



DB-EVCC-500

Product Specification

1.0.3

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U.S. Patent No. x,xxx,xxx, y,yyy,yyy. Canadian Patent No. xx,xxx,xxx, and so on. Other relevant patent grants may also exist.

Contacting Dropbeats

Dropbeats

123 Juli Road, Building 4, Shanghai, China

Tel: +86 (21) 5085-0752

Fax: +86 (21) 5085-0753

Document Information: document@drop-beats.com

Corporate Information: info@drop-beats.com

Technical Support: apps@drop-beats.com

Web Site: <http://www.drop-beats.com>

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1 OVERVIEW

DB-EVCC-500 is an **Electric Vehicle Communication Controller (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 **Combined Charging System (CCS)**. For charging communication between EV and **Electric Vehicle Supply Equipment (EVSE)**, it supports **Control Pilot (CP)**, **PP Proximity Pilot (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 (V_{in} DC12V)
 - Standby: **60uA**

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2 INTERFACE

2.1 Definition

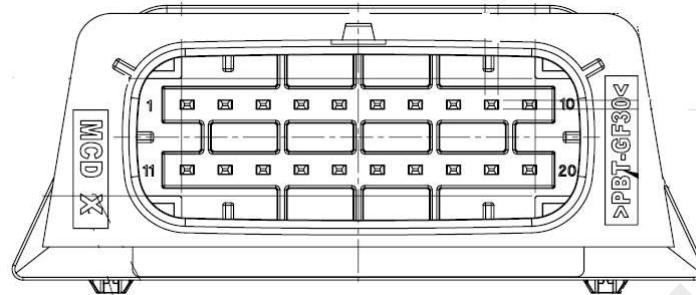


Figure 2: Interface of DB-EVCC-500 Product

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

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3 TECHNICAL CHARACTERISTICS

3.1 Physical Features

Item	Description
Operation Voltage	+9V~ 32V DC
Operation Temperature	-40°C ~ +85°C
Storage Temperature	-40°C ~ +105°C
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(mm ²)
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

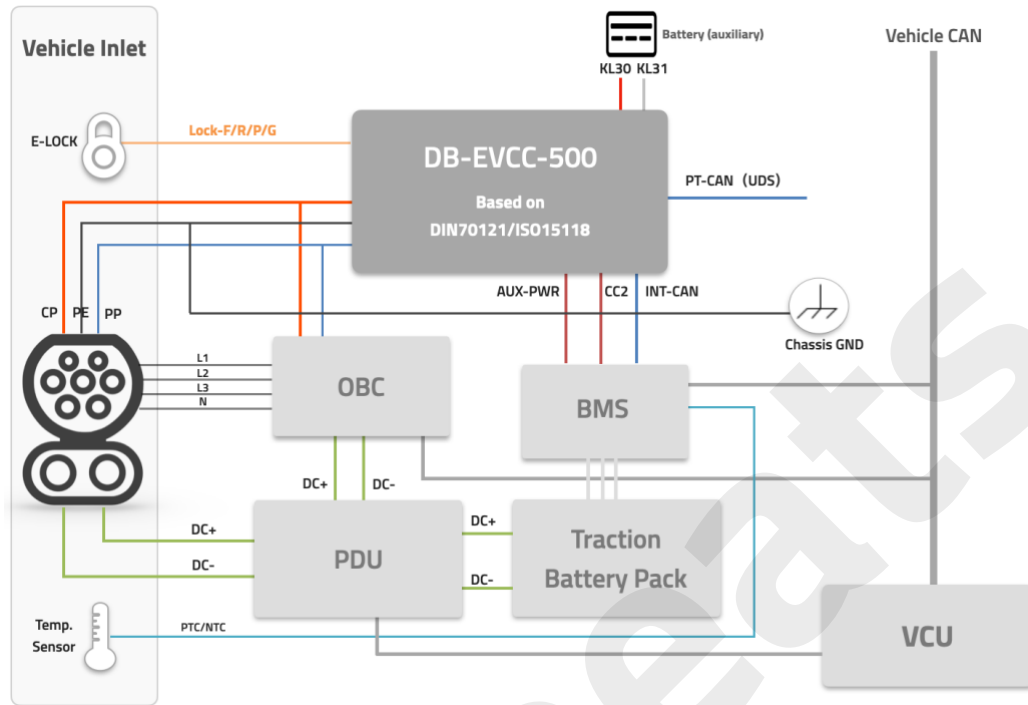


Figure 4: Typical System Wiring Scenario of DB-EVCC-500

5 ORDER INFORMATION

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

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