HARDWARE GUIDE

ATREYO®
SOLUTIONS THAT SIMPLIFY

AG-802

RS232 Gateway with data logger and LTE / GSM

Table of content

1. Introduction

The AG-802 is a Gateway dedicated to work with central controlling and monitoring systems. It directly sends data from serial interface RS232 via LTE/GSM or Ethernet[1] to the server. Gateway has isolated RS232 interface to communicate with weight scales, energy meters, sensors and any other RS232 devices. It also has an additional data logger function. It uses a USB flash drive for this purpose. In case of communication failure with the server, the gateway keeps a log on a flash drive and sends this data to the server when communication is regained. It can be configured by: internal website, SMS, string from server and configuration file loaded in predefined URL. For accurate time and location it has GPS and RTC.

The AG-802 has alert option with 10 mobile number list for SMS alerts. In superCap models there is power backup with power loss alert facility.

1.1. Features

- **LTE and GSM connectivity**
- **GNSS for accurate time and location**
- **Opto-isolated RSS232**
- **2 opto-isolated digital inputs**
- **SMS alert and with mobile number filtering**
- **Internal website for configuration**
- **LAN with PoE**
- **Serial RS232 archive data in USB pendrive**
- **Aluminium compact size casing**
- **35mm DIN rail mounting**

1.2. Technical specification

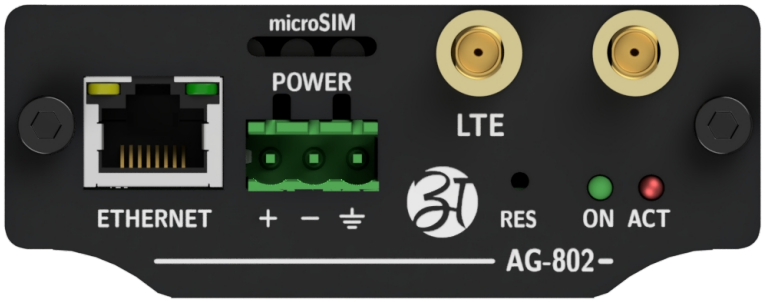
Technical specification is mentioned on separate document. Please visit product page

1 The current firmware version does not support SSL over Ethernet

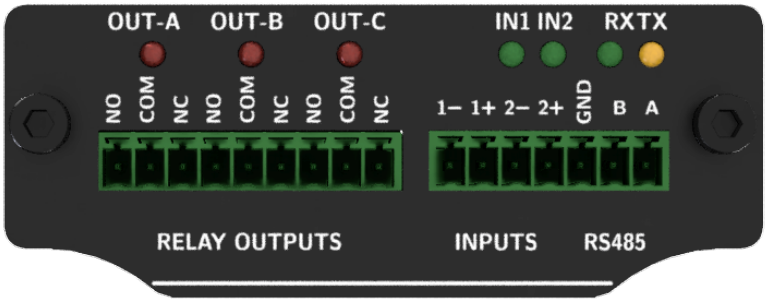
2. Layout

2.1. Layout and connector functions

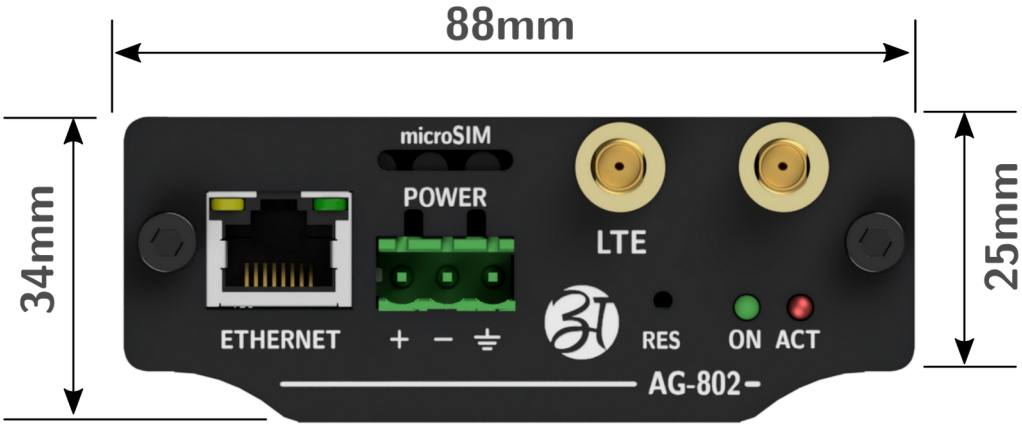
Top panel view



Connector panel view



2.2. Dimensions



2.3. Packaging list

AG-802 gateway

Antenna LTE + GNSS

All necessary pluggable connectors

DIN rail clamp with screws

2.4. Optional accessory

High gain LTE antenna / panel mount combo antenna

APS-10W24 – 3 phase power supply

24V/1A adapter power supply

3. Connectors, indicators and functions

3.1. Multi-function reset button

The AG-802 has multifunction reset button. This button is used to:

- reset device
- restart device
- make default configuration

Press and hold the reset button	Behaviour	Remark
1 to 10 seconds	power off	If device is using battery backup
10 to 20 seconds	restart device	
20 to 30 seconds	make default	
30 and more than 30	exit	

3.2. LED indicators

The device has 2 LED indicators on the antenna side and 8 on the I/O connector side. On antenna side are power (green) and activity (yellow) indicator. The behaviour of activity LED is according table.

LED	Function	Behaviour
POWER	Normal working condition	permanent ON
POWER	Low/high voltage supply	blinking 2 times per second
ACT	Normal working condition	blinking every 1 second
Signal	LTE signal level	0-25%, 25-50%, 50-75%, 75-100%
Serial	RX and TX data indication of RS232	blinking on data transfer
Inputs	Input 1 and 2 high level indication	ON if input high

3.3. LAN and PoE

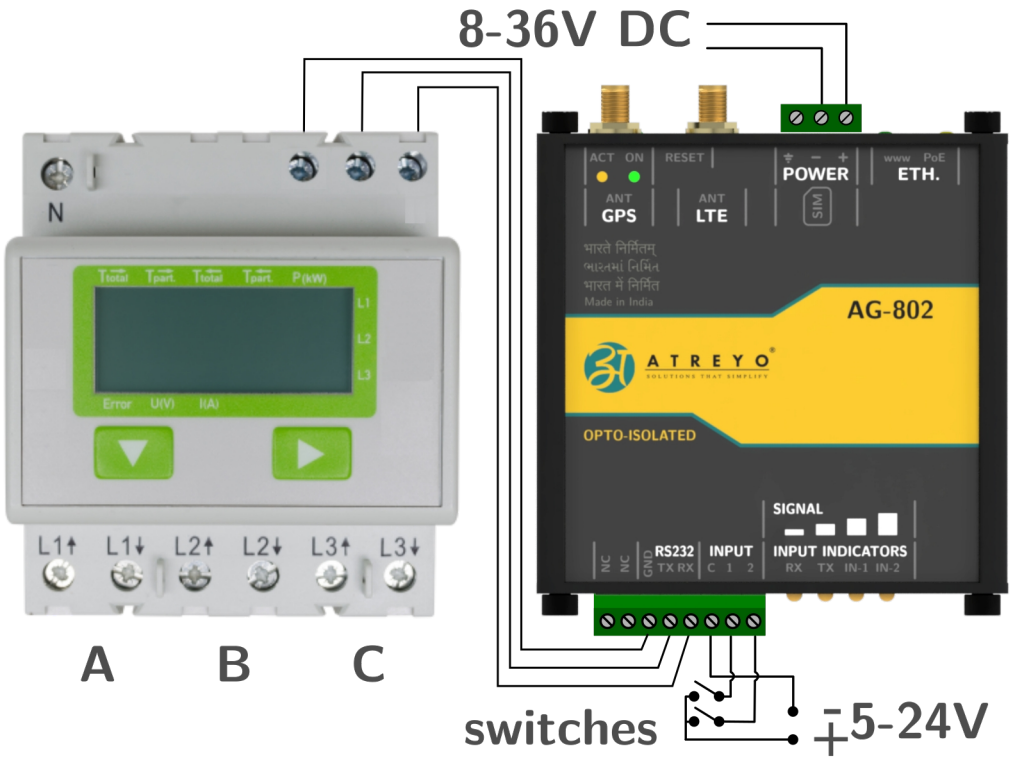
The LAN interface use standard RJ45 8 pin connector with LED indicators. The connector support PoE class A, with power supply range 10-36V DC. If we use screw terminal power connector to power the device the LAN line is protected against back voltage from device. The device is protected from reverse power polarity. If unknowingly it is reverse connected, the Gateway will not work, but will not be damaged. Follow the diagram of connection.

PIN number	Function	Remark
1	RX+	Data
2	RX-	Data
3	TX+	Data

PIN number	Function	Remark
4	DC +	Power supply positive
5	DC +	Power supply positive
6	TX-	Data
7	DC -	Power supply negative
8	DC -	Power supply negative

3.4. Serial – RS232

The device has opto-isolated RS232 interface with RX and TX signals. It is dedicated to energy meter, voltage meter and any other RS232 devices. All serial parameters like baud-rate, parity etc. is available in internal website.



3.5. SIM card

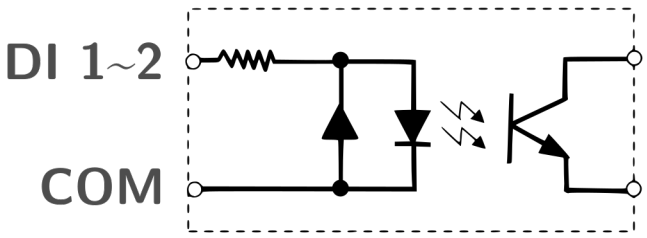
The device supports microSIM with voltage 1.8 and 3V. The card holder is push-in/push-out type. Ensure inserting SIM card in proper direction according to the illustration.

3.6. Antenna

The device has two female SMA connector for LTE/GSM antenna and for GPS antenna. For proper working it is necessary to connect LTE + GSM band antenna and proper GPS antenna. Antenna line is 50Ω type. Do not switch on device without antenna connected. For better connectivity in remote area it is necessary to use high gain antenna and place it outside of electrical panel box.

3.7. Digital inputs

The device has 2 opto-isolated up to 2500Vrms digital inputs with common minus signal. The signal maximum voltage is 30V DC. Inputs support only DC signal with proper polarisation. The input digital high is from 3.5V to V_{max}, and digital low from 0 to 2V. Inputs can be controlled also by open collector circuit with common positive. The input resistance is approx 2.7k. The input terminal diagram is as per below.



1+/2+ = digital input positive

COM = common digital input negative

If by mistake reverse polarity signal is connected to input the input will not work, but will not be damaged.

4. System functions

4.1. SMS alerts

There is option to send SMS alert to the dedicated mobile number when any one of digital inputs is activated. For details see AG-802 Configuration Guide.

4.2. Configuration of device

Configuration of AG-802 can be done by:

Internal website

For configuration by internal website connect the laptop by LAN cable to the device and in browser type IP address of device 192.168.10.50. It is necessary to make proper configuration of LAN network in laptop.

SMS commands

Device allow to make configuration by SMS command. There is option to filter allowed mobile number to make configuration.

String from TCP/IP server

By the command from server it is possible to make all configuration. But initially it is necessary to set server configuration in device by SMS or internal website.

File remotely loaded from server URL

The device can upload configuration file from remote URL. The configuration of URL initially can be done by SMS or by internal website.

Configuration details are specified in separate document – AG-802 Configuration Guide.

4.3. Power supply

The device is powered by external DC power supply. Minimum supply voltage is 8V and maximum 36V. Preferred 24V. Select the power supply requirement according to the below table. The device had protection against high voltage and reverse polarity. High voltage will blow inbuilt fuse. Reverse voltage will not damage device – the device will simply not work on reverse voltage.

Supply Voltage	Minimum A requirement	Suggested power supply rating
12V	1A	1.5A
15V	1A	1.5A
24V	0.5A	0.7A
32V	0.5A	0.5A

4.4. Mounting place and condition

The device is dedicated to use in environment that is clean and protected from water and dust. It can be used inside electrical panel boxes outdoor and without box in indoor application. Mounting on standard 35mm DIN rail. Device can be placed in any direction. Protect device from direct sunlight and any other heat source.

5. Legal

5.1. Copyright

5.2. Trademarks

5.3. Disclaimer

- All dimensions mentioned in the drawings are not to scale and may vary/differ due to construction contingencies and site conditions which are subject to change as may be decided by the company.
- The specifications and amenities mentioned in this document and promotional documents are only representational and informative. The descriptions in this specification are based on the default configuration of your device.
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