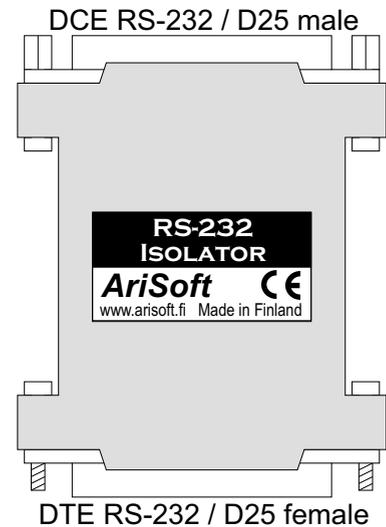# AriSoft Oy Ltd
RS-232 Isolator
Optically isolated RS-232 transmission line adapter

General features
- Eliminates ground potential differences between devices
- Surge isolation voltage 5000V rms
- Maximum transmission speed 115200 bps (baud) / 10 m
- Functionally transparent
- No special cabling needed
- Four active channels TXD, RXD, RTS and CTS
- Powered directly from the RS-232 line
- Possible to use an external power supply if required

DCE RS-232 / D25 male

RS-232 ISOLATOR
AriSoft   CE
www.arisoft.fi   Made in Finland
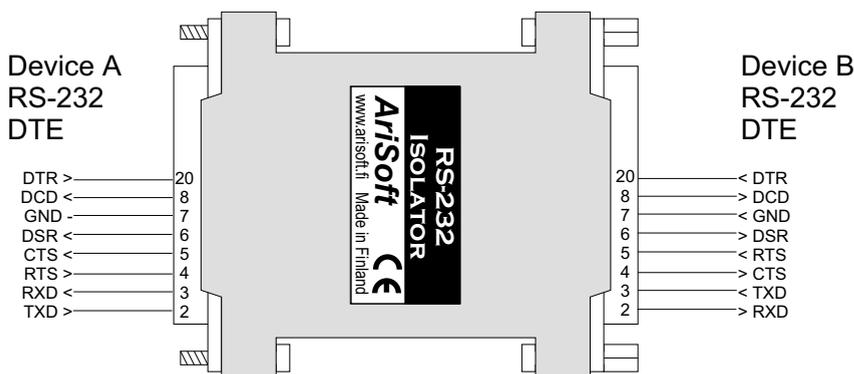
DTE RS-232 / D25 female

External power supply
This adapter withdraws power directly from RS-232 signals. It is necessary to connect all handshaking signals to the unit. If the connected device can not deliver enough power to the adapter then an external power unit is needed.
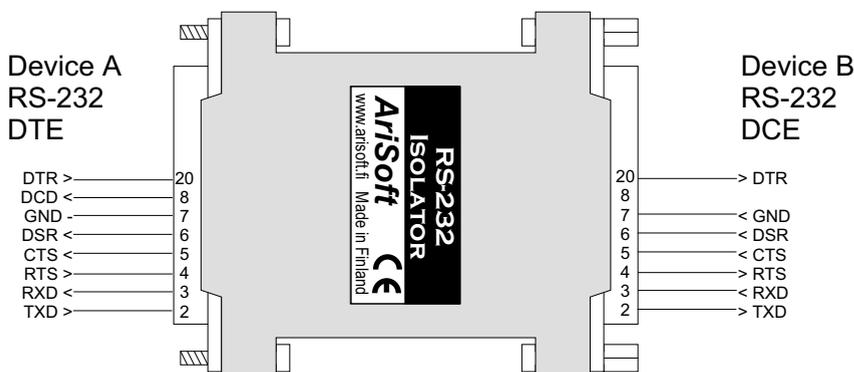
It is possible to verify the need of the unit by checking the voltage between pins 12 and 13 separately for both sides of the adapter. In the case this voltage is below 3.3V there is not enough power for the adapter to start.
Note! RS-tester box on the cable may decrease available power below the limit.

The external power unit may be a regulated 5V supply from the connected device or an unregulated 6V battery eliminator. You can not use the same power unit for both sides or use power from the device to opposite side of the adapter because the electrical isolation will be broken.

Typical wiring between two DTE type devices (for example PC to PC)

Device A
RS-232
DTE

DTR >	20
DCD <	8
GND -	7
DSR <	6
CTS <	5
RTS >	4
RXD <	3
TXD >	2

RS-232 ISOLATOR AriSoft www.arisoft.fi Made in Finland CE

Device B
RS-232
DTE

20	< DTR
8	> DCD
7	< GND
6	> DSR
5	< RTS
4	< CTS
3	< TXD
2	> RXD

Typical wiring between DTE and DCE type devices (for example PC to Modem)

Device A
RS-232
DTE

DTR >	20
DCD <	8
GND -	7
DSR <	6
CTS <	5
RTS >	4
RXD <	3
TXD >	2

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Device B
RS-232
DCE

20	> DTR
8	
7	< GND
6	< DSR
5	< CTS
4	> RTS
3	< RXD
2	> TXD

Pins RS-232 DTE
D25 female connector

Pin	Signal	Description
1 - GND	frame ground
2 - TXD	data in
3 - RXD	data out
4 - RTS	handshake in
5 - CTS	handshake out
6 - DSR	handshake out *
7 - GND	signal ground
8 - DCD	handshake out *
12 - GND	external power
13 - +6VDC	external power
20 - DTR	handshake in *

Pins RS-232 DCE
D25 male connector

Pin	Description
1 - GND	frame ground
2 - TXD	data out
3 - RXD	data in
4 - RTS	handshake out
5 - CTS	handshake in
6 - DSR	handshake in *
7 - GND	signal ground
8 - DCD	handshake in *
12 - GND	external power
13 - +6VDC	external power
20 - DTR	handshake out *

* pins marked with asterisk are internally short circuited