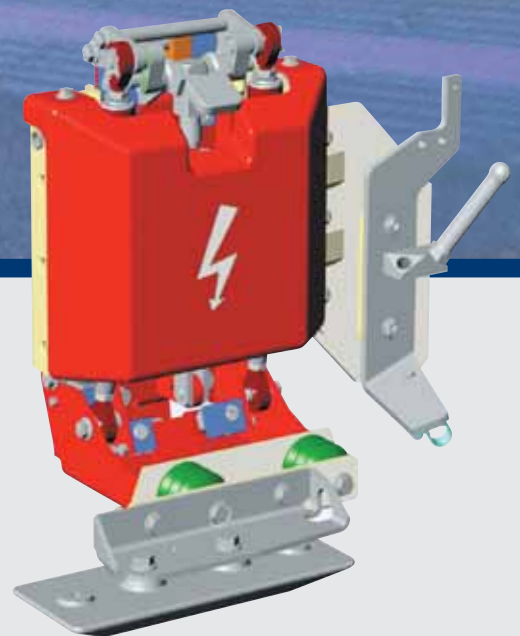


Third-Rail-Systems from Schunk



The newest design of Current Collectors for the third rail

The newest design of Current Collectors for the third rail

The current collector is a novelty development for third rail applications comprising among other things the following features:

- double insulation by means of fully insulated mounting plate to the bogie
- maintenance-free bearings
- maintenance-free pneumatic cylinder

The current collector has passed all type tests (shock, vibration, insulation) and also operational and performance tests and has been in operation now for more than 12 months without any problems. This is equivalent to app. 10 000 hours.

The units comply to applicable national and European standards for bogies and equipment mounted to bogies, i.e.

DIN EN 61373
shock and vibration
DIN EN 50124-1
insulation coordination
DIN EN 50125-1
environmental conditions

General

The shoe of the current collector (CC) rides on the top of the current rail. The current collector is totally insulated. Only the shoe and the contact plate are supplied with current. A safe transmission of current is guaranteed throughout the vertical and horizontal travel of the collector shoe during the ride of the current rail.

The device is specially designed to bear the loads caused by interrupted current rails. The wing is available in a right and a left design to fit all conditions of the bogie frame. Air pressure activates the CC to the operating position.

An impulse-technique with self locking is available as an option. Lowering and lifting of each CC is also made possible by a hand lever.

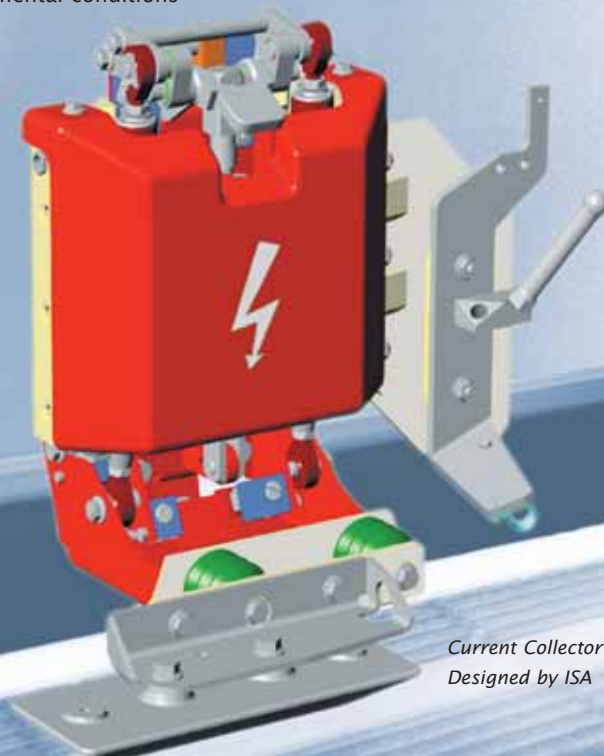
The CC unit is maintenance free until the main inspection. Only routine checks for damage of the connecting cable and wear on the shoe are necessary.

Assembly

The current collector consist out of 9 subassemblies:

1. Insulated main board with main interface
2. Middle Housing with wing bearing
3. Insulated wing
4. Air pressure system
5. Hand lever unit
6. Suspension
7. Shoe holder and shoe carrier
8. Connecting cable
9. Insulating carrier with contact plate and connecting Plug (for left and right)

*Current Collector
(right version)
without guard cover*



*Current Collector (left version)
Designed by ISA*



Function

Lowering (travel operating)

After applying air pressure, the wing lowers to the cushioned limit position. The shoe is now on an adjustable level of approx. 40 mm underneath the working level (without current rail).

Only after moving onto the current rail (over a start up ramp) does the shoe move to the working position. The suspension provides the necessary contact force. The lowering also works in the current rail area, because of the cushioning. A limit switch, located in the bearing housing, delivers a remote signal to recognize if the position is low or lifted.

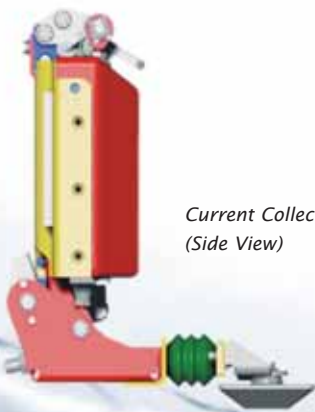
The manual lowering and lifting works through the hand lever.

Lifting (no load)

After decompression of the air, the wing will lift and the shoe moves to the cushioned upper position.

Technical Data

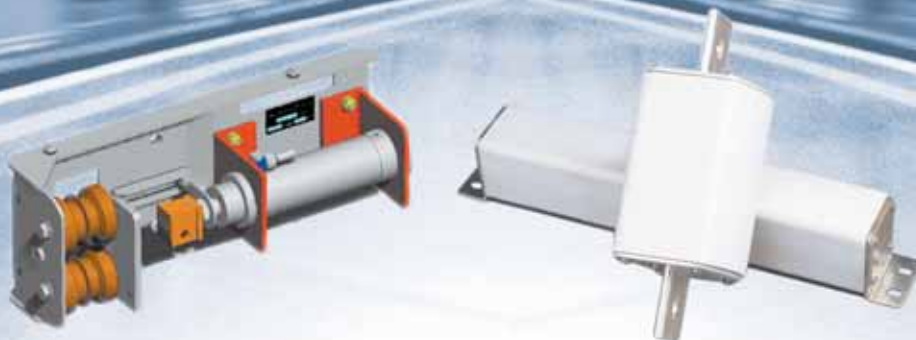
Weight:	< 30 kg
Shoe:	Steel / Cu / carbon
Contact force:	70 . . . 130 N
Nominal Voltage:	750 VDC \pm 30 %
Nominal Current:	1 kA
Short Circuit Current:	30 kA (100 ms)
Temperature range:	- 30 °C to + 80 °C
Working Pressure:	0,4 to 0,8 MPa



Current Collector
(Side View)



Schunk current collector, in operation since more than 12 month by the transport services in Berlin and Hamburg



Safety by means of short circuit device, mounted to the bogie frame, powerful to resist short circuit, next to maintenance-free

Protection by means of AC/DC application, specially developed for operation in traction, shock and vibration proofed and extreme long life-time

**For immediate information
on the following products**

- Third Rail Systems
- Grounding Contacts
- Brush Holder for Traction

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