5.11.4 TTY Submodule

The TTY submodule is for use with the RK 512 computer link, data transmission with procedures 3964/3964R, data transmission with the "open driver."

The TTY submodule complies with DIN 66 258, Part 1.

Application

The TTY submodule can be inserted in the following CPU:

Interface Submodule ...	For Use with ...
TTY submodule	CPU 928B CPU 948 CP 524 CP 544

Circuitry

The TTY submodule is equipped with a transmitter and receiver for 20 mA current loop signals. Shown in the following figure is the typical circuitry for current loop signals.

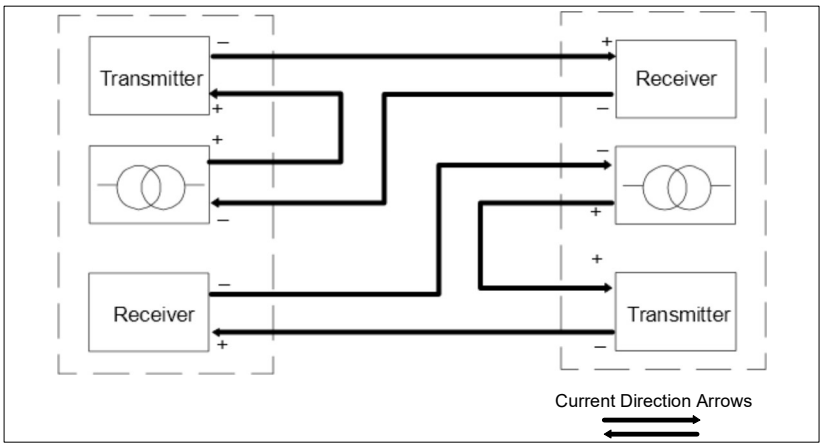


Figure 5-20 TTY Submodule: Loop Current Direction

The loop current can be fed in both by the TTY submodule and by the partner station. Only the side supplying the current is non-floating.

Caution

With longer line lengths, you should arrange your line so that the transmitter always supplies the current.

The TTY submodule feeds in the current (20 mA) via jumpers in the connector of the standard connecting cable. The 24 V required for generation of loop current is taken from the power supply of the PLC. In the quiescent state, with a correct loop current connection, there should be a flow of 20 mA (= logic 1). When the current is interrupted there is a logic 0.

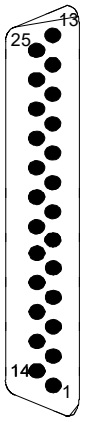
The following applies to the TTY signals:
Logic 0 is represented by: no current
Logic 1 is represented by: current (20 mA)

Data Transmission Rate

A maximum of 9600 bps is permissible for data transmission with the TTY submodule.

Pin Assignments of the TTY Submodule

Shown in the figure are the pin assignments of the 25-pin subminiature D-type connector in the front plate of the TTY submodule:



Pin	Designation	Current direction	Remarks
1	Shield		
9	24 V external		This connection is changed over between 24 V internal and 24 V external with jumper J3 (see next page).
10	+ TxD	←	
12	+ 20 mA	→	Current source, transmitter
13	+ RxD	←	
14	- RxD	→	
16	+ 20 mA	→	Current source, receiver
19	- TxD	→	
21	- 20 mA	←	Current return
24	- 20 mA	←	Current return

← : Input
→ : Output

Jumper Settings on the TTY Submodule

When the TTY submodule is delivered, the jumpers are set as shown in the following figure. As a rule, therefore, you can use the TTY submodule immediately.

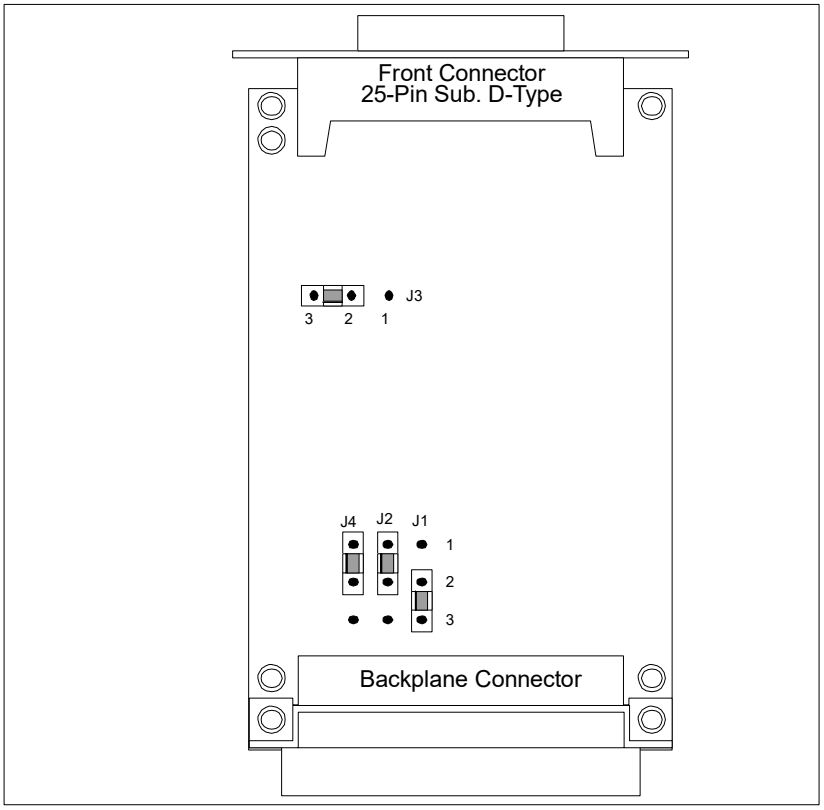


Figure 5-21 TTY Submodule: Jumper Settings when Delivered

The polarity of the transmit and receive data is changed over with jumpers **J1** and **J2:**

	1	2	3	
J1	●	■	●	Transmit data negated
	●	●	■	Transmit data in normal polarity
J2	●	■	●	Receive data in normal polarity
	●	●	■	Receive data negated

The 24 V source voltage for generation of the loop current can be allocated with jumper **J3**:

	1	2	3	
J3	●	■	●	24 V will be applied from Pin 9 of the sub. D connector
	●	●	■	24 V will be applied from the backplane connector (internally)

Standard Connecting Cables for the TTY Submodule

Standard cables for connecting the TTY submodule in the CPU to the partner station are available from Siemens in various lengths, up to 1000 m.

Order numbers and lengths can be found in the ordering information.

Connecting cable for CPU, CP 524, CP 525, CP 544

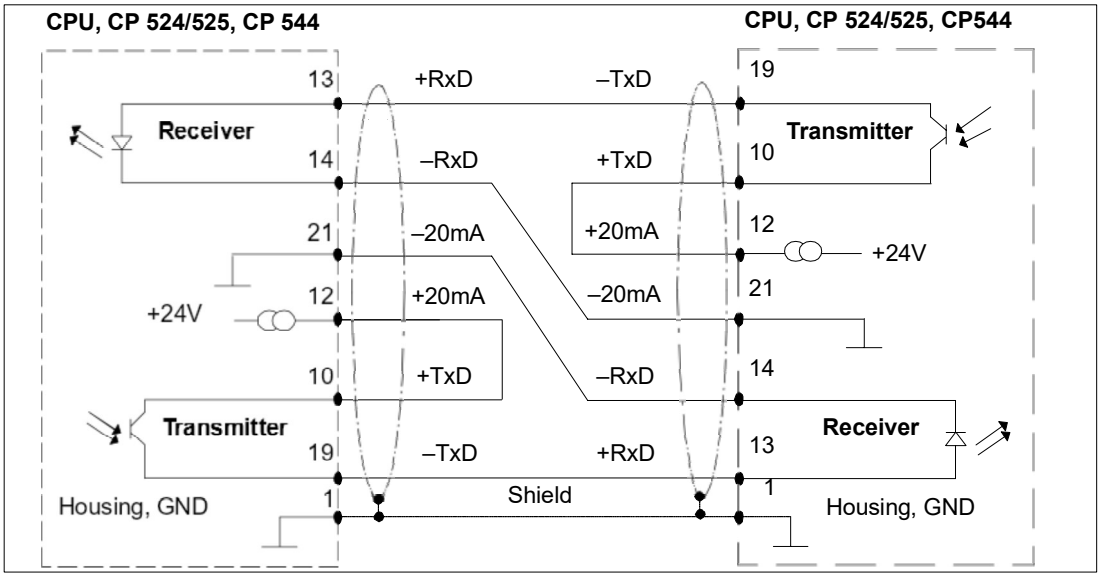


Figure 5-22 TTY Submodule: Connecting cable for CPU, CP 524, CP 525, CP 544

Connecting Cable: CPU - IM 512

To generate loop current, the IM 512 must be supplied with 24 V at the subminiature D-type connector in the front plate.

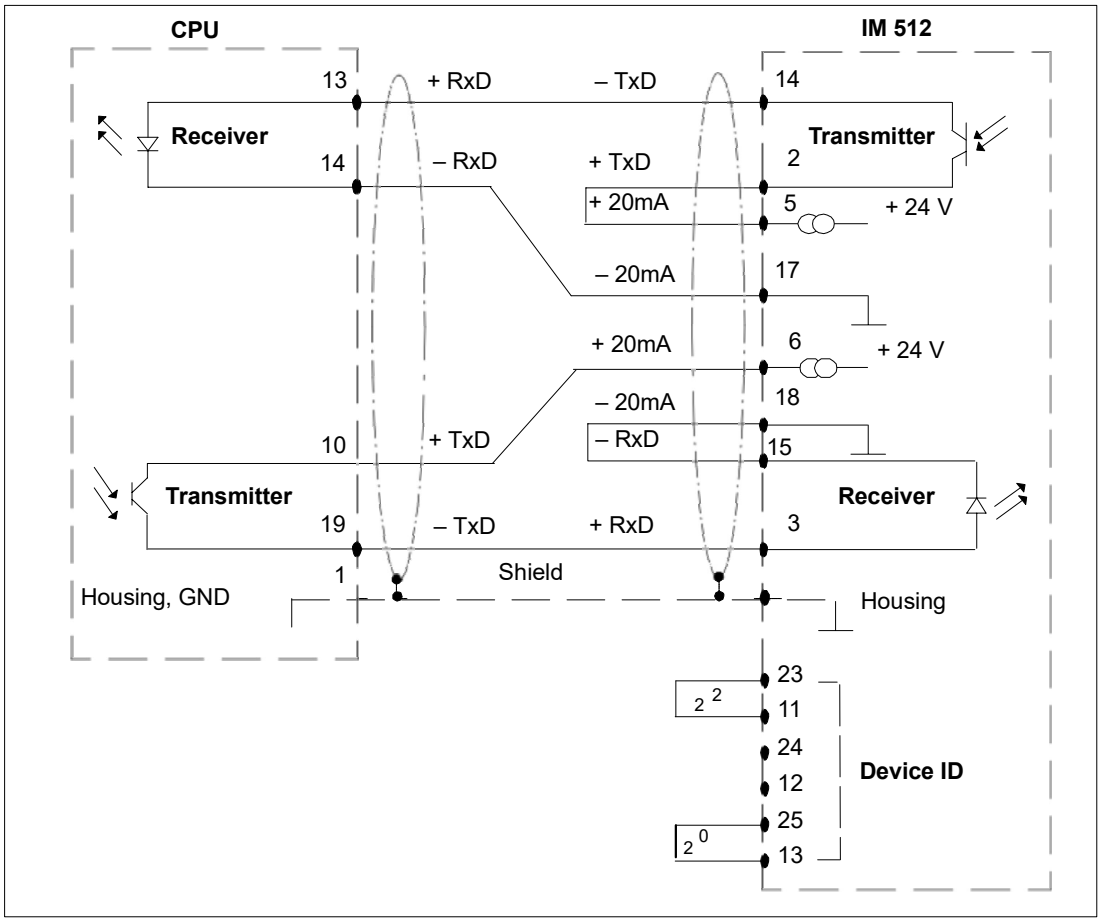


Figure 5-23 TTY Submodule: Connecting Cable CPU - IM 512

Connecting cable: CPU - DR 210/211, DR 230/231

You can use this connecting cable with both the TTY and the V.24 submodule. Ensure that you have the same type of interface in the CPU and in the printer.

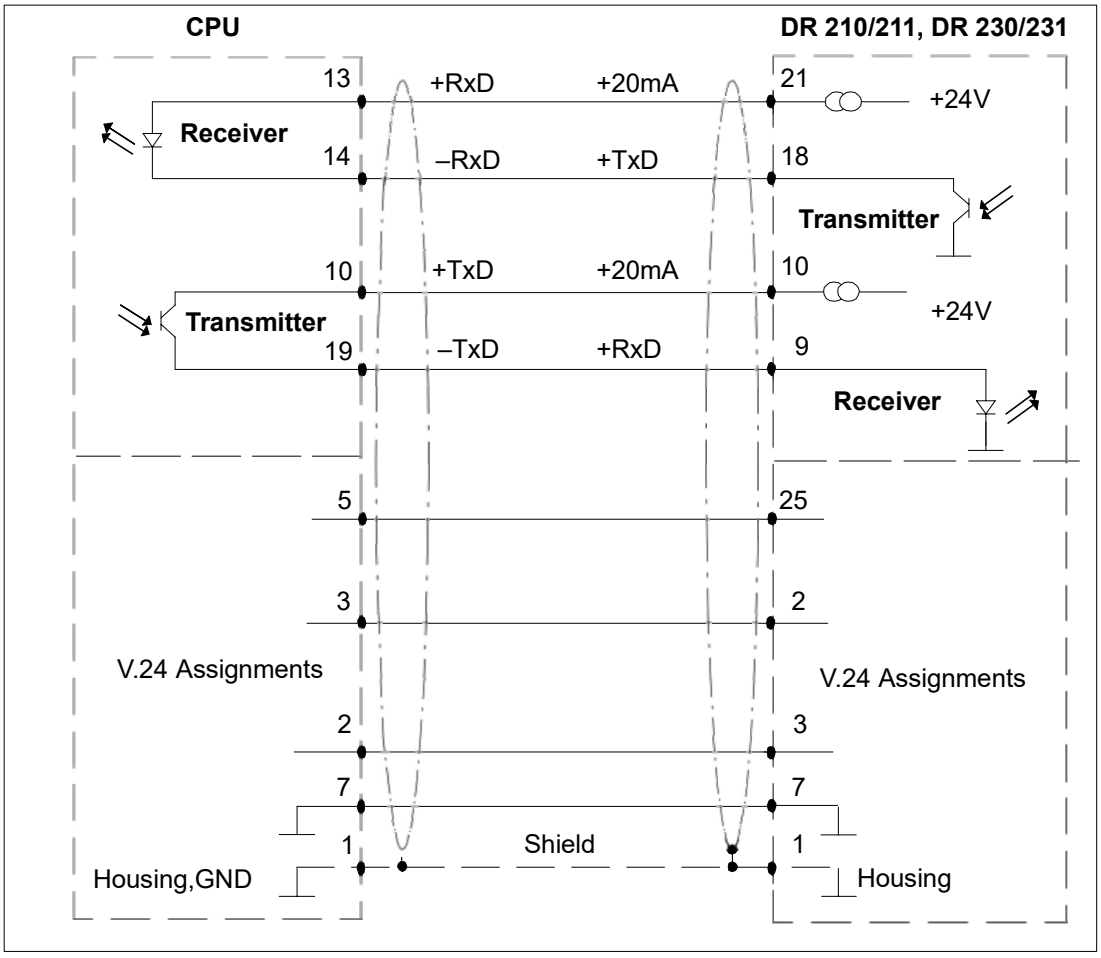


Figure 5-24 TTY Submodule: Connecting Cable CPU - DR 210/211, DR 230/231