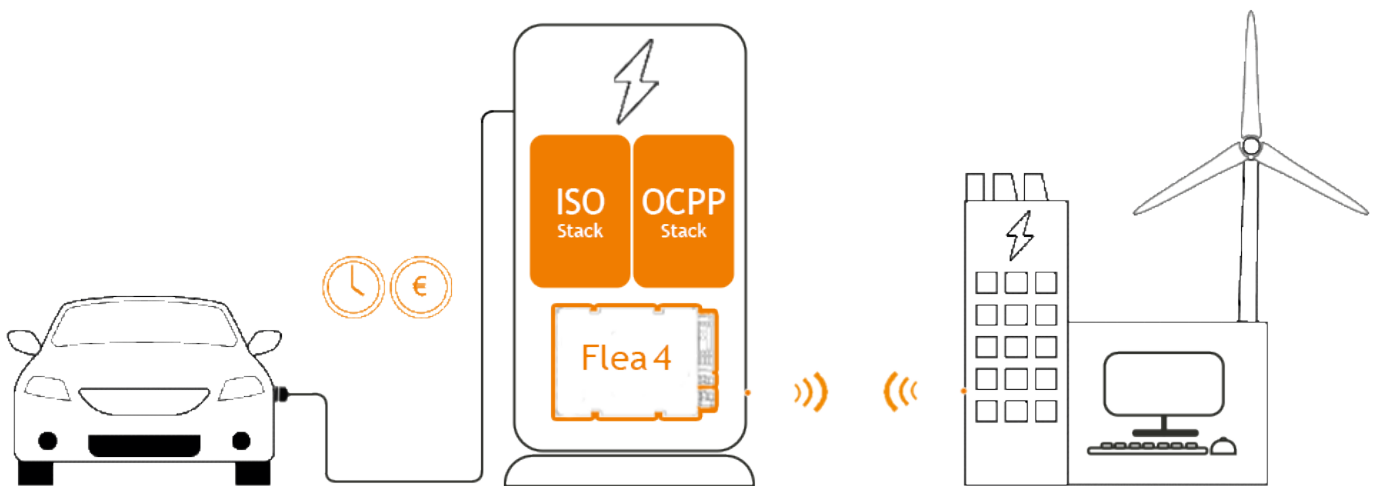


Flea 4 EVSE

Charge Communication Controller



Flea 4 EVSE is CarMedialab's most up-to-date professional charging communications controller. It combines all necessary charging and communication interfaces as well as supervision and analysis logs in a single system. This reduces system complexity and integration costs. In addition, Remote Device Management makes it possible to communicate reliably, in accordance with industry standards, between the charging controller and the charge management system. This enables OTA software updates, a range of payment functions, control functions for operating and costs as well as Value Added Services.

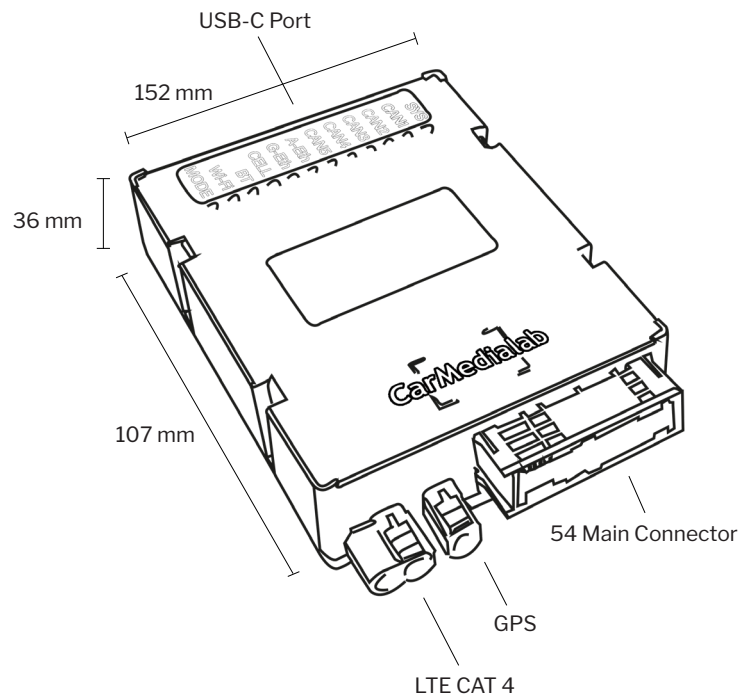


FUNCTIONS

- Vehicle charging interfaces according to IEC 61851, IEC 61851-23, SAE J1772, ISO 15118 (AC and DC), ISO 15118-20, DIN SPEC 70121, SAE J3105, OppCharge 1.3.0 and CHAdeMO 0.9 & 1.x
- Temperature, lock actuator and feedback
- Plug and Charge, certificates and trust store management
- Server interfaces according to OCPP 1.6J, OCPP 2.0.1
- Diagnostics and remote supervision
- Value Added Services based on VDV 261
- CAN J1939
- RS485 Modbus
- OpenADR 2.0 (VEN only)
- Homplug GreenPHY and IPv6 sniffer
- Open system environment and customer's own application development

Flea 4 EVSE

Charge Communication Controller



System

Processor	4 ARM Cortex-A53 at 1.2 GHz (64 Bit) 2 ARM Cortex-R5 at 500 MHz
RAM	1 GB LPDDR4 RAM
System Memory	4 GB eMMC 4 ... 32 GB, Internal Micro SD (optional) 16 MB NOR
Sensors	3 D Gyroscope 3 D Accelerometer 3 D Magnetometer (Compass)
OS	Embedded Linux (Yocto based)
Power Supply	12, 24 V
Operating Temperature	-40°C ... +85°C
Dimensions	152 mm x 107 mm x 36 mm incl. main connector
Wakeup Options	GPIO, CAN (Activity), RTC, Modem Ring

Connectivity

Cellular	LTE CAT4 (150 MBit/s ↓ 50 Mbit/s ↑) EMEA Region Bands 1, 3, 5, 7, 8, 20 HSDPA Category 24, HSUPA category 6 MIMO 2 x 2, RX Diversity 3G, 2G, Quadband Fallback
Wi-Fi	802.11 a, b, g, n (2.4, 5 GHz)
Ethernet	10, 100, 1000BASE-TX
Bluetooth	BT / BLE 4.2

Flea 4 EVSE

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Plug and Play: Flea 4 in usage

Interfaces

5 x CAN-FD
 1 x PWM outputs IEC 61851, SAE J1772 (control pilot),
 1 x ISO15118-3 based on Homeplug Green PHY
 1 x OppCharge 1.3.0, ISO 15118-8, ISO 15118-20 Wifi Extension
 1 x DIN 70121:2012
 1 x SAE J3015
 1 x CHAdeMO 0.9 & 1.x

Positioning

GPS, QZSS

72-Channel with Dead Reckoning and Internal Sensors
 GPS, GLONASS, BeiDou, Galileo
 Position Accuracy 2.5 m CEP with SBAS 1.5 m CEP
 Frequency of Time 0.25 Hz ... 10 MHz
 Number on Concurrent GNSS: 3

Connectors

ELO-54

5 x CAN-FD
 1 x Automotive Ethernet (100BASE-T1)
 3 x Analog Input (0-60 V)
 1 x Digital Output (Open Drain)
 1 x Digital Output (High Side Switch)
 1 x I2C
 2 x RS232
 1 x RS485 Modbus
 1 x PWM outputs IEC 61851, SAE J1772 (control pilot) with
 1 x ISO 15118-3 based on Homeplug Green PHY

USB

USB-C 2.0 (Host or Client, OTG)

Antenna

2 x 2G, 3G, 4G Antenna Fakra
 1 x GPS Antenna Fakra
 1 x Wifi ex. Antenna (optional)

Power Supply

Overvoltage Protection

36 V

Standby

< 0.5 mA @ 12 V

Hibernation (Warm Start)

< 10 mA @ 12 V

Working

< 500 mA @ 12 V

Flea 4 EVSE

Charge Communication Controller



Flea 4 EVSE implemented in a charging station

Use Cases

CCS (Combined Charging System)	Both direct current and alternating current charging methods can be implemented with the standardized CCS connector system.
Panto Up	With Panto Up, the current collector is located on the vehicle roof and extends upwards in the direction of the charging station.
Panto Down	With Panto Down, the current guide is mounted on the infrastructure and lowers to the roof of the vehicle for charging.
Wireless power transfer	Non-conductive energy transmission through the means of inductive coils.
Test-Equipment	Equipment for simulating charging processes.

