vSECC

Communication Controller for High Power Charging Stations

What is vSECC?

vSECC (Supply Equipment Communication Controller) is a communication controller for charging stations. It serves as a communication interface between the electric vehicle, the charging station management system (CSMS) and the power electronics. vSECC supports charging communication over CCS, CHAdeMO and inverted or roof-mounted pantograph charging. It covers the communication protocols ISO 15118, DIN SPEC 70121, OppCharge and CHAdeMO.

Typical use cases for vSECC are high-power double dispenser charging stations in public areas, residential or company parking lots. vSECC is also suitable for both destination and opportunity charge points along with roof-mounted and inverted pantographs using an external WLAN module. Moreover, it supports Value-Added-Services, for example for the preconditioning of buses.

Main Features

> Charging communication according to ISO 15118, DIN 70121, CHAdeMO and OppCharge
> Supports OCPP 2.0.1 for the backend communication
> Manages two charge points in parallel
> Vehicle identification possible via External Identification Means (EIM), RFID, Autocharge, Plug & Charge ready
> Device configuration, log file analysis and PLC tracing possible in web interface
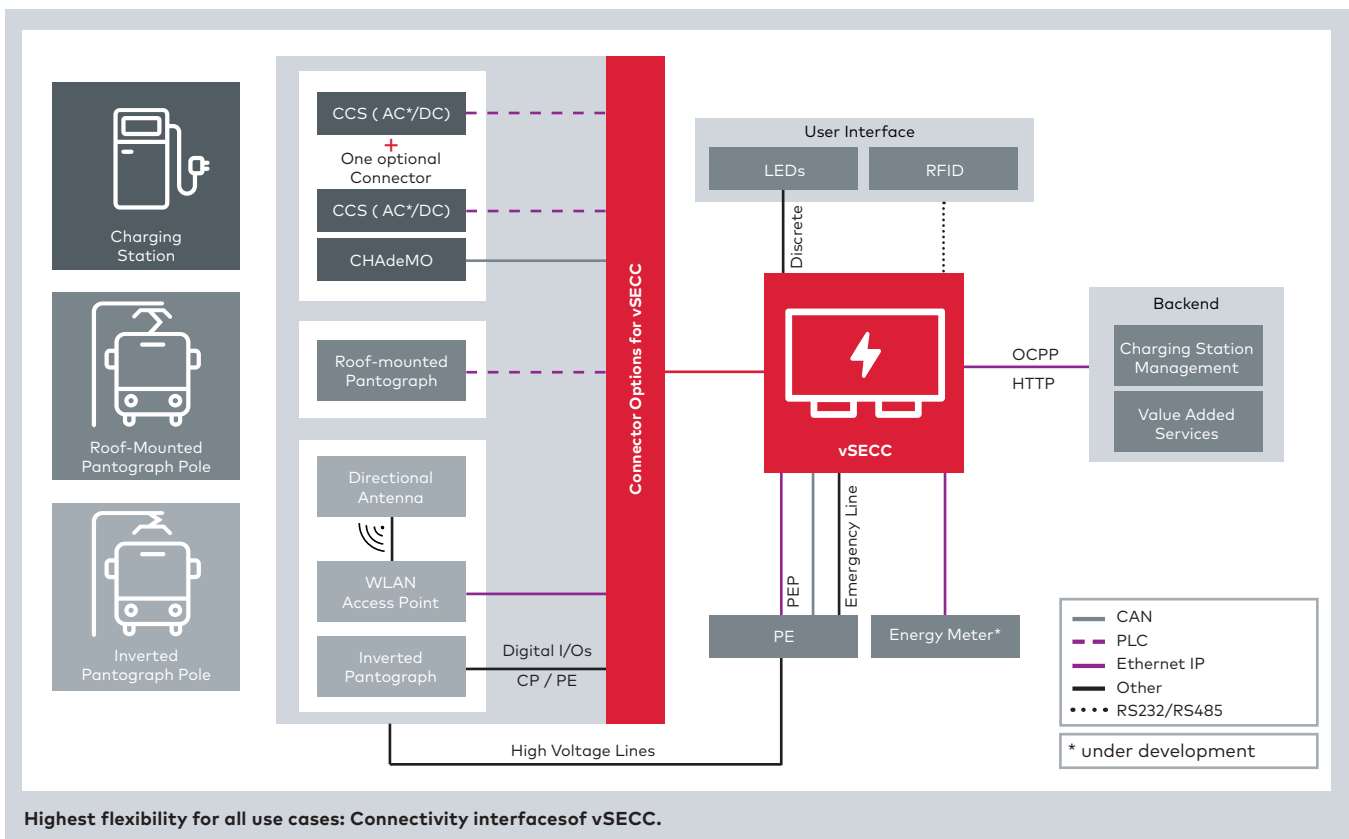> 24 V industrial power supply

Overview of Advantages

> Universal controller for present and future EV charging use cases
> High performance multi-core processor to cover further project-specific requirements
> One device for all communication functions of the charging station
> Turnkey solution: Immediate installation in the charging station
> Compact industrial DIN rail design for easy integration into a switching cabinet
> Specified for industrial outdoor conditions
> CE marking
> Functional Safety: Control pilot and proximity pin supervision designed for SIL 2
> Comprehensive security analysis based on ISO 15408, ISO 27001, IEC 62443
> Developer-friendly debugging features in web interface
> Remote software updates via OCPP for standard conformity and functionality extensions
> OCPP 2.0.1 implementation for more efficient error handling and configuration of the charge controller in the CSMS

More information: www.vector.com/vsecc

vSECC: Ready-to-use Communication Controller

Highest flexibility for all use cases: Connectivity interfaces of vSECC.

Technical Data:

Feature	vSECC			
Main CPU	i.MX 6Quad Core 4 x 1 GHz, 2 GB RAM, 8 GB eMMC			
Power supply	18 V - 30 V DC			
Communication	2 x CAN	2 x 1000Base-Tx	1 x RS232	1 x RS485
Charging interfaces	2 charge points managed simultaneously			
Considered standards DC	IEC 61851-23 DIN 70121 ISO 15118-2/-3 OppCharge		ISO 15118-20 SAE J1772 CHAdeMO	
Considered standards AC	IEC 61851-1	ISO 15118-2/-3	ISO 15118-20	
Charging environment	2 x fullbridge out (Imax = 1 A)		2 x analog input position feedback	
Digital inputs	8 x IEC 61131-2 Type 1 digital input			
Analog inputs	2 x 0 - 10 V analog input		9 x temperature sensor input	
Safety output	3x relay output (NO)			
Digital output	16 x digital out (Imax = 200 mA)			
Housing dimensions (L/W/H)	162 mm x 89,7 mm x 62,2 mm (plastic)			
Technical usage and storage requirements	Temperature: –40 °C ... +70 °C Altitude: 0 – 2000 m above sea level Humidity: not condensing			
IP protection class	IP 20			

Glossary

CAN: Controller Area Network
CCS: Combined Charging System

CP: Control Pilot
NO: Normally open
OCPP: Open Charge Point Protocol

PE: Power Electronics
PEP: Power Electronics Protocol
PLC: Power Line Communication

RFID: Radio-frequency Identification
SIL: Safety Integrity Level

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