

## Datasheet

### ADA-4020A

#### Addressable RS-485/ RS-422 to Current Loop Baud Rate Converter



## APPLICATION

ADA-4020A converter is device solving the problem of connecting no addressable devices equipped with the Current Loop interface to multipoint RS485/422 bus by adding the address to the no-addressable device. At the same time the converter converts RS485/422 standard to Current Loop standard with possibility of changing the baud rate and format of the transmitted data. Depending on configuration can be set the baud rate, number of data bites, parity (None, Odd, Even) and number of stop bits. The setting can be different for Current Loop port and RS485/422 port.

ADA-4020A supports asynchronous baud rate up to 230,4 kbps via one or two pairs of twisted-pair cables of RS485/422 interface, and up to 38,4 kbps on 4-wires Current Loop bus. ADA-4020A is equipped with screw terminal block for connection of RS485/422, Current Loop and power supply. Over-voltage protection on each RS485/422 lines and Current Loop, was made on the base over-voltage LED's and the fuses.

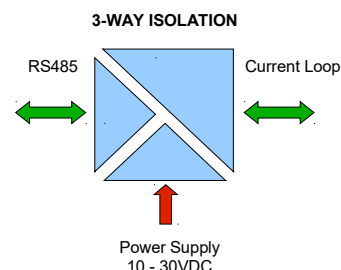
To RS485/422 bus created on ADA-4020A, is possible to connect 32 devices, operating in half duplex mode (query /response) on 2 or 4-wires multipoint buses or full duplex on 4-wire bus. To Current Loop bus is possible to connect 2 devices operating in half duplex or full duplex mode. The converter has an internal low-energy surge protection for each line of Current Loop CLO. However, for the lightning protection should be used external lightning arresters such as the typical phone line protection.

## TECHNICAL DATA

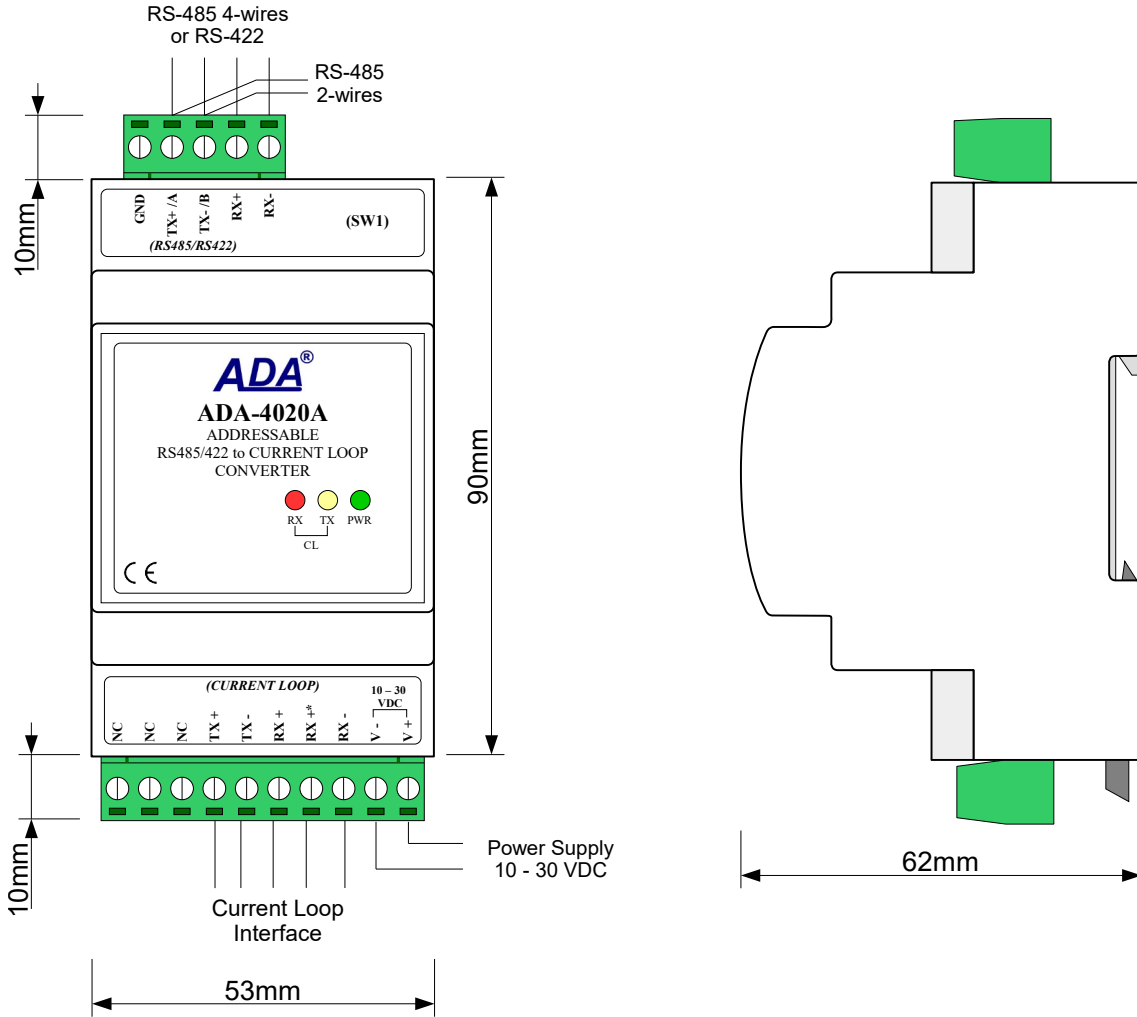
Transmission Parameters		
Interface	RS-485/RS-422	Current Loop
Connector	Screw terminal, wire max. Ø 2,5mm <sup>2</sup> .	Screw terminal, wire max. Ø 2,5mm <sup>2</sup> .

Max. Line length	up to 1200 m	Depend on baud rate, several kilometres
Max. number of connected device	up to 32	1
Max. baud rate	230,4 kbps	38,4 kbps
Transmission line	Twisted cable 1-pair or 2-pair , UTP Nx2x0,5 (24AWG), shield inside large interferences STP Nx2x0,5(24AWG).	2-pair twisted cable, UTP Nx2x0,5 (24AWG), shield inside large interferences STP Nx2x0,5(24AWG).
Standards	EIA-485, CCITT V.11	0-20mA +/-20mA
Transmission type	Asynchronous half duplex or full duplex	
Optical Signalization	<ul style="list-style-type: none"> <li>• PWR – green LED power supply,</li> <li>• RX - red LED data receiving from Current Loop side,</li> <li>• TX - yellow LED data transmission through Current Loop interface</li> </ul>	
<b>Electrical Parameters</b>		
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= or 3kV= DC between power circuit and RS485/422 and Current Loop signal lines	
Optoisolation	3kV= between signal line RS-485/422 and Current Loop	
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.	
<b>Environmental Parameters</b>		
Operating temperature	-30 ÷ 60°C	
Humidity	5 ÷ 95% - non-condensing	
Storage temperature	-40 ÷ 70°C	
<b>Casing</b>		
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-4020A -	-	-	-	-
<b>Current Loop Voltage:</b>					
24VDC		1			
12VDC		2			
<b>Current Loop Type:</b>					
± 20mA			1		
0 - 20mA			2		
<b>Galvanic isolation:</b>					
1kV=, 3-way				2	
3kV=, 3-way				3	
<b>Terminal &amp; Terminal Cover:</b>					
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-4020A-1-1-2-3**

- 1 – Current Loop Voltage 24VDC,
- 1 – Current Loop Type ± 20mA,
- 2 – 1kV= galvanic isolation,
- 3 – cover without inlets, plug-in screw terminal block.