DB-EVCC-500

Product Specification

1.0.3

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1 OVERVIEW

DB-EVCC-500 is an **E**lectric **V**ehicle **C**ommunication **C**ontroller (EVCC) within the EV for rapid charging in accordance with the international standard DIN SPEC 70121 and the ISO/IEC 15118 that are core parts of the **C**ombined **C**harging **S**ystem (CCS). For charging communication between EV and **E**lectric **V**ehicle **S**upply **E**quipment (EVSE), it supports **C**ontrol **P**ilot (CP), PP **P**roximity **P**ilot (PP) as well as PWM signaling including HomePlug Green PHY communication. Moreover, the charging CAN-BUS control and IEC-61851 functionality has already been integrated to offer optimal flexibility and efficiency.

Figure 1: Image of DB-EVCC-500 Product

1.1 Supported Standards

- ■ HomePlug Green PHY™ 1.1(IEEE 1901)
- ■ ISO/IEC 15118, DIN SPEC 70121
- ■ IEC61851-1, IEC 61851-23, IEC 61851-24
- ■ GB/T 27930-2015, GB/T 18487.1-2015

1.2 Technical Data

- ■ Communications
  - ▪ 2 x CAN:
    - • 1 x CAN 2.0B, 250Kbps, Charging CAN
    - • 1 x CAN-FD, 500Kbps, UDS CAN
  - ▪ 1 x Power Line Communication (Spectrum: 2~30MHz)

- ■ Wake-up Mechanisms
  - ▪ Vehicle CAN
  - ▪ Control Pilot
  - ▪ Real Time Clock
  - ▪ Reserved digital IO
- ■ Connector Interlocking
  - ▪ Support 3-wire/4-wire Inlet Actuator
  - ▪ Interlocking of the connector with the inlet during charging process
  - ▪ Read-back channel to check if connector is properly plugged and locked
- ■ Power Dissipation
  - ▪ Active: 145mA (Vin DC12V)
  - ▪ Standby: **60uA**
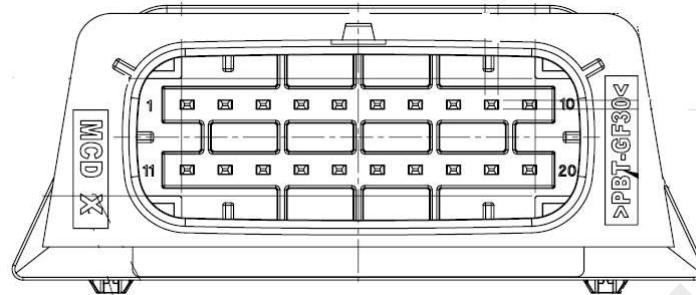
2 INTERFACE

2.1 Definition

Figure 2: Interface of DB-EVCC-500 Product

Pin	Symbol	Type	Description
1	KL30	Analog Input	Auxiliary Battery Power supply
2	KL15/ACC	Digital Input	Ignition
3	INT-CANL	Digital Input/output	Internal CAN Low
4	PT-CANL	Digital Input/output	PT CAN Low
5	LOCK-F	Digital Output	Lock– Forward, Lock
6	LOCK-R	Digital Output	Locker – Reverse, Unlock
7	AUX-PWR	Digital Output	Auxiliary power output - 12V@50mA（GB Detection）
8	CC2	Digital Output	GB/T Connect Confirm 2
9	PP	Digital Input	Proximity Detection
10	CP	Analog/Digital Input	Control Pilot
11	KL31	GND	Auxiliary Battery GND
12	KL31	GND	Auxiliary Battery GND
13	INT-CANH	Digital Input/output	Internal CAN High
14	PT-CANH	Digital Input/output	PT CAN High
15	LOCK-P	Digital Input	Lock-Feedback
16	LOCK-G	GND	Lock-GND
17	AUX-PWR-Return	GND	Auxiliary power GND

18	DO	Digital Output	Wake-up other ECU，use High-Side Switch
19	DI*	Digital Input	Reserved
20	PE	GND	Chassis Ground

3 TECHNICAL CHARACTERISTICS

3.1 Physical Features

Item	Description
Operation Voltage	+9V~ 32V DC
Operation Temperature	-40℃ ~ +85℃
Storage Temperature	-40℃ ~ +105℃
Operation Humidity	0 ~ 90%RH
Housing Degree of Protection	IP67
Fire Rating	V-0
Dimensions (L*W*H)	147mm * 140mm * 31mm
Header and Connector	Molex 34840-2001 Header(20pin) & Molex Connector 0334722001

3.2 Wiring Harness Recommendations

Wiring Harness	Rate Voltage	Peak Current	Type	Diameter(mm2)
CP/PE			Twisted-Pair	0.75
PT_CAN			Twisted-Pair	0.75/0.5
INT_CAN			Twisted-Pair	0.75/0.5
KL30	24V	0.5A		0.75
KL31	24V	0.5A		0.75

4 TYPICAL SYSTEM WIRING SCENARIO
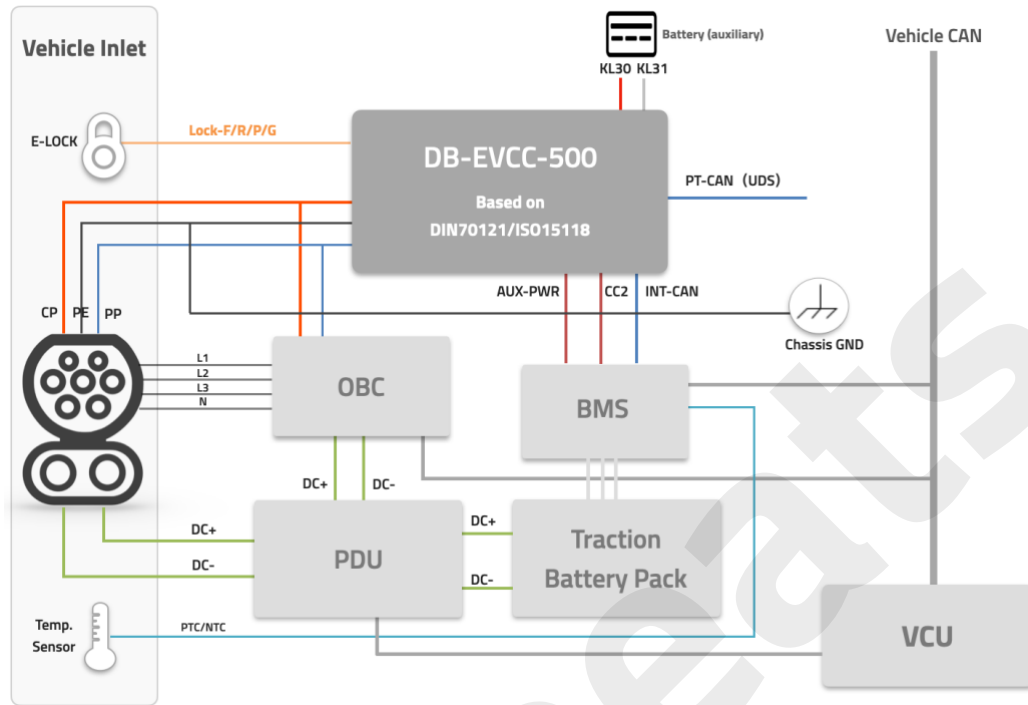
Figure 4: Typical System Wiring Scenario of DB-EVCC-500

5 ORDER INFORMATION

Order Code	HW	SW
DB-EVCC-500	1.0.1	ISO15118 ED1 DC + DIN70121 Combo Stack