

## PRODUCT INTRODUCTION

LM Gateway414-MQTT data acquisition gateway, based on a solid hardware platform design, a complete software kernel. The gateway provides 4 RS-485 serial ports and 2 10/100 Mbps Ethernet port. The gateway embeds standard data acquisition drivers such as Modbus, DLT645, CJ188, BACnet, Mbus, PPI provide proprietary protocol driver integration.

The gateway and the cloud platform use the instant messaging protocol MQTT to transmit data. To ensure the security of message transmission, SSL encryption can be adopted. The data format is JSON. The gateway supports data operations, data storage, event management and other functions.



## HARDWARE SPECIFICATION

### LM Gateway414 Hardware parameters:

CPU	4 core A9, clocked at 1.4GHz
RAM	512MB DDR3 High performance memory
Nand Flash	MLC eMMC Onboard is 4GByte eMMC
Serial port	4 fully isolated RS485 interface
Network port	2 100M/10M Ethernet interface
power supply	DC9V~36V
Total Weight	210g
Enclosure rating	IP51
Installation size	140mm×112mm×35mm (L×W×H)
Mechanical installation	DIN rail card slot fixing

### LM Gateway414 Environmental parameters:

Power consumption	The maximum power consumption of the motherboard is ≤3W
Operating temperature	-40~80℃
	20 to 90% non-condensing

## INTERFACE DEFINITION

### 1. POWER

SIGNAL	DESCRIPTION
Vin+	Power supply
Vin-	Negative power supply
E	Safety ground

### 2. DC seat, 5.5\*2.1mm

In an environment with poor power quality, it is recommended to use a switching power supply to effectively improve the gateway's anti-interference ability.

### 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	192.168.1.230	255.255.255.0
Eth1	192.168.0.230	255.255.255.0

### 4. CON

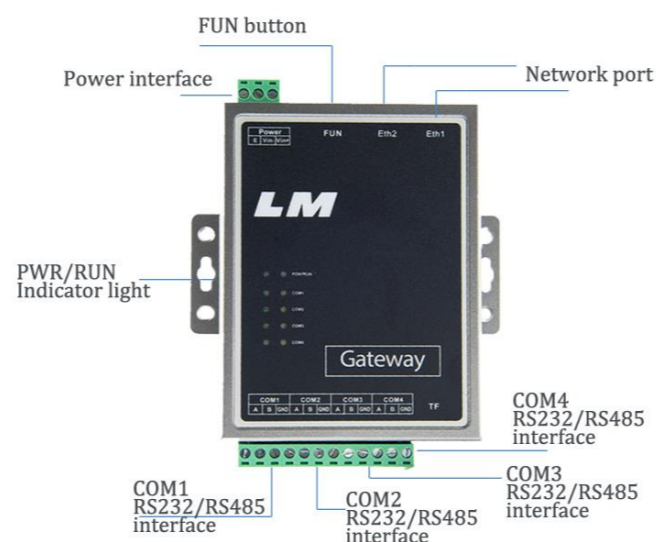
PIN	SIGNAL	DESCRIPTION
1	COM1-A	RS485-1 Positive signal
2	COM1-B	RS485-1 Negative signal
3	COM1-GND	Signal ground
4	COM2-A	RS485-2 Positive signal
5	COM2-B	RS485-2 Negative signal
6	COM2-GND	Signal ground
7	COM3-A	RS485-3 Positive signal
8	COM3-B	RS485-3 Negative signal
9	COM3-GND	Signal ground
10	COM4-A	RS485-4 Positive signal
11	COM4-B	RS485-4 Negative signal
12	COM4-GND	Signal ground

### 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. LED

PIN	MARK	DESCRIPTION
1	POWER	Power indicator, the light is on
2	RUN	System operation indication
3	COM1	Serial port 1 transceiver indication, green transmission, yellow reception
4	COM2	Serial port 2 transceiver indication, green transmission, yellow reception
5	COM3	Serial port 3 transceiver indication, green transmission, yellow reception
6	COM4	Serial port 4transceiver indication, green transmission, yellow reception



## DATA ACQUISITION DRIVER

### Network port

- Modbus TCP Client
- Modbus RTU\_over\_TCP
- BACnet IP
- Siemens S7-200 Network
- Siemens S7-1200 Network
- Siemens S7-300 Network
- OPC UA

### Serial port

- Modbus RTU
- DLT645-1997,DLT645-2007
- CJ188
- Siemens S7-200 PPI
- Mbus\_EnergyMeter
- BACnet MS/TP

## DATA SERVICE

As the MQTT client, the gateway connects to the private cloud, Alibaba Cloud, Baidu Cloud, Tencent Cloud, etc., and pushes the data points of the gateway to the cloud through the mechanism of subscription and publishing. The cloud can read and write the front-end device through the gateway.

## DATA OPERATION

The data can be calculated by the expression. For example, A represents a collection point, the expression A/100 can be edited, the data is reduced by 100 times, A+0.5, the value is shifted by 0.5, and so on.

## DATA STORAGE

The gateway has data storage function, which can realize data storage of I/O points, user points, calculation points and system points. The data of the gateway can only be stored in the TF card.

## IoT

IoT data center, which is convenient for users to verify Internet of Things applications such as gateways, cloud services, and WeChat public accounts.

## 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

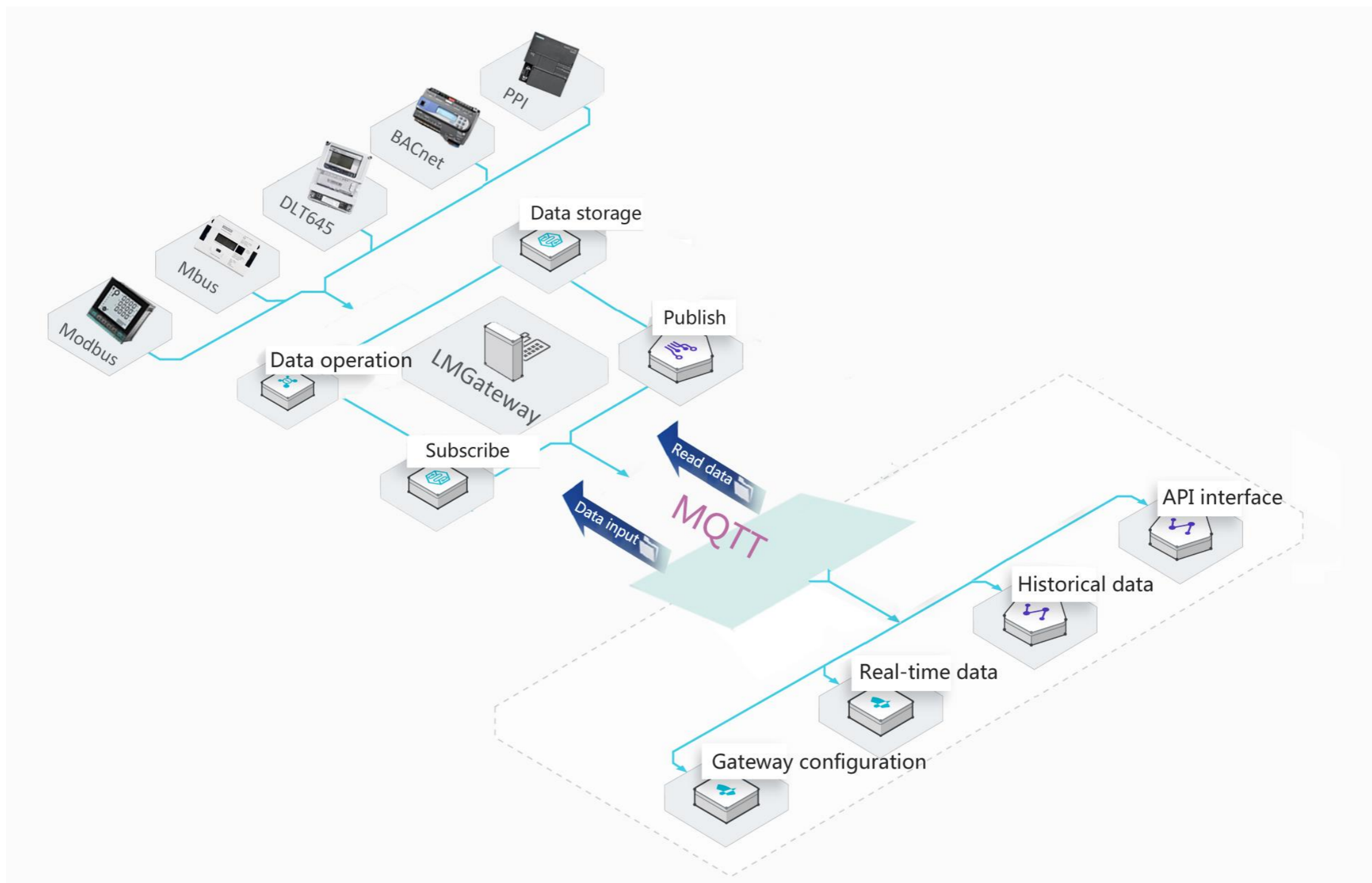
The user establishes a mission plan that specifies the values for multiple points for the day of the week and time period. Please

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

-----Application icon-----



## CONFIGURING THE GATEWAY

- 1, Power the gateway;
2. Connect the LM Gateway414 data collection gateway to the computer or switch using a crossover cable; (note that 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.

## CONTACT US

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[Download configuration tool](#)

[www.lmgateway.com](http://www.lmgateway.com)

