

Datasheet

ADA-401W

RS-422 to 1-WIRE Converter



APPLICATION

ADA-401W industrial converter for general use, allows connection several circuits with 1-Wire interface, such as temperature measurement systems, real time clocks, EPROM, A/C, etc. to a common 1-Wire bus far away from the Master device (up to 1200m).

The transition from the 1-Wire interface to RS-422 interface on ADA-401W, provides system DS2480B and level converter TTL to RS-422. This relieves the user from having to be in a quite a complicated 1-Wire protocol.

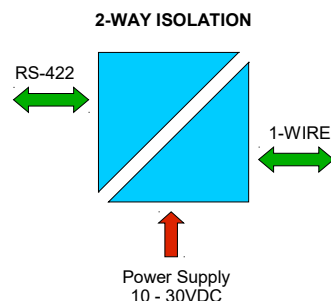
The using of an additional converter RS-422 to RS-232 (eg, ADA-1040) allows monitoring and / or control systems 1-Wire via RS-232 interface on a PC equipped with the appropriate software. CEL-MAR provides sample applications for the visualization of temperature measurement named Lämpömittari by Timo Sara-aho. The program works with systems to measure temperature eg DS18S20. In the configuration settings of Lämpömittari in the section MicroLAN use the symbol DS9097U adapter. ADA-401W is equipped with screw terminal block for twisted connections of 1-Wire bus and RS-422 and for power supply. Over-voltage protection on each RS-422 line was made on base over-voltage LEDs and fuses. ADA-401W is designed for power from an external DC voltage source whose value should be in the range of 10V to 30V and it was supplied from the AC power 3W min. It also has built-in protection against reverse polarity power supply.

TECHNICAL DATA

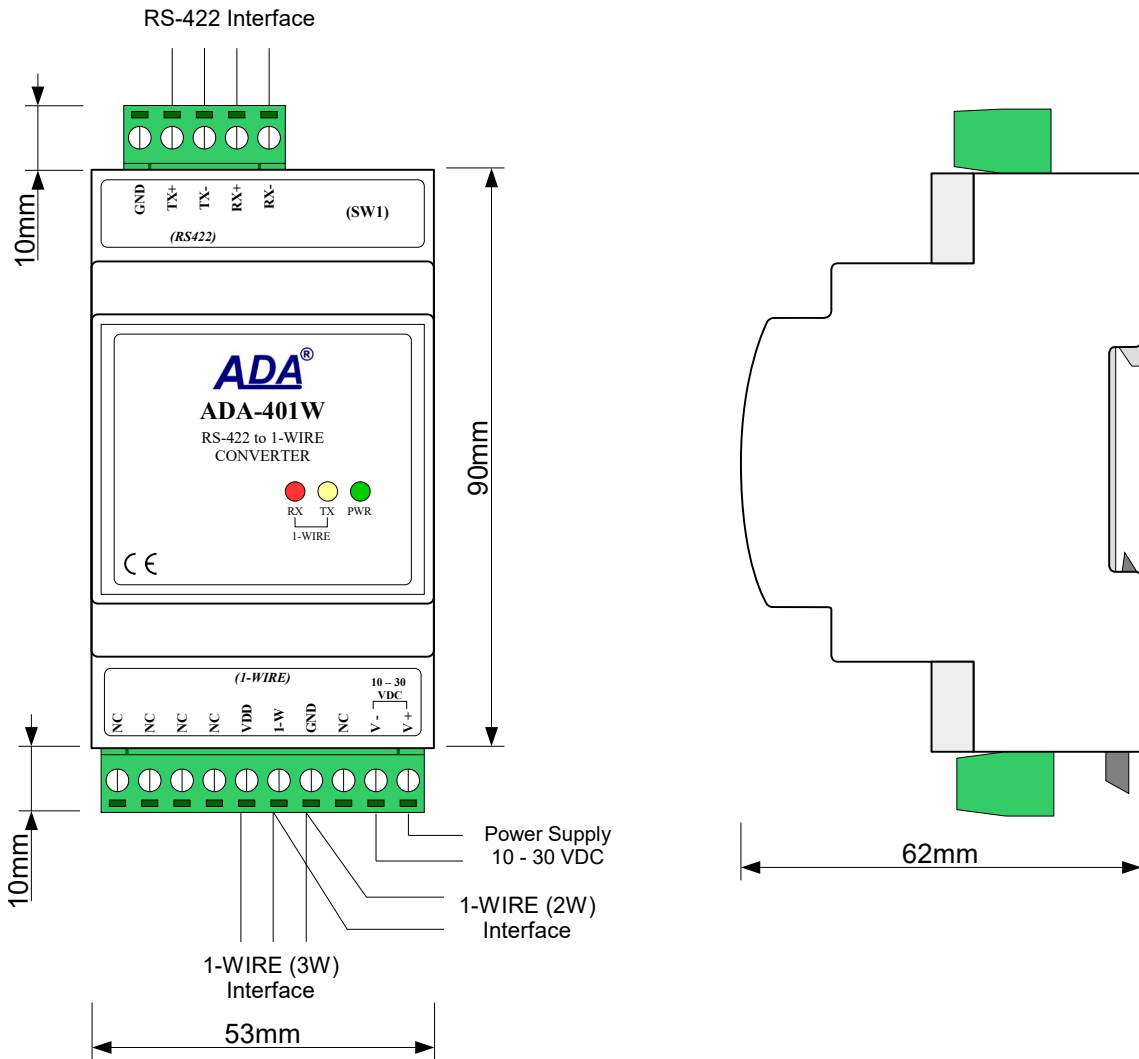
Transmission Parameters		
Interface	RS-422	1-WIRE
Connector	Screw terminal block - max. Ø 2,5mm ²	Screw terminal block - max. Ø 2,5mm ²

Max. Line length	1200m	Up to 400 m – for sensors DS1820
Max. number of connected device	1	100
Max. baud rate	9.6, 19.2, 57.6, 115.2 [kbit/sek]	standard: 0 do 16,3 kbps, overdrive: 0 do 142 kbps,
Transmission line	Twisted cable 2-pair , UTP Nx2x0,5 (24AWG), shield inside large interferences STP Nx2x0,5(24AWG).	Twisted cable 1-pair or 2-pair , UTP Nx2x0,5 (24AWG), shield inside large interferences STP Nx2x0,5(24AWG).
Standards	EIA-422, CCITT V.11.	TTL signal,
Transmission type	1-WIRE - half duplex (transmitting and receiving on the same wire)	
Optical Signalization	<ul style="list-style-type: none"> • PWD – green LED power supply, • RX - red LED data receiving via 1-WIRE interface, • TX - yellow LED data transmission via 1-WIRE interface. 	
Electrical Parameters		
Power requirements	10 - 24 – 30 V DC	
Power Cable	Recommended length of power cable – do 3m	
Power	<2W	
Protection from reverse power polarization	YES	
Galvanic Isolation	1kV DC or 3kV DC - between power circuit and RS-422 signal line	
Optoisolation	~3kV - between signals lines 1-WIRE and RS-422	
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-401W -		
Electronic Version:		
Without possibility of programming the memory of 1-WIRE interface	1	
With possibility of programming the memory of 1-WIRE interface	2	
Galvanic isolation:		
1kV=	2	
3kV=	3	
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-401W-1-2-3**

1 – without possibility of programming the memory of 1-WIRE interface,

2 - galvanic isolation 1kV=,

3 - cover without inlets, plug-in screw terminal block,