Data Sheet

Opto-K   V1.3

Optical K-Line Converter

Description

This stick converts a serial signal from a RS232 interface into the automotive K-Line levels. It is optical isolated so that a ground loop can´t occure between RS232 ground and K-Line ground. On the K-Line side, a power supply is necessary. Please connect the K-Line Supply to the stick. (Normally 12V).

From the RS232 side it is normally not necessary to provide the stick with a extra power supply. The stick use the two handshake Signals DTR(Pin4) and RTS(Pin7) of the RS232 to provide itself with power. On condition that the RTS and DTR Signals are true V24 Signals.

Because of the series resistor of the DTR and RTS Signals, the internal supply of the stick is limited to +5V.

 This means the levels of the Signals should be +10V or -10V or mixed. If the levels are below, the stick will not work properly. Every Personal Computer and Notebook is generally able to provide the stick with enough power. But in some cases you need to have an extra supply.

Refer to Pin Assignment [1]. You can plug the stick directly into the PC Com Port.

Features:

- Full compliance with the ISO 9141
- Full compliance with the ISO 14230-1
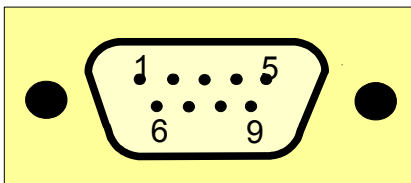- Works independent of any protocoll

Applications:

- Automotive Testequipment
- bidirectional RS232 - K-Line Converter
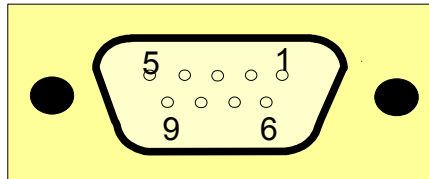- bidirectional RS232 - Lin Converter

Pin Assignment:

K-Line Connection

RS232 Connection

SUB D Male

SUB D Female

Pin	Description
1	Internal Pull Up Connection
2	K-Line
3,4	+UB internal (for Pull Up) do not connect to any signal.
5	+UB K-Line
6,7,8,9	GND (K-Line)

Pin	Description
1,6, 8,9	Not connected
2	TX
3	RX
4,7	Ext. Power Supply if needed, **max. +5V !!** [1] **from ext. Pow. Supply**
5	GND (RS232)

Technical Data:

K-Line Side		
Pin 5,6(7,8,9)	Iq (quiescent current)	Max. 1mA
	UB	7..30V
	Internal Pull Up (activation with external bridge between Pin1 and Pin 3, 4 [2])	1k/250mW
	ESD Immunity (varistor)	Max. 6kV
	Max. K-Line Current (continues)	100mA
	Short Circuit Protection against UB on K-Line	Max. 300mA for 10ms
RS232 Side		
Pin 4,7,5	Iq (no Data active)	Max. 1mA
	Iq when RX active	Max. 10mA
	Iq TX active	Max. 10mA
Common Data		
	Baudrate	Max. 115kB
Temp. Range	Tu	0..070°C

[2]For activating the internal Pull Up (1k) please bridge the pins 3,4 and Pin1 at the K-Line side.

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