

LoRaWAN Module with Chlorine Sensor

Make: EnthuTech
Brand: ETS IoT
Model: ETS IoT - LM



Product Overview:

The ETS IoT – LM is a LoRaWAN Wireless Module used to convert RS485 Modbus / UART / Pulse (Optional) to LoRaWAN wireless signal. It is suitable to Interface with Sensors/ Devices with RS485 Modbus / UART Output/ Pulse (Optional). This provides a 3.3v output and a 5v output to power external sensors. Both output voltages are controllable to minimize the total system power consumption.

ETS IoT - LM runs standard LoRaWAN 1.0.3 in Class A. It can reach a long transfer range and is easy to integrate with any LoRaWAN-compatible gateway and IoT server.

For data uplink, ETS IoT - LM sends user-defined commands to RS485 devices and gets the return from the RS485 devices, and processes these returns data according to user-defined rules to get the final payload and upload to the LoRaWAN server. For Pulse Output User Can get Interrupt Uplink (or) accumulated pulse count based on the settings.

ETS IoT - LM Supports BLE configuration and wireless OTA update which makes users easy to use. The above image shown is Solar Power version based on Power supply selection product image may vary.

Salient Features:

- LoRaWAN 1.0.3 Class A
- Frequency Band: IN865
- Ultra-low power consumption
- Support multiply RS485 devices by flexible rules
- Support Modbus protocol
- Support Pulse/ Interrupt uplink (Optional)
- Supports connecting UART sensors with 3.3V or 5V
- Support Bluetooth v5.1 and LoRaWAN remote configure
- Support wireless OTA update firmware
- AT Commands to change parameters
- Uplink on periodically
- Downlink to change configure
- IP67 Waterproof Enclosure

Hardware Specifications:

- ARM microcontroller with 256KB flash and 64KB RAM
- +5v controllable output
- 1 x RS485 Interface
- 1 x UART Interface , 3.3v or 5v
- 1 x Interrupt or Digital IN/OUT pins
- 1 x I2C Interface
- 1 x one wire interface

Power Supply Provisions (Optional to Select):

- 8500mAh Li/SOCI2 Non-Rechargeable Battery
- Solar panel + 3000mAh Li-Ion battery
- 230VAC Power + 2600mAh Li-Ion Battery

Operating Temperature Ratings:

- Operating Temperature: -40 ~ 85°C

Accessories:

- Can be provided on request

Applications:

- Interface with any RS485 Modbus/ UART/ Pulse/ I2C/ One-Wire Sensors

Product Certification and Compliances:

- WPC, CE, IEC 61131-3:2013, IEC 61131-5:2013, ISO/IEC 14882:1998, ISO/IEC 17025:2017

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ONLINE RESIDUAL DISSOLVED CHLORINE SENSOR:



OPTIONAL ACCESSORIES



Protective case

Sensor Overview:

Online Residual Dissolved Chlorine controller is widely used for the continuous monitoring and controlling of residual chlorine value in water solution, such as the automatic control of recirculating water, chlorination control in swimming pool, distribution network of drinking water, swimming pool, hospital wastewater and water treatment engineering. Due to continuous improvement in product the looks may vary.

Feature:

- Adopting non-membrane constant voltage sensor, no need to replace membrane and electrolyte
- Automatic/manual temperature compensation function
- Optional online data acquisition software
- Able to restore factory Settings
- 1 channel 4~20mA current output
- Supports RS485 communication
- 2 groups of ON/OFF relay control
- Supports the IoT system integration
- Watchdog function

SENSOR SPECIFICATION:

Residual Chlorine Range	: 0 - 20.00 mg/L (ppm)
Temperature Range	: 0~60°C.
Resolution	: 0.01 mg/L, 0.1°C
Display	: LCD backlit
Accuracy	: better than $\pm 1\%$ or ± 0.01 mg/L, $\pm 0.5^\circ\text{C}$
Temperature Comp.	: Manual / automatic, temperature compensation (0~60°C)
Set Points	: 02 Nos (High & Low)
Control Output	: 02 Nos Potential free Relay (3A, 220VAC / 24VDC)
Output 1	: 4 to 20 mA Dc isolated
Output 2	: RS 485 MODBUS
Environment Condition	: 0~60°C, relative humidity $\leq 90\%$.
Supply Voltage	: 220 VAC10%, 50/60Hz
Mounting	: Panel Mounted
Dimensions	: 96 x 105 x 168 mm
Weight	: 0.9Kg
Protection	: IP 65

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