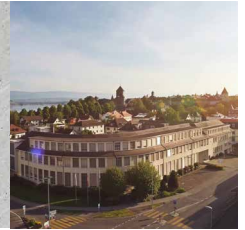# PCD3.F150

Serial interface module RS-485 with galvanic isolation

RS-485, electrically isolated, with line termination resistors capable of activation, for I/O module Slot 0. To change the jumper (activate line termination resistors), the module housing has to be opened, as described on page 2 "Open the module housing", to reach the PCD7.F150S circuit board.
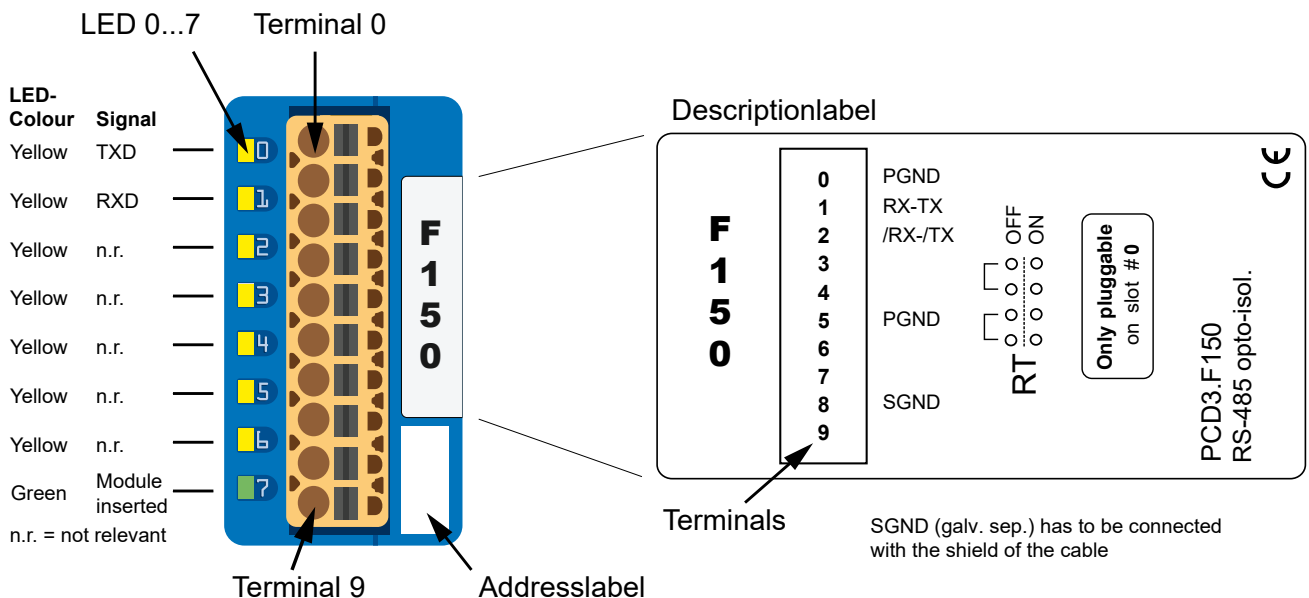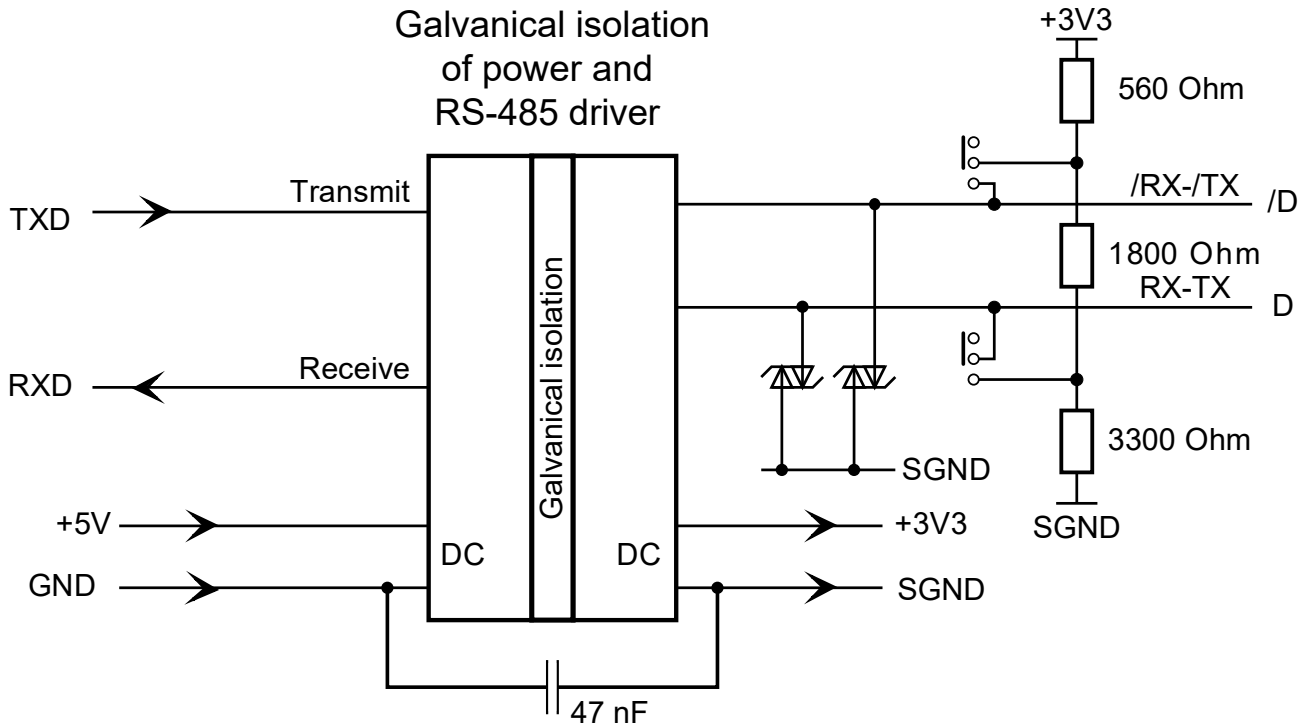
PCD3.F150

Pin numbering

Pin	Name	Description
0	PGND	Ground (PCD Controller)
1	Rx-Tx	Signal RS-485
2	/Rx-/Tx	Signal RS-485
3	reserved	Don't use this pin
4	reserved	Don't use this pin
5	PGND	Ground (PCD Controller)
6	n.c.	No connected
7	n.c.	No connected
8	SGND	Signal ground (RS-485)
9	n.c.	No connected

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

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

LEDs and connection terminals

LED 0...7   Terminal 0

LED-Colour	Signal	
Yellow	TXD	0
Yellow	RXD	1
Yellow	n.r.	2
Yellow	n.r.	3
Yellow	n.r.	4
Yellow	n.r.	5
Yellow	n.r.	6
Green	Module inserted	7

n.r. = not relevant

F150

Terminal 9   Addresslabel

Descriptionlabel

F150		
0	PGND	
1	RX-TX	
2	/RX-/TX	
3		
4		
5	PGND	
6		
7		
8		
9	SGND	

RT   OFF / ON

Only pluggable on slot #0

PCD3.F150 RS-485 opto-isol.

Terminals

SGND (galv. sep.) has to be connected with the shield of the cable

Block diagram

Galvanical isolation
of power and
RS-485 driver

+3V3

560 Ohm

TXD → Transmit

/RX-/TX /D

1800 Ohm
RX-TX

RXD ← Receive

D

3300 Ohm

SGND

SGND

+5V →

+3V3

GND →

SGND

DC   DC
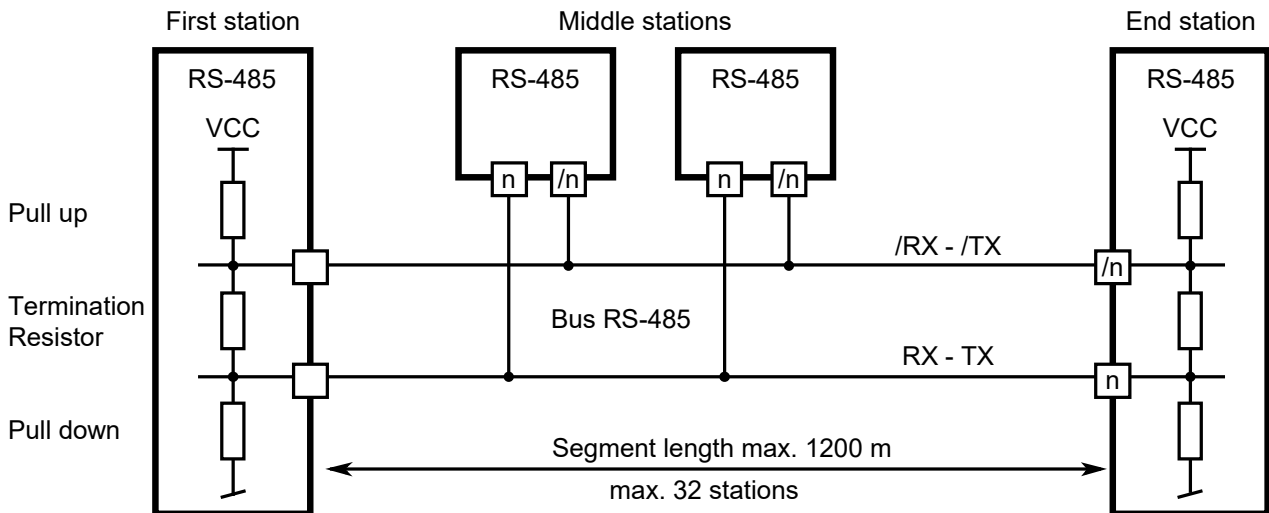
Galvanical isolation

47 nF

SGND

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

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".
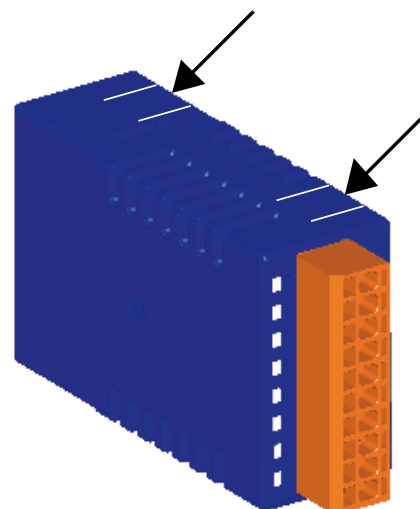
Termination of a RS-485 bus segment

First station

Middle stations

End station

RS-485   RS-485   RS-485   RS-485

VCC

VCC

Pull up

n /n   n /n

/RX - /TX /n

Termination
Resistor

Bus RS-485

RX - TX n

Pull down

Segment length max. 1200 m
max. 32 stations

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.
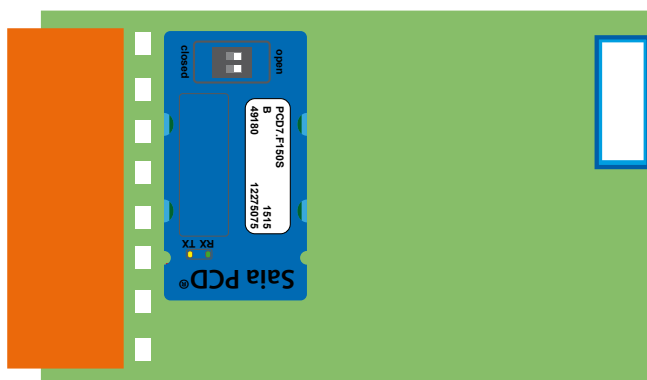
Close

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.
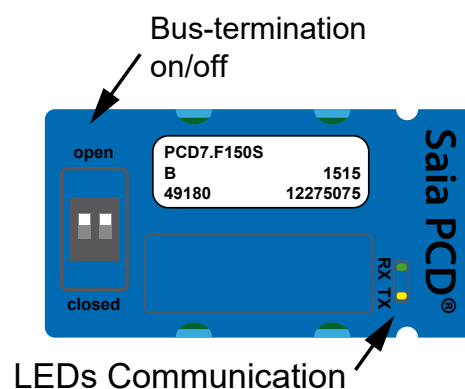
On this circuit board there are components that are sensitive to electrostatic discharges.

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.

Position of the PCD7.F150S

Position of the slide switch

Bus-termination on/off

LEDs Communication

!	Only one PCD3.F1xx module can be used per Saia PCD$^{\circledR}$ system on slot 0 of the CPU.
i	Details of the PCD3.F150 can be found in the manual 26-857 ENG "Serial interface modules PCD3.F1xx and PCD3.F2xx. Details on the PCD7.F150S can be found in the manual 27-664 ENG "Serial interface modules PCD7.F1xxx".

ATTENTION

These devices must only be installed by a professional electrician,
otherwise there is the risk of fire or the risk of an electric shock.

WARNING

Product is not intended to be used in safety critical applications,
using it in safety critical applications is unsafe.

WARNING - Safety

The unit is not suitable for the explosion-proof areas and the areas of use excluded in EN 61010 Part 1.

WARNING - Safety

Check compliance with nominal voltage before commissioning the device (see type label).
Check that connection cables are free from damage and that, when wiring up the device, they are not connected to voltage.
Do not use a damaged device!

NOTE

In order to avoid moisture in the device due to condensate build-up, acclimatise the device at room temperature for about half an hour before connecting.

CLEANING

The device can be cleaned in dead state with a dry cloth or cloth soaked in soap solution.
Do not use caustic or solvent-containing substances for cleaning.

MAINTENANCE

These devices are maintenance-free. If damaged, no repairs should be undertaken by the user.

GUARANTEE

Opening the module invalidates the guarantee.

Observe this instructions (data sheet) and keep them in a safe place.
Pass on the instructions (data sheet) to any future user.

WEEE Directive 2012/19/EC Waste Electrical and Electronic Equipment directive
The product should not be disposed of with other household waste. Check for the nearest authorized collection centers or authorized recyclers. The correct disposal of end-of-life equipment will help prevent potential negative consequences for the environment and human health.

EAC Mark of Conformity for Machinery Exports to Russia, Kazakhstan or Belarus.

PCD3.F150

4 405 4954 0

Order details

Type	Short description	Description	Weight
PCD3.F150	Serial interface module RS-485 with galvanic isolation	Serial interface module RS-485 with galvanic isolation (connector type A included)	100 g

Order details accessories

Type	Short description	Description	Weight
4 405 4954 0	Plug-in, type A	Plug-in I/O spring terminal block type A, 10-pole up to 2.5 mm², labelled 0 to 9	15 g

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