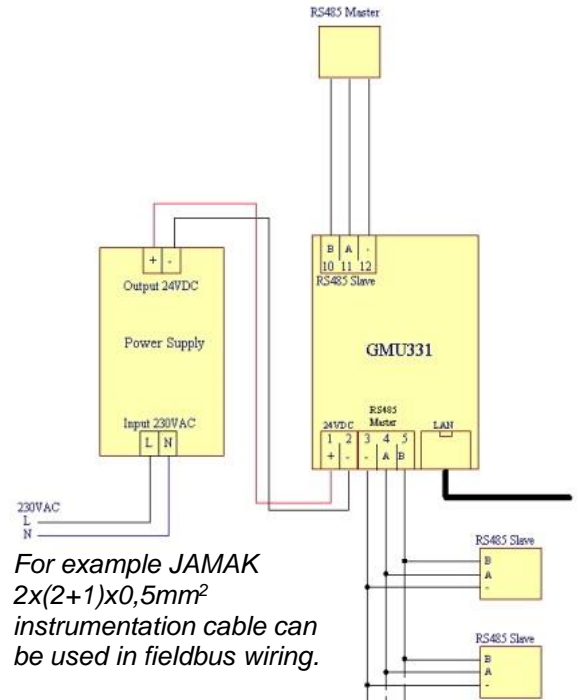


Commissioning of the device:

1. Install Lantronix DeviceInstaller to your work station.
2. Connect the LAN cable and power supply.
3. Connect necessary Modbus devices, see picture.
4. When device is powered up STA led flashes once and then both leds flashes once simultaneously.
5. Connect the device to your work station or to the same local area network with it.
6. Open the DeviceInstaller application, find the device and configure the server settings. STA led lights up when the device has server connection.
7. Configure Modbus master reading with the server application (e.g. ionSign Cloud) and the data collection commences.



Connecting to the device

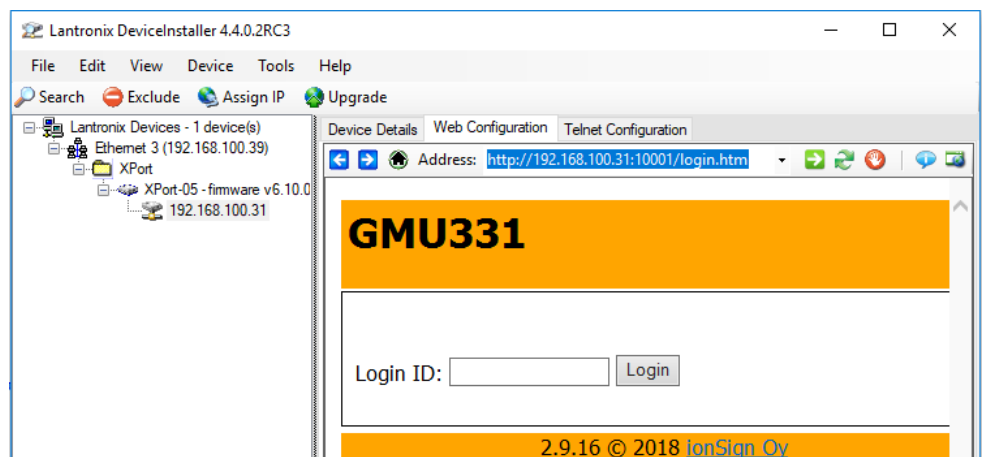
DeviceInstaller can be found: <https://www.lantronix.com/products/deviceinstaller/>. If the LAN has an active DHCP server, the device assumes an IP address from the LAN, when powered up with default settings. Also a fixed IP address may be used.

The device appears on the device list, on the left side of the window. Firmware version (v6.10.0.1) and device IP address (192.168.100.31) can also be found here. If the device is not visible, click the *Search* button.

Click on the device IP address and choose the Web configuration tab on the right side of the application window. If a Lantronix configuration page appears, do not make any changes there.

To access the configuration page, set 10001 as the port for the IP address (write “:10001” after the IP in the address field) and click on the white arrow on the right side of the field. The device Login window appears. Log in with the default ID “1234”, the device configuration window appears.

When the device IP is known, any browser may also be used for configuration. In the example case, the address is <http://192.168.100.31:10001>.



1 General

The Gluon GMU331 Smart Gateway is designed for collecting and transmitting data from devices connected to it with Modbus fieldbus. Data is transmitted to a server in the LAN/TCP-IP network, and may also be read from the Modbus slave port of the unit. After commissioning, the device collects and transmits data spontaneously, without separate queries. Device management may be done from a different server than where data is being sent.

2 Indication lights

Green **STB** is **ON** when the unit has settings and server connection. **STB blinks** for a minute after Factory reset, and goes **OFF**, when the device has no settings.

Red **STA** is **ON** when all devices in the Modbus master port are responding. **STA blinks**, when at least one device is not responding. **STA is OFF**, when Modbus reading is not configured, or none of the devices are responding.

3 Settings

Device settings include the following. Close by clicking on **Save**.

Device ID defines a unique, user defined ID for each device. The range is 1 - 1 000 000. Zero indicates that the device is not in use.

Modbus slave ID defines the Modbus slave ID for the device. The range is 1 - 255. Zero indicates that the Modbus slave is not in use.

Server settings include the following. Close by clicking on Save.

Update interval defines how often the device reads and transmits data. The range is 5-30 000 seconds. If the interval is between 1...60 minutes, and 60 is divisible by the interval, transmission is synchronized to the next full hour. Also, if the interval is over 60 minutes, and divisible by 30, transmission is synchronized to the next full hour.

Address defines the address to the server, where data is transmitted. Either an IP address or a DNS address are accepted. Maximum length is 40 characters.

Port defines the port, to which the server is expecting communication. The range is 1 - 65535.

Path defines the server folder to which data is transmitted. Maximum length is 30 characters.

Update interval, s	Update interval, h:min	Example of transmit scheduling, when the settings are made at 11:55 o'clock.
60	0h 1m	12:00 12:01 12:02 12:03 ...
720	0h 12m	12:00 12:12 12:24 12:36 ...
900	0h 15m	12:00 12:15 12:30 12:45 ...
1800	0h 30m	12:00 12:30 13:00 13:30 ...

Modbus settings define the master and slave bus communications: Baud rate, parity, number of data bits and number of stop bits. Close by clicking on **Save**.

Maintenance settings include the following. Close by clicking on Save.

Address defines the address to the device management server. Both IP and DNS addresses are accepted. Maximum length is 40 characters.

Port defines the port, to which the server is expecting communication. The range is 1 - 65535.

Path defines the server folder to which data is transmitted. Maximum length is 30 characters.

Update firmware updates the device firmware.

Factory reset restores default settings and resets all settings and data.

Security settings include the following. Close by clicking on **Save**.

Credential string defines the Base64 encoded string for Basic HTTP authentication. Empty setting disables authentication. Maximum length is 50 characters.

Login ID sets the ID for logging into the device.

4 Modbus slave

Values of collected data by the device can be read from Modbus slave port registers. In addition some settings can be set to these registers. Device's default Modbus slave ID is 1 and there is separate operating instruction for usage of device specific registers.

5 Modbus master reading

With Modbus master reading device can be set to collect data from meters connected to the device's Modbus master port. Collected data is sent to the server. Modbus master reading settings can be given with server application.

6 Failure Recovery

The device has no built-in backup power, so data is not collected nor sent during power failures. When power supply resumes however, the device assumes all prior settings and starts collecting and sending data without any need for user intervention.

For data transmission network failures, the device has a built-in local buffer for keeping collected data stored for later transmission. The buffer stores up to 13 000 data series. With a 15 minute update interval, the buffer stores data for 135 days. When the network resumes service, the device automatically flushes the buffer to the server and continues transmitting new data.

7 GMU331 Technical Specifications

- Integrated web server with LAN connection.

- 2 RS485 connections (Modbus master and slave).
- Operating voltage: 12...24 VDC.
- Power consumption: 100 mA.
- Real-time clock with battery backup.
- Size: WxHxD 51 x 115 x 58 mm (3 module wide DIN enclosure).
- Protection class: IP20.
- Operating temperature range: -25°C...+50°C.
- Relative humidity: 5% - 95%, non-condensing.
- Data storage capacity: 13 000 data series (250 Modbus registers). With 15 min update interval, memory buffer can hold 135 days of data series.
- Data communication: LAN / TCP-IP.

8 Warranty

ionSign grants a warranty of two (2) years for all delivered devices and software services. The warranty starts on the date of the delivery and it covers material and manufacturing defects. The warranty does not cover defects caused by improper use or installation nor does it cover defects caused by factors out of ionSign's control. These would be for instance grid malfunction or service changes of network operators' services. ionSign delivers a new device to replace the defected one, without cost. Alternatively, ionSign may repair the defected device. The defected device must be returned to ionSign, if required, at ionSign's cost. The warranty does not cover dismantling, installation, and introduction costs and the like. ionSign warrants that the provided software essentially manage with their designed tasks, at the time of delivery. All significant software defects are covered by the warranty. The defects will be resolved without unnecessary delay. The resolution may be an instruction to circumvent the defect. If the delivery includes third party products or services, these are only covered by the applicable warranty provided by that third party. Title to the delivered goods transfers to the client, when the invoiced price is paid in full. All immaterial rights related to devices and services remain the property of ionSign. If the service was a design assignment, the client assumes the right to use and further develop the assignment results. ionSign is eligible to use the client's name as a reference in its marketing. ionSign is not eligible to disclose the order details without prior consent. In case of a force majeure, preventing to act according to the purchase agreement, the affected party will start immediate negotiations to assess the effects of the obstacle on the scope and schedule of the purchase agreement. ionSign appropriately backs up client's data residing on its servers. In spite of this, ionSign assumes no responsibility of possible damage due to loss of data. ionSign assumes no responsibility of direct or indirect damage to property or people, nor work or travel expenses, caused by using its services or devices, unless due to gross negligence. ionSign's financial liability is always limited to the value of the delivered goods and services, unless other-wise inflicted by the Finnish law.

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