Multi-Interface Controller

UC50x Series

◆ Introduction

UC50x series is a multi-interface 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 IP68-rated enclosure and M12 connectors to protect itself from water and dust in harsh environments.



UC501



UC501（EA）

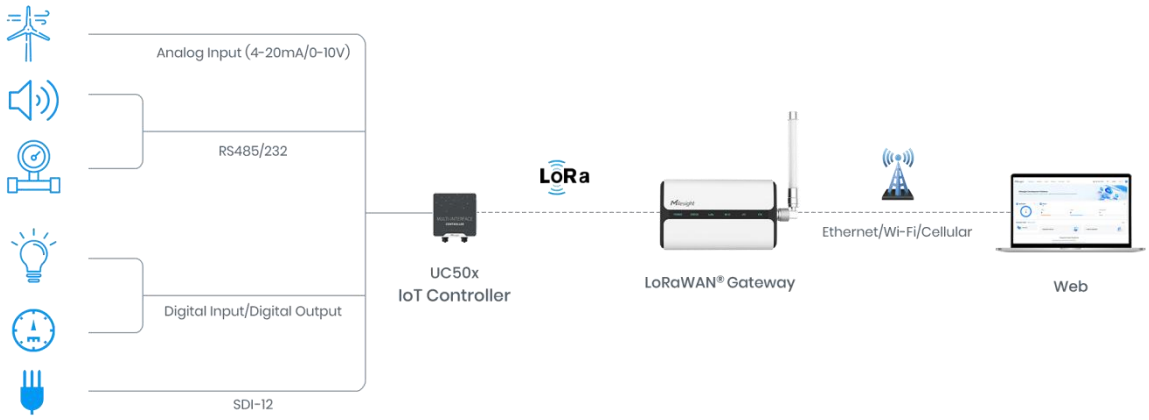


UC502



UC502（EA）

Application Example



Features

- Easy to connect with multiple wired sensors through GPIO/AI/RS232/RS485/SDI-12 interfaces
- Waterproof design including IP68 case and M12 connectors
- Solar powered and built-in battery optional
- Quick wireless configuration via NFC
- Ultra-wide-distance wireless transmission up to line of sight of 15 km
- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with Milesight IoT Cloud solution
- Supports multicast for control in bulk (UC501 only)
- Support threshold alarms and change alarms
- Store historical records locally and support retransmission to prevent data loss

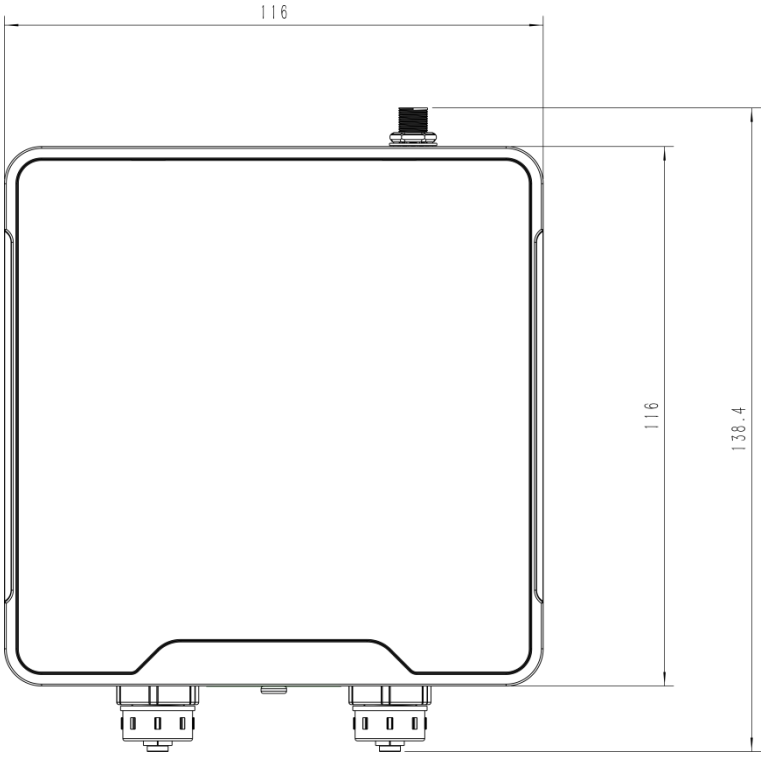
Specifications

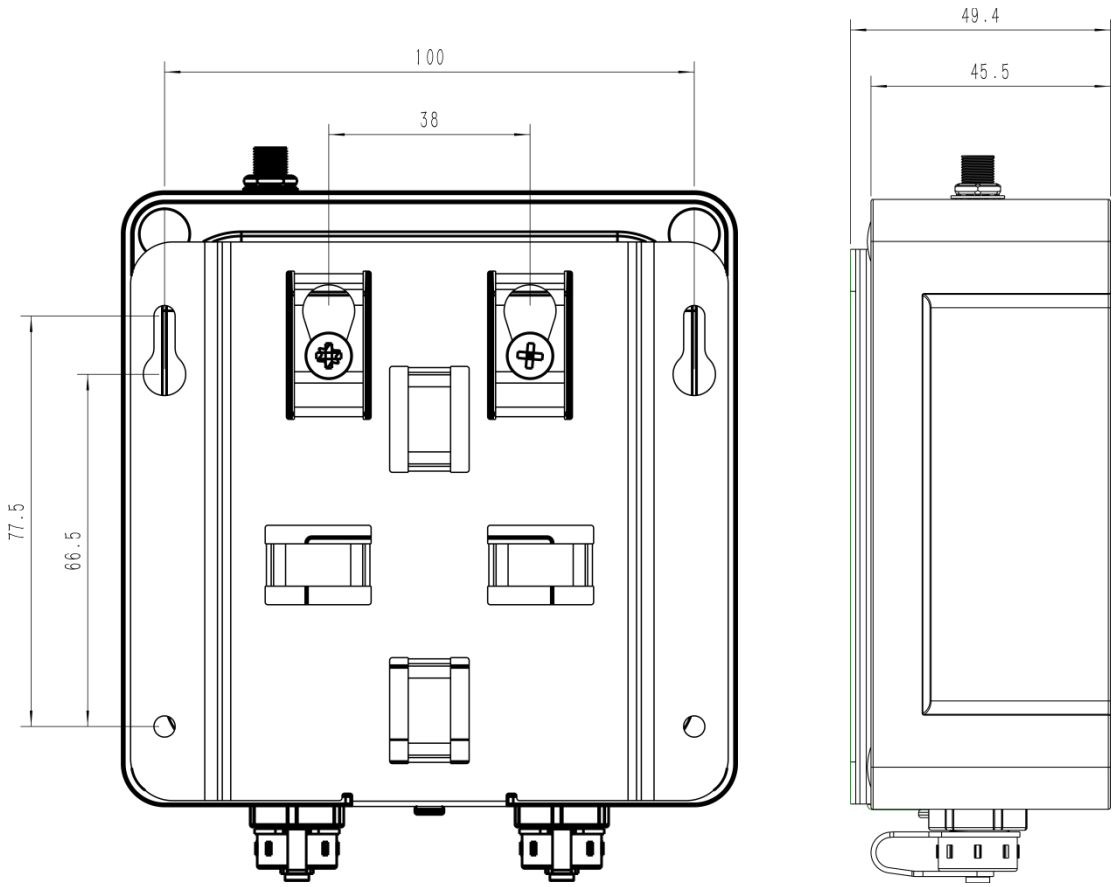
Model	UC501	UC502
Wireless Transmission		
Protocol	LoRaWAN®	
Antenna	Internal Antenna or External Antenna (Hardware Optional) External Antenna (EA) Version: 1 × 50 Ω SMA Female Connector	
Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4	
Tx Power	16dBm (868 MHz)/20dBm (915 MHz)/19dBm (470 MHz)	
Sensitivity	-137dBm @300bps	
Work Mode	OTAA/ABP Class A, Class C	OTAA/ABP Class A

Data Interfaces		
Interface Type	M12 A-Coded Male	
IO		
Ports	2 × GPIO	
Logical Level	Low: 0~0.8 V, High: 2.5~3.3 V	
Maximum Current	20 mA	
Work Mode	Digital Input, Digital Output, Pulse Counter (Software Switchable)	
Input Frequency	Suggested value: ≤ 4000 Hz	
Serial Port		
Ports	1 × RS232 or RS485 (Software Switchable)	
Baud Rate	1200~115200 bps	
Protocol	Transparent (RS232/RS485), Modbus RTU (RS485)	
Analog Input		
Ports	2 × Analog Input	
Resolution	12 bit	
Input Range	4~20 mA or 0~10 V (Switchable)	
SDI-12		
Ports	1 × SDI-12	
Protocol	SDI-12 V1.4, Transparent	
Power Output		
Ports	2 × 3.3 V, 2 × 5/9/12 V(Switchable)	
Power Time Before Data Collection	Continuous (3.3V), 0~10 minutes (5/9/12V)	
Others		
Button	1 × Power/Reset Button (Internal)	
USB	1 × Type-C (Internal) for Configuration and Console	
LED Indicator	1 × Reboot/Reset (Internal)	
Software		
Power On & Off	Mobile App via NFC, PC Software via USB Type-C, Power Button (Internal)	
Configuration	Mobile App via NFC, PC software via USB Type-C, Downlink	
Advanced Feature	Threshold Alarm, Change Alarm, Multicast, Data Storage (600 entries), Data Retrievability, Data Retransmission	Threshold Alarm, Change Alarm, Data Storage (600 entries), Data Retrievability, Data Retransmission

Physical Characteristics		
Power Supply	1. 2 × 2550 mAh ICR18650 Chargeable Batteries 2. Embedded Solar Power (6V, 1.7W) 3. DC 5-24V by M12 Connector	1. 3 × 9000 mAh Replaceable ER26500 Li-$SOCl_2$ Batteries 2. DC 5-24V by M12 Connector
Operating Temperature	-20°C~60°C	-30°C~70°C
Relative Humidity	0 ~ 95% (Non-condensing)	
Ingress Protection	IP68 (1m underwater, 7 days)	
Dimension	116 × 116 × 45.5 mm (4.56 × 4.56 × 1.79 in) (Connectors Excluded)	
Installation	Wall or Pole Mounting	
Approvals		
Regulatory	CE, FCC, ISED	
Environmental	RoHS	

◆ Dimensions (mm)




100
38
77.5
66.5
49.4
45.5