HAC-MLWA LoRaWAN Non-magnetic Inductive Metering Module

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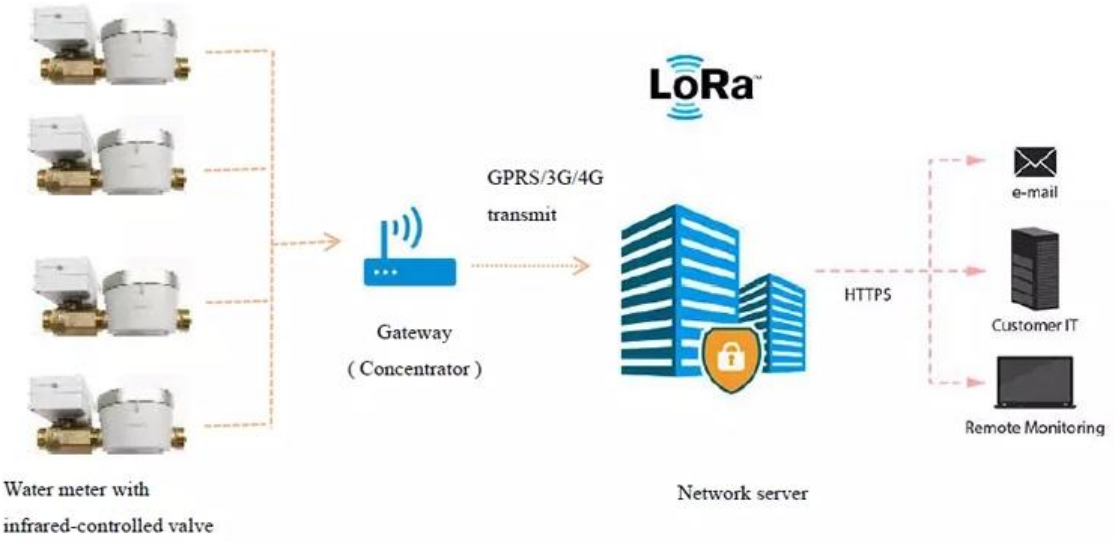
Catalog

I. Overview

HAC-MLWA non-magnetic inductive metering module is a low-power module that integrates non-magnetic measurement, acquisition, communication and data transmission. The module can monitor abnormal states such as magnetic interference and battery undervoltage, and report it to the management platform immediately. App updates are supported. It complies with LORAWAN1.0.2 standard protocol. HAC-MLWA meter-end module and Gateway build a star network, which is convenient for network maintenance, high reliability and strong expansibility.



II. Module Features

- LoRa modulation mode, long communication distance; ADR function is available, automatic switching of multi-frequency points and multi-rates to improve the reliability of transmission; Adopting the TDMA communication technology, automatically synchronizing the communication time unit to avoid data collision; OTAA air activation network automatically generated Encryption key, simple operation and convenient maintenance; Data encrypted with multiple keys, high security; Support wireless or infrared (optional) parameter setting reading;
- The non-magnetic metering sensor comes with a low-power MCU, which collects and processes 3-channel inductance signals and supports forward and reverse metering. The non-magnetic metering sensor supports automatic switching between high-speed sampling and low-speed sampling to achieve the optimal design of power consumption; The max flow rate is 5 cubic meters per hour.
- Non-magnetic inductance supports the disassembly detection flag setting function. When disassembly is detected, the disassembly flag is set, and the abnormal flag is reported when

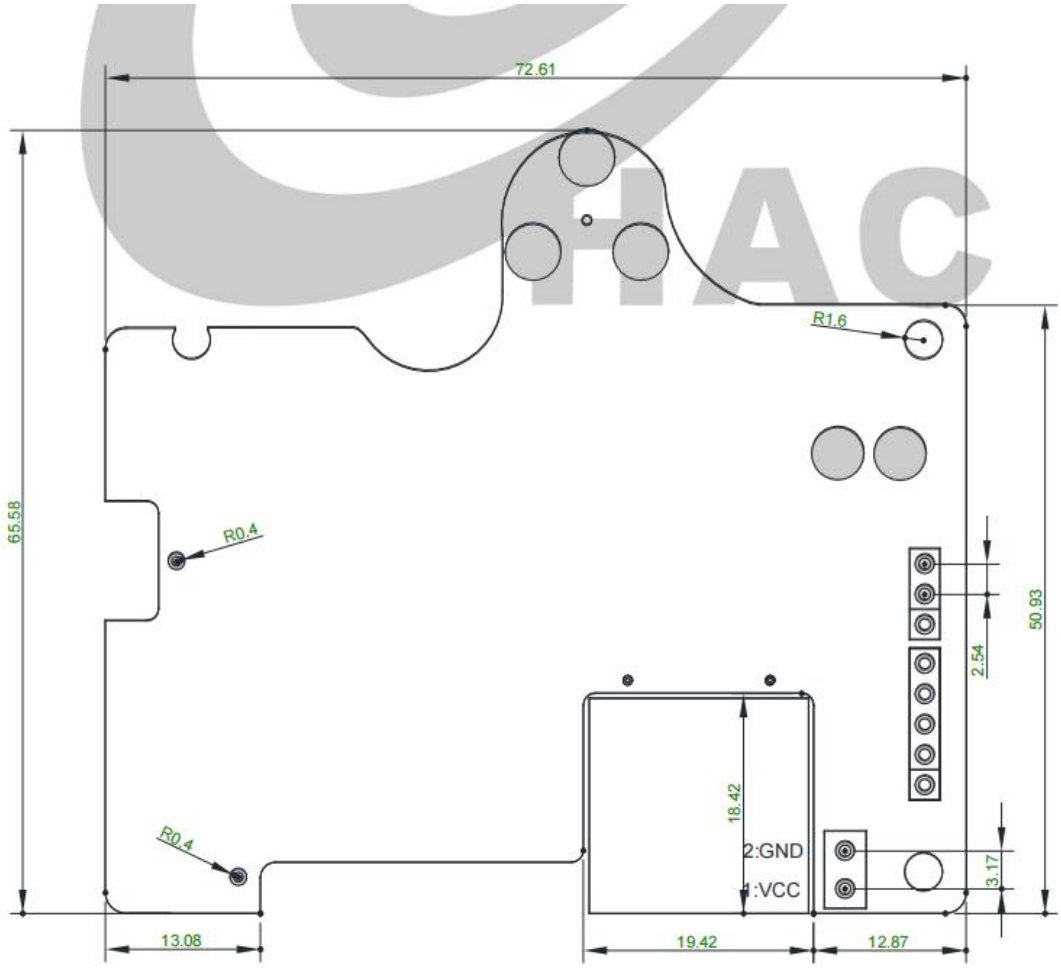
reporting.

- Battery low voltage detection report: when the voltage is lower than 3.2V (Error: 0.1V), set the battery low voltage flag; report this abnormal flag when reporting.
- Magnetic interference detection and reporting: when it is detected that the module is subject to magnetic interference, the magnetic interference flag is set, and the abnormal flag is reported when reporting.
- Built-in memory, internal parameters will not be lost after power off, and can be used normally without setting parameters again after changing the battery.
- Default data report: one data in every 24 hours.
- The function parameters of the module can be set through wireless, and the near-field infrared setting function can be optional.
- Support infrared method to upgrade the application firmware.
- Standard spring antenna, flexible circuit board antenna or other metal antennas can also be customized according to different requirements.

III. Technical Specs

No.	Item	Parameters
1	Working frequency	The frequency listed in the LoRaWAN protocol
2	Transmitting power	The allow max power listed in the LoRaWAN protocol
3	Receiving sensitivity	<-136dBm
4	Working temperature	-20℃～+70℃
5	Working voltage	+3.1V～+3.8V
6	Receiving current	≤10mA
7	Transmitting current	≤130mA
8	Static current	≤28μA
9	Transmitting distance	≤15km

IV. Interface definition



Interface definition

Pin No.	Name	Description
1	VCC	DC3.1V~3.8V
2	GND	Ground