Low Power

Pass Through

Cloud Platform

Remote Management

Introduction

F100-L is a digital temperature and humidity terminal based on wireless technology, powered by high-capacity lithium batteries, designed for harsh environment monitoring applications. The sensor is designed to overcome the limitations of wiring and power supply in many places to meet customer plug and play requirements. The temperature measurement range of the sensor is from -30℃ to 80℃, and the humidity measurement range is from 0 to 100% RH, with a typical accuracy of ± 5%RH and ±0.3℃. Currently, it has widely use in smart building, warehouse, greenhouse, and other scenarios.

Industrial-grade Design

▶ High-performance industrial-grade chip and wireless module
▶ Low power consumption
▶ High temperature and humidity accuracy
▶ Protection level up to IP65

High Performance

▶ Using LCD screen to display the temperature and humidity data in the real-time
▶ Support TCP, Modbus, MQTT and other protocols
▶ Plug & play
▶ Ultra-low power consumption, long standby
▶ Support all ISM bands from 150MHz to 960MHz
▶ Support Din-rail installation

Product Specification

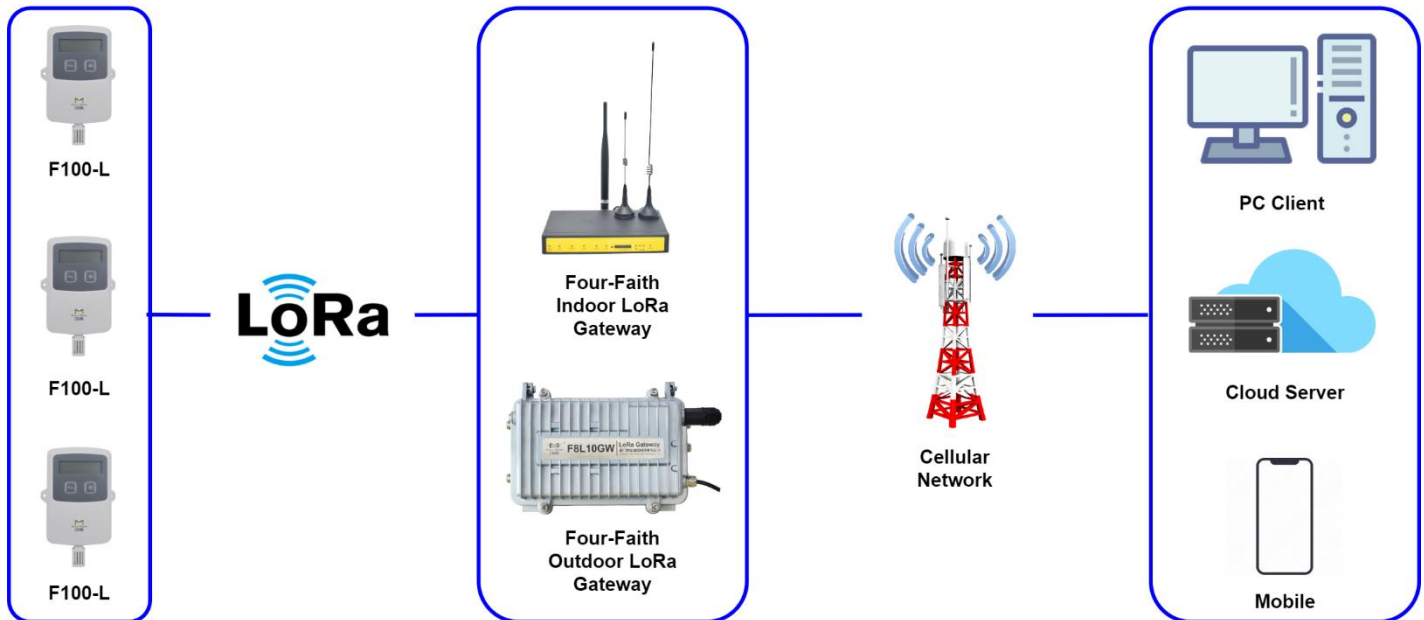| Characteristics	
Items	**Contents**
Detection Principle	Capacitive measurement
Temperature Measuring Range	-30℃~80℃
Humidity Measuring Range	0 ~ 100% RH
Sensitivity	-140dBm@(SF=12, BW=125kHz) -135dBm@(SF=10, BW=125kHz) -126dBm@(SF=7, BW=125kHz)
Temperature Measurement Accuracy	±0.2℃ (Typical 0-60℃, minimum or maximum temperature accuracy range does not exceed ±1.5℃)
Humidity Measurement Accuracy	±2% RH (Typical 20-80RH, minimum or maximum humidity accuracy does not exceed ±7%RH)
Frequency	433/470/868/915MHz, default frequency 433/470MHz, other frequency bands can be customized
Protocol	Private protocol, LoRaWAN protocol
Indoor Communication Distance	100m
Outdoor Communication Distance	400m
Gateway Support	Four-Faith single-channel gateway can support 35-40 sensors
Operating Voltage	3.6V
Operating Current	≤130mA, duration less than 1 second
Sleep Mode Current	≤10uA
Battery Capacity	4000 mAh, replaceable

Battery Life	
Transmission Level	**Operation Time**
Level 3 **(Longer transmission)**	5 minutes: 10 months 10 minutes: 20 months 20 minutes: 40 months 30 minutes: 55 months
Level 4 **(Closer transmission)**	5 minutes: 10 months 10 minutes: 20 months 20 minutes: 40 months 30 minutes: 55 months

Notes: The standard capacity of the battery is 4000mAH, which is calculated based on 85% of the actual capacity, that is, the working time of the battery over 3400mAH is the theoretical number of days. Select the transmission frequency carefully. The theoretical number of days is also affected by wireless signals, working temperature and humidity.

Topology

F100-L
F100-L
F100-L

LoRa

Four-Faith
Indoor LoRa
Gateway

F8L10GW

Four-Faith
Outdoor LoRa
Gateway

Cellular
Network

PC Client

Cloud Server

Mobile

Dimension (mm)

Order Information

Products	Frequency	Description
F100-L-LP-433	420-441 MHz	Support Four-Faith privacy protocol
F100-L-LP-470	470-510 MHz	Support Four-Faith privacy protocol
F100-L-LR-470	470-510 MHz	Supports the LoRaWAN protocol, with eight default uplink frequency 470.3-471.7MHZ