

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 :



UC501



UC501 (EA)

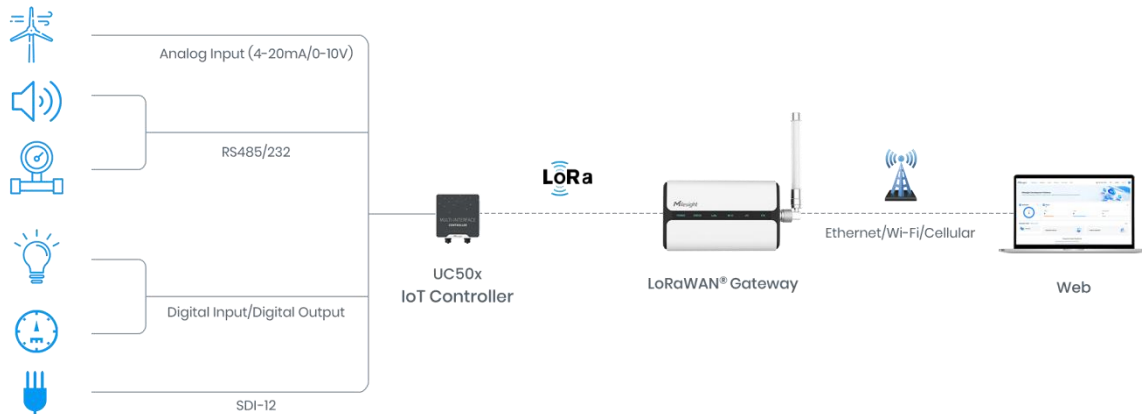


UC502



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

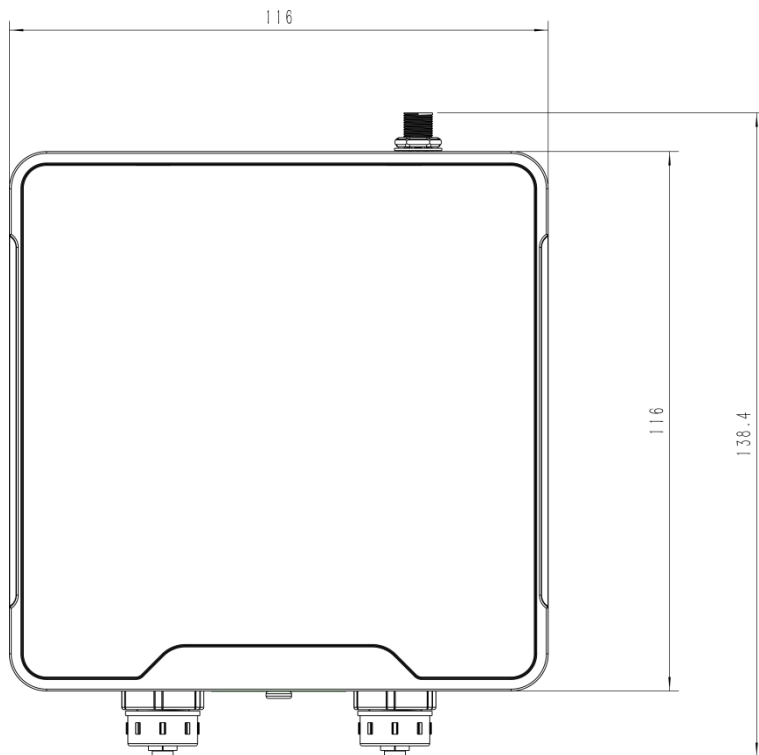
Model	UC501	UC502
Wireless Transmission		
Protocol	LoRaWAN [®]	
Antenna	Internal Antenna or External Antenna (Hardware Optional) External Antenna (EA) Version: 1 × 50 Ω SMA Female Connector	
Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4	
Tx Power	16dBm (868 MHz)/20dBm (915 MHz)/19dBm (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	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Threshold Alarm, Change Alarm, Multicast, Data Storage (600 entries), Data Retrievability, Data Retransmission </div> <div style="width: 45%;"> Threshold Alarm, Change Alarm, Data Storage (600 entries), Data Retrievability, Data Retransmission </div> </div>



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)



UC50x Series Datasheet

