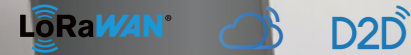# Modbus to LoRaWAN® IoT Controller

UC100 is used for remote control and data acquisition from Modbus RS485 devices via LoRaWAN® networks.

Overall Features

- Modbus RS485 to LoRaWAN® Transmission
- Data Collection up to 16 Registers for Various Usage
- Compact Size with Embedded LoRa® Antenna
- Support Autonomous Operation even when the Network is Unavailable
- Built-in LED Indicator for Status Indication
- USB Type-C Port for Local Configuration & LoRa® Downlink for Remote Configuration
- Milesight D2D with Communication Latency to <1 Sec

UC100

Model		UC100
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class C
	Advanced Feature	Milesight D2D Controller/Agent
Data Interfaces	Connector	3.5 mm Terminal Block Connector
	Port	1 × RS485
	Protocol	Modbus RTU, Support Reading 16 Register Values
Physical Characteristics	Configuration	USB Type-C Port
	Power Supply	① 5 ~ 24 VDC by Terminal Block ② 5 VDC by Type-C Port
	Power Consumption	< 0.5 W
	Ingress Protection	IP30
	Dimension	70 × 45 × 13 mm (2.75 × 1.77 × 0.51 in)
	Installation	Desktop, Wall Mounting

LoRaWAN®/4G IoT Controller

UC300 is designed to connect devices on fields via rich industrial interfaces and backhaul connectivity.

Overall Features

- Support LoRaWAN® & 4G LTE Version
- Integrated Rich Interfaces: DI/DO/AI/RS232/RS485/PT100/RTD Input
- Data Collection up to 16 Registers for Various Usage
- Autonomous Operation when the Network is Unavailable
- Industrial-Grade Design with Heavy Cast Aluminum Casing
- Milesight D2D with Communication Latency to <1 Sec
- Bridge Modbus Data between Serial and Ethernet Network

UC300

Model		UC300
LoRaWAN® Model (Option A)	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class C
	Advanced Feature	Milesight D2D Controller/Agent
Cellular Model (Option B)	Network	4G LTE/3G/2G
	Application Mode	TCP/UDP/MQTT/AWS/Milesight IoT Cloud/SMS
Data Interfaces	Interface Type	3.5 mm Terminal Block
	IO	4 × DI + 2 × DO
	Serial Port	1 × RS232 + 1 × RS485 (Transparent, Modbus RTU)
	Analog Input	2 × 4 ~ 20 mA + 2 × 0 ~ 10 V, 2 × PT100 RTD Input
Physical Characteristics	Configuration Port	USB Type-C port
	Built-in	Watchdog, Timer
	Power Supply	5 ~ 24 VDC
	Ingress Protection	IP30
	Dimension	93 × 70 × 22 mm (3.66 × 2.76 × 0.87 in)
	Installation	Desktop, Wall Mounting, DIN Rail Mounting

Multi-Interface LoRaWAN® Controller

UC50x is fully integrated and battery-powered with multiple communication interfaces.

Overall Features

- IP67 Rated and UV Resistance Enclosure with M12 Connectors
- Integrated Rich Interfaces: RS232, RS485, GPIO, Analog Input
- Solar Powered and Built-In Batteries for Flexible Power Supply Options
- Support Configuration via NFC or Wired USB Type-C Port
- Bridge Modbus Data between Serial and Ethernet Network via LoRaWAN®

UC50x

Model		UC501	UC502
Wireless Transmission	Technology	LoRaWAN®	
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A, Class C	OTAA/ABP Class A
Data Interfaces	Interface Type	M12 A-Coded Male	
	IO Port	2 × GPIO	
	Serial Ports	1 × RS232 or RS485 (Switchable) (Transparent/Modbus RTU)	
	Analog Input	2 x 4 ~ 20 mA (or 0 ~ 10 V) (Switchable)	
	Power Output	2 × 3.3 V@Max 100mA, 2 × 5/9/12 V@Max 100 mA (Switchable)	
Physical Characteristics	Configuration	NFC, USB Type-C Port	
	Power Supply	① 2 × Replaceable Batteries ② Solar Powered (5 V, 1.6 W) ③ 5 ~ 24 VDC	① 3 × Replaceable Batteries ② 5 ~ 24 VDC
	Operation Temperature	-20°C ~ 60°C	
	Ingress Protection	IP67	
	Dimension	116 × 116 × 45.5 mm (4.56 × 4.56 × 1.79 in)	
	Installation	Wall or Pole Mounting	

LoRaWAN® Solenoid Valve Controller

UC51x provides access capabilities for common irrigation vales with embedded pulse counter to monitor flow precisely.

Overall Features

- IP67 Rated and UV Resistance Enclosure with M12 Connectors
- Integrated Rich Interfaces: RS232, RS485, GPIO, Analog Input
- Water Flow Monitoring with Programmable Unit per Pulse
- Solar Powered and Built-in Batteries for Flexible Power Supply Options
- Support Configuration via NFC or Wired USB Type-C Port

UC51x

Model		UC511	UC512
Wireless Transmission	Technology	LoRaWAN®	
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A, Class B, Class C, Class C to B	OTAA/ABP Class A, Class B
Data Interfaces	Interface Type	M12 A-Coded Male	
	Solenoid Interface	2 × Solenoid Interfaces, 5/9/12 VDC Switchable	
	GPIO Interface	2 × GPIO Interfaces (Digital Input, Pulse Counter)	
Physical Characteristics	Configuration	NFC, USB Type-C Port	
	Power Supply	① 2 × 2550 mAh Replaceable Batteries ② Solar Powered (5 V, 1.6 W)	3 × 9000 mAh Replaceable Li-SOCl2 Batteries
	Operation Temperature	-20°C ~ 60°C	
	Ingress Protection	IP67	
	Dimension	116 × 116 × 45.5 mm (4.56 × 4.56 × 1.79 in)	
	Installation	Wall or Pole Mounting	