

# Multi-Interface Controller UC50x Series

*Milesight*

## ◆ 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)**

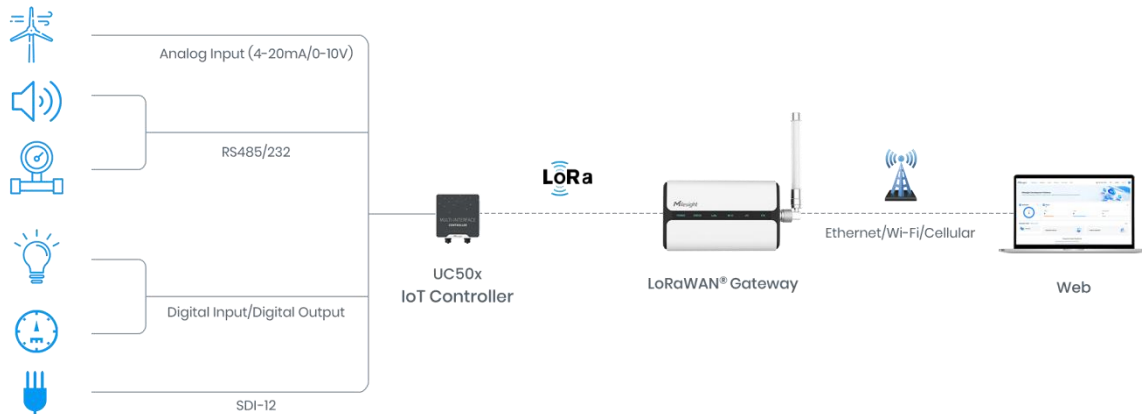


**UC502**



**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<sup>®</sup> 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

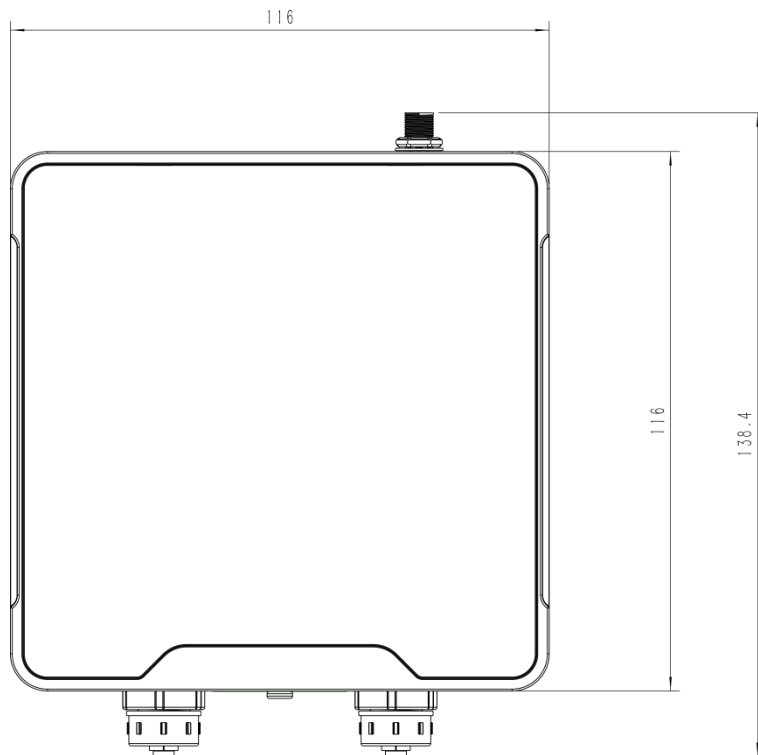
## ◆ Specifications

Model	UC501	UC502
<b>Wireless Transmission</b>		
Protocol	LoRaWAN <sup>®</sup>	
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

<b>Data Interfaces</b>			
Interface Type	M12 A-Coded Male		
<b>IO</b>			
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		
<b>Serial Port</b>			
Ports	1 × RS232 or RS485 (Software Switchable)		
Baud Rate	1200~115200 bps		
Protocol	Transparent (RS232/RS485), Modbus RTU (RS485)		
<b>Analog Input</b>			
Ports	2 × Analog Input		
Resolution	12 bit		
Input Range	4~20 mA or 0~10 V (Switchable)		
<b>SDI-12</b>			
Ports	1 × SDI-12		
Protocol	SDI-12 V1.4, Transparent		
<b>Power Output</b>			
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)		
<b>Others</b>			
Button	1 × Power/Reset Button (Internal)		
USB	1 × Type-C (Internal) for Configuration and Console		
LED Indicator	1 × Reboot/Reset (Internal)		
<b>Software</b>			
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	<table border="0"> <tr> <td>Threshold Alarm, Change Alarm, Multicast, Data Storage (600 entries), Data Retrievability, Data Retransmission</td> <td>Threshold Alarm, Change Alarm, Data Storage (600 entries), Data Retrievability, Data Retransmission</td> </tr> </table>	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
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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 <sub>2</sub> 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

