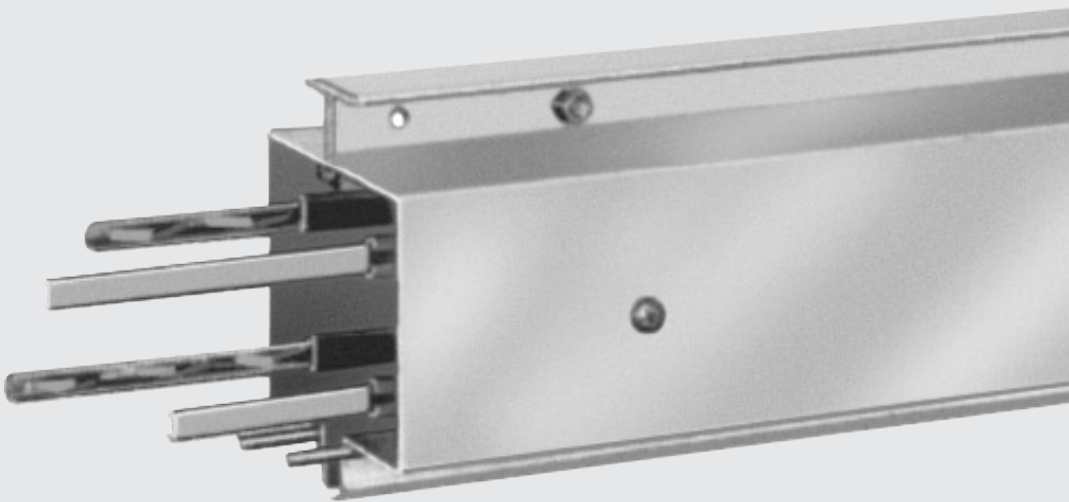




## INSTALLATION MANUAL

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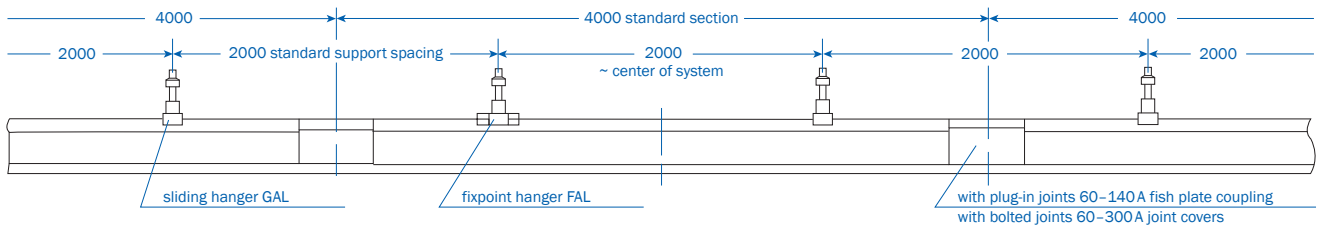
LSV | LSVG



EN 1999



**Curves, switches and other specials should be installed first. Position line feed section as close as possible to power supply outlet. The connecting cables must not restrict free movement of the conductor system.**



sketch 1

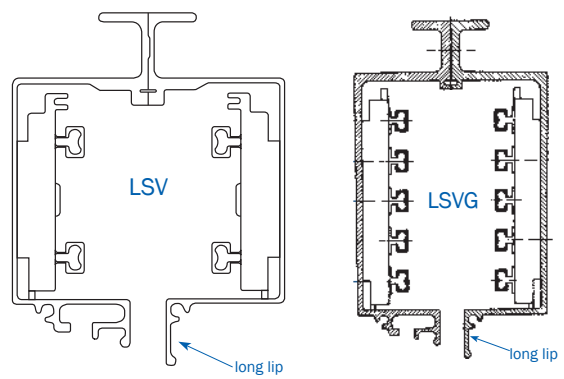
**Long lip side of the LSV and LSVG housing should always be mounted towards the track.**

**Installation of support brackets:**

Generally, the type of support bracket depends on local requirements.

The support brackets are either bolted or welded; support centers are 2000 mm (6'-6"). Slotted holes in the brackets and hangerstuds allow for horizontal and vertical adjustment/alignment.

We do recommend our standard brackets, which can be bolted directly to the I-beam.



**Installation of conductor system with plug-in joints**

The plug-in type connectors serve to compensate for the different expansion and contraction of the aluminium housing and the copper conductors. Use telescope sections for runs exceeding 200 m.

Where you start depends on the site conditions. Install one sliding hanger to one of the support brackets. Then slide another hanger over the top profile of one Powerail standard section and push the Powerail into the first hanger.

Install the second hanger to the next bracket. In order to facilitate the further mounting procedure put locating clamps close to the first hanger, forming an anchor point. Make sure that all other hangers are in a perpendicular position and not twisted, so that the Powerail can slide for expansion and contraction.

Prepare the next Powerail section with plug-in connectors and push pegs (stagger the pins for easy insertion into the end of the section already mounted).

Push sliding hangers on to this second Powerail section and install on the next two support brackets.



photo 1

Now push this Powerail section towards the first section until the plug-in connectors and the grooved push pegs engage. Careful work in this stage is most important for proper function of the system.

Ensure perfectly closed joint by using wooden block and hammer from the blank end of the second Powerail section.

Attach joint fish plates and tighten properly.

Fit premounted yellow-green grounding cable over the joint and bolt to the adjacent Powerail section.

Continue this installation procedure for all other Powerail sections.

Remove the two locating clamps from the first installed section and fit them next to one of the hangers in the approx. center of the run-way.

Make sure that hangers are not placed directly on joints. Minimum spacing between hangers and joint plates should be 100 mm (4 inches). If necessary rearrange support brackets.

**Installation of the Powerail with bolted joints:**

The bolted joint Powerail version requires expansion joints approx. every 50 meters in order to compensate for the different expansion and contraction of the aluminium housing and the copper conductors.

Install the first Powerail standard section as described.

Push the preassembled connecting pieces over the copper conductors at one end of the Powerail section (photo 6).

Now install the second Powerail section and push tightly (as photo 4) towards the first section after inserting the grooved pegs for aligning the aluminium housing.

Slide the connecting pieces exactly half way over the adjoining copper conductors and tighten hardware (photo 7).

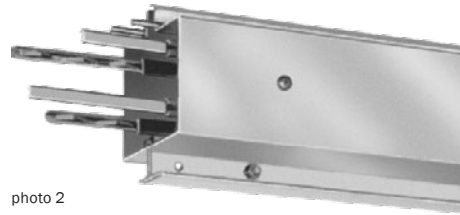


photo 2

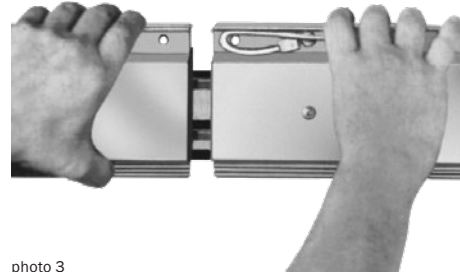


photo 3

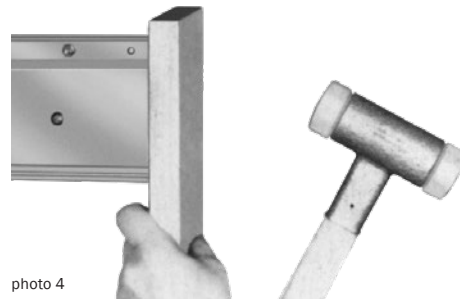


photo 4

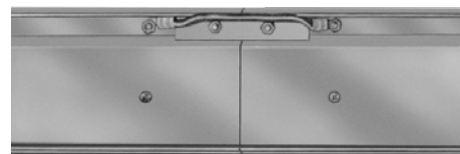


photo 5



photo 6

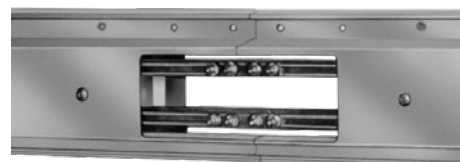


photo 7



photo 8

Place joint covers over joint and tighten properly. Fit grounding cable as photo 8.

Install all other Powerail sections the same way. Positioning of the locating clamps, insertion of collectors and power connection as described.

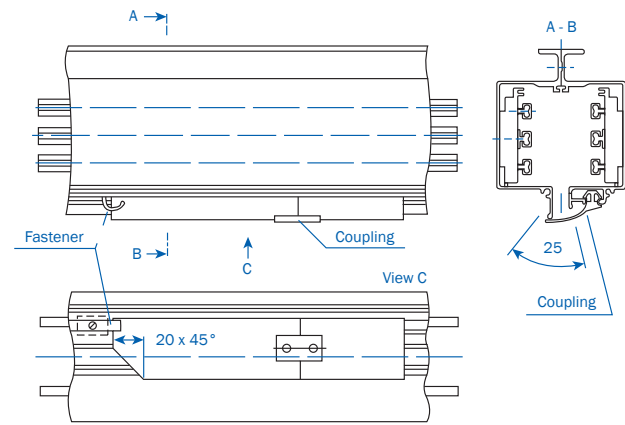
Insert the current collectors from either end of the Powerail system. Make sure that the safety key is facing the short lip of the aluminium housing. Trolleys will only fit one way to avoid phase reversing. Allow for sufficient manual test runs. The collector trolley should run smoothly.

Connect collector cables and tow arm to the machinery.

Connect current supply cables to power feeds. Cables, switches and fuses to be supplied by others.

After insertion of all required collectors secure Powerail end caps.

Follow exactly the factory prepared layout plan when installing curves, switches, transfers etc.



sketch 2

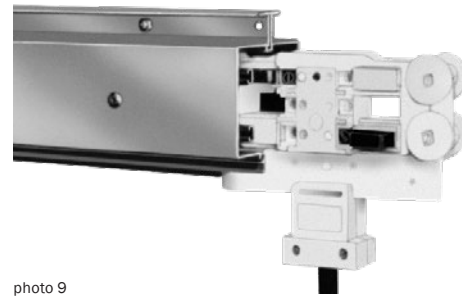


photo 9

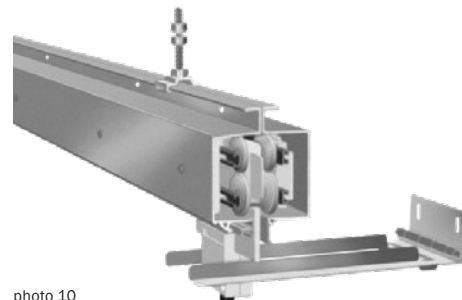


photo 10

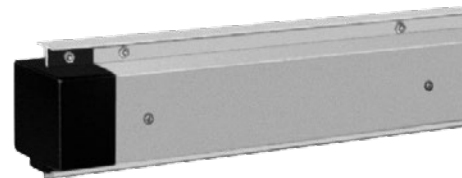


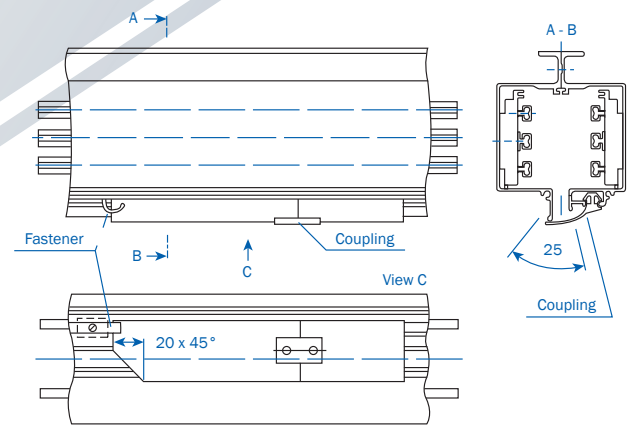
photo 11



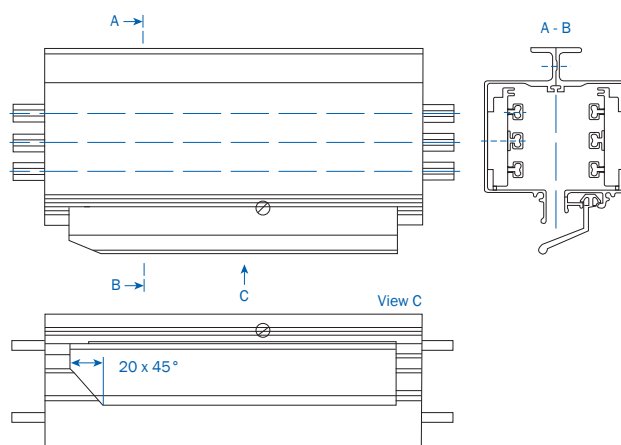
photo 12



photo 13



sketch 2



sketch 3

### Installation of Neoprene Sealing Strip “D”

Each LSV-LSVG consignment with sealing strip does include a mounting trolley.

Start from one end of the Powerail system, pressing approx. 20 mm (~1“) sealing strip by hand into the profile.

Insert the mounting trolley.

Bend sealing strip towards the Powerail slot and pull trolley through, now pressing the entire length of the sealing strip into its proper position (photo 12).

Systems exceeding 50 m length will require a coupling for the sealing strip (see sketch).

The sealing strip will be interrupted in areas for transfer guides, telescope and expansion joint sections. In this case cut the ends of the sealing strip oblique and tighten with fastener (see adjacent sketch).

For clearance of end caps cut back the sealing strip by approx. 60 mm.

Inspect sealing strip for proper fit and adjust where necessary.



photo 14

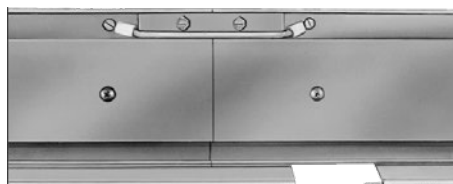


photo 15

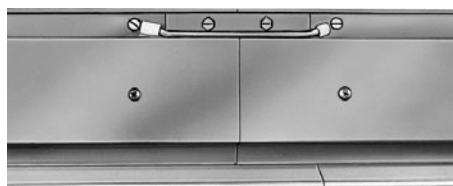
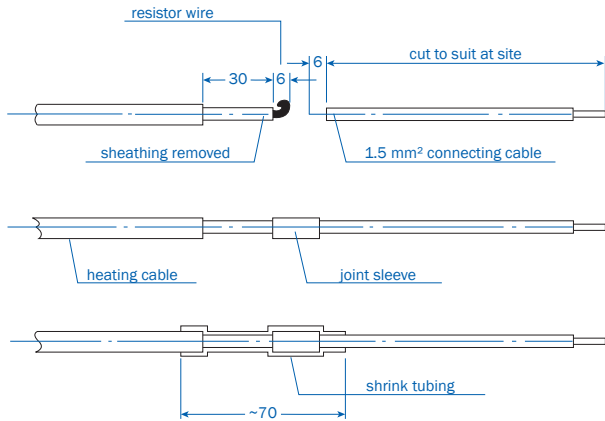
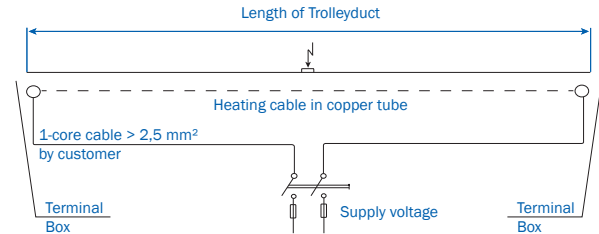


photo 16



Sketch 4



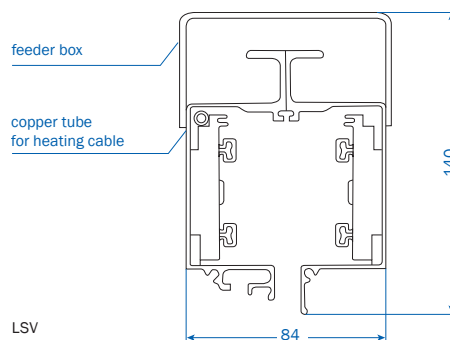
Sketch 5

### Installation of heating cables

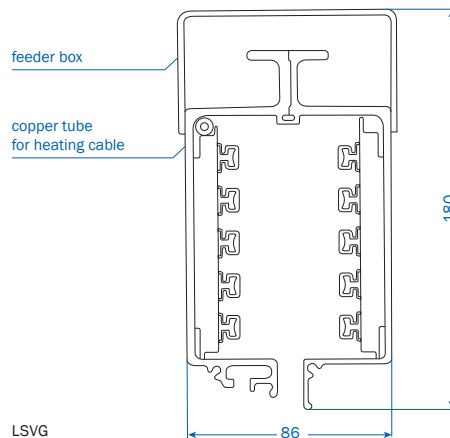
1. Pull the heating cable into the factory assembled copper tube. Use a thin stiff wire and pull the heating cable through the entire length of your heating section (two men required for pulling from one end and pushing from the other end). **Important:** Smooth insertion of the heating cable and no kinking.
2. Connect the heating cable at the factory assembled terminal box. The heating cable comes 1 m longer than required for the heating section, so that you can cut a suitable connecting end. Prepare the connecting end per adjacent sketch as follows:
  - a. Remove the sheathing for about 40 mm.
  - b. Cut back the insulation for about 12 mm and bend the wire per sketch.
  - c. Prepare the 1.5 sqmm connecting cable, cut back the insulation for approx. 6 mm.
  - d. Both, the heating cable and the connecting cable, now to be jointed in a standard sleeve, using a crimping tool.
  - e. Push shrink-tubing over the joint and braise carefully with small lighter flame.
  - f. Cut the 1.5 sqmm connecting cable to suit into the terminal box. Remove 6 mm insulation and connect to the terminal clamp.

### 3. Wiring

Connect the supply cable (220, 380 V) to the terminal box. A considerable shortening of the heating cable may cause overheating and burning – so never cut the heating cable too much. The supply cable, switches, fuses and temperature regulating devices to be supplied by the customer. When using thermostats for automatic regulation, these should be adjusted at +2°C/-3°C to put the heating system in operation.



LSV



LSVG



**Paul Vahle GmbH & Co. KG**

Westicker Str. 52  
59174 Kamen  
Germany

Tel.: +49 2307 704-0  
Fax: +49 2307 704-444  
info@vahle.de

[www.vahle.com](http://www.vahle.com)