Let's communicate

RS-232 Isolating Repeater

ELO E0M7

Characteristics

Isolating barrier 1kV
Transfers TxD and RxD
Works without an external supply
Maximum data rate 230.4 kbps
Range 2x15m

Introduction

The RS-232 interface (V.24) is designed for point-to-point connection at the distance of several meters. While a connecting, both devices have to be switched off. The interface solves neither the problems of neutral potentials differences of both devices nor the static charge influence which can destroy the input circuits during both devices connection.

Using of the adapter

ELO E0M7 is a RS-232 repeater with the galvanic isolation of both devices. It can be used to doubling the transmission line (maximum 2 x 15m), to handling the neutral potentials' difference, to interrupt the ground loops or to protect the devices against the static charge influence during both devices connection.

ELO E0M7 can transfer only the data signals. So it is necessary to check whether the devices can communicate without control (DTR, RTS) and status (DSR, CTS) signals.

The installation is simple. Disconnect the cable at the DTE, connect E0M7 an then connect the cable again.

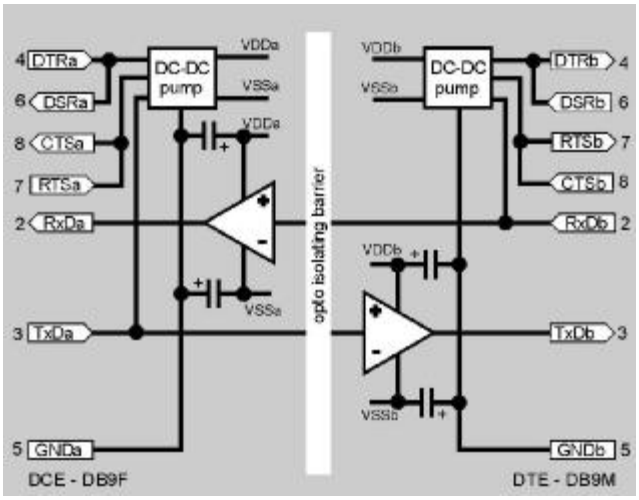
Operation principles

TxD signal from one connector (DCE) has been isolated isolated and emitted to the same contact of the other connector (DTE). In reverse direction the transmitted signal RxD is isolated too.

The adapter is supplied by output signals TxD (RxD), RTS (CTS) and DTR (DSR) from both connected devices. To supply the adapter are necessary TxD (RxD) signals.

ELO E0M7 can't work with the devices which are switching off their RS-232 interfaces, because this way the supply is switched off too.

Block diagram



Specifications

Parameters

Transmitted signals	TxD, RxD
Control signals	are not transmitted
	RTS-CTS, DTR-DSR are interconnected
RS-232 interface	
Type and connection of (a) connector	DB9F, DCE
Type and connection of (b) connector	DB9M, DTE
Transmission mode	duplex
Power supply	works without the power supply
Minimum RS-232 signals from DTE (a) device	TxD, RxD, GND
Minimum RS-232 signals from DCE (b) device	TxD, RxD, GND

Range	2 x 15m
Maximum data rate	230 400 bps
Isolation voltage between interfaces	1 kV for 1min
Permissible over-voltage on the line	the line must not be exposed to the atmospheric discharge influences
Stocking temperatures	-10° to +55°C
Working temperatures	+5° to +50°C
Humidity	0–85% (non-condensing)

ELO+, spol. s r.o., CZ-397 01 Pisek, Za Nadrazim 2609, www.elo.cz, sales@elo.cz, +420 382 213 695, fax +420 382 213 069