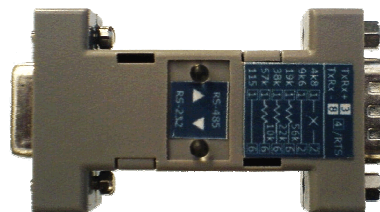


# RS-232/485 Converter with Automatic / RTS Transmission Control without Galvanic Isolation of the Interface ELO E06G



## Characteristics

- Miniature plastic case
- Automatic or RTS control
- Transfers RxD and TxD
- Without galvanic isolation of interfaces
- 6 - 24V DC supply

## Introduction

RS-232 interface is designed for two terminal equipments connection (DTE). RS-232 interface range is limited to 15 m distance. RS-485 interface signals transmission enables to increase communication range, transmission interference immunity and communication partners' number.

## Use of the converter

The converter increases transmission immunity against electrical disturbance **but not against atmospheric electricity influences!** To lead the RS-485 cable outside buildings, it is necessary to provide additional over-voltage protection on the input points.

The converter allows transmission rate up to 115200 bps. This maximum attainable rate decreases due to the line length and/or its impedance growth. Recommended maximum line length is 1200 m at the rate of 9600 bps.

## Operation principles

RS-485 interface is used to two-way simultaneous communication in one pair of conductors. For this reason, the transmission has to be half-duplex that means switching off RS-485 transmitter to allow transmitting to other communication partners and switching on during its own transmitting only. There are two methods how to operate the transmitter:

- 1) DTE uses signal RTS or it's inversion to control the transmitter,
- 2) DTR doesn't use RTS signal (it's interface doesn't dispose of RTS, or it is not used in SW) and the.

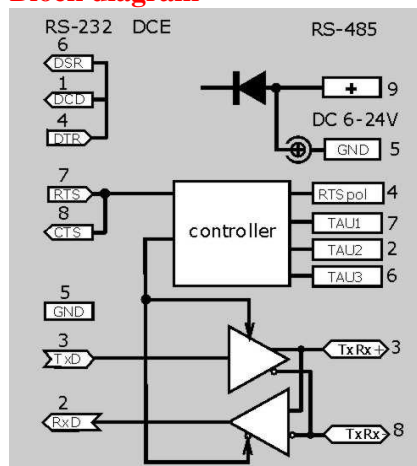
converter has to interpret its signal TxD **automatically** At the TxD changing moment from idle state (from the negative to positive polarity), the converter activates the link transmitter automatically.

**The time of the transmitters activation must be fitted to the data rate** which has been used because in automatic mode the transmitter must be held active for the period equal to one byte transmission time. This time (TAU) can be set within the range of 0,1 ms (for 115.2 kbps) to 2,5 ms (4.8 kbps). When the transmitter is active, the transferred data are independent on the TAU length.

## Supplying

The converter can be supplied either through the DC connector 2.35mm, or over the 9-5 contacts of the RS-485 connector (DB9M). The power take-off is not allowed to exceed 100 mA form the 6 to 24 V DC supply. The converter is protected against the reverse polarity.

## Block diagram



## Specifications

### Electrical parameters

Interface	RS-232/RS-485
Transmitted signals	TxD and RxD
Control signals	local interconnections DTR - DSR - DCD RTS-CTS
RS-232 / RS-485 connectors	DB9F, DCE / DB9M
Trasmission mode	half-duplex
Trasmission control	automatically (TAU) or signal RTS, or its inversion
Supply	external DC supply 6-24 V/100mA
Minimum / maximum voltage	6 / 24 V
Maximum available power také-off	100 mA

Connector	EIAJ 2.35mm and RS-485 connector
Permissible over-voltage on the line	the line must not be exposed to the atmospheric discharge influences
Required link impedance	100 Ω

### Other

Range	1200 m,
Maximum transmission rate	115 200 bps
Minimum rate	50 bps
Minimum rate in automatic mode	4 800 bps
Dimension: width x length x height	34 x 63 x 19 mm
Weight	25 g
Stocking temperature	- 10° to +55° C
Working temperature	+ 0° to +50° C
Humidity	0 – 85% (non-condensing)