

Datasheet

ADA-I1040

RS-232 to RS-485 / RS-422 Converter



APPLICATION

Many devices as PLC controllers, sensors, measuring transducer, cash registers, electronic weight are equipped with RS232 communication port. The standard has limitation of the lengths cable (the distance 15m which transmissions correctly). Using the RS485/422 standard to the data transmission is solving this problem. The RS485/RS422 standard lets to connect devices dismissed about 1200m.

ADA-I1040 converts RS232 to RS485/RS422 without interference in data format. This converter does not require powering from RS232 port, supports the asynchronous baud rate up to 230.4 kbps through four or two-pair of twisted-pair cable of RS485/RS422 interface.

Converter has female DB-9F connector for connection of RS232 interface, screw terminal block for connection of RS485/422 bus and power supply, and also JACK socket for power supply additionally. This DB-9F connector has made as DCE, what let connect the converter to other RS-232 devices, by the use RS232 extender cable (typical modem connection cable) without crossover Tx with Rx, RTS with CTS, DTR with DSR.

Converter use for functioning Rx, Tx, RTS signals and GND (inserted by the DB-9F socket). Galvanic isolation and optoisolation in signals channel separate RS232 interface from RS485/RS422 and protect device connected to RS232 port from over-voltage on RS485/RS422 Bus and power circuit. Over-voltage protection on each RS485/RS422 line was made on base of over-voltage led and fuses.

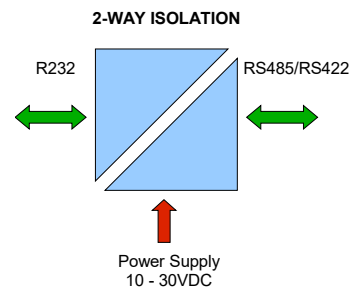
ADA-I1040 should be power from stabilized power supply unit with a voltage ranging from 10 - 30 VDC and minimum power 1W. Converter can be powered from two independent sources, one connected to terminal block second to the JACK 1,5/3,5 connector.

TECHNICAL DATA

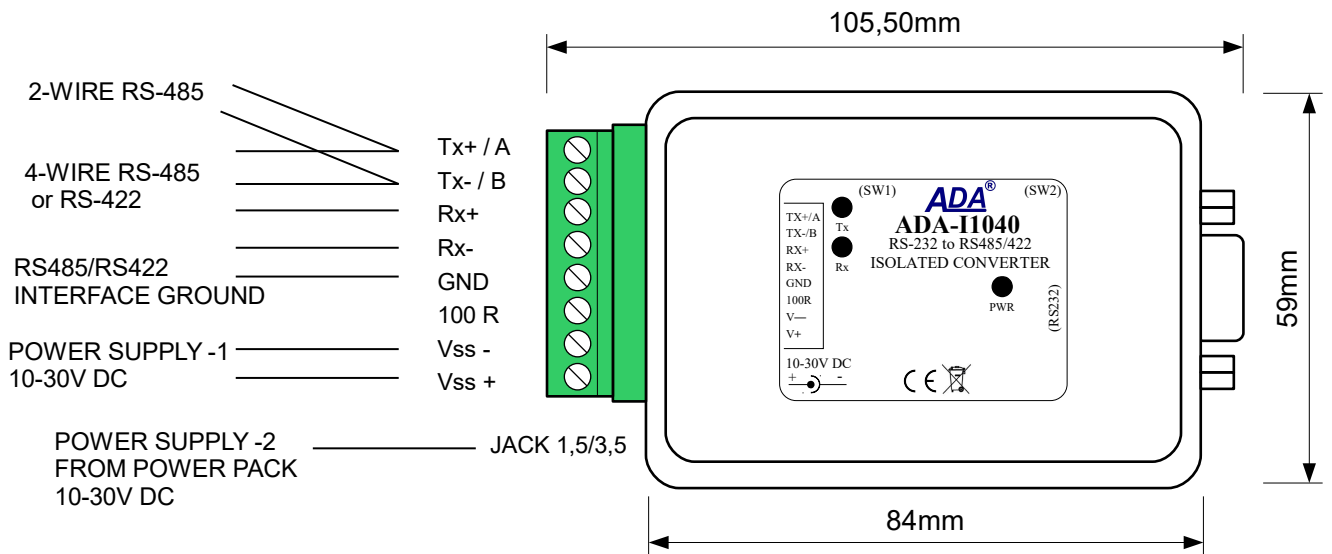
Transmission Parameters		
Interface	RS-232	RS-485/RS-422
Connector	DSUB-9 Female	Screw terminal block - max. Ø 2,5mm ²
Max. Line length	15 m	1200 m
Max. number of connected device	1	32 / 2

Transmission line	DB9F/DB9M multicore cable 9x0,34 shielded or 9-pair twisted cable, UTP 9x2x0,5 (24AWG) shield inside large interferences STP 9x2x0,5 (24AWG).	1-pair or 2-pair twisted cable, UTP Nx2x0,5 (24AWG), shield inside large interferences STP Nx2x0,5 (24AWG)
Standards	EIA-232, CCITT V.24,	EIA-485, CCITT V.11
Max. baud rate	230,4 kbps	
Transmission type	Asynchronism full duplex, half duplex.	
Optical Signalization	<ul style="list-style-type: none"> • RX - red LED data reception on RS-485/RS-422 port, • TX - yellow LED data transmission on RS-485/RS-422 port,. • PWD – green LED (power supply) 	
Electrical Parameters		
Power requirements	10 - 24 – 30 V DC	
Power Cable	Recommended length of power cable – up to 3m	
Power	<1W	
Protection from reverse power polarization	YES	
Galvanic Isolation	1kV= or 3kV= between RS232 interface and power supply. GND of power circuit is the GND of RS485/422 interface.	
Optoisolation	3kV= in signal channel between RS232 and RS485/RS422 interface	
Electromagnetic compatibility	Resistance to disruptions according to the standard PN-EN 55024. Emission of disruptions according to the standard PN-EN 55022.	
Safety requiring	According to the PN-EN60950 norm.	
Environment	Commercial and light industrial.	
Environmental Parameters		
Operating temperature	-30 ÷ 60°C	
Humidity	5 ÷ 95% - non-condensing	
Storage temperature	-40 ÷ 70°C	
Casing		
Dimensions (W x D x H)	84 mm x 59 mm x 23 mm.	
Material	ABS	
Degree of casing protection	IP20	
Weight	0,10 kg	
Implementation of Standard	Not applicable	
Location during work	Free	
Mounting method	Not applicable	

GALVANIC ISOLATION



DIMENSIONS AND CONNECTION



VERSIONS

ADA-I1040 -		-	
Electronic versions:			
Basic,	1		
Special,	2		
Galvanic isolation:			
1kV=		2	
3kV=		3	

Order example:

Product Symbol: **ADA-I1040-1-2**

- 1 – basic version of electronic,
- 2 - galvanic isolation 1kV=,