Datasheet

ADA-13028LMG

2-WIRE Current Loop to ETHERNET converter with MODBUS GATEWAY

APPLICATION

The ADA-13028LMG converter is a device designed for data transmission between devices equipped with current loop CLO interface over LAN/WAN network. Operation in an ETHERNET network can be carried out in the following modes: **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 and MODBUS-ASCII master/slave protocol to MODBUS-TCP/UDP and inversely. This allows for integrate **MODBUS-RTU/ SUNSPEC/ ASCII** with **MODBUS-TCP/UDP** devices within one network. The converter has a built-in web server that enables remote configuration and management via a web browser.

The ADA-13028LMG converter enables data transmission (without changing the data format) via the CLO current loop interface at baud rate of up to 19.2 kbps., using the CLO+, CLO-, Rd signals.

It is equipped with a screw terminal block for twisted-pair CLO current loop and power connections, as well as an RJ45 connector for ETHERNET network connection.

Up to four devices operating in half-duplex mode can be connected to a CLO bus built using the ADA-13028LMG.

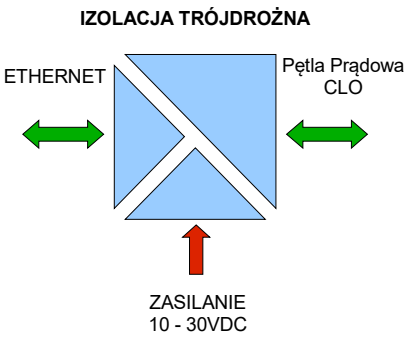
The converter is designed to be powered from an external DC power source with a voltage range of 10V to 30V and a minimum power rating of 3W. It features reverse polarity protection for the power supply and surge protection on the CLO bus. The device offers galvanic isolation between the power supply and both the ETHERNET and CLO interfaces, as well as optoisolation between the CLO and ETHERNET interfaces. The converter is also equipped with low-energy internal surge protection for each CLO current loop interface line. However, for lightning protection of the connection, external surge protectors should be used.

Drivers for Windows and Linux operating systems are available on our website

TECHNICAL DATA

Transmission Parameters		
Interfaces	**ETHERNET**	**Current Loop CLO**
Connector	RJ45	Screw terminal, wire max. Ø 2,5mm2.
Max. Line length	LAN up to 150 m	Depending on the baud rate, up to a few kilometers
Transmission line	4-pair twisted cable, UTP 4x2x0,5 (24AWG), shield inside large interferences STP 4x2x0,5 (24AWG)).	2-pair twisted cable 24AWG, shield inside large interferences
Standards	IEEE 802.3	IEC 62056-21
Max. baud rate	10/100 Mbit/s	19,2 kbps - depending on line length
Transmission type	Asynchronous transmission half duplex or full duplex.	
Optical Signalization	• PWR – green LED power supply, • RX - red LED data receiving from Current Loop CLO side, • TX - yellow LED data transmission through Current Loop CLO interface.	
Electrical Parameters		
Power requirements	10 - 24 – 30 V DC	
Power Cable	Recommended length – up to 3m	
Power	3W	
Protection from reverse power polarization	Yes	
Galvanic Isolation	• 1kVDC or 3kVDC - between power circuit and Current Loop CLO signal line • 1kVDC or 3kVDC - between power circuit and ETHERNET signal line	
Optoisolation	~3kV DC - between Current Loop CLO signal line 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.	
Environmental Parameters		
Operating temperature	-30 ÷ 60°C	
Humidity	5 ÷ 95% - non-condensing	
Storage temperature	-40 ÷ 70 °C	
Casing		
Dimensions	53mm x 90mm x 62mm	
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	Rail mounting according to DIN35 standard / TS35.	

GALVANIC ISOLATION



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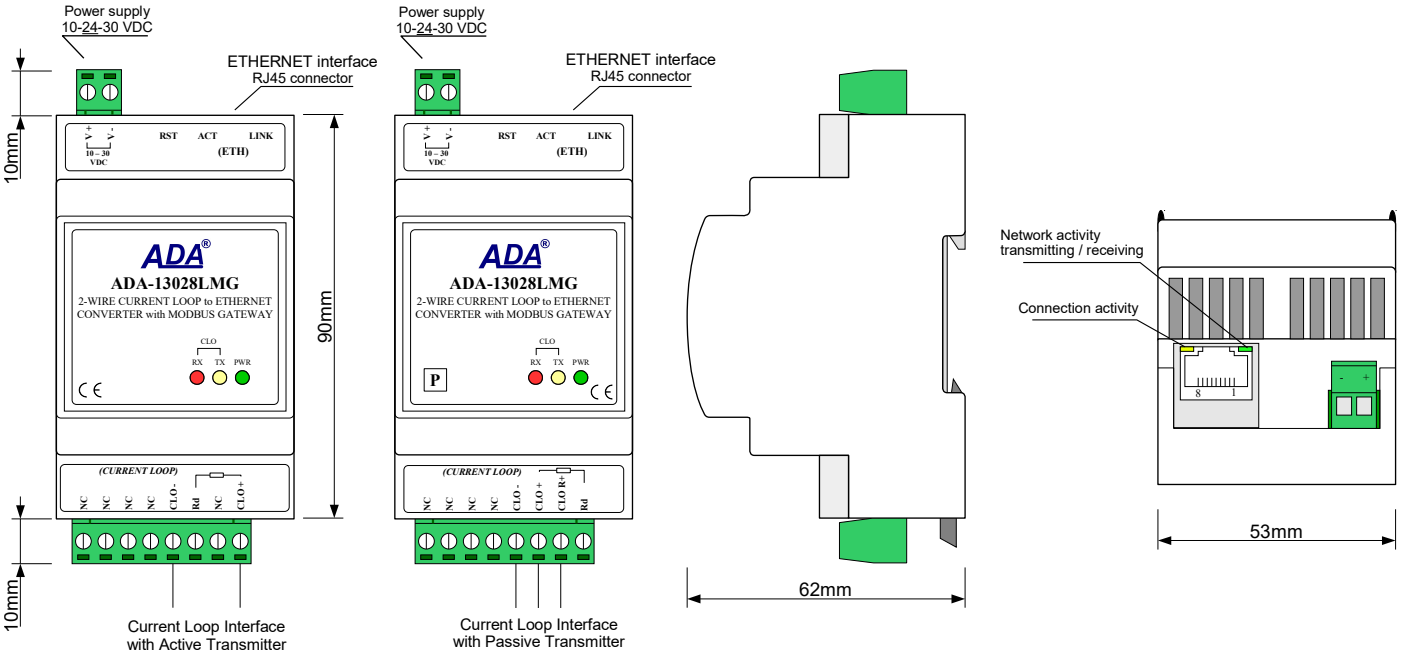
DIMENSIONS AND CONNECTION



VERSIONS

ADA-13028LMG - [ ] - [ ] - [ ] - [ ] [ ] [ ]

Electronic version:	
Standard	**1**
Current Loop Voltage:	
24VDC	**1**
12VDC	**2**
Current Loop Current:	
0 – 20 mA (standard)	**1**
0 – 30 mA	**2**
0 – 45 mA	**3**
Current Loop Type:	
Active	**A**
Passive	**P**
Galvanic Isolation:	
1kV= 3-way	**2**
3kV= 3-way	**3**
Connector type:	
Screw connector	**1**
Plug-in screw connector	**3**

Example of ordering for an energy meter with the CLO interface (IEC 62056-21):

Prod. symbol.: **ADA-13028LMG-1-1-1-A-2-3**

1 – standard electronic version,

1 – current loop voltage: 24VDC,

1 – current loop current: 0-20mA,

A – current loop type: Active,

2 – galvanic isolation 1kV=,

3 – plug-in screw connector type.

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