Conductor Bar
Series 842
**Installation Instructions**

**Enclosed Conductor Rail**

**Program**

**MV0842-0021c-E**

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**Order Number**

**0842xx**

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**Hints:**
- Mount conductor rail, so that PE (green stripe) is prominent
- Anchor clamp to be adjacent to feed (for systems with several feedings ask for assistance)
- Installation accessories see pages 8 and 17

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**1. Hanger clamp (all systems)**

- Push top of plastic casing fully into the hanger clamp.
- Squeeze hanger clamp until both hanger clamp flanges snap into plastic casing bottom grooves.

**2. Anchor clamp (all systems)**

- Anchor clamp delivery consists of plastic half shells, a lock-nut bolt and self-tapping screws.
- Insert half shells at the bottom grooves of the plastic casing. Insert lock-nut bolt while half shells are closed to make the snappers fall in place. Install 4 self tapping screws to fix the anchor clamp at the plastic casing.

The installation of only 2 self tapping screws is workable but recommended only in case of limited space.

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**3.1. Current strip insertion for “Continuous strip”**

- Close expansion joints (slot s = 0 mm), if applicable.
- Starting on end feed side and pulling out directly from the cassette the current strips are installed pole by pole by means of the strip insertion trolley.
- Demount strip insertion trolley and cut current strips flush with the plastic casing at the end cap side of the conductor rail system.
- Retract copper strips by 120 mm (expansion reserve) and cut them to exceed plastic casing on end-feed side by 30 mm (for installation of end feed).
- The wooden de-coil unit is recommended for "100 A" current strips (see page 8).

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**3.2. Joining rail segments of “Plug-in type”**

- Connection is made by pushing the connector tongues in between current strips and socket springs up to the stop.
3.3. Joining rail segments of “Joint clamping”

Connection is made by pushing the connector tongues in between current strips/connector support plates (if applicable) and fastening-bolt up to the stop. Tighten fastening-bolt to 5 Nm.

3.4. Joining rail segments of “Angle clamping”

Covering terminals are to be placed over the right angled ends of current strips of adjacent rail segments. Before the bolt is tightened, make sure that current strips are equally level to prevent a step in the course of current collector travel. It is recommended to put the spring loaded brush of a current collector at the joint to aid leveling.

Plastic casing with right angled ends and covering terminals

Single pole sectional drawing

4.1. Joint cover for “Continuous strip”

The joint cover delivery consists of plastic half shells and self tapping screws. Insert half shells at the bottom grooves of the plastic casing. Close half shells to make the snapcaps fall in place.

Move joint cover to have its centerline right over the joint of plastic casings. Install 4 self tapping screws to connect plastic casings.

The installation of only 2 self tapping screws is workable but recommended only in case of limited space.

4.2. Joint cover for “Plug-in type”, “Joint clamping” and “Angle clamping”

Joint cover delivery consists of plastic half shells, bolts/nuts and self tapping screws. Insert half shells at the bottom grooves of the plastic casing. Close joint cover half shells to have centerline right over the joint of plastic casings.

Insert bolts and tighten. Install 4 self tapping screws to connect plastic casings.

The installation of only 2 self tapping screws is workable but recommended only in case of limited space.

5. End cap (all systems)

If applicable clear conductor rail ends from clamps/clamping elements.

For joint system “Angle clamping” cut current strips flush with the plastic casing.

Put end cap fully in place and fix with self tapping screws.

6. Current collector insertion (all systems)

The current collector is inserted at the end of the plastic casing. An asymmetric slot flange design prevents incorrect insertion. Care has to be taken, that no forces are applied to the current collector by a tightened connection cable.
7.1. End feed for “Continuous strip”, “Plug-in type” and “Joint clamping”

If applicable, clear conductor rail ends from clamps/clamping elements. Open cover. Locate covering terminals fixed at right-angled copper strip terminals. Un-screw bolts of the covering terminals and of the self tapping screws outside. Push the end feed fully onto the end of conductor rail plastic casing, so that conductor rail current strip ends are caught between right-angled copper strip terminals and bottom of covering terminals. Tighten self tapping screws to fix the end feed at conductor rail plastic casing. Tighten bolts of covering terminals for electrical connection of current strips to right-angled copper strip terminals. External cables – led through bottom glands, and equipped with cable lugs – as attached – must be connected to the end of right-angled copper strip terminals. Tighten glands and close cover.

7.2. End feed for “Angle clamping”

End feed delivery consists of end feed box, 1 m plastic casing and current strips – right angled at one end. Depending on location of PE (green stripe) the 1 m plastic casing must be orientated and current strips must be inserted to match with the conductor rail system.

Proceed as under 7.1.

Do not energize before installation of all system components and connections are completed!

8. Sealing strips (optional, for all systems)

Using the insertion tool (page 17) it is possible to easily insert the sealing strip into the plastic casing of the enclosed conductor rail. By adjusting the counter pressure rollers (1) the tool can be used for both the 4/5 pole and the 7 pole plastic casings.

**Installation:**
- Start with manual insertion of approx. 100 mm sealing strip
- Adjust (1) to match with actual conductor rail plastic casing:
  - approx. 17 mm for 5-pole plastic casing
  - approx. 10 mm for 7-pole plastic casing
- Adjust (2) to prevent (3) from scratching at conductor rails plastic casing
- The sealing strip is inserted by moving the tool along the conductor rail system while applying a slight pressure to the handle/insertion roller (4). Lift the tool slightly to control pressure.
- For insertion of the second sealing strip proceed accordingly.
The diagram beside shows recommended inspection intervals for the enclosed conductor rail, programma 842 depending on anticipated total yearly travel [km] and max. travel speed [m/min]. The example shown is based on a total yearly travel distance of 10,000 km at a max. speed of 120-200 m/min. The resulting intervals are approximate. The conductor rail system components listed beside are subject to a visual check. The max. permissible wear of current collector brushes is 6 mm (see limit mark on the brush). Independent of travel distance and speed the installation should be checked visually at least once a year for external damages. Worn parts must be replaced.

Inspection of mechanical wear:

Installation acc. to installation instruction

- Collector shoes
- Current collector
- Pick-up guide plastic half shells

- Collector shoes
- Current collector
- Pick-up guide plastic half shells

- Collector shoes
- Current collector
- Pick-up guide plastic half shells
- Sealing strips

Example: 10,000 km/year at \(V_{\text{max}} \leq 200\) m/min

<table>
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<th>Total travel distance/year</th>
<th>approx. [km]</th>
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<tr>
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<td>4</td>
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<tr>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
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at max. travel speed \(\leq 120\) m/min

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<td>4</td>
<td>6</td>
</tr>
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<td>6</td>
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</table>

at max. travel speed \(\leq 200\) m/min

Proceed to repeat action 3 at time intervals (2 - 3)
Caution

- Installation and commissioning must be carried out by qualified staff only!

- The arrangement of poles must be checked!

It has to be observed that the collector shoe configurations of versions "old" and "new" absolutely differ from each other. Connecting up of the two systems must under no circumstances be done! The collector shoe configuration at the current collector has to be checked in relation to the conductor system wiring, in order to ensure the correct match of the energy and control functions.

**Standard current strip arrangement (7 poles): L1, L2, L3, ♂, ♂, ♂, PE**

<table>
<thead>
<tr>
<th>Nominal current</th>
<th>L1, L2, L3 [mm²]</th>
<th>35</th>
<th>60</th>
<th>100</th>
<th>140</th>
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<tbody>
<tr>
<td>Conductor cross section area</td>
<td>♂, ♂, ♂ [mm²]</td>
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<tr>
<td>PE [mm²]</td>
<td></td>
<td>10</td>
<td>16</td>
<td>25</td>
<td>40</td>
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<tr>
<td></td>
<td></td>
<td>10</td>
<td>16</td>
<td>25</td>
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</table>
Photos of relevant system parts

084210-...; Plastic casing for „Continuous strip“

084212-...; Conductor rail for „Joint clamping“

084213-...; Conductor rail for „Angle clamping“

084211-...; Conductor rail for „Plug-in type“

084211-...; Conductor rail for „Plug-in type“

084213-...; Conductor rail for „Angle clamping“

084221-0; Joint cover for „Continuous strip“

08422X-...; Joint cover for „Plug-in type“, „Joint clamp.“, „Angle clamp.“

084241-11 / 084231-11; Hanger- and Anchor clamp with steel nut

084221-0; Joint cover for „Continuous strip“

084243-11 / 084233-11; Hanger- and Anchor clamp with steel square nut

084272-; End cap

084251-...; End feed

084201-... / 084203-...; Current collector up to 5 and 7 poles

084291-2 / 084291-4; Fork-type- and Spring loaded towing arm