# Wiring & module description:

Siemens, ET 200SP CM PtP communication module (6ES7137-6AA00-0BA0)

Connecting

RS232 and RS422/485 interface of the communication module

Pin assignment

Table RS422/485 connection

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Terminal assignment of the communication module BaseUnit** | **Pin** | **Designation** | **Input/output** | **Meaning** |
| A picture containing diagram  Description automatically generated | 11 | T (A) - | Output | Send data (four-wire mode) |
| **12** | R (A) –  T(A)/R(A) | Input  Input/output | Receive data (four-wire mode)  Receive/send data (two-wire mode) |
| 13 | T (B) + | Output | Send data (four-wire mode) |
| **14** | R (B) +  T(B)/R(B) | Input  Input/output | Receive data (four-wire mode)  Receive/send data (two-wire mode) |
| **15**  **+**  **16** | GND Ground | - | GND functional ground (isolated) |
| Front view | | | | |

Error and system messages

LED displays of the communication module

The figure below shows the LED displays of the CM PtP communication module.

|  |  |
| --- | --- |
| Diagram  Description automatically generated | Table  Description automatically generated with medium confidence |
| Table  Description automatically generated |
| Table  Description automatically generated |
|  |  |

# Hardware configuration:

Graphical user interface, application

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Graphical user interface, application

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# PLC Programming:

The **Modbus\_Comm\_Load and Modbus\_Master** instruction from the TIA library is used to set the Modbus parameters and then to read the data from the slave device.

Graphical user interface, application, table

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## Operation as Modbus Comm Load:

"MB\_COMM\_LOAD" must be called once to configure the port for the Modbus RTU protocol. On completion of the configuration, the port can be used by the "[MB\_MASTER](20051699467.htm)" and "[MB\_SLAVE](20056318347.htm)" instructions.

"MB\_COMM\_LOAD" only needs to be called again if one of the communication parameters has to be modified. Each "MB\_COMM\_LOAD" call deletes the communications buffer. To avoid data loss during communication, you should not call the instruction unnecessarily.

One instance of "MB\_COMM\_LOAD" must be used to configure the port of each communication module that is used for Modbus communication. You assign a unique "MB\_COMM\_LOAD" instance data block for each port that you use. The S7-1200 CPU is limited to three communication modules.

An instance data block is assigned when you insert the "[MB\_MASTER](20051699467.htm)" or "[MB\_SLAVE](20056318347.htm)" instruction. This instance data block is referenced when you specify the MB\_DB parameter on the "MB\_COMM\_LOAD" instruction.

Graphical user interface, application

Description automatically generated

## Operation as Modbus master:

Description

The Modbus\_Master instruction communicates as Modbus master via a port configured by the Modbus\_Comm\_Load instruction. An instance data block is automatically assigned when you add the Modbus\_Master instruction in your program. The MB\_DB parameter of the Modbus\_Comm\_Load instruction must be connected to the (static) MB\_DB parameter of the Modbus\_Master instruction.

***Note:*** *Each positive edge at the REQ input will process the specified job once during operation. The block must be called until DONE indicates that the data was transferred to the module.*

*In case of an error, setting ERROR once and displaying the corresponding information in STATUS indicates that the data was not transferred.*

Graphical user interface, application

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**Sample Program logic**

Graphical user interface, application

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Graphical user interface, application

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Table

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# Reference:

Graphical user interface

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Timeline

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