

## Datasheet

### ADA-13020MG

#### Current Loop to ETHERNET converter with MODBUS GATEWAY



### APPLICATION

The ADA-13020MG converter is used for data transmission between devices equipped with **Current Loop interface via LAN/WAN** network without interfering with data format.

The converter can operate on the ETHERNET network in **Virtual Serial Port mode**, **TCP serial bridge mode**, **UDP serial bridge mode**, **TCP sockets**, **UDP sockets**, **MODBUS Data Gateway**.

The **MODBUS Data Gateway** converts **MODBUS-RTU/ SUNSPEC** master/slave or **MODBUS-ASCII** master/slave protocols to **MODBUS-TCP** protocol and reverse. This allows integrating MODBUS-RTU/ SUNSPEC/ ASCII devices with MODBUS-TCP devices within a single network.

The ADA-13020MG converter uses for operating RX+,RX-,TX+,TX- signals and transmits data via current loop interface with maximum baud rate up to 38,4kbps via two pairs of twisted pair cable.

The converter has screw terminal block for connection of Current Loop interface and power supply and RJ45 connector for Ethernet network connecting.

Over-voltage protection was made on base safety diodes and fuses on each Current Loop lines.

To Current Loop interface can be connected one device in point-to-point topology, operates in half duplex or full duplex mode.

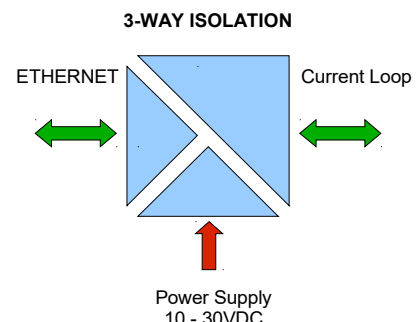
This converter has internal, low energy surge protection for each Current Loop lines however it is recommended to use the external lightning arresters (typical protection of telephone line) for the lightning protection of lines

### TECHNICAL DATA

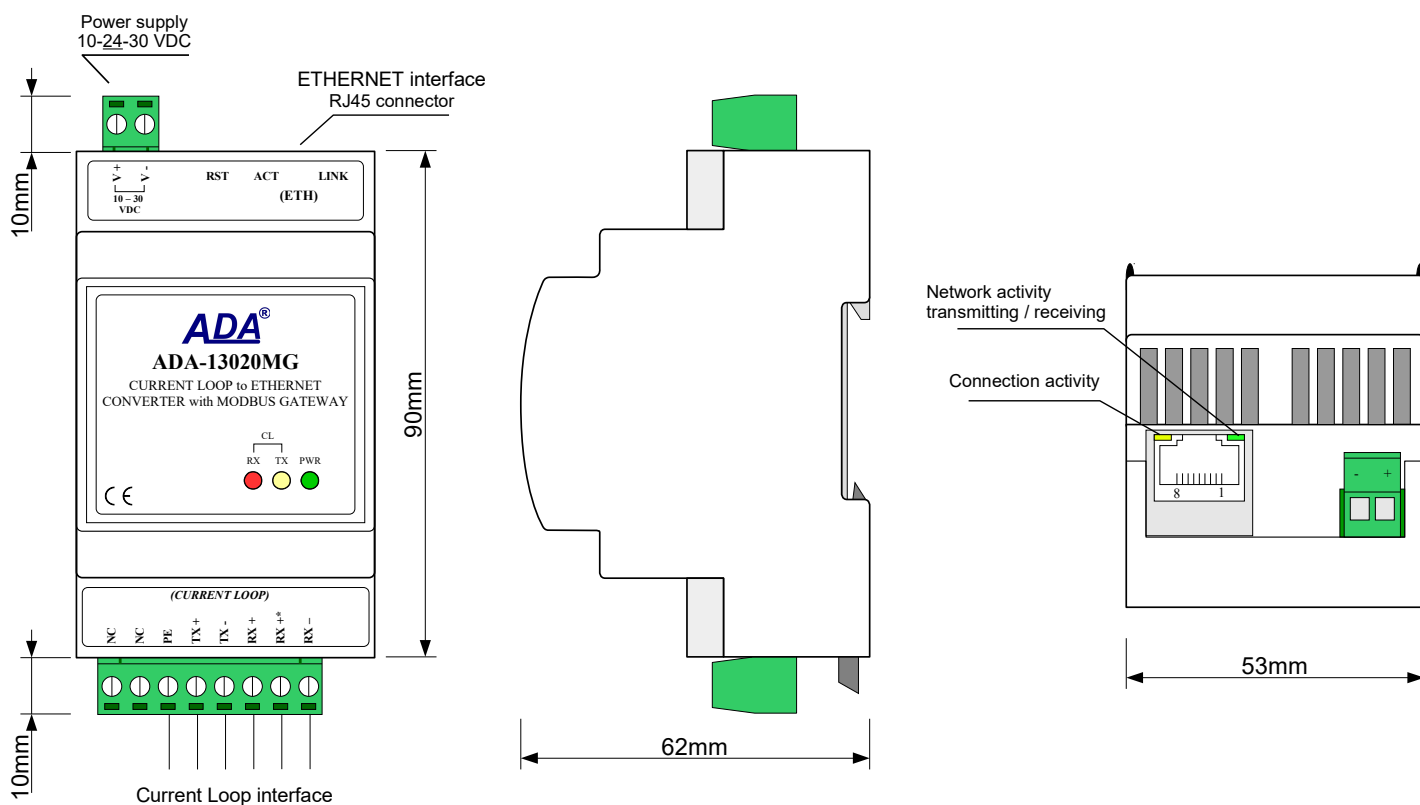
Transmission Parameters		
Interface	ETHERNET	Current Loop
Connector	RJ45	Screw terminal, max. wire Ø 2,5mm².
Max. line length	150m – unshielded cable 100m – shielded cable	Depend on baud rate, up to few hundred meters

Max. number of connected device	Depend on addressing type in network	1
Transmission line	4-pair twisted cable, UTP 4x2x0,5 (24AWG), shield inside large interferences STP 4x2x0,5 (24AWG)).	2-pair twisted cable eg UTP Nx2x0,5 (24AWG), shield inside large interferences eg STP Nx2x0,5 (24AWG).
Max. baud rate	10/100 Mbit/s	38,4 kbps (depend on current loop line length)
Transmission type	Asynchronous half duplex or full duplex	
Standards	IEEE 802.3	0-20mA(TTY), +/-20mA
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 – up to 3m	
Power	3W	
Protection from reverse power polarization	yes	
Galvanic Isolation	1kV= or 3kV= (between power circuit and ETHERNET signal line) 1kV= or 3kV= (between power circuit and Current Loop signal line)	
Optoisolation	~3kV= (between signal lines Current Loop and ETHERNET)	
Electromagnetic compatibility	Resistance to disruptions PN-EN 55024. Emission of disruptions 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-13020MG -	-	-	-	-
<b>Electronic version:</b>				
Standard	1			
<b>Current Loop Voltage:</b>				
24VDC		1		
12VDC		2		
<b>Current Loop Type:</b>				
± 20mA (active transmitter, passive receiver)			1	
0 – 20mA (TTY active transmitter, passive receiver)			2	
<b>Galvanic Isolation:</b>				
1kV=				2
3kV=				3
<b>Type of connectors:</b>				
Screw terminal block,				1
Plug-in screw terminal block,				3

### Order example:

Product symbol: **ADA-13020MG-1-1-1-2-3**

- 1 – standard electronic version,
- 1 – current loop voltage 24VDC,
- 1 – current loop type ± 20mA,
- 2 – galvanic isolation 1kV=,
- 3 – plug-in screw terminal block.