

LoRaWAN® Controller

IOT-C50x Series



IOT-C50x series is a LoRaWAN® controller used for data acquisition from various sensors and equipments. It contains different I/O interfaces such as analog input, digital input, digital output, serial port and so on, which simplify the deployment and replacement of LoRaWAN® networks.

IOT-C50x series can be easily and quickly configured by NFC or wired USB port. For outdoor applications, it provides flexible power like built-in solar panel or high-capacity battery and is equipped with an IP67-rated enclosure and M12 connectors to protect itself from water and dust in harsh environments.

◆ Features

- Easy to connect with multiple wired sensors through GPIO/AI/RS232/RS485 interfaces
- Long transmission distance up to 15 km with line of sight
- Waterproof design including IP67 case and M12 connectors
- Solar powered and built-in battery optional
- Quick wireless configuration via NFC
- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with IoT Cloud solution

◆ Specifications

Wireless Transmission

| | |
|-------------|---|
| Technology | LoRaWAN® |
| Frequency | CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4 |
| Tx Power | 16dBm (868 MHz)/20dBm (915 MHz)/19dBm (470 MHz) |
| Sensitivity | -137dBm @300bps |
| Work Mode | UC501: OTAA/ABP Class A, Class C UC502: OTAA/ABP Class A |

Data Interfaces

| | |
|----------------|------------------|
| Interface Type | M12 A-Coded Male |
|----------------|------------------|

IO

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|-----------------|--|
| Ports | 2 × GPIO |
| Logical Level | Low: 0~0.9 V, High: 2.5~3.3 V |
| Maximum Current | 20 mA |
| Work Mode | Digital Input, Digital Output, Pulse Counter |

Serial Port

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|-----------|---|
| Ports | 1 × RS232 or RS485 (Switchable) |
| Baud Rate | 1200~115200 bps |
| Protocol | Transparent (RS232), Modbus RTU (RS485) |

Analog Input

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|-------------|--------------------------------|
| Ports | 2 × Analog Input |
| Resolution | 12 bit |
| Input Range | 4~20 mA or 0~10 V (Switchable) |

Power Output

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|-------|--|
| Ports | 2 × 3.3 V@Max 100mA, 2 × 5/9/12 V @Max 100 mA (Switchable) |
|-------|--|

Operation

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|----------------|--|
| Power On & Off | Mobile App (via NFC), PC Software (via USB Type-C), Power Button (Internal) |
| Configuration | Mobile App (via NFC) or PC software (via USB Type-C) |

Physical Characteristics

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|--------------|------------------------------------|
| | IOT-C501: |
| | 1. 2 × 2550 mAh chargeable battery |
| Power Supply | 2. Solar powered (5 V, 1.6 W) |
| | 3. 5-24 VDC |
| | IOT-C502: |

| | |
|-----------------------|--|
| | 1. 3 × 9000 mAh replaceable Li-SOCl ₂ battery |
| | 2. 5-24 VDC |
| Power Connector | 1 × M12 A-Coded Male Interface |
| Operating Temperature | -20°C to +60°C |
| Ingress Protection | IP67 |
| Dimension | 116 × 116 × 45.5 mm (4.56 × 4.56 × 1.79 in) |
| Installation | Wall or Pole Mounting |
