

LoRaWAN® Controller

UC50x Series

Milesight



UC50x 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.

UC50x 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 Milesight 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
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IO

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

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

Analog Input

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

Power Output

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

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

	UC501:
	1. 2 × 2550 mAh chargeable battery
	2. Solar powered (5 V, 1.6 W)
	3. 5-24 VDC
	UC502:

	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