



## **Charge Control C Errata**

chargebyte GmbH

Oct 26, 2023

## Contents

<b>1</b>	<b>Revisions .....</b>	<b>3</b>
<b>2</b>	<b>Performance on Mains Powerline Interface .....</b>	<b>4</b>
2.1	Description.....	4
2.2	Affected Devices.....	4
2.3	Impact.....	4
2.4	Workaround.....	4
2.5	Fix Plan.....	4
<b>3</b>	<b>Potential Unavailability of the Control Pilot Interface .....</b>	<b>5</b>
3.1	Description.....	5
3.2	Affected Devices.....	6
3.3	Impact.....	6
3.4	Workaround.....	6
3.5	Fix Plan.....	7
<b>4</b>	<b>Contact.....</b>	<b>8</b>

---

## 1 Revisions

Revision	Release Date	Changes
3	October 26, 2023	Adapted layout to new company style, i.e. updated company logo and contact, no content change
2	July 27, 2021	- Added errata 2 - Minor formatting and spelling issues
1	October 19, 2018	Initial release with errata 1

## **2 Performance on Mains Powerline Interface**

### **2.1 Description**

Due to an incorrectly populated communication transformer the mains coupled powerline will not perform at an optimum.

### **2.2 Affected Devices**

Charge Control C 300 pre-series devices with serial numbers in the below list are affected by this errata.

45876, 45877, 45879, 45880, 45881, 45882, 45883, 45884, 45885, 45886, 45887, 45888, 45889, 45891, 45892, 45893, 45894, 45895, 45896, 45897, 45899, 45900, 45901

### **2.3 Impact**

The reach of the powerline will be decreased in comparison to correctly assembled boards.

### **2.4 Workaround**

The issue can not be avoided.

### **2.5 Fix Plan**

Fixed on all boards after serial number 45901. Products that come out of series production will go through an extended quality control that makes sure that such problems will be discovered before delivery.

### 3 Potential Unavailability of the Control Pilot Interface

#### 3.1 Description

It was found that a logic gate might suffer from an open input due to a missing resistor on its input. Open inputs on logic gates are forbidden by common design rules, since the behaviour of logic gates is general unpredictable/not defined for such cases.

This missing resistor (R281) is part of the Control Pilot control circuit. It is placed on the bottom side of the PCB, see following photo (where R281 is already populated).

Therefore, the Control Pilot interface, particularly the generation of the pulse-width modulation (PWM), might misbehave or does not function at all.

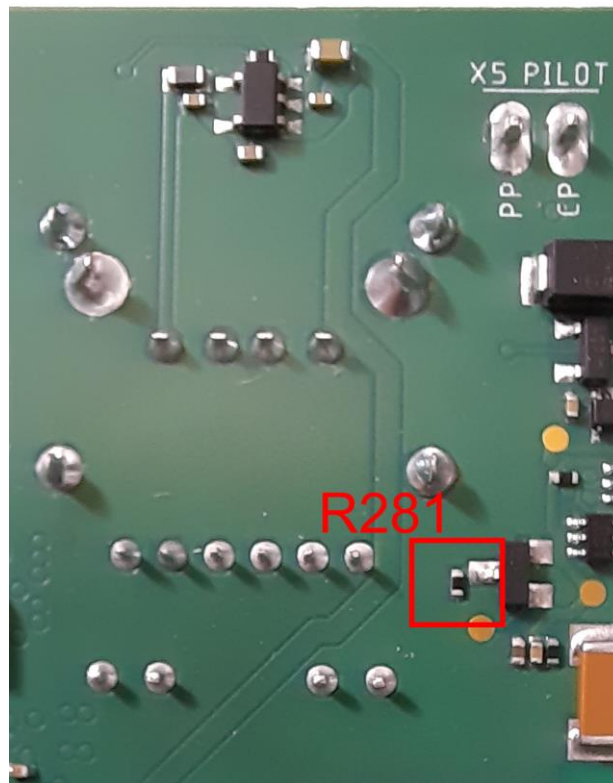


Figure 1 Placement of R281

### 3.2 Affected Devices

The resistor is missing in all hardware revisions up to (and including) V0R5e, but only the product variants Charge Control C 100 and Charge Control C 200 are affected.

The product variants Charge Control C 270 and Charge Control C 300 are *not* affected in any hardware revision.

Hardware Revision	Charge Control C 100	Charge Control C 200	Charge Control C 270	Charge Control C 300	Product Status
V0R3a and earlier	I2CCSC-xxx-100	I2CCSC-xxx-200	not manufactured	I2CCSC-xxx-300	EOL
V0R4	I2CCSC-xxx-101	I2CCSC-xxx-201	not manufactured	I2CCSC-xxx-301	EOL
V0R5	not manufactured	not manufactured	not manufactured	not manufactured	-
V0R5a	I2CCSC-xxx-102	I2CCSC-xxx-202	not manufactured	I2CCSC-xxx-302	EOL
V0R5b	not manufactured	not manufactured	not manufactured	not manufactured	-
V0R5c	I2CCSC-xxx-103	I2CCSC-xxx-203	not manufactured	I2CCSC-xxx-303	EOL scheduled
V0R5d	not manufactured	not manufactured	I2CCSC-xxx-274	not manufactured	EOL scheduled
V0R5e	not manufactured	I2CCSC-xxx-204	not manufactured	not manufactured	EOL scheduled
V0R5f	I2CCSC-xxx-105	I2CCSC-xxx-205	I2CCSC-xxx-275	I2CCSC-xxx-305	In Production

Table 1 Overview of Affected Hardware Revisions

affected
partly affected, see <a href="#">Fix Plan</a> for details
not affected

Table 2 Legend

### 3.3 Impact

The pulse-width modulation (PWM) on the Control Pilot interface is an essential and important part of each Electric Vehicle Supply Equipment (EVSE).

In worst case, this PWM does not function at all due to this missing resistor.

An attached Electric Vehicle is not able to detect the charging station without working PWM, thus in worst case, no charging is possible.

While internal end-of-line manufacturing tests proved that all shipped boards currently work as expected, corner cases might rise due to ageing of parts which then lead to unpredictable and/or erratic behaviour of Control Pilot interface, even final dysfunctionality might occur.

### 3.4 Workaround

No workaround exists, only fixing is possible by populating the missing resistor.

### **3.5 Fix Plan**

Affected products (see chart above) which are shipped after July 1st, 2021 are reworked to include the missing resistor.

Additionally, new product versions (V0R5e and following) are created and released to customers which include the missing part by design.

## 4 Contact

chargebyte GmbH

Bitterfelder Straße 1-5

04129 Leipzig

Germany

Website: <https://chargebyte.com>