



Supply Equipment Communication Controller

DB-SECC-603

Datasheet

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1 Overview

The DB-SECC-603 is a compact and ISO 15118-compliant SECC designed for DC fast charging Electric Vehicle Supply Equipment (EVSE) with power levels **up to 60 kW**. It manages communication between the DC charging station and electric vehicles (EVs) that comply with ISO 15118 or DIN 70121 standards. For EVSE-to-PEV communication, it supports Control Pilot (CP), Proximity Pilot (PP), and PWM signaling, as well as Green PHY-based communication.

Powered by a Qualcomm QCA7005 and a robust MCU running RTOS, the DB-SECC-603 integrates a full ISO 15118-2/-20 and IEC 61851 software stack, enabling seamless communication and control for DC fast charging.



Figure 1: Image of DB-SECC-603 Product

1.1 Features

- Supported EVSE power up to 60 kW.
- 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) for network connectivity
- CAN2.0B for Communication protocol with the charge controller unit(CCU)
- Debug Interface: RS232 and Ethernet
- Digital Output for emergency event signaling

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-603 Product

2.1 CAN

Pin	Name	Description
1	H	CAN2.0B High
2	L	CAN2.0B Low
3	GND	CAN isolated Ground
Notes: A 120-ohm termination resistor is populated between CAN_H and CAN_L.		

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

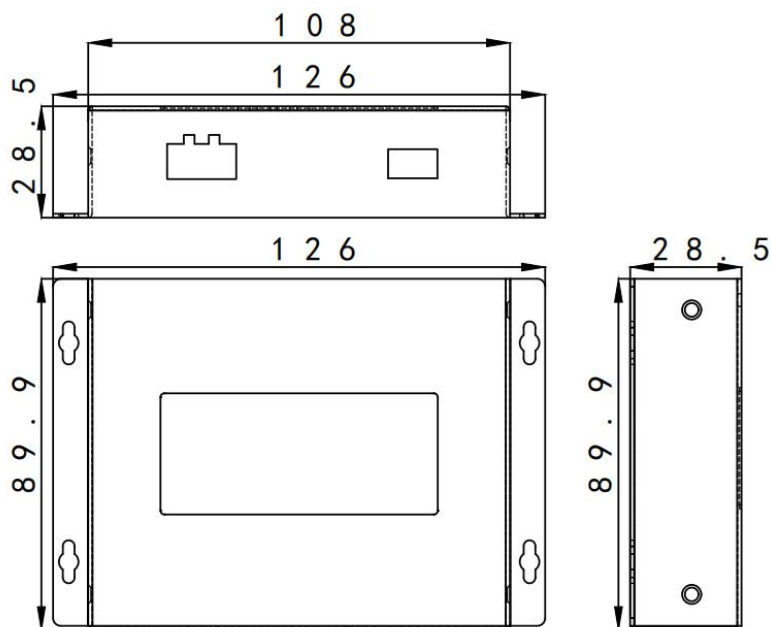


Figure 3: DB-SECC-603 Dimensions

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 ⁰ C +85 ⁰ 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

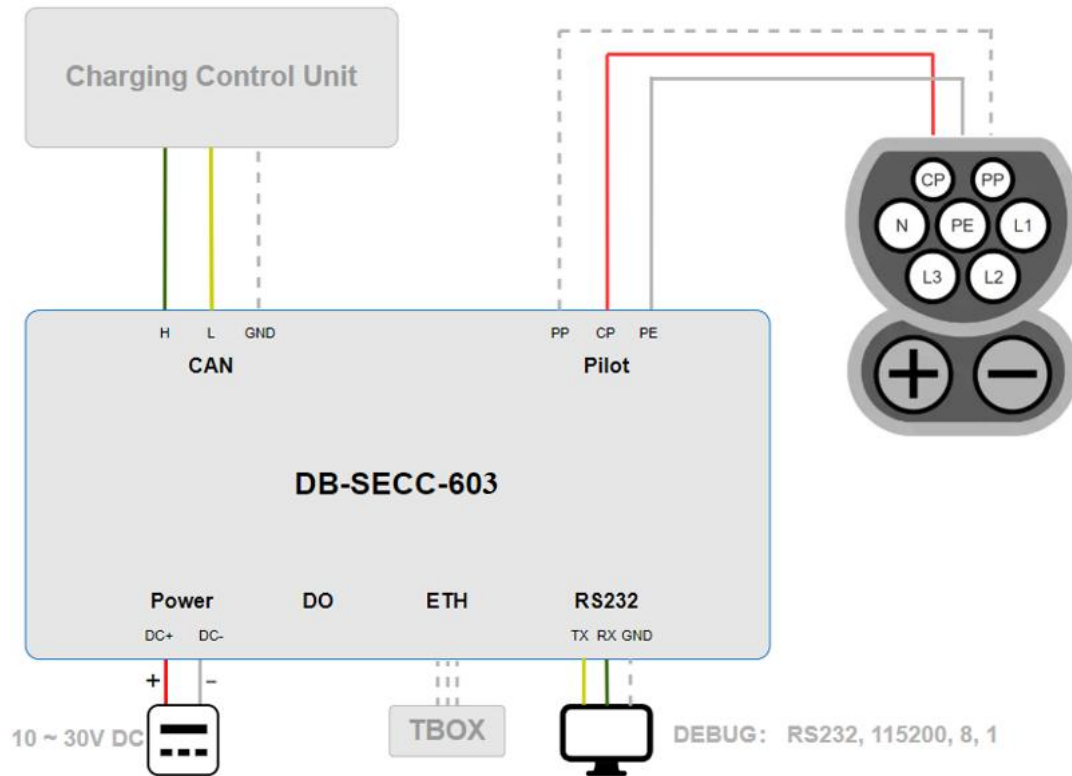


Figure 5: Wiring with External DC Charging Control Unit

Note:

- The IEC 61851-1 Functionality is enabled in DB-SECC-603.
- The CAN interface is the main communication way between DB-SECC-603 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

Order Code	HW	SW
DB-SECC-603	1.1.0	ISO15118 DC + DIN70121 Combo Stack
Notes: the Charging power is limited to 60 kW by the DB-SECC-603.		

Legal Information

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Revision History

Revision	Date	Descriptions
1.0.0	2025.3.31	Initial
1.0.1	2025.5.31	Updated Product Images
1.0.2	2025.6.31	Updated Product Images
1.0.3	2025.7.15	Added CAN terminal information