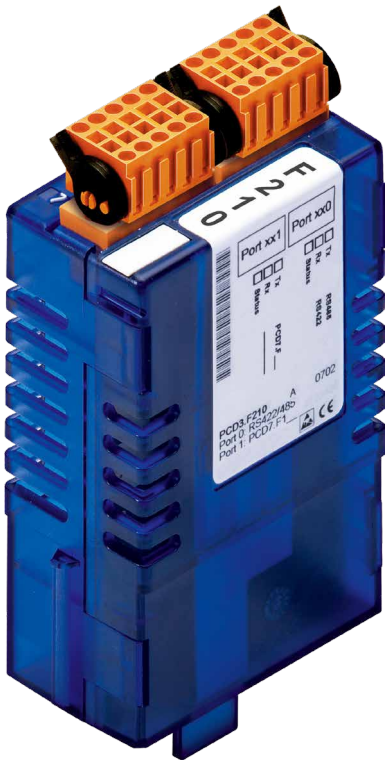
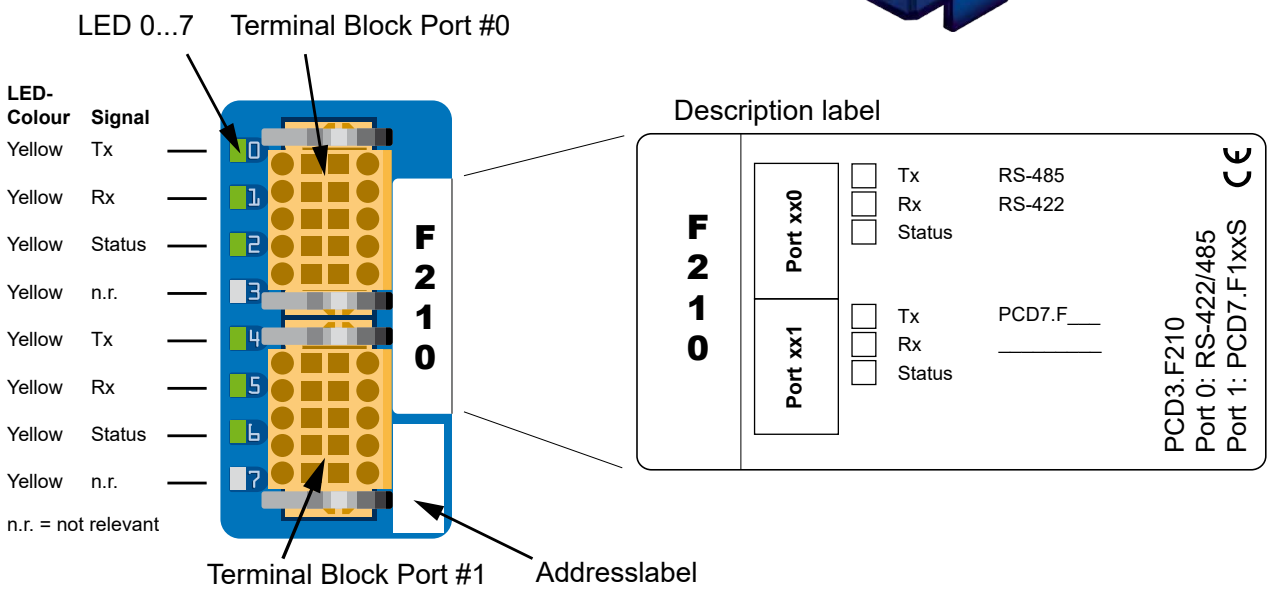
PCD3.F210

Serial interface module with 1× RS-422 / RS-485 and 1 socket for PCD7.F1xxS module

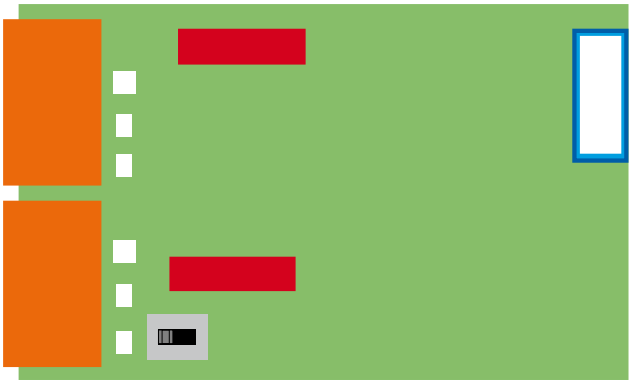
PCD3 modules of type PCD3.F210 with an integrated, non-replaceable RS-422/RS-485 interface and an additional, freely configurable interface by adding an interface module PCD7.F1xxS.
PCD3 modules of type PCD3.F210 can be used on each slot "#0…3" of a PCD3 CPU and a PCD3 smart Rios.



LEDs and connection terminals

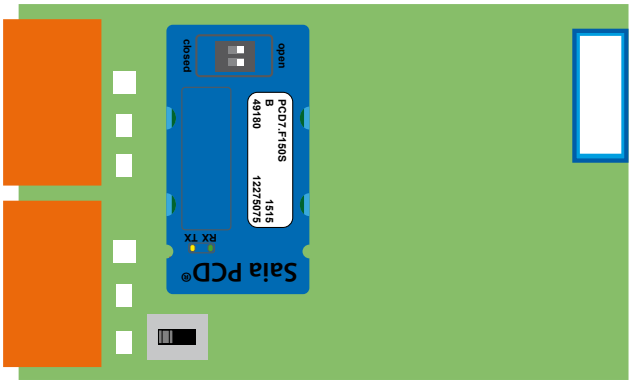


Position of the slide switch



OFF ON
Bus termination resistors port #0

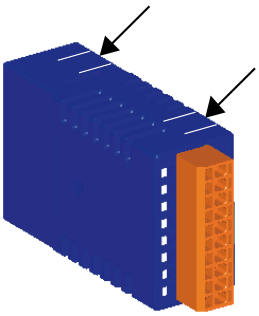
Position of the optional PCD7.F1xxS



On this circuit board there are components that are sensitive to electrostatic discharges.
Recommendation: Before coming into contact with electrical components, you should at least touch the Minus of the system (cabinet of PGU connector). It is better to use a grounding wrist strap with its cable permanently attached to the Minus of the system.

Open the module housing

Open



On each of the two narrow sides of the housing are two snap-in clips. Lift these gently with your fingernails on one side then the other and separate the two parts of the housing.

Close

To close the housing, lay the bottom part on a flat surface (table etc.). Ensure that the circuit board is precisely located in this part of the housing. Press top part onto bottom until you hear the snap-in clips engage. Ensure that all four clips are correctly engaged.

LEDs and their function

LED TxD x.0

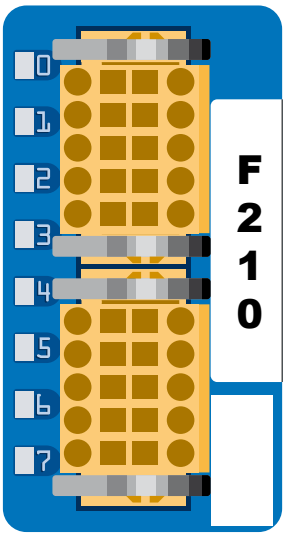
LED RxD x.0

LED Status x.0

LED TxD x.1

LED RxD x.1

LED Status x.1



LED TxD: Transmit data
LED RxD: Receive data
LED Status: The state of the LED shows the state of the serial port:

LED state	State of the serial port
constantly red	PCD3.F2xx does not work
green 25 % / red 75 %	PCD3.F2xx starts
green 50 % / red 50 %	PCD3.F2xx OK but no communication to PCD3
green 75 % / red 25 %	PCD3.F2xx OK - channel closed
green 90 % / red 10 %	PCD3.F2xx OK - channel open with error
green 100 %	PCD3.F2xx OK. - channel OK The port is working properly

Onboard interface RS-485/422

Connections port x.0	Important
RS-485 0 PGND Rx-Tx 1 2 /Rx-/Tx 3 4 PGND 5 6 7 8 (SGD) 9	Galvanically Connected RS-485 interface. Switch Position: 'O' for OPEN (without line termination) 'C' for CLOSED (with line terminator)
RS-422 0 PGND Tx 1 2 /Tx Rx 3 4 /Rx PGND 5 6 RTS /RTS 7 8 CTS /CTS 9	Galvanically Connected RS-422 interface. Switch position: Always on 'O' for OPEN (without line termination) For the RS-422 interfaces, only the cable ends are terminated: Rx/Rx and CTS/CTS are always terminated

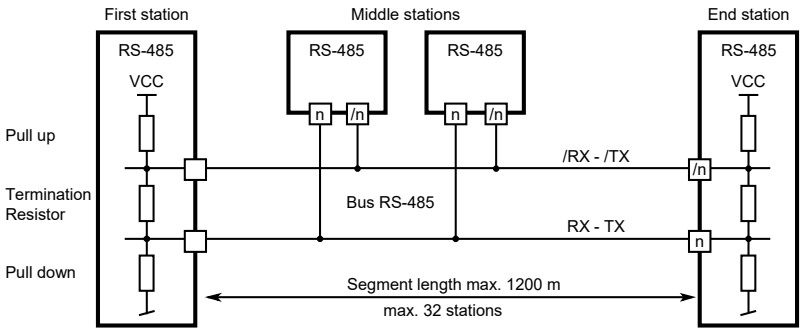
Optional interfaces

Connections port x.1	Important
RS-232 0 PGND TxD 1 2 RxD RTS 3 4 CTS PGND 5 6 DTR DSR 7 8 COM DCD 9	Module: PCD7. F121S - galvanically connected - Up to 115 kbit/s - suitable for modem connection
RS-422 0 PGND Tx 1 2 /Tx Rx 3 4 /Rx PGND 5 6 RTS /RTS 7 8 CTS /CTS 9	Module: PCD7. F110S - galvanically connected Switch position: Always on 'O' for OPEN (without line termination) For the RS-422 interfaces, only the cable ends are terminated: Rx/Rx and CTS/CTS are always terminated
RS-485 0 PGND Rx-Tx 1 2 /Rx-/Tx 3 4 PGND 5 6 7 8 SNGD 9	Module: PCD7.F110S - galvanically connected Modul: PCD7.F150S - with galvanic isolation
TTY (CL) 0 PGND TS 1 2 RS TA 3 4 RA PGND 5 6 TC RC 7 8 TG RG 9	Module: PCD7.F130 - current loop ! is no longer produced!
Belimo MP-Bus 0 PGND MP 1 2 ‚MFT' ‚IN' 3 4 PGND 5 6 7 8 9	Module: PCD7.F180S - Belimo MP-Bus interface module - maximum 8 drives and sensors connectable

Termination of a RS-485 bus segment

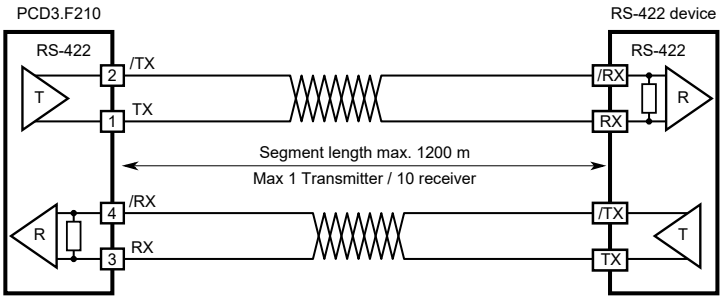
If the PCD3.F210 is used as an intermediate station, the termination must be open (O).

If the PCD3.F210 is used as the first or end station, the termination must be closed (C).

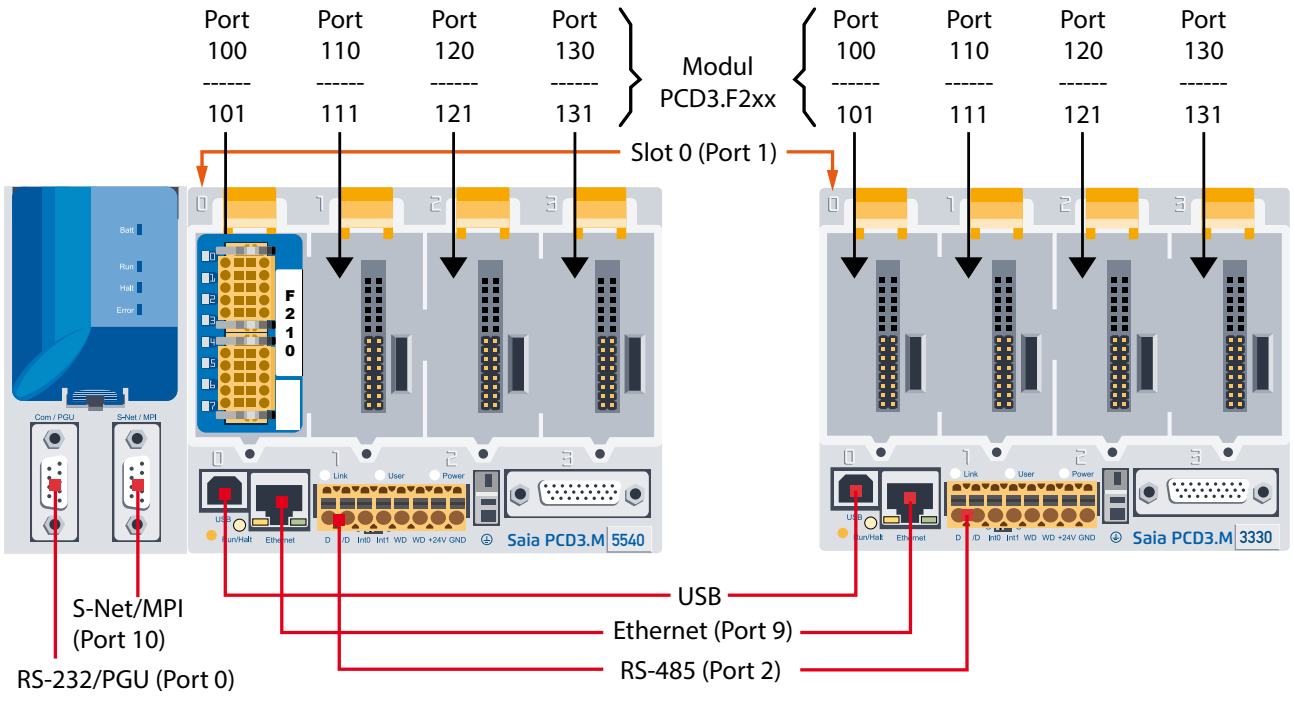


Termination of a RS-422 segment

RS-422 connections are only completed on the receiver side. The terminating resistor is already hard-wired on the modules PCD3.F210 and PCD7.F110S. It does not have to be switched on/off. However, the failsafe termination affects the connections Tx/Tx and must be set to "O" OPEN.



Port assignments slot #0... #3



Block diagram

Supported communication modes of the OnBoard interface RS-485/422

MC0 Character mode, no automatic handshake
MC1 Character mode with RTS/CTS handshake
MC2 Character mode with Xon/Xoff protocol
MC4 Character mode for RS-485 interface
MC5 As MC4 with rapid switching between sending and receiving

SM1 S-Bus master, parity mode
SM2 S-Bus master, data mode

SS1 S-Bus slave, parity mode
SS2 S-Bus slave, data mode

GS1 S-Bus gateway slave, parity mode
GS2 S-Bus gateway slave, data mode

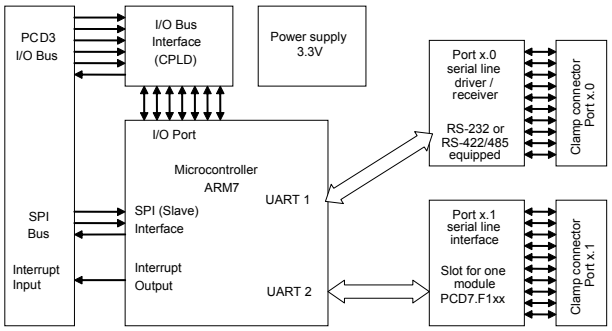
GM S-Bus gateway master

▶ Gateway always via the PCD3.

Baud rates supported (bits/sec) of the OnBoard interface RS-485/422

1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200

Block diagram



To guarantee error-free operation of an RS-485 network, the network should be terminated at both ends. Cable and line termination resistors should be selected in accordance with manual 26-740 ENG "Installation components for RS-485 networks".

The potential difference between PGND and the data lines Rx-Tx, /Rx-/Tx (and SGND) is limited to 50 V by a suppressor capacitor.

Not all manufacturers use the same connection configuration, so the data lines may need to be crossed

For installation details, see manual 26-740 ENG "Installation components for RS-485 networks"

Ordering information

Type	Short description	Description	Weight
PCD3.F210	Serial interface module with 1× RS-422 / RS-485 and 1 socket for PCD7.F1xxS module	Serial interface module with 1× RS-422 / RS-485 and 1 socket for PCD7.F1xxS module (2 connectors type K included)	110 g

Accessories

Type	Short description	Description	Weight
4 405 5048 0	Plug-in, type K	Plug-in spring terminal block, 2×5-pole up to 1.0 mm² (orange block), labelled 0 to 9, connector type "K"	15 g

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