

Printer Communication Controller with measured value memory

PCC 400-K



Installation Guide

only valid in combination with the user manual

PCC 400-Batching Master
or PCC 400 Pipeline Master

Version 1.4

IBS BatchControl GmbH
Im Sträßchen 2-4
53925 Kall
Germany



Tel.: +49 2441 9199801
Fax.: +49 2441 9199871
www.ibs-batchcontrol.com

Safety information

The personnel for installation, commissioning, diagnostics and maintenance must fulfil the following requirements:

- Trained, qualified specialists must have a relevant qualification for this specific function and task
- Are authorised by the plant owner/operator
- Are familiar with federal/national regulations
- Before beginning work, the specialist staff must have read and understood the instructions in the User Manual and supplementary documentation as well as in the certificates (depending on the application)
- Following instructions and basic conditions

The operating personnel must fulfil the following requirements:

- Being instructed and authorised according to the requirements of the task by the facility's owner-operator
- Following the instructions in these Installing Instructions

Validity of Installation Instructions

- These installation guide apply to all PCC 400-K only in conjunction with the corresponding user manual
PCC 400 Batching Master or
PCC 400 Pipeline Master.
- The software is described in a separate manual for Batching Master or Pipeline Master. Batching Master and Pipeline Master can not be operated simultaneously at one PCC 400.
- Your IBS agent will be able to give you information about any improvements or modifications.
- The manufacturer is not responsible for damage caused by incorrect or unauthorised use. Conversions and changes to the instrument must not be made, otherwise the certification and guarantee become invalid.

The PCC 400 should be operated on an uninterruptible power supply.

Do not turn off the PCC 400 by switching off the power supply.

Please switch

- by briefly pressing the off button on the PCC 400 or via the
- via the software.



Attention!

After briefly pressing the off key, the PCC 400 terminates all running programmes and switches off. Do not press the key for longer than 1 second, as the PCC 400 will then switch off without shutting down the operating system first. This can destroy important data and programmes on the hard disk.

All rights reserved. It is prohibited to reproduce this documentation, or any part thereof, without the prior written authorisation of IBS BatchControl GmbH.

Subject to change without notice.

Copyright 2022 by

IBS BatchControl GmbH • Im Sträßchen 2-4 • 53925 Kall (Germany)

Contents

1	System description.....	5
1.1	Password of the system administrator.....	5
2	Assembly and installation.....	6
2.1	View and enclosure dimensions.....	6
2.2	Protection level IP20.....	7
2.3	Temperature range and relative humidity.....	7
2.4	2.4 Weight.....	7
2.5	Installation instructions.....	7
2.6	Block diagram of custody transfer measuring systems.....	8
2.7	Monitor connection.....	9
2.8	Keyboard and Mouse connection.....	9
2.9	LAN connection.....	9
2.10	Power supply connection.....	9
2.11	Maintenance-free DC UPS.....	10
2.11.1	SITOP UPS500S.....	10
2.11.2	Bicker UPSI.....	10
2.12	Dongle for custody transfer seal.....	11
2.13	Serial Interfaces (COM).....	11
2.14	Connection for custody transfer approved printers.....	11
2.15	Connection to Batching Master/Pipeline Master.....	12
2.16	Connection of a supervisory system.....	12
2.17	ON/OFF-Tact-Switch.....	12
3	Certificate of Compliance.....	13

1 System description

The PCC 400 is a PC whose software starts automatically after power on. This is adapted to the batch controller Batching Master and is used to print and store metering data.

Other housings (e. g. mini-pc, standard housing, 19"...) and configurations are possible. This manual describes the -K variant.

Mixed operation of Batching Master and Pipeline Master at the same PCC 400 is not possible. For the exact software description please refer to the user manual PCC 400-x.

The measured values or metering data are stored internally and can be printed out, simultaneously saved in a CSV file, as a PDF file or optionally in an external database.

The PCC 400 operates as a 'Modbus RTU Master'. The Batching Master/ Pipeline Master are connected to the RS-485 interface of the PCC 400. Intrinsically safe Batching Master/Pipeline Master are additionally connected via the IPC 3x0 i for safe isolation.

The connection of mouse, keyboard and monitor are recommended.

The power is supplied by a VDC power supply.



Attention!

The PCC 400 should be operated on an uninterruptible power supply. Do not switch off the PCC 400 by switching off the power supply, but by briefly pressing the off button on the PCC 400 or via the software.

1.1 Password of the system administrator

The PCC 400 system administrator password is "IBSBatchControl" ex works. Please change this password. Open the terminal mode by pressing CTRL, Alt and T simultaneously and type *passwd [username]*.

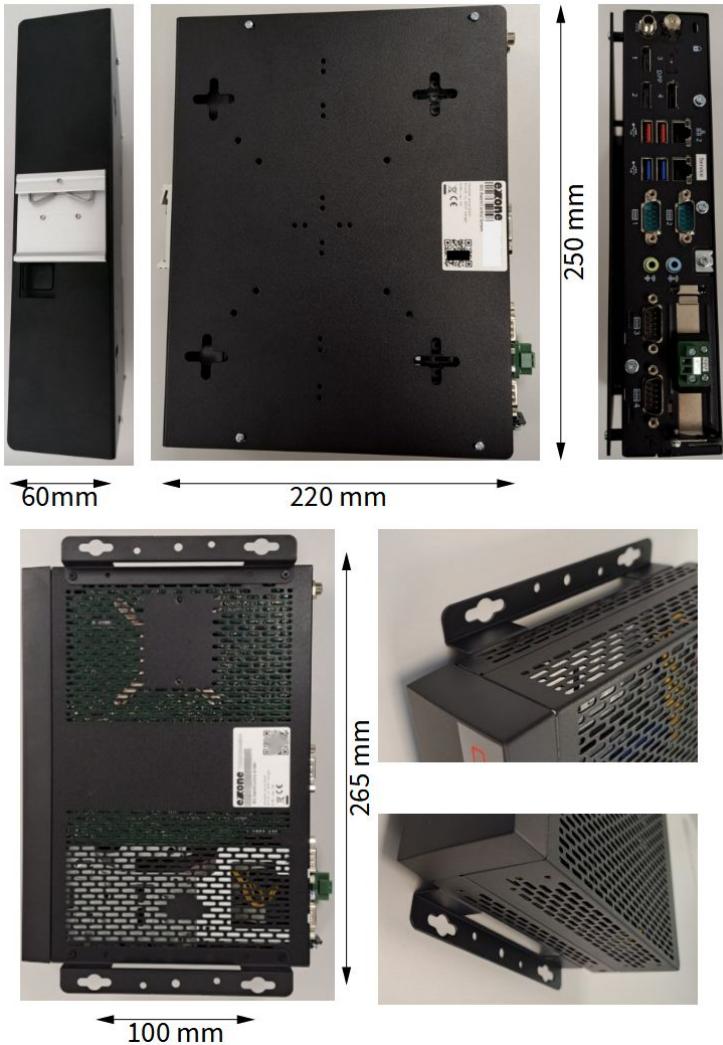
The username is "pcc" ex works and displayed on the right top. Therefore you enter "passwd pcc" in the terminal. Confirm this with the RETURN key. Please take the further petitions from the terminal window.

2 Assembly and installation

This chapter must be observed during assembly and installation.

2.1 View and enclosure dimensions

The PCC 400 is supplied in a housing with the approximate dimensions 250 mm x 60 mm x 220 mm.



As an option, the PCC is available for DIN rail mounting. The DIN rail mounting is centred and approx. 10 mm high. The screw head can be up to 9.5mm in diameter. The mounting slot is 4.8mm wide.

2.2 Protection level IP20

The PCC 400 corresponds to the IP20 protection rating.

2.3 Temperature range and relative humidity

The PCC 400 may be operated in the range of -20° to +60°C with SSD. The relative humidity may be between 10 and 90%.

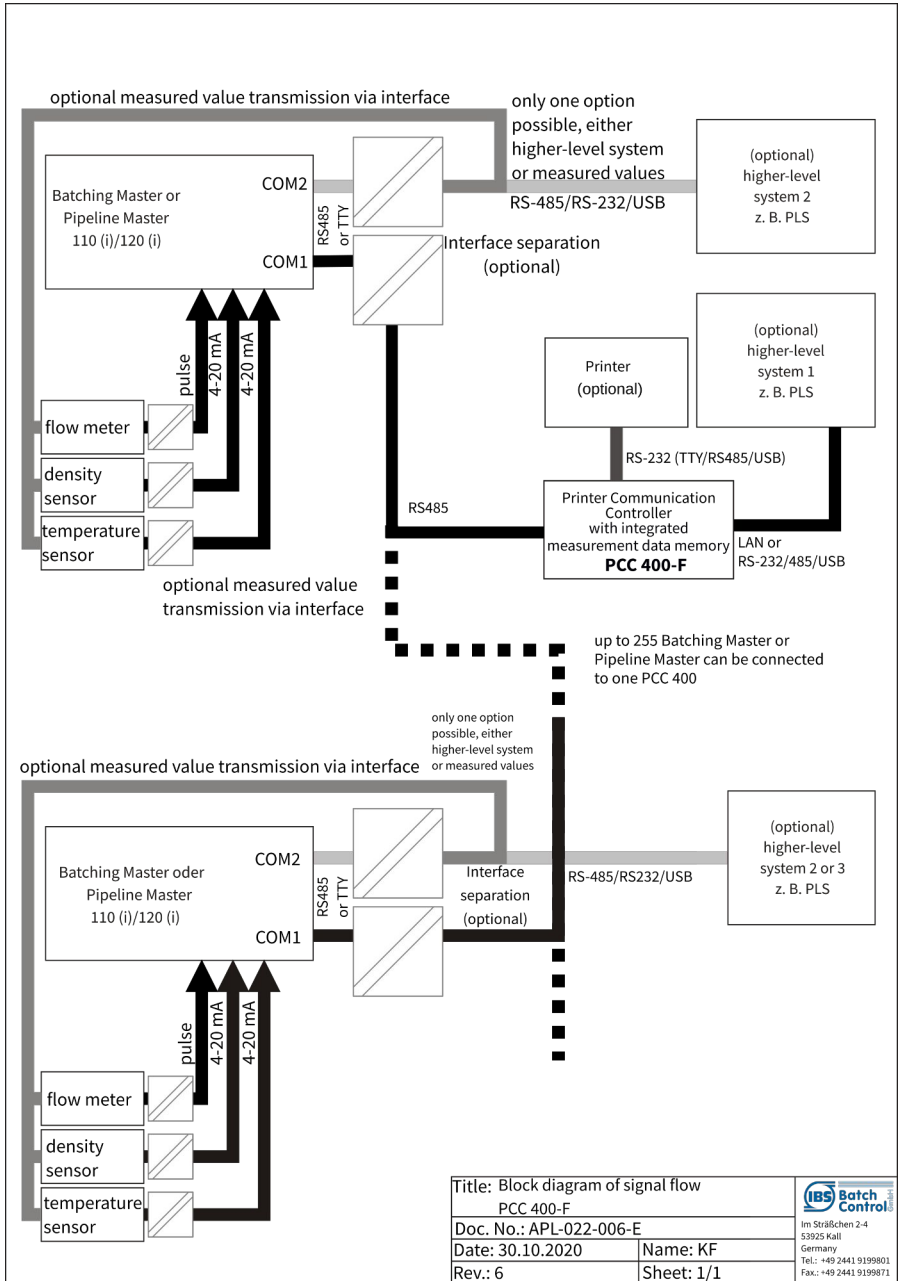
2.4 2.4 Weight

The PCC400-K weighs approx. 1.4kg, with DIN rail mounting bracket approx. 1.7kg.

2.5 Installation instructions

Use only shielded cables. The protection shield has to be connected extensive with a shield clamping bracket. The connector housings have to be firmly screwed to the PCC 400.

2.6 Block diagram of custody transfer measuring systems



2.7 Monitor connection



Connect the monitor with a minimum resolution of 1920 x 1080 pixel (minimum 1280 x 1024 pixel) to the Display Port 1 or 2.

2.8 Keyboard and Mouse connection



A standard keyboard and a mouse are connected to the USB ports.

2.9 LAN connection



LAN2 from the two available LAN connections is set to the fixed address 192.178.1.77. LAN2 could be used for a VNC-Viewer on an external PC. If, for example, a laptop is connected directly to the PCC, the laptop must also be assigned a fixed IP address.

LAN1 get the IP address from a DHCP server.

If other settings are required, these can be changed in the operating system.

2.10 Power supply connection



The PCC is operated with a voltage of 8 to 29VDC. Make sure that 29V is not exceeded, otherwise the system will be damaged.

A power supply unit with at least 48W is recommended. The power consumption during operation is usually around 15W. The motherboard is limited to a maximum of 30W.

Please ensure that the supply is not switched off before the PCC 400 has shut down. We recommend operation with the optionally available uninterruptible power supply.

2.11 Maintenance-free DC UPS

The optional uninterruptible power supply is mounted on a top hat rail. It has been adjusted by us to the values required for the PCC 400. As the capacitors of the uninterruptible power supply must be safely charged, it may take a few seconds before the PCC is automatically switched on. The PCC software detects the status of the supply voltage via the USB interface. If this fails, the PCC 400 is immediately shut down safely. The UPS500S stores enough power to safely shut down the PCC.



Before switching on the uninterruptible power supply, make sure that the USB port is plugged into any of the PCC's USB slots.

2.11.1 SITOP UPS500S

The Siemens SITOP UPS500S is connected to the PCC as follows:

Terminal	Description	
X1.1	Power Supply +	24V DC (22-29V)
X1.2	Power Supply -	0V
X1.3	Supply Output +	Power Supply PCC V+
X1.5		Internally connected to terminal X1.3
X1.4	Supply Output -	VPower Supply PCC V-
X1.6		Internally connected to terminal X1.4
X3	USB cable to any USB port on the PCC	

2.11.2 Bicker UPSI

This UPS only shuts down the PCC after 10 seconds of power failure and the power is always switched off after 40 s and switched on again as soon as the power is available again.

The Bicker UPSI-2406DP2 is connected to the PCC as follows:

Klemme	Beschreibung	
Vin+	Supply voltage +	24V DC (22-29V)
Vin-	Supply voltage -	0V
Vout+	Voltage output +	Supply voltage PCC V+
Vout-	Voltage output -	Supply voltage PCC V-
USB	USB cable to any USB port of the PCC	

2.12 Dongle for custody transfer seal

After configuring, the dongle is plugged into the interface COM2. When the dongle is plugged the custody transfer relevant settings are fixed and can not be changed. The calibration officials seals the dongle by a seal against pull out.



2.13 Serial Interfaces (COM)

There are four serial interfaces (COM1 to COM4). The printer (default setting COM3) and the Batching Master or Pipeline Master (default setting COM1) are connected here.



Optionally, the printer and Batching Master (Pipeline Master) can also be connected via USB or LAN.

The dongle is plugged into the COM 2 interface.

For connection to the Batching/Pipeline Master, we supply an RS232/RS485 adapter.

2.14 Connection for custody transfer approved printers

The printer is connected to COM3, a USB interface or via LAN (TCP/IP). Use a cable with a maximum length of 5 m for RS-232 or USB. If the printer is equipped with a TTY or RS-422 interface, the cable length may be 1000 m. A converter from RS-232 to TTY or RS-422 is then required.

The 5 m RS-232 printer cable is included in the delivery.

The printer connected to the COM3 requires the following settings:

Serial Data:	8 bit
Protocol:	Ready/Busy
Parity check:	YES
Parity selection:	EVEN
DSR Signal:	VALID
DTR Signal:	Ready On Power Up
Baud rate:	9600 BPS (Grundeinstellung)

2.15 Connection to Batching Master/Pipeline Master

The Batching Master/Pipeline Master are connected to COM1 (optionally COM4 or to a USB interface). The assignment is described in section 2.13.

If the intrinsically safe devices Batching Master/Pipeline Master 110i or 210i are used, separation cards of the type IPC 3x0 i are additionally required. This is not included in the scope of delivery of the PCC 400.

2.16 Connection of a supervisory system

A supervisory system can be connected directly to the second interface of the Batching Master/Pipeline Master. For some applications (e. g. database connection), the LAN interface of the PCC 400 may be used.

The supervisory system can also be connected to a free serial port (default COM4). Then the data are forwarded from the PCC 400 to the Batching Master by the Modbus Slave Function.

Connection a supervisory system is an option and must be coordinated with the sales representative.

2.17 ON/OFF-Tact-Switch

The PCC 400 is switched on with the button located next to the top-hat rail mounting. The PCC 400 is set at the factory to start automatically as soon as power is applied and does not need to be switched on. Do not switch on the PCC until all connections have been plugged in and screwed tight.

The PCC 400 can be switched off by pressing for a **short** time.

Be sure to switch off the PCC 400 via the user interface and wait until it has shut down before disconnecting it from the power supply. Disconnecting the supply without first switching it off can destroy the system.

Pressing the ON/OFF key for more than 1 s will immediately switch off the PCC. The system will not shut down properly. It may be destroyed.



3 Certificate of Compliance



Declaration of Conformity

Product Type Industrial Computer
Brand Name exone
Product Name Calmo (may followed by suffixes)
Address exone GmbH
 Brühlstraße 22
 89537 Giengen
 Germany

The product complies with the requirements of the following European directives:

- 2014/30/EU** Directive of the European Parliament and of the Council on the approximation of the laws of the Member States relating to electromagnetic compatibility.
 Compliance was proved by the application of the following standards:
EN 55032 : 2015
EN 55035 : 2017
EN 61000 -3 -2 : 2014
EN 61000 -3 -3 : 2013
- 2014/35/EU** Directive of the European Parliament and of the Council on the harmonization of the law of Member States relating to electrical equipment designed for use within certain voltage limits.
 Compliance was proved by the application of the following standards:
EN 62368-1 :2014
EN 62368-1 :2014 +AC : 2015
EN 62479 : 2010
- 2009/125/EC** Directive of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-related products.
 Compliance was proved by the application of the following standards:
EN 62623: 2013
EU No 617 / 2013
- 2011/65/EU** Directive of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
 Compliance was proved by the application of the following standards:
EN 61000: 2018

Ralf Herrmann
 CTO

Giengen, January, 2021

exone
 IT für Unternehmen
 www.exone.de

Anschrift
 exone GmbH
 Brühlstraße 22
 89537 Giengen-Sachsenhausen

Geschäftsführer
 Heinz & Wolfgang Felber
 Amtsgericht Ulm, HRB 729458
 USt-Id. DE 290 658 898

Bankverbindung
 Heidenheimer Volksbank eG
 SwiftCode (BIC) GENODE331HDH
 EURO Konto: IBAN DE46652901100388040009
 USD Konto: IBAN DE02632901100388040025

Kontakt
 Tel. 07322 / 110 40 - 0
 info@exone.de