PRODUCT INTRODUCTION

LM Gateway101-IoT, the data acquisition gateway, provides 1 RS-485 serial port and 1 10/100 Mbps Ethernet port. It provides complete industrial protocols support including Modbus, BACnet, OPCUA, DLT645, Siemens PLC, etc, provides external data as Modbus RTU, Modbus TCP server. The gateway and cloud platform use the instant messaging protocol MQTT to transmit data. The gateway can be used as an MQTT client to connect to Alibaba Cloud, Amazon Cloud,etc. The data points of the gateway are pushed to the cloud through the mechanism of subscription and published, and the cloud can read and write to the collected device through the gateway, which supports disconnected storage.

HARDWARE SPECIFICATION

LM Gateway101 Hardware parameters：	
CPU	ARM926EJ, clocked at 300MHz
RAM	64MByte high performance memory
Nand Flash	128MByte SLC Flash
Serial port	1 fully isolated RS485 interface
Network port	1 100M/10M Ethernet interface
WIFI	USB WLAN card optional
Power supply	DC9V～48V, Anti-reverse connection, lightning resistance, overcurrent,etc.
Total Weight	280g
Enclosure rating	IP51
Installation size	98.5mm×96mm×27mm(L×W×H)
Mechanical installation	DIN rail card slot fixing
LM Gateway101 Environmental parameters：	
Power consumption	The biggest power consumption is ≤3W
Operating temperature	-40～85℃ 20～90％ non-condensing

INTERFACE DEFINITION

1．POWER

SIGNAL	DESCRIPTION
V+	Positive power supply
V-	Negative power supply
E	Safety ground

2．DC，5.5*2.1mm

+ In the environment of poor power quality, it is recommended to use a switching power supply which can effectively improve the anti-interference ability of the gateway.

3．Network port

+ 10/100M high speed adaptive network card；
+ It adopts dual-level lightning protection and anti-static protection to resist 2KV lightning strikes；
+ Unique MAC address.

LAN	IP	Subnet mask
Eth0	192.168.1.233	255.255.255.0

4．CON

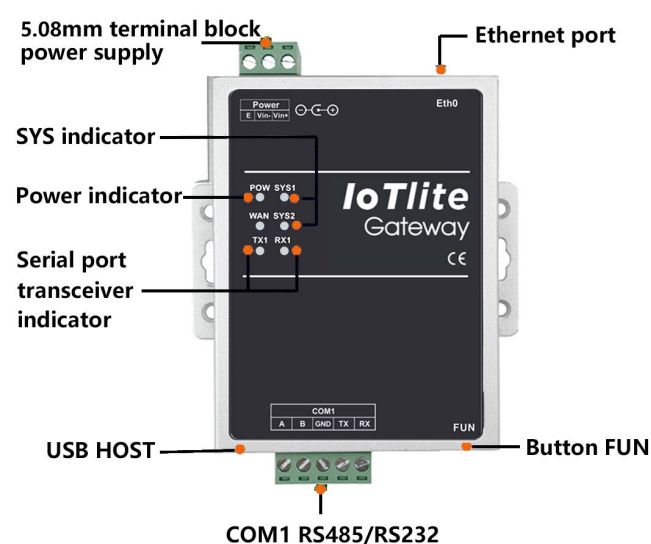| PIN	SIGNAL	DESCRIPTION
1	COM1-A	RS485-1 Positive signal
2	COM1-B	RS485-1 Negative signal
3	COM1-GND	Signal ground
4	COM1-TX	RS232-1 Signal sender
5	COM1-RX	RS232-1 Signal receiver

RS485：

+ Fully isolated RS485 interface with three levels of protection ；
+ Supports the highest level of 4KV protection for the 10/700uS test in the GB/T 17626.5-2008 standard；
+ ±15kV human body discharge mode；
+ ±15kV IEC1000-4-2 air gap discharge；
+ Communication parameters can be configured, default communication parameters: 9600, 8-1-N.

5．LEDx-Lightting

PIN	Signal	DESCRIPTION
1	POWER	Power indication
2	SYS	System operation indication
3	TX1	The serial port sends the indication, and the right side receives the indication
4	RX1	The serial port receives the indication

INTERFACE REMARKS

DATA SERVICE

+ The gateway provide external data as a Modbus RTU and Modbus

TCP server. It supports 4 functional areas(0x, 1x, 3x, 4x) & various types of data(int16, int32, float32,etc.)

+ The gateway can connect to Alibaba Cloud, Amazon Cloud,etc as an MQTT client. The data points of the gateway are pushed to the cloud through the mechanism of subscription and published, we can read and write to the collected device in the cloud through the gateway.

+ The gateway provides an http server, which supports two common methods(GET and POST). Users can retrieve real-time data and stored historical data of the gateway through the http server interface.

+ Support data points up to 1000.

DATA OPERATION

Support arithmetic and function operations, logical judgments, Boolean operations.

IoT

With the MQTT protocol, the gateway can communicate with the cloud server. Support Alibaba Cloud, Amazon Cloud and other private cloud servers. We launch LM Cloud, which can facilitate users to verify data on the cloud, WeChat public accounts and other IoT applications.

ALARMS AND EVENTS

The Alarms and Events page allows the user to set the trigger condition for the event, trigger the event when the condition is met, and perform the event release when the state transitions from the satisfied condition to the unsatisfied condition.

MISSION PLAN

The user establishes a mission plan that specifies the values for multiple points for the day of the week and time period. Please calibrate the gateway time before using the mission planning function.

JavaScript EDITING

JavaScript script editor built-in function, user can customize logic control by editing script language.
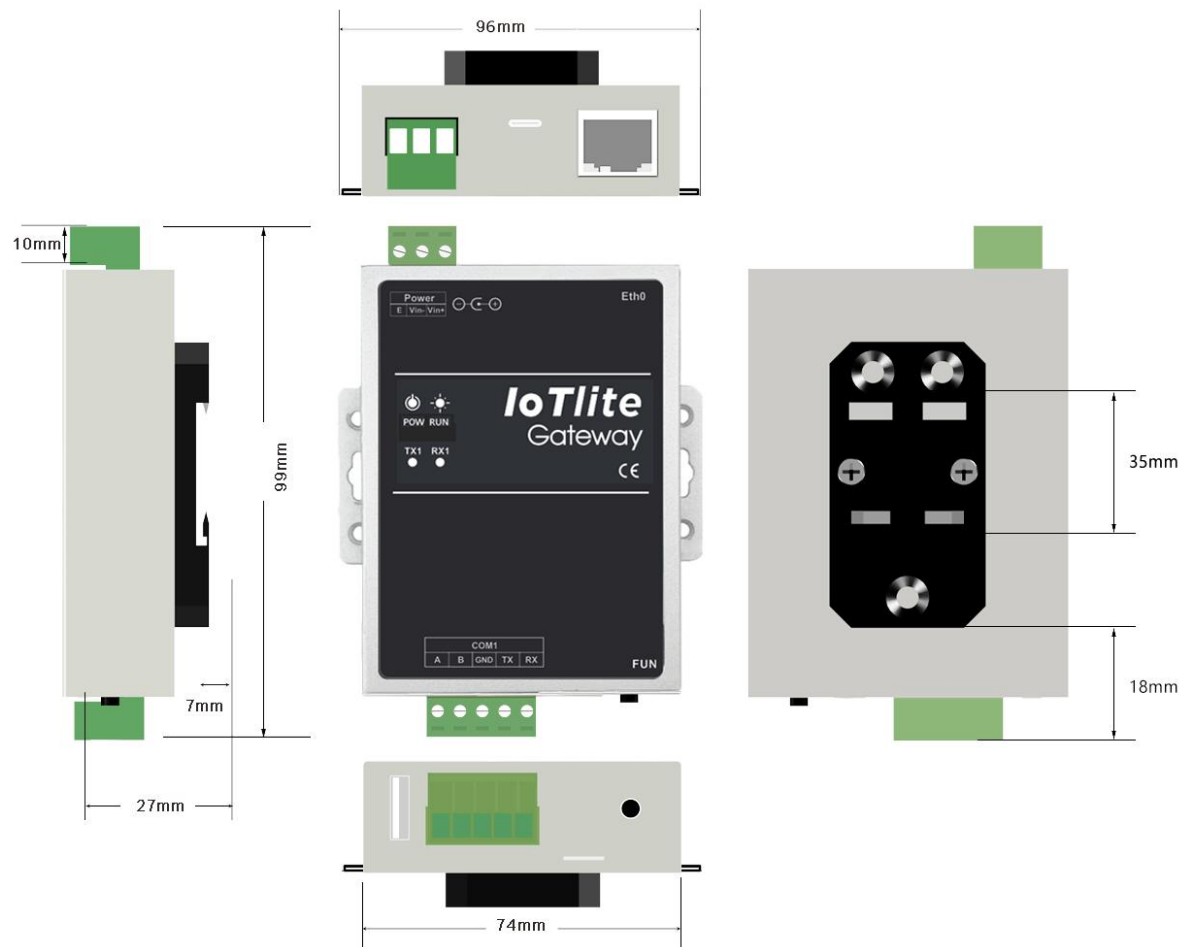
CONFIGURING THE GATEWAY

LAN operation steps:

1. Power the gateway;
2. Connect the LM Gateway101 data collection gateway to the computer or switch using a crossover cable; (PS. the gateway and the computer are in the same network segment);
3. Use the tool software to configure the data acquisition gateway. For the operation, see the configuration manual of the configuration tool.

Remote operation steps

1. Open the browser and enter the URL http://hub.iotddc.com
2. Generate the gwID and write it to the gateway through the configuration tool
3. After the gateway is restarted, the gateway can be operated remotely.

More specific operation, click here：

http://www.lmgateway.com/images/2.3config.mp4

CONTACT US

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	Data acquisition driver	Serial port	Network port
Instrumentation	Modbus Protocol	Modbus RTU	Modbus TCP
		ModbusAscii	Modbus RTU_over_TCP
	DLT645 Protocol	DLT645-1997	DLT645_over_TCP
		DLT645-2007	
		DLT645.98	
	CJ188 Protocol	CJ188	/
	Mbus Protocol	MBus_EnergyMeter	/
		MBus_EN1434	
PLC	MitsubishiProtocol	Mitsubishi Fx3U	MC_Qna-3EBinary
		Mitsubishi Fx485	MC_Qna-1EBinary
	Siemens Protocol	Siemens S7-200 PPI	Siemens S7-200 Network
			Siemens S7-300 Network
			Siemens S7-400 Network
			Siemens S7-1200 Network
			Siemens S7-1500 Network
			FetchWrite
	AB	/	AB NET
	HOSTLINK	HOSTLINK-FINS	OMRON_FINS
		HOSTLINK-CMODE	
	Panasonic	Mewtocol	/
	YOKOGAWA	/	YOKOGAWA PLC
	FUJI	/	FUJI_SPH_NET
Eco protection	212Protocol	Environmental protection 212 protocol serial monitoring	Environmental protection 212 protocol network port monitoring
Building communications	BACnet Protocol	BACnet MS/TP	BACnet IP
			KNX
Industrial control, automation interface standards	OPC Protocol	/	OPC UA
			OPC DA
			OPC XML DA
Substation communication standards	IEC Protocol	/	IEC104
CNC	FANUC		FANUC