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# Sitras LCU

Local charging unit for railway vehicle operation without overhead contact line

The local charging unit Sitras® LCU quickly recharges mobile or hybrid energy storage systems on railway vehicles.

The Sitras LCU may be placed at stations or stops, or may be integrated into traction substations.

Recharging takes place during dwell time.

## Features

- High charging currents for charging during typical dwell times
- Concept for highest safety and availability of the complete system for operating without overhead contact line
- Based on proven products of railway electrification (Sitras-family)
- Integrated auxiliary power supply for the station / stop
- Project specific dimensioning, also for the compact type Sitras LCU-C without auxiliary power supply

## Technical data \*

Input voltage (tolerances acc. to EN 50163)	[V DC]	750
Operating voltage for full charging power	[V DC]	750...900
Charging current	[A]	1,000
Charging time, e.g. a storage with 3.2 kWh	[s]	20
Auxiliary power supply for station	[kW]	30
Permissible ambient temperature	[°C]	-5...+50
Maximum operating height above sea level	[m]	1,000
Permissible environmental data acc. to EN 50124		PD4A
Dimensions of container and cable cellar **		
– Length	[mm]	4,300
– Width	[mm]	1,600
– Height	[mm]	2,800 + 750

\* other values available on request

\*\* inner dimensions plus wall thickness; dimensions may vary acc. to project specific layout

## Components

The Sitras LCU comprises the following main components:

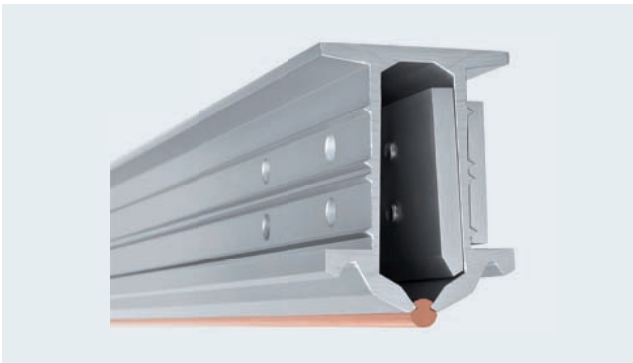
- LCU-container with switchgear and diodes, fault protection and auxiliary power supply
- overhead conductor rails,
- cable connections to DC traction substations.

## Operation

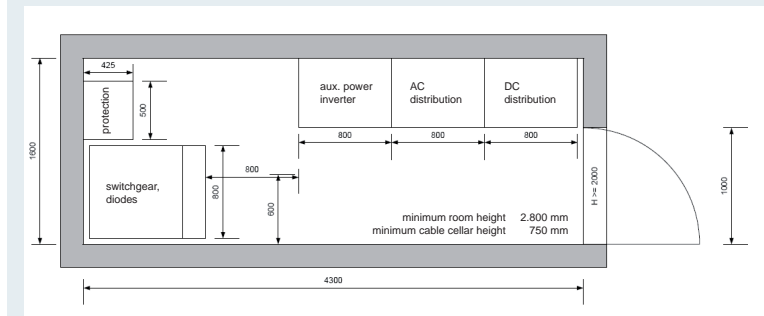
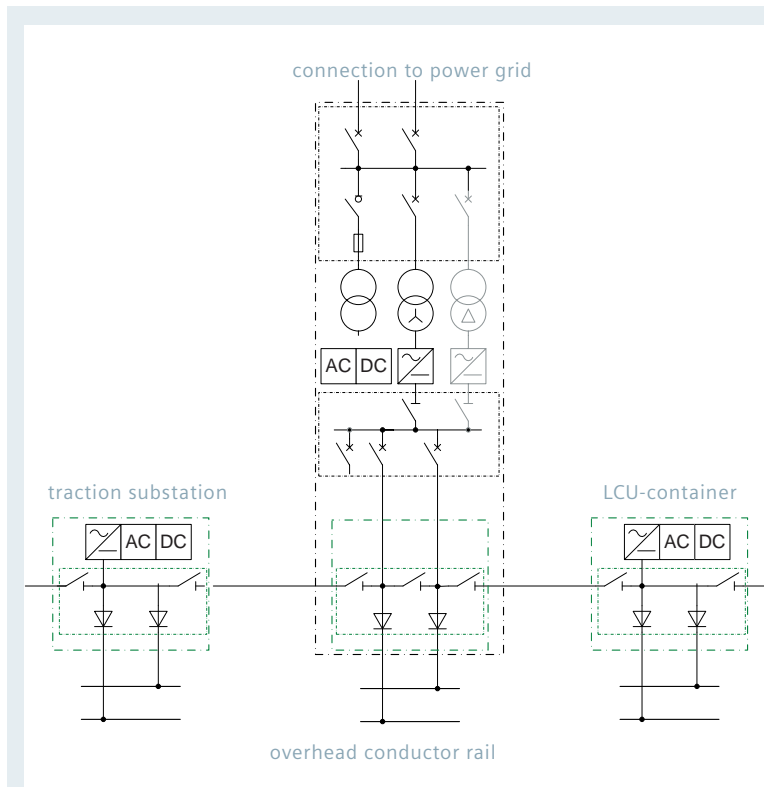
The LCU overhead conductor rails are always energized, except in case of faults. In case of failures, local control devices within the LCU and central devices in the traction substations reconfigure the system arrangement. Sitras LCU operates without active current control. The charging currents are regulated by the vehicles according to their demands.

## Mechanical Design

The switchgear / diode cabinet is based on components of the compact switchgear Sitras CSG. Short circuit protection is guaranteed by Sitras PRO devices inside the LCU-container. The configuration control is realized by the station control system Sitras SCS in the traction substations. Touch voltage protection is handled by the compact short-circuiting device Sitras SCD-C. All equipment is mounted in prefabricated containers. A project dependant integration into customer's rooms is possible. The overhead conductor rails Sicat SR consist of aluminum with copper wire.



Overhead conductor rail Sicat SR



## Schematic diagrams

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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. If not stated otherwise, we reserve the right to include modifications, especially regarding the stated values and dimensions.