

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7138-4DF01-0AB0

PM-E 24 V DC POWER MODULE

Used with the applicable SIMATIC ET 200S configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Official manufacturer documentation applicable to 6ES7138-4DF01-0AB0

Serial interface module

2.1 Product overview

Order number

6ES7 138-4DF01-0AB0

Product description

The ET 200S 1SI serial interface module is a plug-in module belonging to the ET 200S product range. It provides access to serial communication by means of three hardware interfaces (RS 232C, RS 422 and RS 485) and two software protocols (ASCII and 3964(R)).

You can use the ET 200S 1SI interface module to exchange data between automation systems or computers by means of a point-to-point connection. All communication is based on serial asynchronous transmission.

You select the communication mode when you parameterize the module in the STEP 7 hardware configuration or some other configuration application. Six versions of the module appear in the hardware catalog:

- ASCII (4B)
- ASCII (8B)
- ASCII (32B)
- 3964R (4B)
- 3964R (8B)
- 3964R (32B)

8-byte or 32-byte data transfers increase the throughput rate, but require more I/O memory on the ET 200S rack, whereas 4-byte data transfers require less I/O memory on the ET 200S rack, but provide a lower throughput rate. The module variant you choose depends on your application requirements.

Functionality of the ET 200S 1SI serial interface module

The ET 200S 1SI serial interface module offers the following functions:

- Integrated interface in accordance with RS 232C, RS 422 or RS 485
- Transmission rate up to 115.2 Kbaud, half duplex
- Integration of the following transmission protocols in the module firmware:
 - 3964(R) procedure
 - ASCII driver

The parameterization of the module determines the functionality of the drivers.

The table below lists the functions of the individual driver interfaces.

Table 2- 1 Functions of the module drivers for serial interface module ET 200S 1SI

Function	RS 232C	RS 422	RS 485
ASCII driver	Yes	Yes	Yes
Use of RS 232C secondary signals	Yes	No	No
Controlling/reading of RS 232C secondary signals with FBs	Yes	No	No
RTS/CTS flow control	Yes	No	No
XON/XOFF flow control	Yes	Yes	No
3964(R) procedure	Yes	Yes	No

Communications

The ET 200S 1SI serial interface module permits point-to-point communication with different Siemens modules and non-Siemens products, including:

- SIMATIC S5 via the 3964(R) driver with corresponding interface module on S5 side
- Siemens PDA terminals from the ES 2 family via 3964(R) driver
- MOBY I (ASM 420/421, SIM), MOBY L (ASM 520) and ES 030K data acquisition terminal via 3964(R) driver
- SIMOVERT and SIMOREG (USS protocol) via the ASCII driver (ET 200S SI RS 422/485), with appropriate adaptation of the protocol using a STEP 7 program
- PCs via the 3964(R) procedure (the following development tools are available for programming on PCs: PRODAVE DOS 64R (6ES5 897-2UD11) for MS-DOS, PRODAVE WIN 64R (6ES5 897-2VD01) for Windows or the ASCII driver)
- Barcode readers via the 3964(R) or ASCII driver
- Non-Siemens PLCs via the 3964(R) or ASCII driver
- Other devices with simple protocol structures by means of appropriate protocol adaptation with the ASCII driver
- Other devices that also have a 3964(R) driver

Note

The ET 200S 1SI module cannot be operated with standard FBs downstream of the external communication processors CP 342-5 (Profibus DP) and CP 343-1 (Profinet IO)!

For operation of the module downstream of the communication processors CP 342-5 (Profibus DP) or CP 343-1 (Profinet IO), corresponding special function blocks are available on the Internet pages of Customer Support at:

LED displays

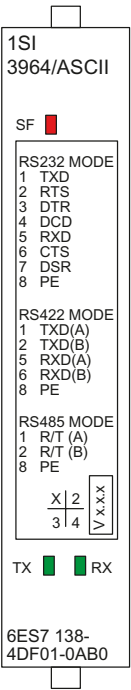
The following status LEDs are installed on the front panel of the interface module:

LED	Color	Description
SF	Red	Group error display
TX	Green	Interface is sending
RX	Green	Interface is receiving

The operating states and errors indicated by these LEDs are described in section Diagnostics (Page 100).

Front panel

The figure below shows the labeling on the front panel of the ET 200S 1SI serial interface module.



2.2 Brief instructions on commissioning the serial interface module

Introduction

On the basis of an example for sending and receiving data between serial interface modules, these brief instructions explain how to set up a functioning application, how the basic operations of the serial interface module (hardware and software) work, and how to test the hardware and software.

In this example we shall operate two ET 200S 1SI 3964(R)/ASCII serial interface modules in RS-232C ASCII mode.

Requirements

- The following requirements must be met:
- You must commission an ET 200S station on an S7 station with a DP master.
 - You will need the following components:
 - Two TM-E15S24-01 terminal modules
 - Two ET 200S 1SI 3964(R)/ASCII serial interface modules
 - The necessary wiring material

Installation, wiring and fitting

Install and wire the two TM-E15S24-01 terminal modules (see figure below). Wire both ET 200S 1SI 3964(R)/ASCII serial interface modules to the terminal modules. (You will find a detailed description of this in the manual titled *ET 200S Distributed I/O Device*).

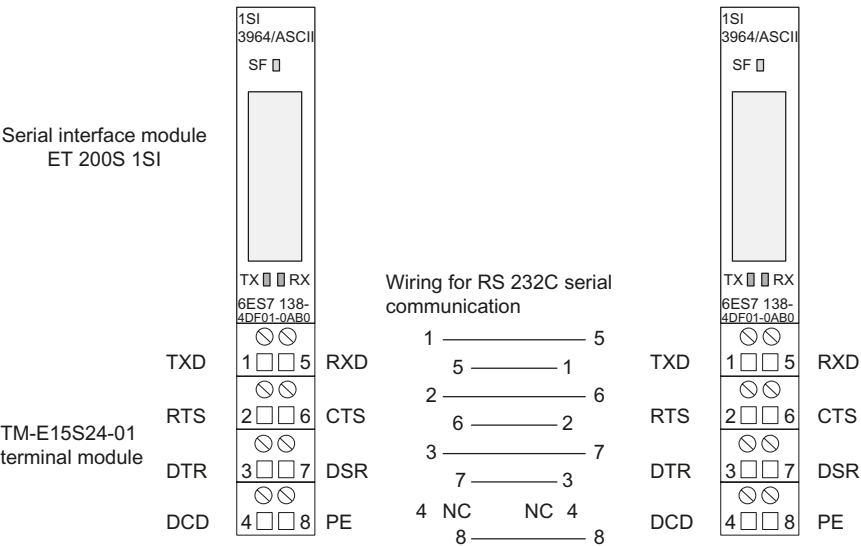


Figure 2-1 Terminal assignment for the example