



Charging pantograph SLS101

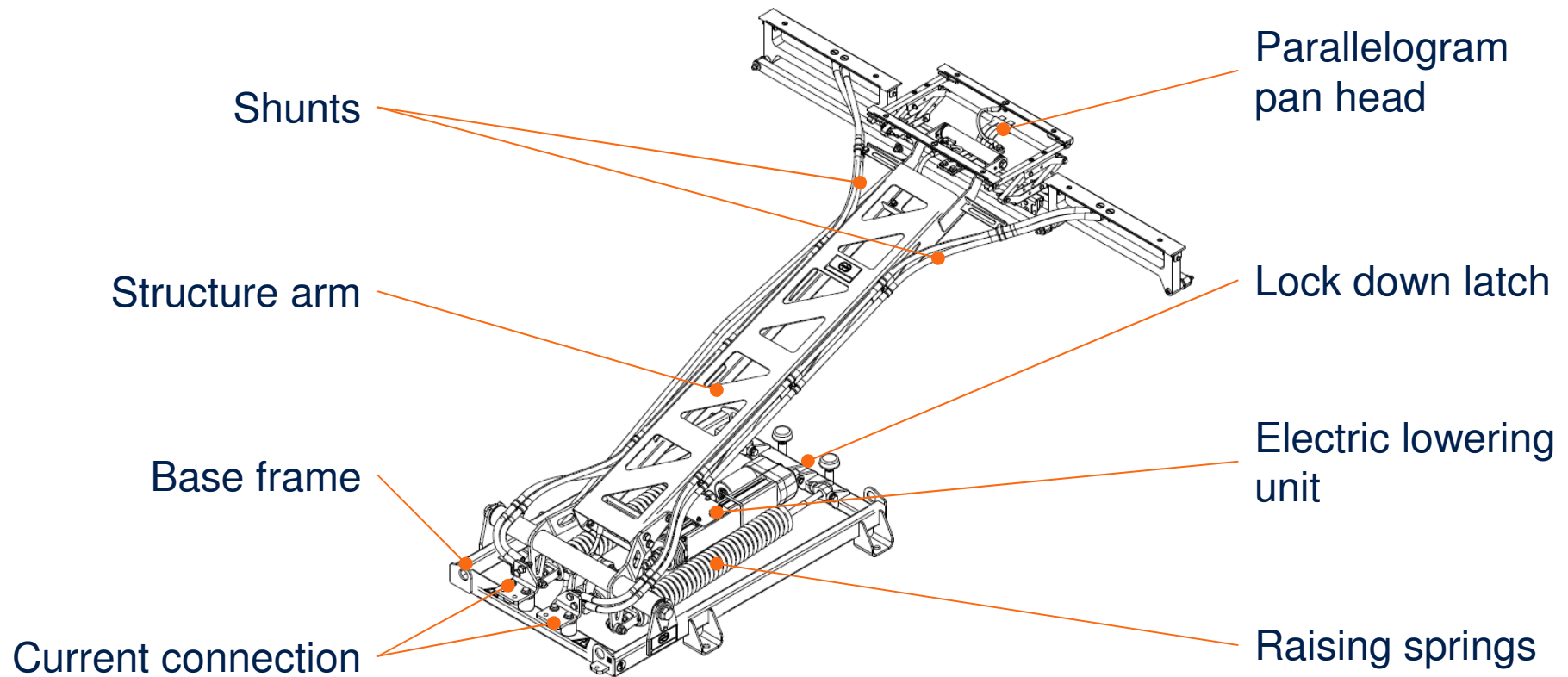
for Bus applications

Description



- Single arm charging pantograph with insulated multi-pole structure
- 3-poles (positive, negative, grounding)
- Special pan head concept in order to ensure an equal contact force on each pole
- Designed for bus charging at end stations
- Raised by spring force and lowered by electric lowering unit

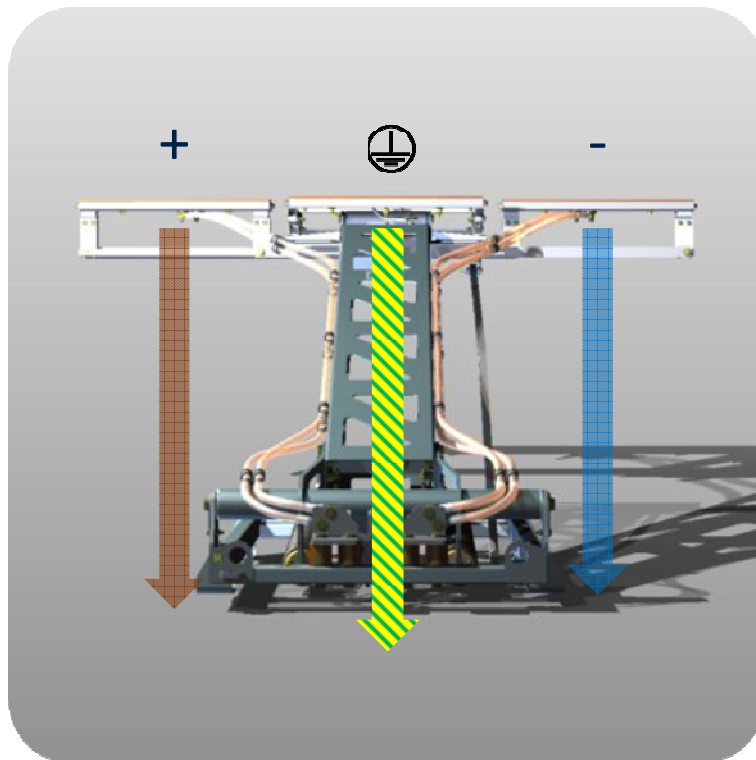
Components



Technical Data

| | |
|--|---------------------------------|
| Maximum rated voltage | 1800V |
| Maximum current at standstill | 500A – ∞ min. 1000A – 1 min. |
| Supply voltage of electric lowering unit | 24V DC ±30% |
| Contact force (adjustable) | 100N / 50N / 100N |
| Raising-/lowering time | ≤ 5sec. |
| Weight | ~80kg |
| Operating temperature | -30 °C to +65 °C |
| Maximum working range | 1060mm |

Multipole Design

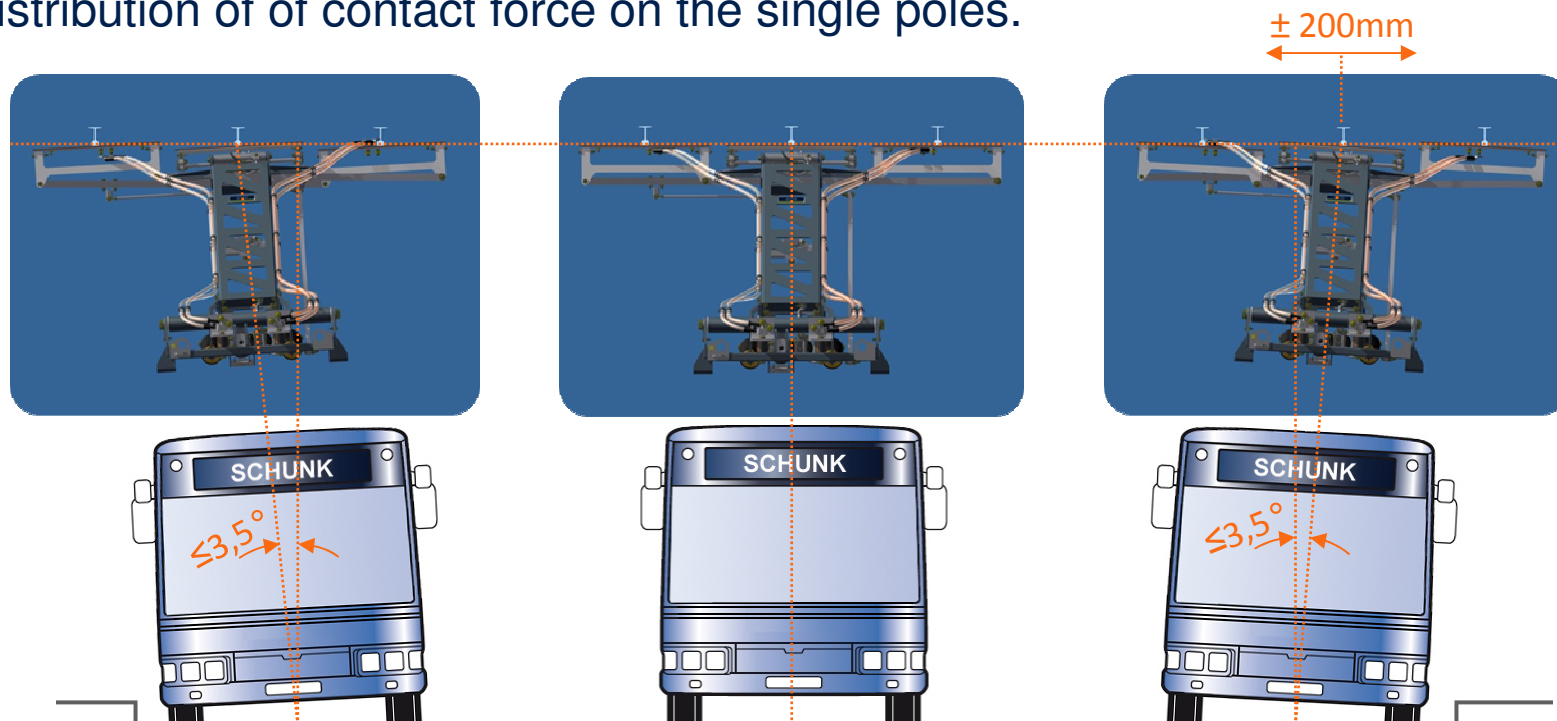


- 3-pole charging system for electric bus (positive, negative, grounding)
- Single poles are insulated from each other
- Zero-potential frame parts
- This system enables the contact to the charging station and thereby allow the current transmission.
- 4-pole system possible (optional)

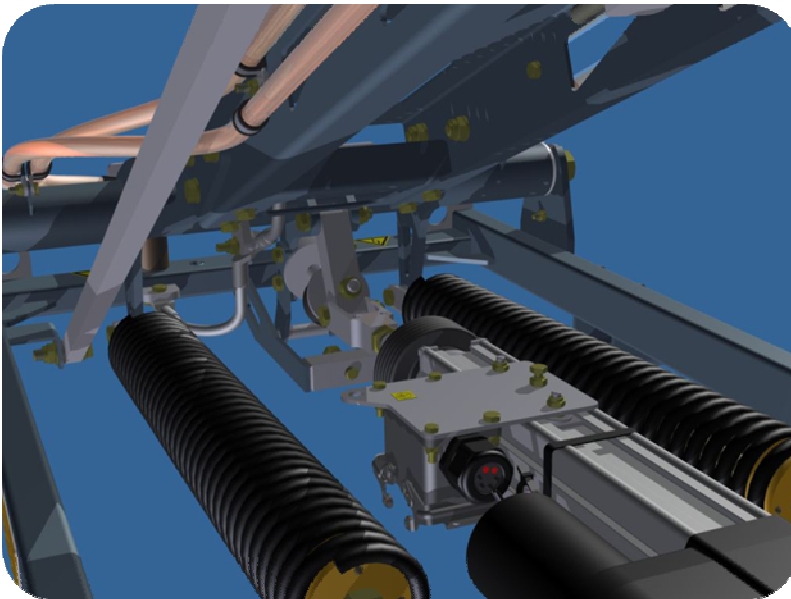
Compensation of parking tolerances

In case of inaccuracy at parking or possible kneeling, the pan head system is able to cover angular tolerances up to $3,5^\circ$ and a lateral offset of $\pm 200\text{mm}$

Due to the design of the contact area, it is assured, to establish an equal distribution of contact force on the single poles.



Actuation system



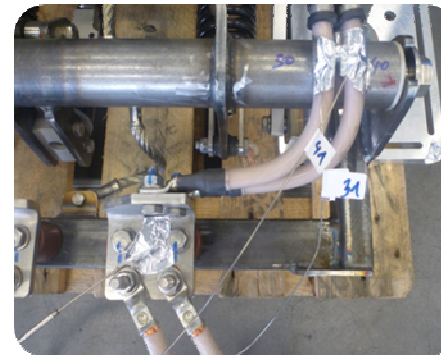
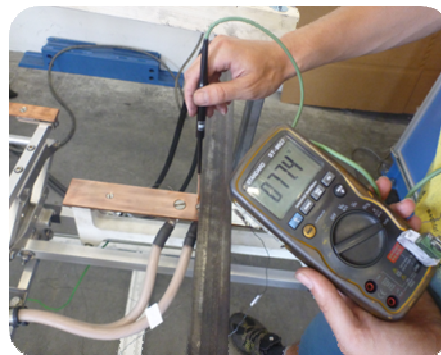
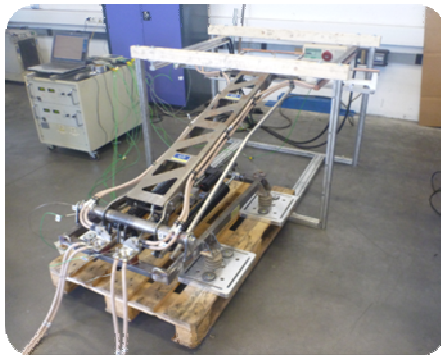
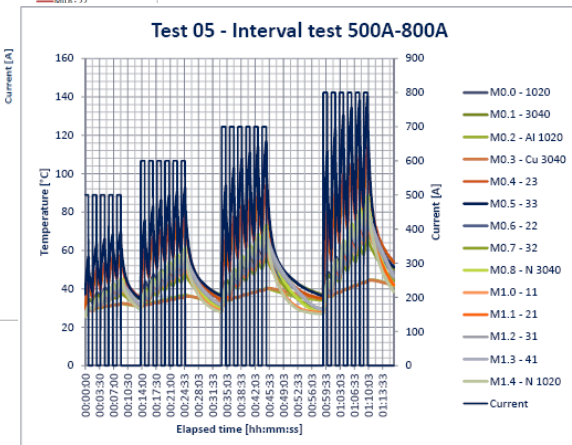
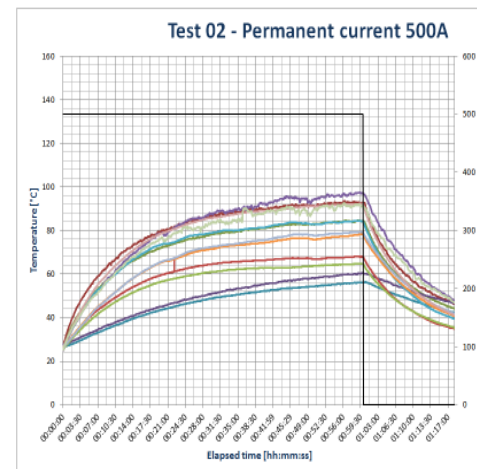
- Integrated electric lowering unit
- Integrated raising springs
- 1 Million raising/lowering cycles
- 24V supply voltage
- Position indicator by means of magnet switch
- 110V supply voltage (optional)
- Manual emergency actuation by hand crank (optional)

Dimensions

| | |
|---------------------------------|-----------|
| Total length | 1824±10mm |
| Total width | 1450±5mm |
| Total height | 245±5mm |
| Mounting dimension longitudinal | 600±1mm |
| Mounting dimension transversal | 630±1mm |
| Length of contact strips | 450mm |
| Maximum extension | 1160mm |

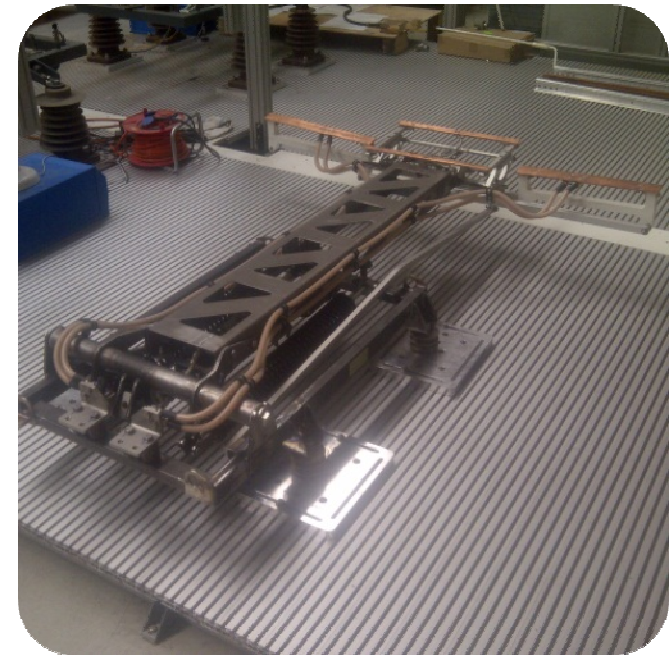
Prototype & Tests

- First prototype finished
- Current load test finished
- Endurance test ongoing
- Shock and vibration ongoing



Summary

- Patented design of multipole structure
- Patented design of pan head concept (parallelogram)
- Patented brake system of electric lowering device (optional)
- First prototype assembled
- Internal tests started / partly finished



Test trials start in december 2013 at „IXION“ project in the Netherlands!!!



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