



# **Supply Equipment Communication Controller**

**DB-SECC-601**

**Datasheet**

**Rev 1.0.0, March 2025**

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## 1 Overview

DB-SECC-601 is an ISO 15118 Compliant Supply Equipment Communication Controller for Electric Vehicle Supply Equipment (EVSE). It manages the DC charging station to communicate with electric vehicles (EVs) that are ISO 15118 / DIN 70121 compliant. For communication between EVSE and PEV, it supports CP (control pilot), PP (proximity pilot) as well as PWM signaling including Green PHY communication.

The DB-SECC-601 is equipped with a Qualcomm QCA7005 and a powerful MCU that runs RTOS with a complete ISO 15118-2/20 software stack and an IEC 61851 software stack.



Figure 1: Image of DB-SECC-601 Product

### 1.1 Features

- HomePlug Green PHY™ compatible QCA7005 Chip for control pilot communication
- Supported Charging Standards: IEC 61851-1/23/24
- Supported Charging Communication Standards: ISO 15118 / DIN 70121 / SAE2847-2
- Ethernet (IEEE 802.3)
- CAN2.0B with Communication protocol with Charge Controller
- Debug Interface: RS232 and Ethernet
- Digital Output for emergency events

### 1.2 CE Certificates

- EN 61000-6-2:2009
- EN 61000-6-4:2012
- EN 62368-1:2014
- RoHS V2.0

## 2 Interface



Figure 2: Interfaces of DB-SECC-601 Product

### 2.1 CAN

Pin	Name	Description
1	H	CAN2.0B High
2	L	CAN2.0B Low
3	GND	CAN isolated Ground

### 2.2 Power Supply Control and Proximity Pilot

Pin	Name	Description
1	PP	Proximity Pilot; used in case of Socket outlet (Case B).
2	CP	Control Pilot; Connect to CP of Socket Outlet in case of Case B, or Connector in case of C.
3	PE	Protected Ground

### 2.3 RS232

Pin	Name	Description
1	TX	RS232 Transmitter;
2	RX	RS232 Receiver;
3	GND	Ground

Notes: Speed 115200bps; Data bits 8; Stop bits 1; No parity; No Flow Control

### 2.4 ETH 10/100Mbps

Pin	Name	Description
1	Ethernet	Ethernet for backend, 100M

### 2.5 Digital Output

Pin	Name	Description
1	GND	Ground
2	DO	Digital Output: Disabled as default. CP/PP lost triggers Emergency shutdown, Active High while enable.

### 2.6 Power Supply

Pin	Name	Description
1	DC+	10V~30V Power Supply
2	DC-	Ground of Power Supply

### 3 Mechanical Dimensions

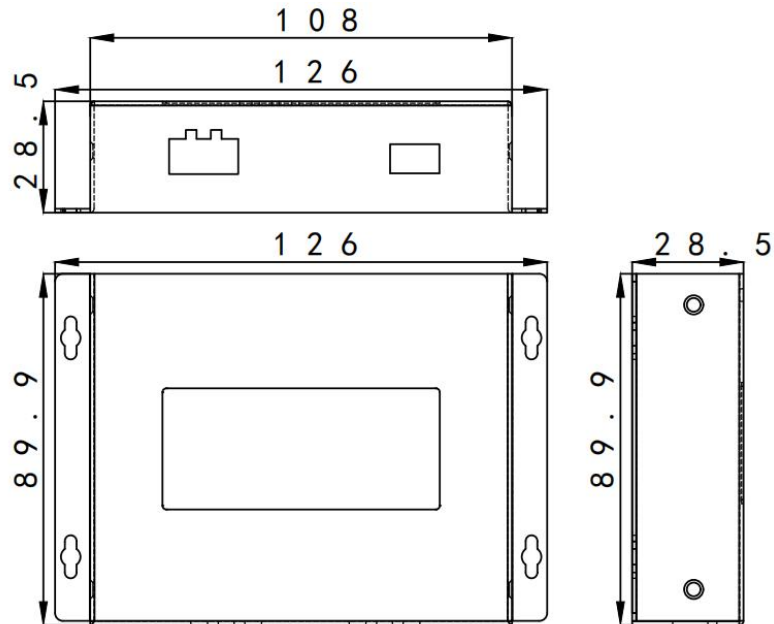


Figure 3: DB-SECC-601 Dimensions

#### Notes:

1. All dimensions are in mm.

## 4 Electrical Characteristics

### 4.1 Maximum Parameters

MAX PARAMETER	MIN	MAX	UNIT
DC supply voltage	+10	+30	V
Control pilot voltage	-12.6	+12.6	V
CANH, CANL	-12	12	V

### 4.2 Recommended operating conditions

SUPPLY PARAMETER	MIN	TYP	MAX	UNIT
DC supply voltage	+11	+12/24	+26	V

CP PARAMETER	MIN	TYP	MAX	UNIT
Control Pilot Voltage	-12.5		+12.5	V
Isolation voltage	500			V

Max PARAMETER	Value
Power Dissipation	260mA@12V

### 4.3 Physical Feature

Feature	Description
Operation Temperature	-40 <sup>0</sup> C .... +85 <sup>0</sup> C
Dimensions (L*W*H)	126 * 89.9 * 28.5mm
Protection Class	Housing IP40
Assembly	Wall-Mounted

## 5 Application Example

### 5.1 Wiring with External DC Charging Control Unit

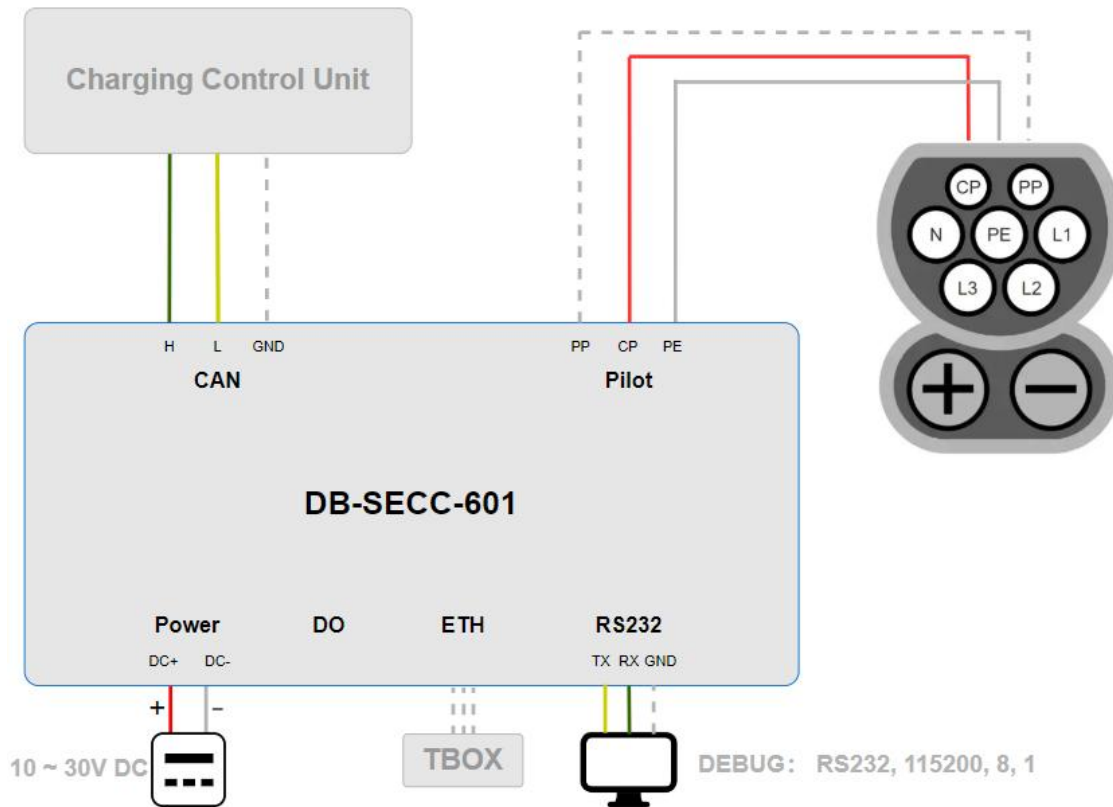


Figure 5: Wiring with External DC Charging Control Unit

#### Note:

- The IEC 61851-1 Functionality is enabled in DB-SECC-601.
- The CAN interface is the main communication way between DB-SECC-601 and Charging Control Unit. The communication protocol is now supported as:
  - **Dropbeats' Communication Matrix**
- The ETH interface is optionally wired to device, which has uplink capability, such as, 4G gateway, TBOX. By using ETH, more advance feature could be gotten, such the firmware updating, log file uploading, certificate installing and updating, and etc.
- The DO (Digital Output) interface is optionally used to report emergency event.



**6 Order Information**

<b>Order Code</b>	<b>HW</b>	<b>SW</b>
DB-SECC-601	1.0.0	ISO15118 DC + DIN70121 Combo Stack

## Legal Information

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### Revision History

Revision	Date	Descriptions
1.0.0	2025.3.31	Initial