

TX-I/O™; Desigo™ Open

## TX Open RS232/485 module TXI1.OPEN

for integrating third-party systems and devices to Desigo (V4 or higher)

- Platform to integrate third-party systems and devices to the Desigo building automation and control system (Version 4 or higher)
- Suitable for operation using pre-defined applications from Siemens or using in-house developed applications
- USB interface for connecting the TX Open Tool
- Compact design per DIN 43 880
- Easy installation and setup
  - Plug-in screw terminals
  - Power from Island bus (DC 24 V)
- Simple, fast diagnostics

## Function

---

The TX Open RS232/485 module integrates third-party systems via RS232 or RS485 interface to the Desigo building automation and control system. The required applications are loaded onto the module via the USB interface.

Siemens offers finished applications for the following systems:

- Modbus (Engineering guide CM110571)
- M-bus (Engineering guide CM110572)
- SED2 (Engineering guide CM110573)
- Grundfos (**V4.1 and later**, Engineering guide CM110574)
- Danfoss (**V4.1 and later**, see Modbus Engineering guide CM110571)
- WILO (**V4.1 and later**, see Modbus Engineering guide CM110571)

Easy commissioning with predefined solutions:

- Solutions for SED2, Grundfos, WILO and Danfoss are delivered with the library (CAS library from HQ).
- For the M-Bus and Modbus protocols, sample solutions are provided in the CAS library, which can be used as templates for device descriptions (IO Open Templates).

You may also develop your own applications using Microsoft® eMbedded Visual C++ 4.0, see Developer's guideline for the TXI1.OPEN, CM110570.

The TX Open RS232/485 module is powered directly with DC 24 V from the island bus.

A webpage that may be viewed in the web browser via the USB interface, displays the interface configuration and values from the third-party system / device.

The TX Open Tool supports the download of firmware and applications as well as the configuration data.

## Type summary

---

Product No.	Stock number	Designation
TXI1.OPEN	S55661-J100	TX Open RS232/485 module

## Accessories

Configuration software TX Open Tool  
(Please contact your regional company for orders)

## Ordering

---

When ordering, please specify the quantity, designation, product number and stock number.

*Example:*

**10 TX Open RS232/485 modulee TXI1.OPEN, S55661-J100**

## Equipment combinations

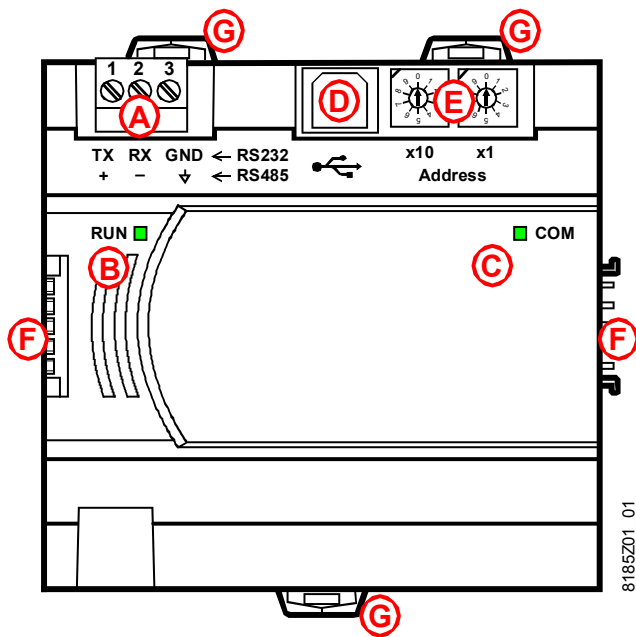
---

The TX Open RS232/485 module is suitable for using an island-bus capable automation station, i.e. in plants with version 4 or higher.

Note: Version 2.37

*For plants with versions up to 2.37, only I/O Open modules from the PT-I/O range are suitable..*

Overview



Key

A Plug-in screw terminal for RS232 and RS485 (Changeover via software)

Terminal	RS232	RS485
1	TX	+
2	RX	-
3	GND	↓

(Potential equalization)

B LED "RUN" Power OK

C LED "COM" Communication (RS)

D USB connection for TX Open Tool

E Rotary switches to set module address

F Bus connector

G Attachment slider for standard rails

Mechanical properties

Housing

- The housing complies with DIN 43880 and is 96 mm wide.
- During mounting, ensure sufficient convection (max. ambient temperature 50°C).

Electrical properties

Power

- The TX Open RS232/485 module is powered directly with DC 24 V from the island bus. No separate power required.

Interfaces

- Plug-in screw terminal for serial interfaces RS232 and RS485
- USB plug type B for connecting the TX Open Tool

Island bus

- The TX Open RS232/485 module has contacts on the left and right side of the housing for the island bus. The module is plugged in between existing modules or attached at the end of a I/O row.

System ground

- The serial interfaces RS232 / RS485 are electrically isolated from the island bus side. The connected third-party system may be earthed.

Protection against incorrect wiring

- All terminals are protected against short circuit and incorrect wiring using AC/DC 24 V.
- **Side bus connector: No protection**
- **Voltage higher than AC / DC 24 V: No protection**



## Interfaces

- |                |   |
|----------------|---|
| General        | <ul style="list-style-type: none"><li>Serial interfaces are electrically isolated</li><li>The serial interfaces use the same connection terminals.<br/>You can use either RS232 or RS485 (Changeover via software).</li></ul> |
| RS232          | <ul style="list-style-type: none"><li>The interface supports baud rates from 300 to 115200 Baud.</li><li>The signals RXD and TXD are available, but without handshake signals.</li></ul>                                      |
| RS485          | <ul style="list-style-type: none"><li>The interface supports baud rates from 300 to 115200 Baud.</li></ul>  |
| Bus terminator | <ul style="list-style-type: none"><li>You can switch up a bus termination via software in the I/O Open module (1nF, 120 Ohm in series).</li></ul>   |

## Signaling

- |             |  |
|-------------|--|
| RUN (green) | LED displays power is available and sufficient.  |
| COM (green) | This LED displays communications on the RS side. |

## Address switch

The module address is switched using the two rotary switches.  
The factory setting is 00 (the TX Open RS232/485 module is inactive).  
Corresponds to a open address key in an I/O module.

## Related documents

Document	Number
[1] TX Open developer's guideline	CM110570
[2] TX Open Modbus engineering TX Open Danfoss Engineering TX Open Wilo Engineering	CM110571
[3] TX Open M-bus engineering	CM110572
[4] TX Open SED2 engineering	CM110573
[5] TX Open Grundfos engineering	CM110574
[6] TX Open G120P Engineering	CM110576
[7] TX Open Tool online help	--
[8] TX-I/O™ module, data sheets	CM1N817...
[9] TX-I/O™ Planning and installation manual	CM110562

## Disposal



- The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.
- Dispose of the device through channels provided for this purpose.
  - Comply with all local and currently applicable laws and regulations.

## Mounting

---

<b>Fixings</b>	The device is mounted on a standard rail 35 x 7.5 mm (tophat rails TH35-7.5 per EN60715)
<b>Order</b>	The device can be plugged into any position on the I/O row.
<b>Exchange</b>	One TX Open RS232/485 module may be removed from the row of modules. Please note, however, that the island bus and power is interrupted for all subsequent modules.
<b>Permissible mounting positions</b>	TX-I/O™ devices can be mounted in any position: You must ensure, however, that sufficient ventilation is available to maintain the permissible ambient temperature (max. 50°C).

## Technical data

---

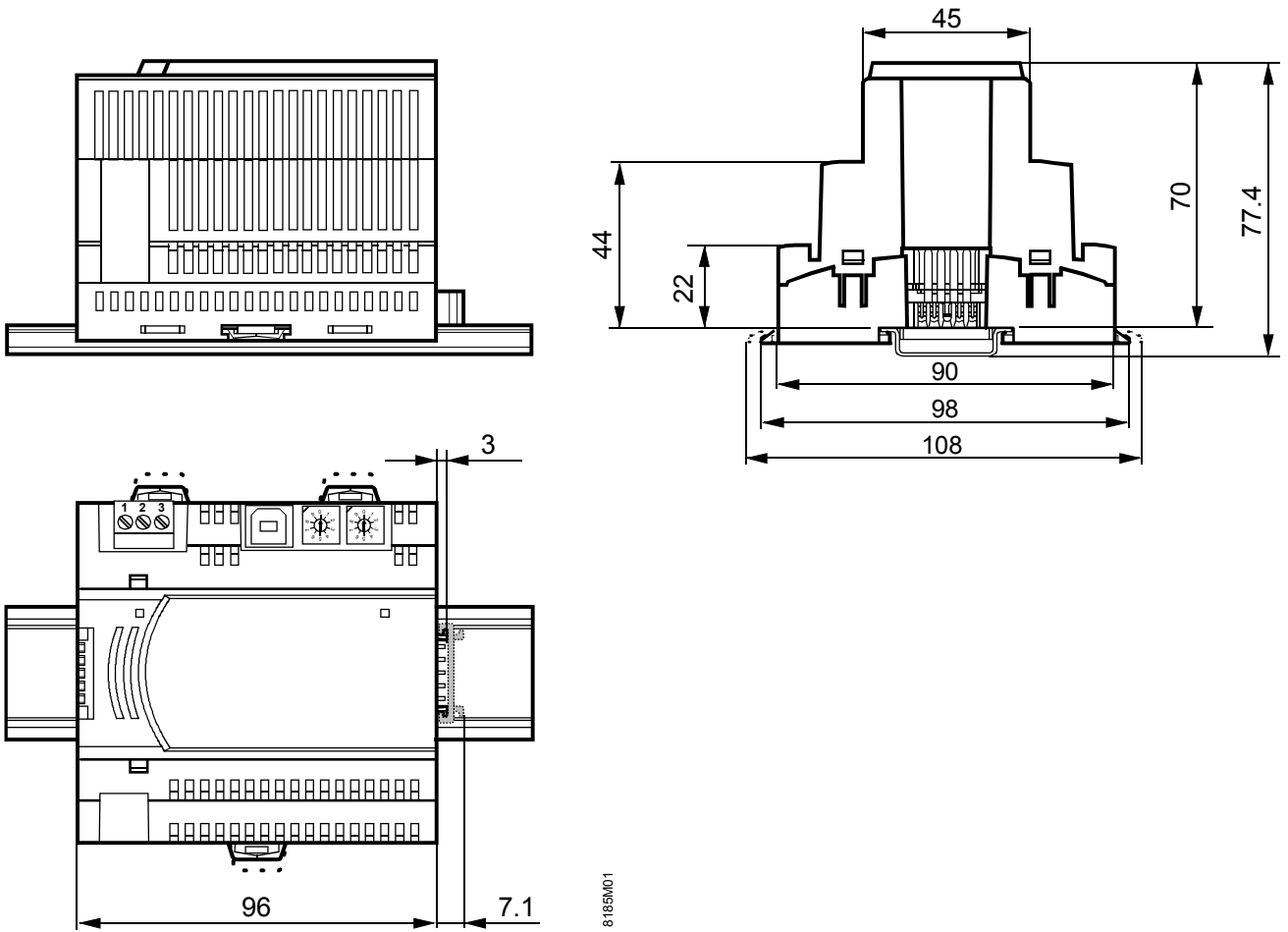
Operating voltage	Power from the island bus. No separate power required.	DC 24 V (SELV) oder DC 24 V class 2 (US)
Power consumption		55 mA / 1.32 W
Protection against short-circuit and incorrect wiring	Side bus connector Serial interfaces	No protection! • Protection against surges to AC/DC 24 V and short circuits • Electronic isolation from island bus GND
RS232/485 interface	You can switch up a bus termination via software in the I/O Open module (1nF, 120 Ohm in series)	
USB interface	<ul style="list-style-type: none"><li>• Plug</li><li>• Data rate (USB 1.0 full speed)</li><li>• Electronic isolation from island bus GND</li><li>• Protective switch against surges and over current</li></ul>	Type B (USB device) 12 MBit/s No Yes
Connection terminals, plug-in	Mechanical design Copper wire or copper stranded wires with ferrules  Copper stranded wires without ferrules Screwdriver  Maximum stud torque	Plug-in screw terminal 1 x 0.6 mmØ to 2.5mm <sup>2</sup> or 2 x 0.6 mmØ to 1,0 mm <sup>2</sup> 1 x 0.6 mmØ to 2.5 mm <sup>2</sup> or 2 x 0.6 mmØ to 1,5 mm <sup>2</sup> Flat screwdriver size 1 with <i>shaft</i> Ø ≤ 4.5 mm 0.6 Nm

Classification per EN 60730	Function of automatic control devices Degree of pollution Mechanical design	Type 1  2 Protection class III
Housing type	IP class per EN 60529 Front parts in DIN excerpt terminal part	IP30 IP20
Ambient conditions	Operation Climatic conditions Temperature Humidity Mechanical conditions Transport Climatic conditions Temperature Humidity Mechanical conditions	As per IEC 60721-3-3 Class 3K5 -5 ... 50 °C 5 ... 95 % r.F Class 3M2 As per IEC 60721-3-2 Class 2K3 -25...70 °C 5 ... 95 % r.F Class 2M2
Standards, directives and approvals	Product standard      EN 60730-1  Electromagnetic compatibility (Applications)  EU conformity (CE) UL certification (US) RCM-conformity (EMC) EAC conformity	Automatic electrical controls for household and similar use For use in residential, commerce, light-industrial and industrial environments CM1T10870xx *) UL 916 <a href="http://ul.com/database">http://ul.com/database</a> CM2T8185en_C1 *) Eurasia conformity
Environmental compatibility	Product environmental declaration (contains data on RoHS compliance, materials composition, packaging, environmental benefit, disposal)	CM2E8185 *)
Color	Housing	Light gray, RAL 7035
Dimensions	Housing as per DIN 43 880, see dimensions	
Weight	With / without packaging	130g / 168g

\*) The documents can be downloaded from <http://siemens.com/bt/download>.

## Dimensions

Dimensions in mm



Published by:  
Siemens Switzerland Ltd.  
Building Technologies Division  
International Headquarters  
Gubelstrasse 22  
6301 Zug  
Switzerland  
Tel. +41 41-724 24 24  
[www.siemens.com/buildingtechnologies](http://www.siemens.com/buildingtechnologies)

© Siemens Switzerland Ltd 2009  
Delivery and technical specifications subject to change