

TX-I/O™; Desigo™ Open

TX Open RS232/485 modules (TXI2.OPEN, TXI2-S.OPEN)

To integrate third-party systems and devices in Desigo (V4.1 or higher)



- Platform to integrate third-party systems and device to the Desigo building automation and control system Desigo (Version 4 or higher)
- Suitable for operation using predefined applications from Siemens or using in-house developed applications
- TXI2.OPEN supports up to 160 data points
- TXI2-S.OPEN supports up to 40 data points
- Compact construction per DIN 43 880
- Easy installation and setup
 - Plug-in screw terminal
 - Power from Island bus (DC 24 V)
- Simple, fast diagnostics
- Two Ethernet ports (Hub Functionality)
- Reset (power) push button

Application

Integrates third-party systems and devices in Desigo (V4.1 or higher)

Functions

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 instructions CM110571 |
| – M-bus | Engineering instructions CM110572 |
| – USS (SED2, G120P) | Engineering instructions CM110573 |
| – Grundfos | Engineering instructions CM110574 |
| – G120P | Engineering instructions CM110576 |
| – Danfoss | See Modbus engineering instructions CM110571 |
| – WILO | See Modbus engineering instructions CM110571 |
| – Workflow document | A6V10963119 |

Simple commissioning using prepared solutions:

- Solutions for G120P, Grundfos, WILO and Danfoss are supplied in the library (HQ CAS library).
- For the protocols M-Bus and Modbus, example solutions are available in the CAS library that are used as templates on device descriptions ((IO Open templates).

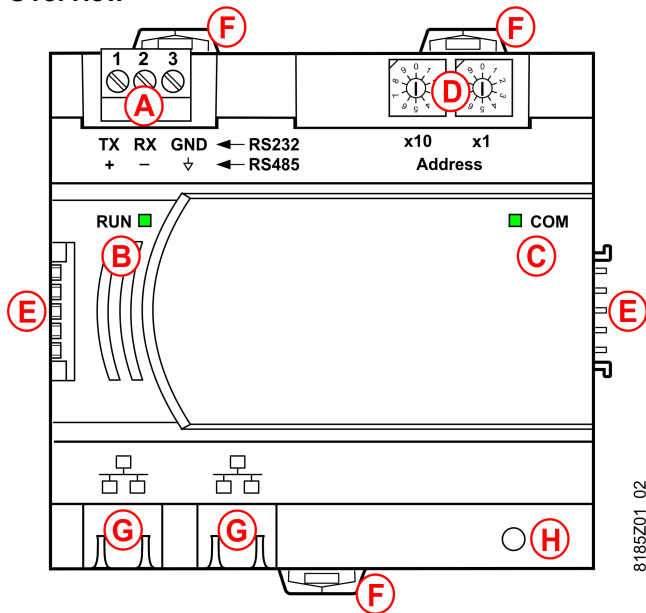
You can also develop your own applications. Contact your regional company.

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 Ethernet 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.

Overview



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

Terminal	RS232	RS485
1	TX	+
2	RX	-
3	GND	↓ (Potential equalization)

- B LED "RUN" Power OK
- C LED "COM" Communication (RS)
- D Know to set module address
- E Bus connector
- F Attachment slider for standard rails
- G RJ45 Ethernet connections
- H Reset (power) push button

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 supply

- 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
- Dual Ethernet for connecting TX Open Tools

Island bus

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

System neutral

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

Protection against incorrect wiring



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

Interfaces

General

- Serial interfaces are electrically isolated
- The serial interfaces use the same connection terminals. You can use either RS232 or RS485 (changeover via software).

RS232

- The interface supports baud rates from 300 to 115200 Baud.
- The signals RXD and TXD available, but without handshake signals.

RS485

- The interface supports baud rates from 300 to 115200 Baud.

Bus termination

- A bus termination (1nF, 120 Ohm in sequence) can be switched on in the TX Open module.

RJ45

- RJ45 connector for use of Modbus TCP integration

Ethernet interface (Hub Functionality)

NOTICE We highly recommend that you do **not** attach cables to the Ethernet port if you do not intend to use remote access. The devices are furnished with a default IP address and would go to an undefined state if they are connected to the network.

Module status RUN LED

- The module status RUN LED indicates the status of the **module** as a whole:

Meaning	LED (green)	Description
Normal	ON	Module OK, all functions working properly
Inactive	OFF	Module without power Defective module (hardware fault)
Note/Faults	Flashing (various patterns)	For detailed information, see Section "Display, operation, and diagnostics" in document "TX-I/O™™ Engineering and installation"

Module COM LED

- The module COM LED indicates communication on the RS side:

Meaning	LED	Description
COM	Green	Receiving data
COM	Red	Sending data

Address switch

- Rotary switch to set the module address

Meaning	Switches	Description
Address	Positions 0...9 (on each switch) Position 0 (both switches)	The module address is switched using the two address 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.

Reset (power) push button

Meaning	Push button activation time	Description
Power Off reset	Min. 2 seconds	The device restarts using the existing configuration.
Factory reset	Until the red LED is continuously lit (a minimum of 10 secs is needed)	The device is reset to delivery status. Engineering steps must be repeated (password setting, load protocol application and configuration).

Types

Type	Stock number	Description
TXI2.OPEN	S55661-J120	TX Open RS232/485 module (supporting 160 data points)
TXI2-S.OPEN	S55661-J123	TX Open RS232/485 module (supporting 40 data points)

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

Example:

10 TX Open RS232/485 modules TXI2.OPEN, S55661-J120

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.


Topic/Title	Document ID
[1] TX Open Modbus engineering	CM110571
[2] TX Open M-bus engineering	CM110572
[3] TX Open USS (SED2, G120P) engineering	CM110573
[4] TX Open Grundfos engineering	CM110574
[5] TX Open G120P engineering	CM110576
[6] TX Open Tool online help	—
[7] TX-I/O modules, datasheets	CM1N817...
[8] TX-I/O engineering and installation guide	CM110562

Related documents such as environmental declarations, CE declarations, etc., can be downloaded at the following Internet address:

<http://siemens.com/bt/download>

Notes

Safety

	<p>⚠ CAUTION</p>
	<p>National safety regulations Failure to comply with national safety regulations may result in personal injury and property damage.</p> <ul style="list-style-type: none"> • Observe national provisions and comply with the appropriate safety regulations.

Mounting

Fixings

The device is mounted on a standard rail 35 x 7.5 mm (tophat rails TH35-7.5 per EN60715)

Order

The device can be plugged into any position on the I/O row.

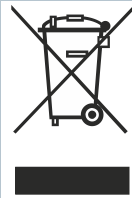
Exchange

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.

Permissible mounting positions

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).

Disposal



The device is considered an electronic device for disposal in terms of the European Directive and may not be disposed of as domestic waste.

- Use only designated channels for disposing the devices.
- Comply with all local and currently applicable laws and regulations.

Technical data

Power supply	
Operating voltage	DC 24 V Power on the island bus. No separate power required.
Power consumption	100 mA, 2.4 W
Short-circuit protection/incorrect wiring	
side bus connector	No protection!
RJ45 connectors	No protection!

Interfaces	
Ethernet (Hub Functionality)	Plugs: 2 x RJ45, screened Interface type: 100BASE-TX, IEEE 802.3 compatible Bitrates: 10/100 Mbps, autosensing

Wiring connections	
Plug-in screw terminal	Cu wire or Cu strand with end sleeve 1 x 0.6 mm \varnothing to 2.5 mm ² or 2 x 0.6 mm \varnothing to 1.0 mm ² Cu wire or Cu strand without end sleeve 1 x 0.6 mm \varnothing to 2.5 mm ² or 2 x 0.6 mm \varnothing to 1.5 mm ²
Slotted screws	Size 1, with shaft $\varnothing \leq 4.5$ mm Tightening torque: 0.6 Nm
Wiring lengths for signals	RS485 1000 m (3280.1 ft) RS232 80 m (262.5 ft)

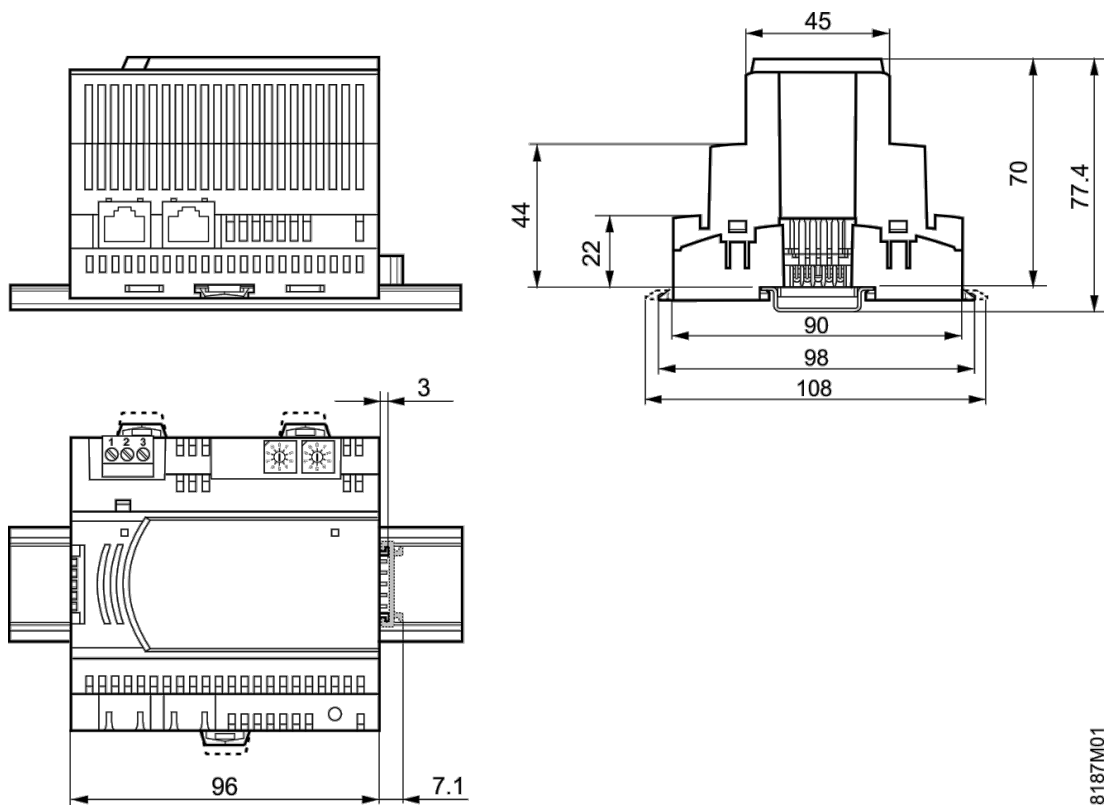
Ambient conditions and protection classification	
Classification per EN 60730 Function of automatic control devices Degree of contamination Design type	Type 1 2 Protection class III
Degree of protection of housing to EN 60529 Front parts in DIN excerpt Terminal part	IP30 IP20
Climatic ambient conditions Transportation (packaged for transportation) to EN 60721-3-2 Operation as per EN 60721-3-3	Class 2K3 Temperature -25...70 °C Air humidity 5...95 % Class 3K5 Temperature: -5...50 °C Air humidity: 5...95 % (non-condensing)
Mechanical ambient conditions Transport as per EN 60721-3-2 Operation as per EN 60721-3-3	Class 2M2 Class 3M2

Standards, directives and approvals	
Product standards	EN 60730-1 Automatic electrical controls for household and similar use
Product family standard	EN 50491 General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS)
Electromagnetic compatibility (EMC)	For residential, commercial, and industrial environments
EU conformity (CE)	see CM2T8185xx
RCM conformity	see CM2T8185en_C1
UL approbation (US) UL Approbation (CA) Federal Communications Commission	UL916, http://database.ul.com C22.2 FCC CFR 47 Part 15 Class B
EAC compliance	Eurasian conformity
Environmental compatibility The product environmental declaration CM1E8187 contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal)	See Product Environmental Declaration CM2E8187.

Housing	
Dimensions	Housing as per DIN 43880, see dimensions
Color	Light gray, RAL 7035
Weight with/without packaging	161 g / 199 g

Dimensions

Dimensions in mm



8187M01