# TECHNICAL SPECIFICATION

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## CCMS Gateway with Modbus, timer and I/O

## AG-831




### Features

- **4G LTE and GSM connectivity**
- **3 independent relay outputs**
- **3 independent NO relay outputs**
- **Opto-isolated RS485 for Modbus RTU**
- **2 opto-isolated digital inputs with SMS alert**
- **Astronomical timer**
- **GNSS for accurate time and location**
- **Internal website for configuration**
- **LAN with PoE**
- **Output control from server and by SMS**
- **Modbus archive data in internal memory**
- **Aluminium compact size casing**
- **DIN rail mounting**

The AG-831 is a Gateway dedicated to work with central controlling and monitoring systems. It support two-way communication with server through LTE/GSM or Ethernet. It has inbuilt timer with 10 ON/OFF schedule within 24h, auto configurable sunrise/sunset timer based on geolocation and has 3 independent relay outputs. Every output can be controlled by separate time schedule. Gateway has isolated Modbus RTU interface to communicate with energy meters, PLCs and other Modbus devices. Can be configured by: internal website, SMS, string from server and configuration file loaded in predefine URL. For accurate time and location it has GPS and RTC.

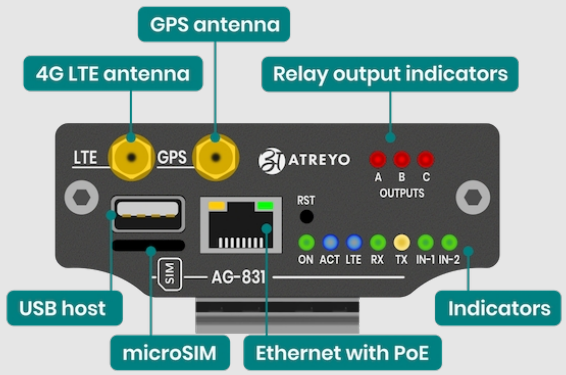
Gateway is for use in street light control panels and other application where it is needed to control accurate ON/OFF time with support of Modbus devices. It can be controlled remotely from server or via SMS or also work in stand alone mode.

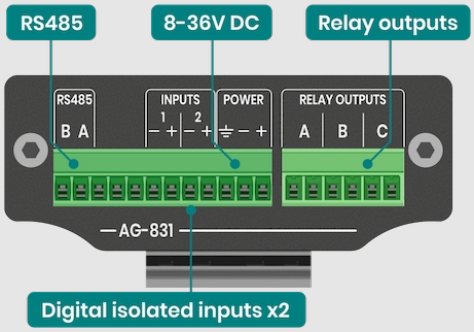
| Description | Parameter |
|---|---|
| **Serial RS485** | |
| **Port number** | 1 |
| **Interface type** | RS485 |
| **Data Rate** | 1200bps ~ 460800bps |
| **Signals** | A and B |
| **Connector** | Pluggable screw type |
| **Protection** | Opto-isolated 2.5 kV RMS per UL 1577<br>IEC 61000-4-2 level 4:<br>– 15 kV (air discharge)<br>– 8 kV (contact discharge) |
| | Fail-safe receiver for bus open, short and idle |
| **Ethernet** | |
| **Number** | 1 |
| **Type** | 10/100M port |
| **Connector** | RJ45 with LED indicators |
| **Cellular modem**[1] | |
| **Band** | Please refer table of cellular network on page 3 and 4. |
| **SIM card** | MicroSIM, push-pull type holder |

1 Apply to LT models. Refer model selection chart. LTE/GSM Bands are mentioned for in Cellular table section on page 3 and 4.

| Description | Parameter |
|---|---|
| | 3V/1.8V |
| **Antenna connector** | SMA female |
| **GNSS[2]** | |
| **GNSS systems** | GPS, BDS, Galileo, GLONASS, QZSS |
| **Antenna connector** | SMA female |
| **Digital inputs** | |
| **Input number** | 2 |
| **Input type** | Opto-isolated 2.5kV |
| **Configuration** | Separate IN-GND |
| **Connector** | Pluggable screw type |
| **Max $_{Vin}$** | 30V DC |
| **Logic 1 voltage** | 3.5V to max $_{Vin}$ |
| **System functions indicators** | |
| **Indicators** | PWR – power indicator |
| | ACT – activity |
| | TXD – RS485 data indicator |
| | RXD – RS485 data indicator |
| | Digital output indicators x 3 |
| | Digital input active indicator x 2 |
| **Configuration and system** | |
| **Configuration method** | SMS specific commands |
| | Internal website |
| | String from TCP/IP server |
| | Remote or local configuration file |
| **Access protection** | Password protection |
| **System protection** | Watchdog, and configurable guard |
| **OS support** | Any latest internet browser |

| Description | Parameter |
|---|---|
| **Power supply** | |
| **Power supply** | 8-36V |
| **Power consumption** | 3W average |
| **Connector** | Pluggable screw type |
| **PoE** | Passive PoE over spare pairs. Not compatible with IEEE802.3af, 802.3at and 802.3bt standards |
| **Protection** | Reverse polarity, over voltage |
| | |
| **Backup time** | 30 second |
| **Charging time** | 10 minute (approx) |
| **Physical characteristics** | |
| **Installation** | DIN-Rail, clamp |
| **Housing** | Aluminium |
| **Weight** | 270g |
| **Dimensions** | 88mm x 87mm x 35mm |
| **Environmental specification** | |
| **Operating temp.** | -25 ~ 75°C (-13 ~ 167°F) |
| **Storage temp.** | -40 ~ 85°C (-40 ~ 185°F) |
| **Ambient RH** | 5% ~ 95% (non-condensing) |




2 Apply to LT models. Refer ordering chart.

### Cellular modem specification of EU (Europe and India) version

| EU version of gateway | Cellular network modem details | |
|---|---|---|
| **Band LTE FTD** | B1/3/5/7/8/20/28 | |
| **Band LTE TDD** | B38/ 40/ 41 | |
| **Band GSM** | B2/3/5/8 (900/1800MHz) | |
| **GPRS slot** | Multi-slot class 12/10 | |
| **Bandwidth** | 1.4/ 3/ 5/ 10/ 15/ 20 MHz | |
| **Output power** | LTE-FDD | Class 3 (23 dBm ±2 dB) |
| | LTE-TDD | Class 3 (23 dBm ±2 dB) |
| | EGSM900 | Class 4 (33 dBm ±2 dB) |
| | DCS1800 | Class 1 (30 dBm ±2 dB) |
| **Maximum data rate** | LTE-FDD | 10 Mbps (DL), 5 Mbps (UL) |
| | LTE-TDD | 8.96 Mbps (DL), 3.1 Mbps (UL) |
| | GSM | 85.6 kbps (DL), 85.6 kbps (UL) |
| **Power** | Compliant to GSM phase 2/2+ | |
| | – Class 4 (2 W 900MHz) | |
| | – Class 1 (1 W 1800MHz) | |

### Standard model list

These are models in regular production. Other models are only made on order with a minimum order quantity. Please contact us if you require a custom order.

| Model | Hardware Options | | | | | More information |
|---|---|---|---|---|---|---|
| | Cellular Network | | | GNSS | Backup SuperCAP | |
| | GPRS | 3G | LTE | | | |
| AG-831 | | | | | | Without cellular modem |
| AG-831-LT-EU | ✓ | | ✓ | ✓ | | Model for India and EU |
| AG-831-LT-EU-SC | ✓ | | ✓ | ✓ | ✓ | Model for India and EU |

### Table with model structure for ordering

| Model Structure | |
|---|---|
| **Model structure example** | **AG-831- LT-EU-SC** |

**Base model name**

AG-831

**Cellular communication modem**

LT (cellular communication modem present)

**LTE/GSM module regional information**

EU (cellular modem for India and Europe)

**SuperCAP backup**

SC (for last message on power loss)

## Standard package list

| | | |
|---|---|---|
| 1 | AG-831 Gateway | |
| 2 | Cellular antenna[1] | Magnet with 2 or 3m cable |
| 3 | GNSS antenna | Magnet with 3m cable |
| 4 | DIN rail clamp with screws | |
| 5 | Female 12 pin connector without cable | |
| 6 | Female 6 pin connector without cable | |

**Please note: The set does not include a power supply.**

1 Models without a cellular modem will also not include cellular and GNSS antennas.

**For more details scan or click on QR code**


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