



# LABOR – ASTER

## INDUSTRIAL AUTOMATION



## TRANSMISSION LINES SEPARATOR, TRANSLATOR type ST-RS232/TTY

- **Separation and conversion of standard RS232C to signals in current loop of standard TTY**
- **Transmission speed 19200 bits/s**
- **Full galvanic separation of all circuits**

EMC requirements 2014/30/UE - PN-EN 61326-1:2013-06  
LVD requirements 2014/35/UE – PN-EN 61010-1:2011



### APPLICATION:

The separator is design to convert signals in RS232C standard to signals in current loop of standard TTY (and vice versa). At the same time it ensures full galvanic separation between both sides: a device operating in standard RS232C and a device communicating with it through ST-RS232/TTY connected to current loop TTY (0, 20mA).

On the RS232 side the separator only supports RxD and TxD data lines. Two jumpers J1 and J2 are easily accessible inside the separator housing allow to change the phase of the Tx signal and independently Rx.

### BASIC TECHNICAL PARAMETERS:

#### RS232C side

##### receiver parameters

- low level - -12...-3V
- high level - +3...+12V
- input resistance -  $\geq 3k\Omega$

##### transmitter parameters

- output voltage - min.  $\pm 5V$  on load  $\geq 3k\Omega$
- monitoring of the receiving line - diode LED lights during transmitting on RxD receiving line ( $U_{Rx} \geq 3V$ , logic 0)

#### TTY side

- receiver sensitivity - separator transmitting line Tx
- voltage dropout on the input - separator receiving line Rx
- monitoring of the receiving line - switching level 10mA
- switching level 10mA -  $\leq 3,5V$  @ 20mA
- diode LED lights during transmitting on Rx receiving line ( $I=0mA$ , logic 0)

- signal from transmitter -  $I=0mA \rightarrow R=51\Omega$ ,  $U_{out}=0V$
- $I=20mA \rightarrow U_{out}=24V$   
 $R_{load} \leq 1000\Omega$

#### Transmission speed

#### Max length of line for

- RS232C side - 15m (total capacity  $< 2500pF$ )
- TTY side - 1200m, max  $R_{load} \leq 1000\Omega$

#### Power supply

#### Galvanic separation

- 2kV, 50Hz between all circuits
- 122000h

Housing - housing 25mm width  
mounting - on rail TS35  
protection level - IP20

### HOW TO ORDER:

#### Order example:

Transmission lines separator, rail housing, power supply 24Vdc type **ST-RS232/TTY**



Fig.1 Description of terminals

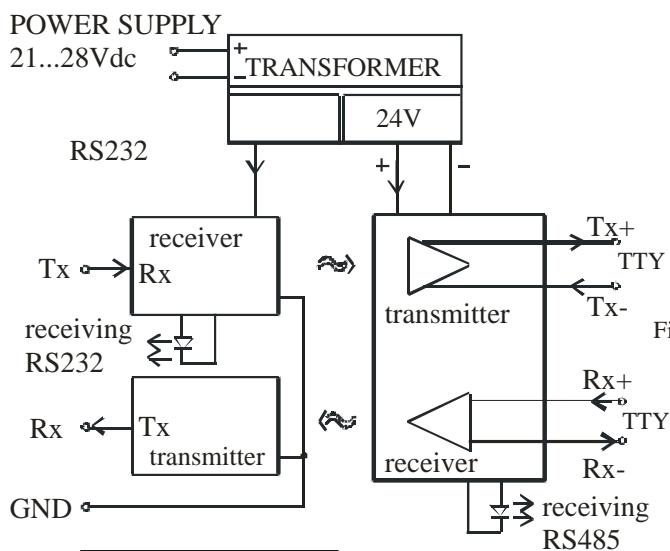


Fig.2 Block diagram of the RS232 / TTY separator

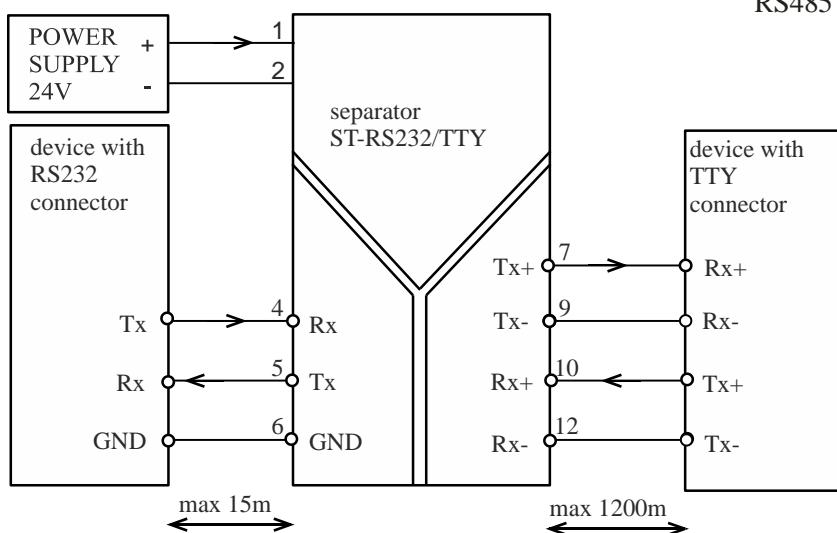


Fig.3 Fig. 3 Connection for long distance (with galvanic separation) of a device with RS232 standard with a device with TTY standard

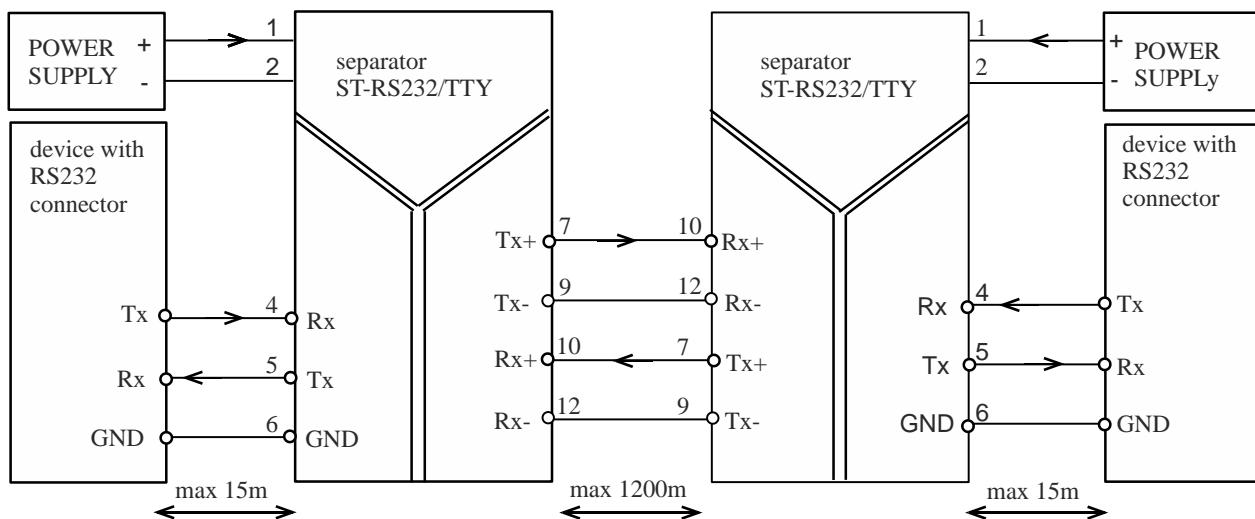


Fig.4 Connection for long distance of devices with the same RS232C standards using separator with translation to current loops TTY.

Production and distribution:

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