 3.0 mm | 24 A |
| **080009-01.00X01.5X1113** | 1.5 mm² | 16 | PH | single | push-in sleeve | 90° | 3.0 mm | 24 A |
| **080009-01.00X01.5X2112** | 1.5 mm² | 16 | PH | dual | push-in sleeve | straight | 4.0 mm | 24 A |
| **080009-01.00X01.5X2113** | 1.5 mm² | 16 | PH | dual | push-in sleeve | 90° | 4.0 mm | 24 A |
| **080009-01.00X01.5X1122** | 1.5 mm² | 16 | PE | single | push-in sleeve | straight | 3.0 mm | 24 A |
| **080009-01.00X01.5X1123** | 1.5 mm² | 16 | PE | single | push-in sleeve | 90° | 3.0 mm | 24 A |
| **080009-01.00X02.5X1112** | 2.5 mm² | 14 | PH | single | push-in sleeve | straight | 3.5 mm | 30 A |
| **080009-01.00X02.5X1113** | 2.5 mm² | 14 | PH | single | push-in sleeve | 90° | 3.5 mm | 30 A |
| **080009-01.00X02.5X2112** | 2.5 mm² | 14 | PH | dual | push-in sleeve | straight | 5.0 mm | 30 A |
| **080009-01.00X02.5X2113** | 2.5 mm² | 14 | PH | dual | push-in sleeve | 90° | 5.0 mm | 30 A |
| **080009-01.00X02.5X1122** | 2.5 mm² | 14 | PE | single | push-in sleeve | straight | 3.5 mm | 30 A |
| **080009-01.00X02.5X1123** | 2.5 mm² | 14 | PE | single | push-in sleeve | 90° | 3.5 mm | 30 A |
| **080009-01.00X04.0X2112** | 4.0 mm² | 12 | PH | dual | push-in sleeve | straight | 5.0 mm | 35 A |
| **080009-01.00X04.0X1121** | 4.0 mm² | 12 | PE | single | push-in sleeve | straight | 3.5 mm | 35 A |

1-meter cable lengths – other lengths available via the **081X09-L# configurator.**
All rated current specifications are based on CE-relevant EN/IEC standards. Different national standards may apply in other markets.

# Optional Parts

## Strain Relief for Connection Cable on Current Collectors 081506- / 081509-

To prevent the connection cable from affecting the current collectors, we recommend using the optional cable package.
The unit is mounted below the towing device and ensures that the cable is guided without tension or lateral force.

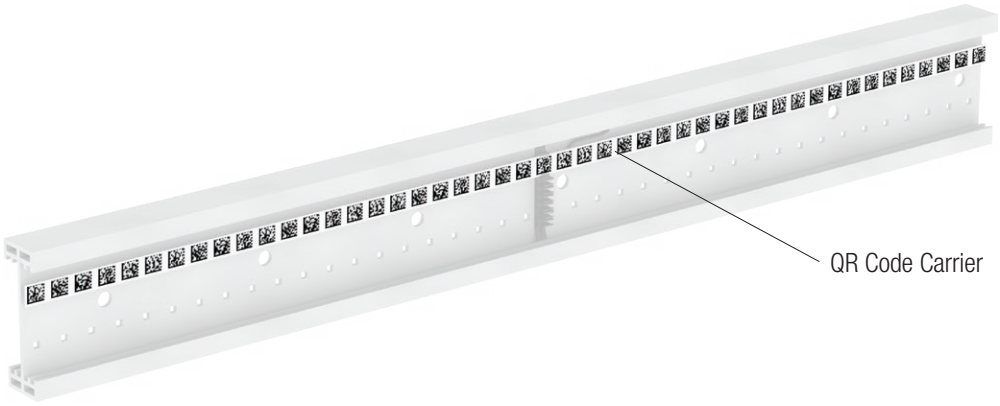


| Configuration item | Ordering parameter | | | | |
|---|---|---|---|---|---|
| | Cross section | Number of poles | Current-collector type | Cable length | PE in 4th position (coding) |
| 08-L020-0210 | 1.5 mm² | 2/4 | 081506-... / 081507-... | 0.2 to 2 m | |
| | 2.5 mm² | 6 | | | |
| | 4.0 mm² | 8 | 081508–... / 081509-... | | Yes/No |

# Optional Parts

## Barcode and QR Code Carrier

The mounting system for optical positioning systems (e.g., Sick, Leuze, Pepperl+Fuchs) is based on 4- or 6-meter-long aluminum profiles that are 35 mm wide. The strip snaps into the slots on the combination clamps and serves as an adhesive surface for attaching the respective code strip.




| Part No. | Type | Version | Weight |
|---|---|---|---|
| **08-B020-6780** | PROFILE BCB SUPPORT 4000X35X2MM | Aluminum profile | 0.76 kg |
| **0094938** | Screws for fastening | EJOT PT SCREW K30X8 WN1423 | 0.20 kg |
| **08-L020-0255** | Grounding kit | CABLE SET PE BARCODE BAND | 0.45 kg |

The grounding kit includes mounting hardware and pre-assembled cables for establishing the ground connection between the insulated suspended code strip and the EMS support profile. One ground connection must be provided per profile.

# Optional Parts

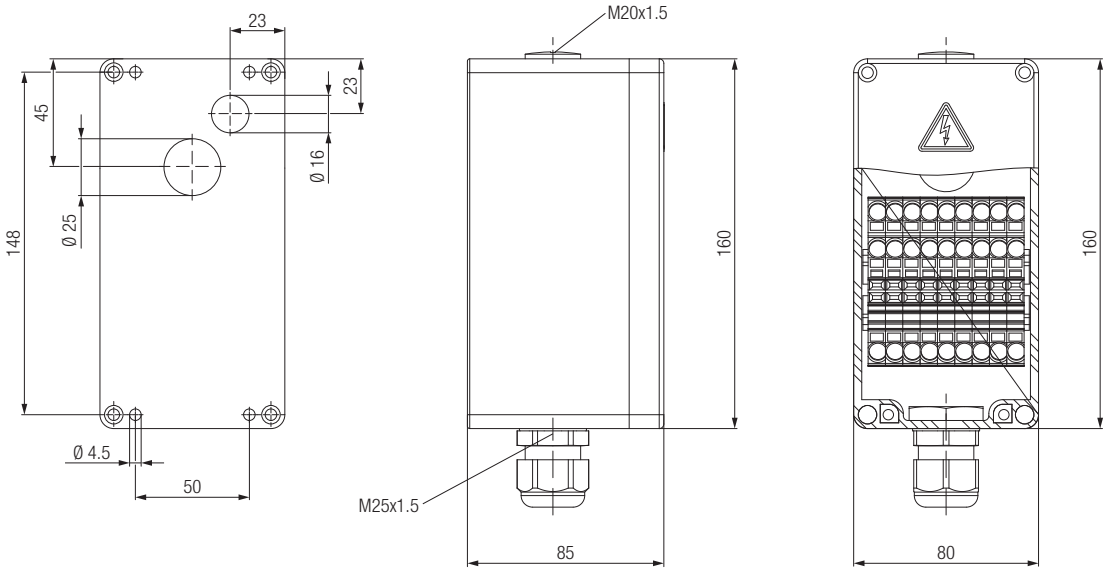
## Terminal Box for Conductor Rail Connection

Terminal box with rear cable entry for direct mounting on an EMS support profile. The rear openings allow for easy cable routing through an opening in the support profile.

Part No.: 08-K040-0354
Protection class: IP10, IP21 with covered cable entry
Weight: 0.5 kg

**Scope of delivery:**

- Terminal box with rear feed-through
- 7 PH 3-wire feed-through terminals 0.5 – 10 mm$^2$,
- 2 PE 3-wire feed-through terminals 0.5 – 10 mm$^2$,
- Ground connection 6 mm$^2$
- Mounting hardware: 5 self-tapping screws DIN 7513 M4x12,
- M20x1.5 screws



# Wear Parts

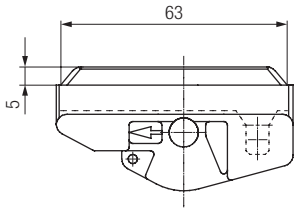
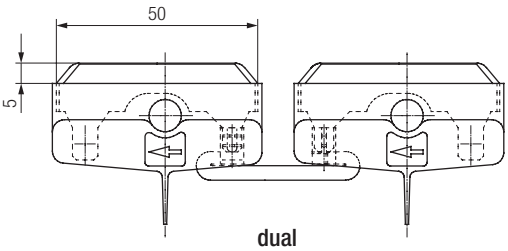
## Current Collector Heads

**Copper-graphite current collector heads** are the preferred choice for higher current loads and as initial equipment. Their high copper content not only allows for high rated currents but also makes them more mechanically stable. Both properties make them ideal for initial installation or for systems operating in harsh environments.

**Pure graphite current collector heads** have a longer service life and are suitable for systems with high mileage. Pure graphite current collector heads are less mechanically robust and may exhibit low mileage or break in systems that are not optimally installed.

| | Copper–graphite | Pure graphite |
|---|---|---|
| Current load | +++ | + |
| Durability Current Collector Head | + | +++ |
| Durability Conductor Rail | + | +++ |
| Breakage resistance | +++ | + |
| |  |  |

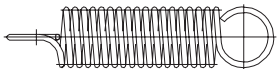
For regulatory reasons, current collector heads are installed in different colors for PH and PE. A separate version ($PE_{plus}$) is also required for use in systems with $PE_{plus}$ conductor rails.

| Part No. | Type | Version | Weight |
|---|---|---|---|
| 081006-124 | 16 A, PH |  single | 0.01 kg |
| 081006-224 | 16 A, PE | | 0.01 kg |
| 081006-144 | 35 A, PH | | 0.02 kg |
| 081006-244 | 35 A, PE | | 0.02 kg |
| | | | |
| 081006-114 | 2 x 16 A, PH |  dual | 0.02 kg |
| 081006-214 | 2 x 16 A, PE | | 0.02 kg |
| 081006-414 | 2 x 16 A, $PE_{plus}$ | | 0.02 kg |
| 081006-134 | 2 x 25 A, PH | | 0.03 kg |
| 081006-234 | 2 x 25 A, PE | | 0.03 kg |
| 081006-434 | 2 x 25 A, $PE_{plus}$ | | 0.04 kg |

# Spare Parts

## Stabilizing Springs for Current Collector Heads

Replacement parts for lost or damaged springs from the 0815 current collector series.

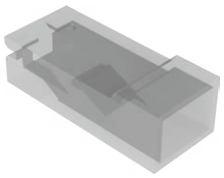


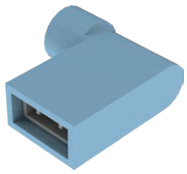
| Part No. | For current collector | Mode |
|---|---|---|
| **08-Z-066RI** | 081508- / 081509- | Towing |
| **08-Z-073I** | 081508- / 081509- | Reversing |
| **08-RZ-037I** | 081506- | Towing and Reversing |
| | 081507- | |

## Push-in Connectors for Current Collector Heads

New or replacement parts for custom-made current collector connection cables..







| Part No. | Type | Cross-section | Program |
|---|---|---|---|
| **08-925068-0** | Insulation sleeve (for push-in sleeve) | 1.5-6 $mm^2$ | 0815 |
| **GE-3008669** | 90° Insulation Sleeve and push-in Sleeve | 1.5-2.5 $mm^2$ | 0815 |
| **08-K153-0078** | Push-in sleeve | 1.5-2.5 $mm^2$ | 0811, 0815 |
| **08-25791** | Push-in sleeve | 2.5-6 $mm^2$ | 0811, 0815 |

# Tools

## Bending Device

The bending device allows conductor rail curves to be bent flexibly and directly on site.

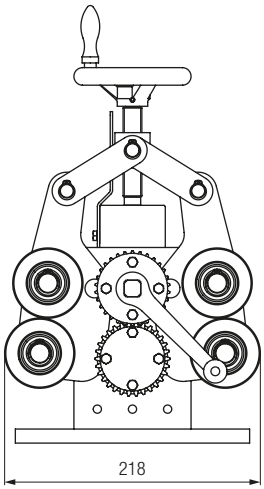
The use of such a bending device is particularly recommended for regular or flexible needs, as some training is required.

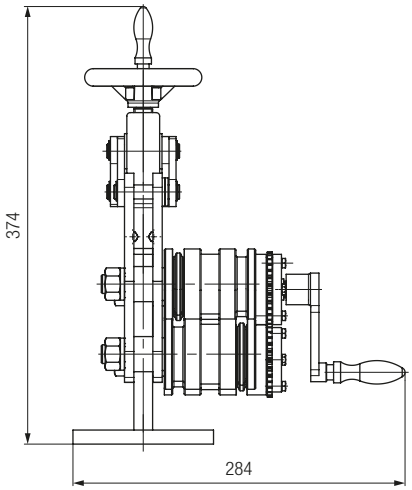
**For occasional use, we recommend factory-made curves** with higher precision and a special shape that is also suitable for complete rings.

$PE_{plus}$ rails intended for use in curves must be prepared for this purpose at the factory.
Please use only **081516-4x15 for $PE_{plus}$ curves.**

**Bendable radii:**
- vertical from 0.5 m to approx. 10 m
- horizontal from 1.5 m to approx. 10 m





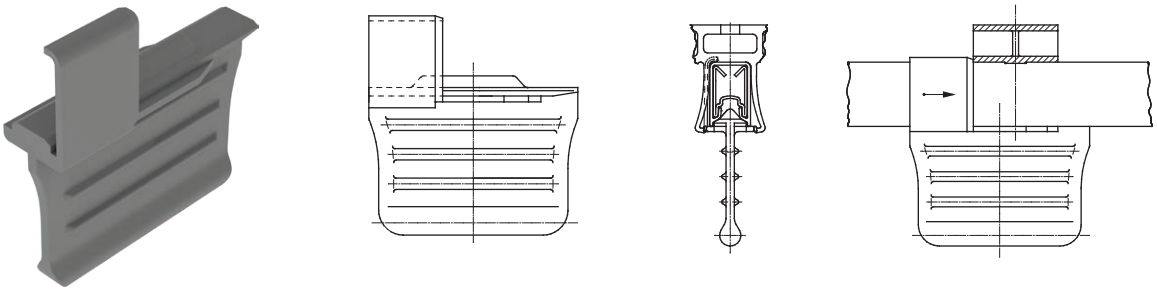




| Part No. | Type | Weight |
|---|---|---|
| **081091** | Bending Device | 17.5 |
| **08-V015-0357** | Spare Part, INSERT FOR BENDING DEVICE 0815 PH/PE | 0.051 kg |
| **08-V015-0499** | Spare Part, INSERT FOR BENDING DEVICE 0815 PE+ | 0.051 kg |

# Tools

## Disassembly Tool

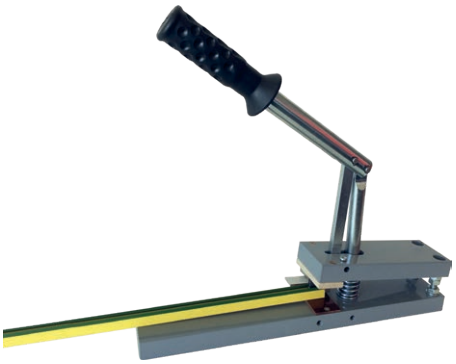
If you need to unclip conductor rails from their rail fasteners for repair, you can do so without tools—but it's often a bit tedious.
Tool 081095 makes unclipping easier and saves valuable time.



| Part No. | Type | Weight |
|---|---|---|
| **081092** | DISASSEMBLY TOOL FOR HANGER CLAMP 0815 | 0.006 kg |

## Notching Tool for $PE_{plus}$ Rails

$PE_{plus}$ rails have a notch at both ends. If $PE_{plus}$ rails are cut to size, this notch must be reattached after cutting. The notch can be easily created using tool 081094.



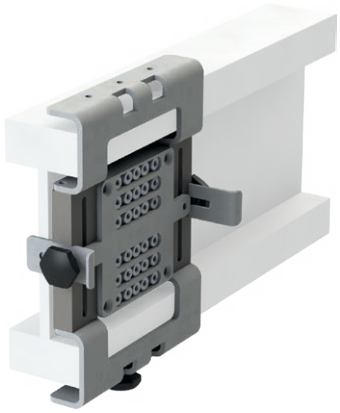
| Part No. | Type | Weight |
|---|---|---|
| **081094** | NOTCHING TOOL 0815 | 4.8 kg |
| **08-W100-0605** | SPARE BLADE FOR NOTCHING TOOL 0815 | 0.08 kg |

# Tools/Cleaning

## Installation Tool: Drilling Template

A drilling template is used for the quick and precise installation of end caps 08157A on transitions, lifters, and switch points.

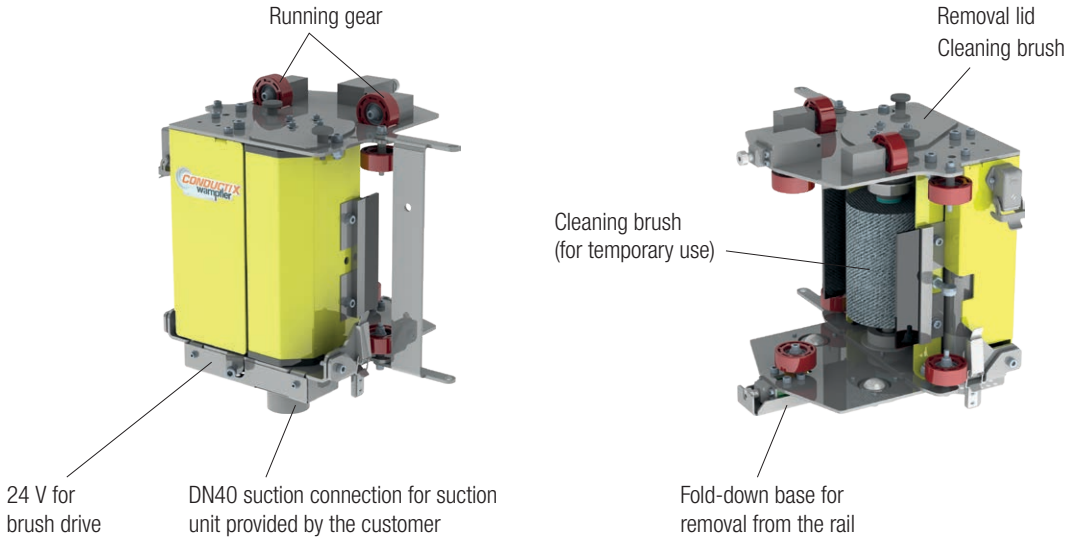
The template is designed for use on straight and angled cuts of the support profile. By swapping the upper and lower components, it can be used on 180 mm and 240 mm track profiles. Maximum fillet width 8 mm.



**Scope of delivery:**
1 x drilling template with adjustable stop and end stops
1 x mounting bracket for 180 mm running rails
or
1 x mounting bracket for 240 mm running rails

| Part No. | for Rail | Weight |
|---|---|---|
| **08-V015-0474-001** | 180 mm | 0.92 kg |
| **08-V015-0474-002** | 240 mm | 1.04 kg |

## Cleaning Unit




The conductor rail system can become dirty both during operation and due to external factors, which can compromise its reliability. Regular cleaning of the conductor rail and its surrounding area can remove this dirt and significantly improve the system's reliability. Depending on the extent and type of contamination, different cleaning methods and tools can be used.

We would be happy to advise you on your specific situation!
Additional information can also be found in the maintenance manual **"WV0800-0001-EN Cleaning of Conductor Rails"**

# Other Products from Conductix-Wampfler

The products described in the this catalog represent a few of the products from the broad spectrum of Conductix-Wampfler components and systems for the transfer of energy, data, gases, and fluids. The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler products are needed to fill the application. You can count on all of Conductix-Wampfler's business units for hands-on engineering support - coupled with the perfect solution to meet your energy management and control needs.



**Motor driven cable reels**

Motor driven reels by Conductix-Wampfler are the perfect solution for managing long lengths of heavy cable and hoses in very demanding industrial applications. Monospiral, level wind, and random wind spools.



**Slip ring assemblies**

Whenever powered machinery needs to rotate 360$^0$, field proven slip ring assemblies by Conductix-Wampfler can flawlessly transfer energy and data. Here, everything revolves around flexibility and reliability.



**Conductor bar**

Whether they are enclosed conductor rails, expandable single-pole bar systems, or high amperage bar for demanding steel mill use up to 6000 amps. Conductix-Wampfler's conductor bar is the proven solution to reliably move people and material.



**Spring driven cable reels**

We have 60 years experience and trusted brands such as Insul-8, Wampfler, and IER. We offer small cord reels all the way to large multi-motor units, a wide range of accessories, and hazardous location reels.



**Cable Festoon systems**

It's hard to imagine Conductix-Wampfler cable trolleys not being used in virtually every industrial application. They are reliable and robust and available in an enormous variety of sizes and models.



**Push Button Pendants**

Our ergonomic pendants are ideally suited for industrial control applications. They are available in a wide range of configurations for overhead cranes and other machinery.



**Radio remote controls**

Safe, secure, and reliable radios use the latest in microprocessor technology. Available in several models for overhead crane control and other types of machinery.



**Inductive Power Transfer IPT®**

The contact-less system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear.



**Data Transfer: ProfiDAT® | Nexus**

Safe & reliable wireless communication using slotted waveguide technology that's PROFIsafe compatible.

Nexus NB for narrow band signal transfer over power conductors



**LJU Automation EMS Controller**

Specialized controllers Programmable by parameters, Ideal for Electrified Monorails at automotive plants, with over 1500 in service worldwide. Adaptable for other applications



**BridgeGuard™**

Prevents crane to crane and crane to end collisions. IP69K rated for indoor and outdoor use, with a 3 ft to 150 ft range. Compliant with IEC 60068-2-6:2007



**Air & Spring balancers | Air hoists**

Conductix-Wampfler offers the full line of ENDO positioning devices. Rugged, reliable steel construction increasing safety and decreasing fatigue and body stress.

# www.conductix.com

**Conductix-Wampfler**
has just one critical mission:
To provide you with energy and data transmission systems that will keep your operations up and running 24/7/365.

To contact your nearest sales office, please refer to:
**www.conductix.contact**

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