

CESUR EMU

TRACTION & AUXILIARY POWER CONVERTER FOR RAILWAY APPLICATIONS



Product Description

ASELSAN's CESUR Series is a family of traction converters in different power/voltage levels developed from a unique technology platform for railway vehicles.

CESUR EMU includes a highly intelligent embedded control system, traction converter system (TCS) and an auxiliary power converter system (APCS). TCS is a high performance and intelligent one, suitable for either permanent magnet synchronous or induction motor. It draws power from the traction transformer and delivers appropriate voltage and current waveforms to the traction motors. CESUR EMU with its new IGBT technology, and advanced control algorithms provides safe, reliable and efficient operation.

CESUR EMU is a member of the traction chain of National EMU Project leaded by TUVASAS.

Key Customer Benefits

- Adaptability to customer requirements and all railway platforms
- Compliance with railway quality management system (IRIS)

Features

- Control of two or four traction motors
- High performance drive using vector control algorithm even at low speeds
- Efficient switching methods
- Dynamic braking (regenerative)
- Two line converters & propulsion converters
- One voltage limiter/fast discharge module
- One voltage limiter resistor
- Line converter & Three-phase inverter for APCS
- Battery charger
- Integrated control unit and flexible algorithm development architecture
- Dead battery starter
- Compact, lightweight, reliable and robust design
- MVB, Ethernet and CANopen interface options for communication with the train
- Over voltage, over current and over temperature protection
- Galvanic isolation between high and low voltage
- Compliance with EMC requirements
- Easy mounting and maintenance
- Fully automated self-test and start-up
- Railway qualified components

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Technical Specifications

Line Converter

Input Voltage Range	: 570 – 1400 VAC
Rated Input Voltage	: 950 VAC
Rated Input Current	: 420 VAC
Output Voltage	: 1800 VDC

Propulsion Converter

Input Voltage Range	: 1400-2000 VDC
Rated Input Voltage	: 1800 VDC
Rated Output Current	: 220 Arms
Output Voltage	: 0-1250 VAC

Auxiliary Power Converter System

Input Voltage Range	: 240-600 VAC
Rated Input Voltage	: 400 VAC
Rated Input Current	: 325 Arms
Aux. Rated Output Voltage	: 400 VAC, 3 ϕ
Aux. Rated Output Current	: 190 Arms
Battery Charger Voltage	: 110VDC
Battery Charger Power	: 10kW

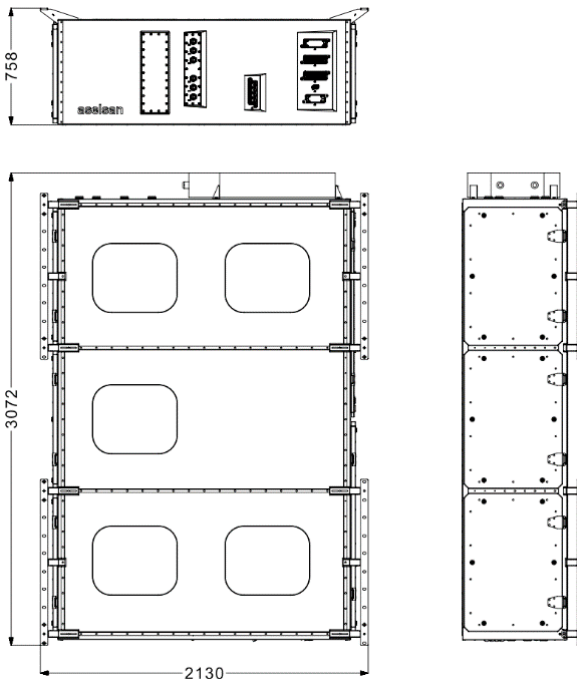
Thermal & Mechanical Data

Cooling Type	: Liquid cooling
Weight	: 1700 kg
Operational Temperature	: -25 °C / +70 °C
Storage Temperature	: -40 °C / +85 °C
Dimensions	: 2900 x 2000 x 700 mm

Standards

Electrical	: EN50155, EN50163, EN50124-1, EN50124-2, EN50388, EN61287-1, EN61377-3, EN50343, EN62864-1
Fire	: EN45545
Mechanical	: EN61373
Electro Magnetic Compatibility	: EN 50121-3-2

Dimensions



Block Schema

