



Charge Control M Datasheet

chargebyte GmbH

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1 Revisions

Revision	Release Date	Changes
1	October 26, 2023	initial release

2 Introduction

Charge Control M is a communication platform for CCS Electric Vehicle Supply Equipment (EVSE) for DC charging stations. The product includes the EVAcharge SE board and the specially developed s/w stack. It enables the charge controller to communicate via Power Line Communication with electric vehicles (EVs), that are ISO 15118 / DIN 70121 compliant. For communication between EVSE and EV it supports CP (control pilot) signaling including Green PHY communication.

The board runs our software stack for the charging process in accordance with DIN 70121 and ISO 15118 (PnC), for fast DC charging on the EVSE side. The communication interface between Charge Control M and power electronic on EVSE side is based on the MQTT protocol; CAN interface also available.

3 Applications

- charge controller in electric vehicle supply equipment (EVSE)
- simulator for tests of EV

4 Technical Data

4.1 Absolute Maximum Ratings

SYMBOL	PARAMETER	Min.	Max.	UNIT
VCC	Supply Voltage (from revision V0R4)	0	30	V
VCC	Supply voltage (until revision V0R3)	0	+18 (1s)	V
V_CP	Control pilot voltage	-14.0	+14.0	V
V_PP	Proximity pilot voltage	-0.8	+5.0	V
TSTORE	Storage temperature	-40	+85	°C
RAH	Relative air humidity (non condensing)	0	85	%
ZC_OC	Zero Cross Detection Overvoltage Category		CAT III	
DP	Degree of Pollution		2	
ALT	altitude above sea level		2000	m

Table 1 Absolute maximum ratings

4.2 Operating conditions

SYMBOL	PARAMETER	Min.	Typ.	Max.	UNIT
VCC	Supply voltage (from revision V0R4)	7	12	27	V
VCC	Supply voltage (until revision V0R3)	11.4	12	12.6	V
TCASE	Top of case temperature	-40	-	85	°C
VZC	Zero Cross Detection Voltage	85		260	V

Table 2 Operating conditions

5 Handling



This electronic component is sensitive to electrostatic discharge (ESD).

6 Mechanical Dimensions

The mechanical dimensions of this product are shown in [figure 1](#).

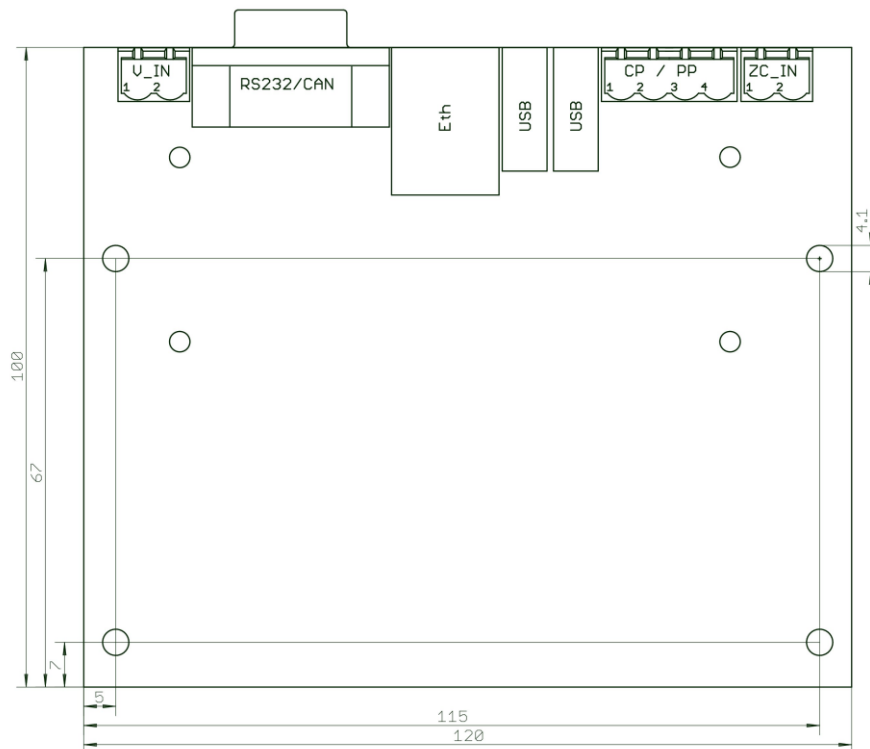


Figure 1 Mechanical drawing of Charge Control M including connectors

7 Hardware Revision Identification

Depending on the PCB revision number there are some small differences. It can be identified by the marking on the PCB itself. [Figure 2](#) shows a board with revision V0R2

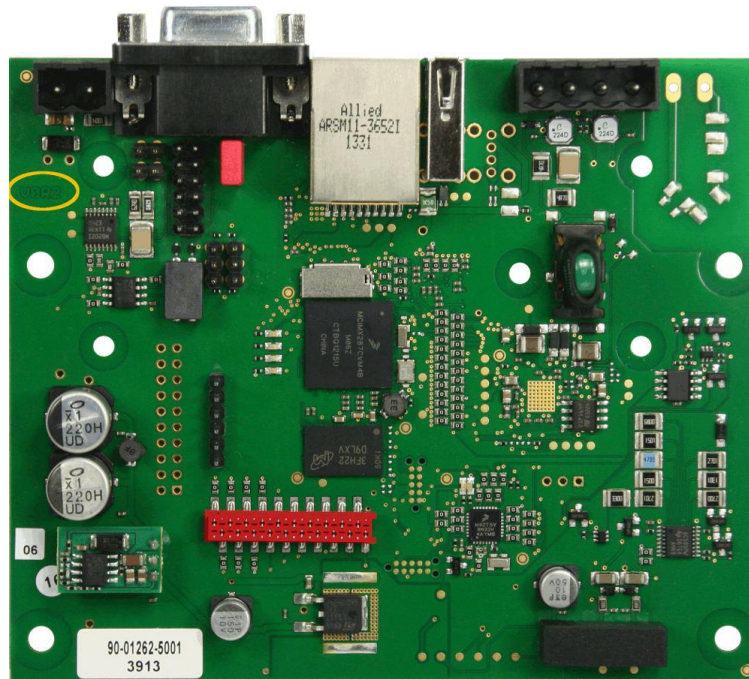


Figure 2 Revision marking on PCB

8 Order Information

In principle, Charge Control M can be populated in different configurations.

The default configuration is:

- populated Zero Cross Detection
- 1 USB port (J3)

Some parts are left unpopulated, for example the second USB port. Please contact chargebyte if you have special requirements.

permissible order codes	SW Variant	HW Revision
I2CCM-D00-000	DC charging with MQTT/CAN API	V0R7d/e

Table 3 Order Code

9 Contact

chargebyte GmbH

Bitterfelder Straße 1-5

04129 Leipzig

Germany

Website: <https://chargebyte.com>