

Datasheet

ADA-1044H

RS-232 to 4xRS-485 / 2xRS-422 Converter



APPLICATION

ADA-1044H changes RS232 standard to RS485/RS422 and can be used for creation star-topology on RS485 Bus. To one converter it is possible to connect two or four segments (1200m) of RS485 Bus without interfering with the format of transmitted data. This converter has one RS232 port for connection Master device (PC, PLC-MASTER) and four separate RS485-ports for 2-wire bus or two RS485/422 for 4-wire bus. The setting of port type is by 'RS-485 PORTS' switch on the front panel. ADA-1044H can be used also for communication with devices in star topology located in different places where RS485 chain topology is impossible.

To the RS485-ports can be connected 64 devices for 4-wire RS485 bus, 128 devices for 2-wire RS485 bus or 2 addressable devices with RS422 interface. The converter does not require powering from RS232 port, supports asynchronous baud rate up to 230.4 kbps by one or two pairs of twisted-pair RS485/422 interface.

ADA-1044H has female DB-9 socket for connection of RS232 interface and screw terminal block for power supply and twisted-pair connections of RS485/422 network. Connector DB-9F is made like DCE, it let connect converter to other device using the extension cable RS232 (typical cable for modem connection) without crossing TX with RX, RTS with CTS, DTR with DSR. The converter uses signals Rx, Tx and GND of RS232 interface (looped signals in the connector RS232 DB-9F: DTR-DSR-DCD, RTS-CTS), entered by DB-9F socket.

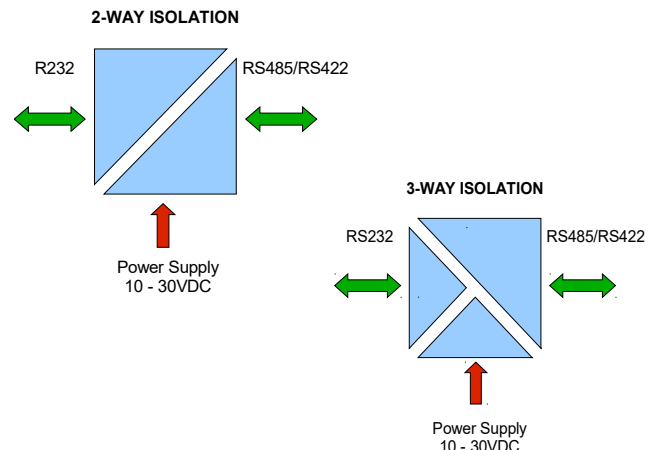
Overvoltage protection on each line of RS485 / RS422 is made on the basis surge suppressors diodes and fuses.

TECHNICAL DATA

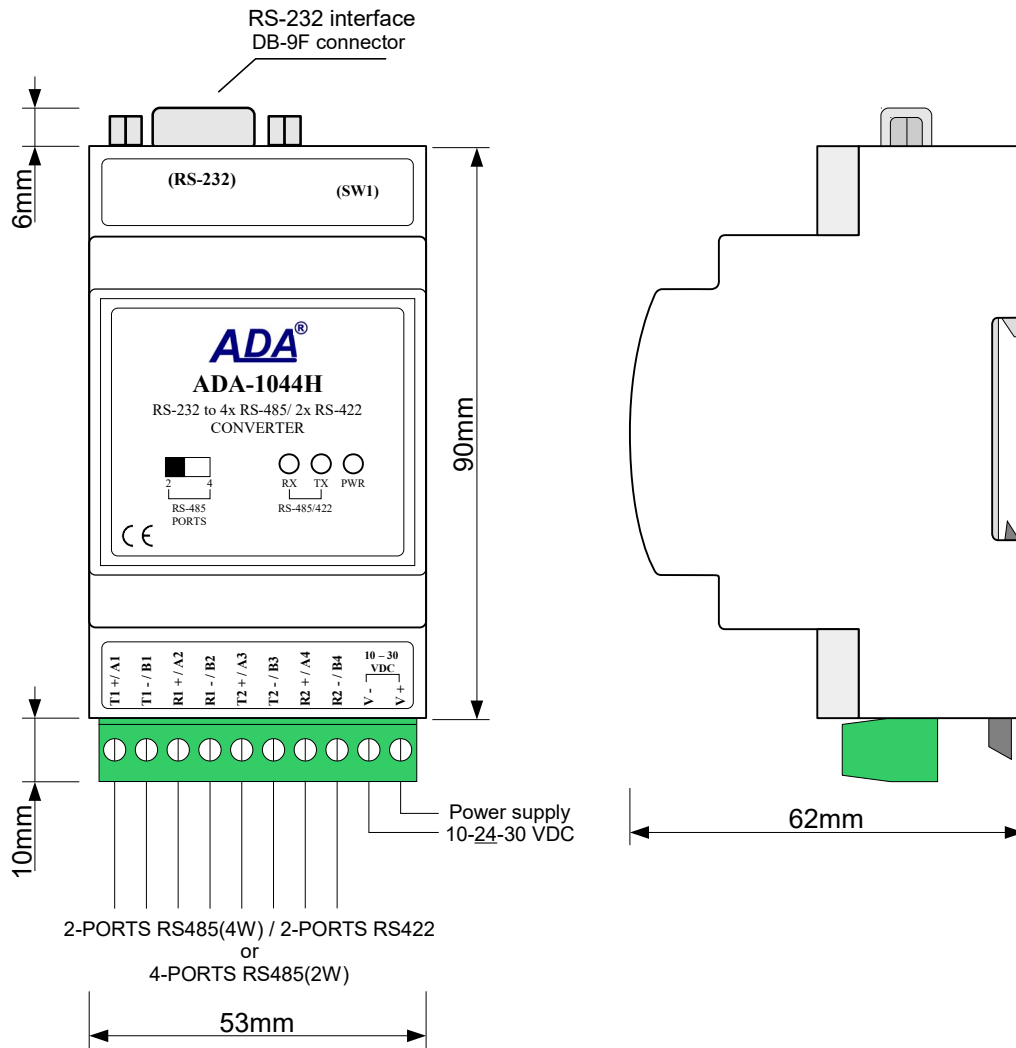
Transmission Parameters		
Interface	RS-232	RS-485/422 (4xRS485-OUT)
Connector	DSUB-9 Female socket	Screw terminal, wire max. Ø 2,5mm ²
Max. Line length	up to 15 m	1200 m
Max. number of connected device	1	up to 2 for RS422 Bus up to 64 for 4-wire RS485 Bus up to 128 for 2-wire RS485 Bus

Transmission line	Cable DB9F/DB9M multi-core 9x0,34 shielded (up to 15m) or twisted cable 9-pairs UTP 9x2x0,5(24AWG) shield inside large interferences (STP 9x2x0,5(24AWG)).	Twisted cable 1-pair, 2-pair or 4-pair 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 half duplex or full duplex,	
Optical Signalization	<ul style="list-style-type: none"> • PWR – green LED power supply, • RX - red LED data receiving through RS485/422 interface, • TX - yellow LED data transmission through RS485/422 interface. 	
Electrical Parameters		
Power requirements	10 - 24 – 30 V DC	
Power Cable	Recommended length of power cable <3m	
Power	<2W	
Protection from reverse power polarization	Yes	
Galvanic Isolation	2-way , 1kV DC or 3kV DC between power circuit and signal line RS232, 3-way , 1kV DC or 3kV DC between power circuit and signal lines RS232 and RS485/422	
Optoisolation	3kV= - between signal lines RS485 and RS-232.	
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)	53mm x 90mm x 62 mm	
Material	PC/ABS	
Degree of casing protection	IP40	
Degree of terminal protection	IP20	
Weight	0,10 kg	
According to standards	DIN EN50022, DIN EN43880	
Location during work	Free	
Mounting method	On the rail compliant with DIN35 / TS35 standard.	

GALVANIC ISOLATION



DIMENSIONS AND CONNECTION



VERSIONS

ADA-1044H -	-	-	-
Electronic version:			
Basic	1		
Special edition	2		
Galvanic isolation:			
1kV= - 2-way	2		
1kV= - 3-way	23		
3kV= - 2-way	3		
3kV= - 3-way	33		
Terminal & Terminal Cover:			
Cover without inlets, screw terminal block	1		
Cover with inlets, screw terminal block	2		
Cover without inlets, plug-in screw terminal block	3		

Order example:

Product Symbol: **ADA-1044H-1-23-3**

- 1 – basic electronics version,
- 23 – 1kV= galvanic isolation 3-way,
- 3 – cover without inlets, plug-in screw terminal block