



CL-210-WF/CL-211-WF CL-212-WF/CL-213-WF

Remote PM2.5/CO/CO2 Temperature/Humidity/
Dew Point Data Logger Module

Features

- Able to record PM2.5, CO, CO2, Temperature, Humidity and Dew Point Measurements
- Non-dispersive Infrared (NDIR) CO2 Senso
- Up to 450,000 records with date and time stamps
- Simple and Powerful Software Utility, iOS APP and Android App Included
- Supports the DCON and Modbus RTU/TCP Protocols
- Supports the MQTT Protocol for Ethernet Interface
- Includes RS-485/Ethernet/Wi-Fi Communication Interfaces
- Relay Output for Alarm or IAQ Device Control
- Compatible with IEEE802.11b/g/n standards
- Includes redundant power inputs: PoE (IEEE 802.3af, Class 1) and DC input
- Support Infrastructure and Limit-AP Modes for Wireless Networks
- Ceiling Mounting or Wall Mounting



Introduction

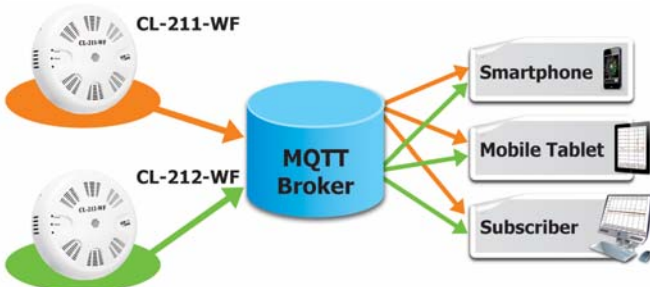
The CL-200-WF is an IAQ (Indoor Air Quality) monitoring module that includes Wi-Fi, Ethernet and RS-485 interfaces, It provides a WLAN connection which complies with the IEEE802.11b/g/n standards. With the popularity of 802.11 network infrastructure, the modules provide an easy method of incorporating wireless connectivity into monitoring and control systems. The CL-200-WF series of Data Logger devices can be used to record PM2.5, CO, CO2, Temperature, Humidity and Dew Point information, including date and time stamps, and are able to store up to 450,000 downloadable records.

Real-time data can be accessed from the CL-200-WF Data Logger from anywhere and at any time using the free Windows software, the iOS App or the Android App, as long as they are connected to the same local network as the Data Logger.

Support is provided for popular industrial protocols such as DCON, Modbus RTU, and Modbus TCP. For Ethernet interface, it also supports the emerging machine-to-machine (M2M)/IoT (Internet of Things) connectivity protocol – MQTT. The CL-200-WF Data Logger can be connected via widely used communication interfaces including RS-485, Ethernet, PoE and Wi-Fi, meaning that the device can be easily integrated into existing HMI or SCADA systems, and is easily maintained in a distributed control system.

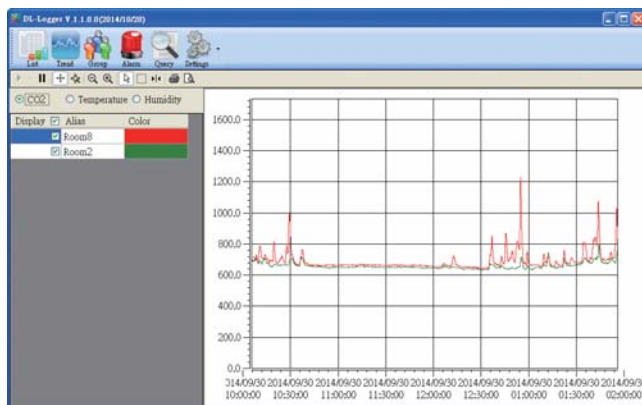
Support for the MQTT protocol for IoT Applications (Ethernet Interface Only)

The MQTT protocol is designed for the efficient exchange of real-time data between a sensor and a mobile device. It operates via TCP/IP and is in widest use today in "machine-to-machine" (M2M) and "Internet of Things" applications.



Simple and Powerful DL-300 Utility

The DL300 Utility can be used to configure the modules, monitor real-time data, group DL-300 modules so that the status of distribution groups can be viewed and managed. The utility also allows the log data to be downloaded and exported to a .CSV file that can then be imported into any industry-standard software or spread sheet for analysis.



Get Real-time Data Anywhere and Anytime

Real-time data from the CL-200-WF data logger can be accessed from anywhere and at any time using the DL300 Utility, the iOS or Android App, or via a regular web browser, as long as they are connected to the same local network as the data logger.



Real-time data from the CL-200-WF series can be accessed from anywhere and at any time using the WF-IIOT-Utility and iOS App.



▲ iOS APP QR CODE

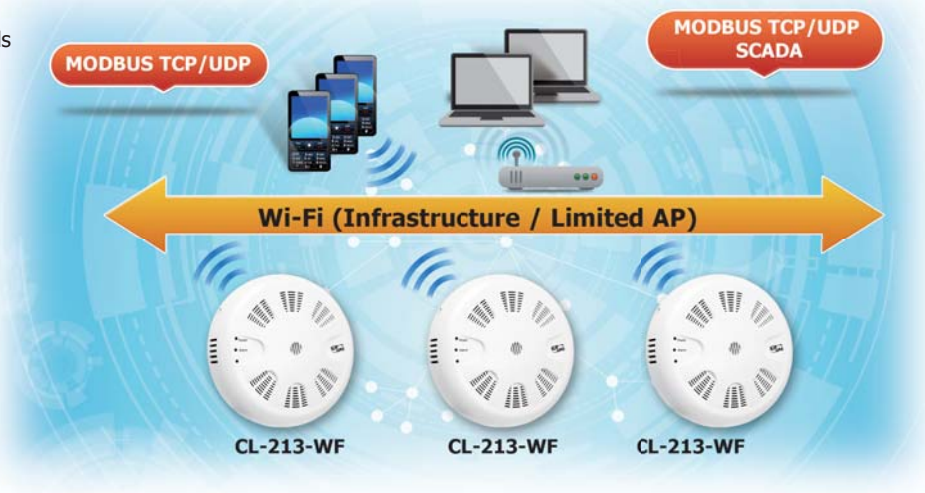


▲ Android APP QR CODE



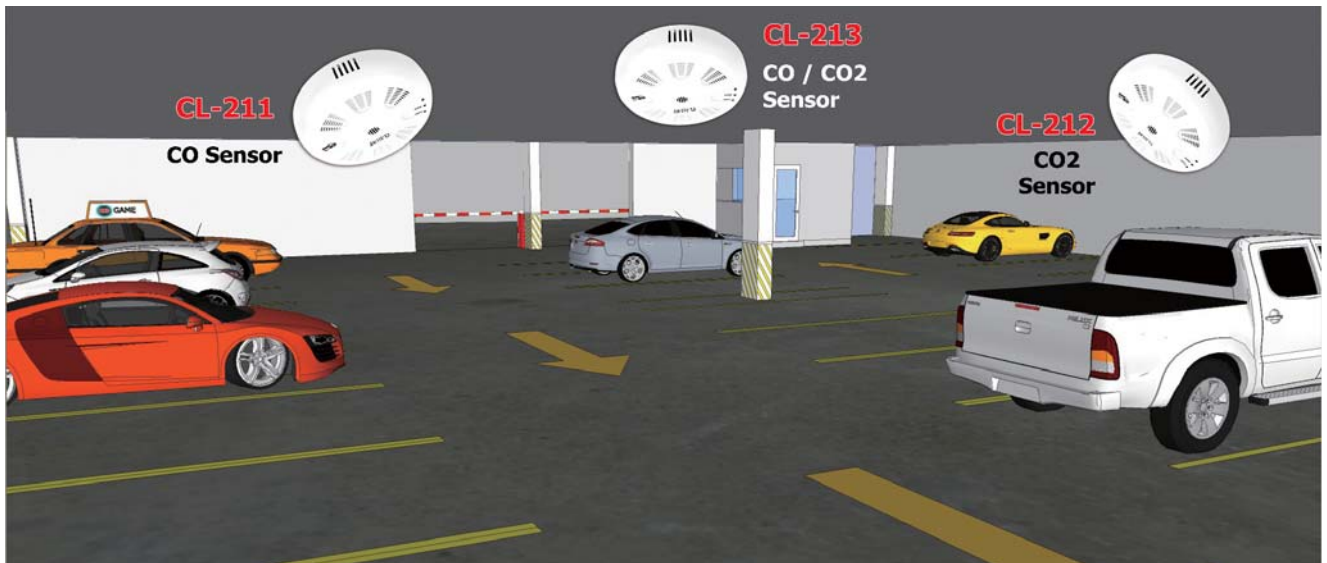
Applications

- Transportation of Food or Pharmaceuticals
- Food and Beverage Industry (HACCP)
- Blood Stations and Pharmacies
- Building and Energy Management
- Warehouse Management
- Museums, Archives and Galleries

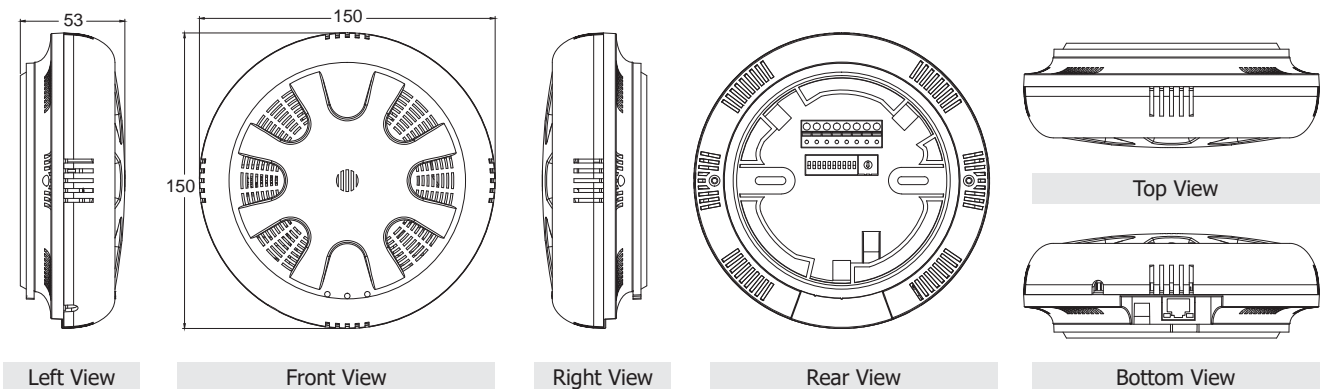


Indoor or Underground Parking Lot Automatic Monitoring Solution

The air quality automation system for indoor or underground parking lot can use the CL-200-WF series modules to monitor the health and safety information, such as PM2.5, CO, CO2, temperature, humidity and dew point, and more...



Dimensions (Units: mm)



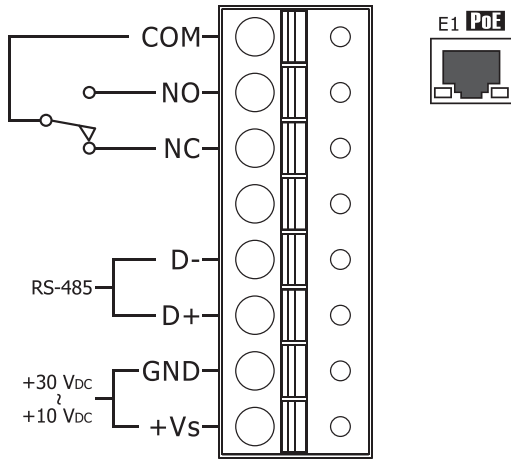
System Specifications

Model	CL-210-WF	CL-211-WF	CL-212-WF	CL-213-WF
System				
PM2.5/CO/CO2/RH/T Alarm	Yes			
Real Time Clock	Yes			
Data Logger	Yes, up to 450,000 records			
Relay Output	Form A×1, SPST 30 VDC @ 16 A or 250 VAC @ 16 A			
Communication				
RS-485 Port	Baud Rate = 1200 ~ 115200 bps			
Ethernet Port	10/100 Base-TX, 8-Pin RJ-45 x1 (Auto-negotiating, Auto-MDI/MDIX, LED indicators)			
Security	IP filter (whitelist) and Password (web)			
Protocol	Modbus/RTU(RS-485), Modbus TCP(Ethernet, Wi-Fi) and MQTT(Ethernet)			
Dual Watchdog	Yes, Module (2.3 seconds), Communication (Programmable)			
Wi-Fi Interface				
Antenna	Antenna = 1 dBi (PCB Antenna)			
Output Power	18 dBm @ 1 DSSS, 14.5 dBm @ 54 OFDM			
Receive Sensitivity	-95.7 dBm @ 1 DSSS, -74.0 dBm @ 54 OFDM			
Standard Supported	IEEE 802.11 b/g/n			
Wireless Mode	Infrastructure & Limited AP			
Encryption	WEP, WPA and WPA2			
Transmission Range	50 meters (LOS)			
Electrical				
Powered from Terminal Block	+12 to +48 VDC			
Power Consumption	2.8 W (Max.)	2.9 W (Max.)	3.0 W (Max.)	3.0 W (Max.)
Mechanical				
Installation	Ceiling Mounting/Wall Mounting			
Protection Class	IP20			
Dimensions (D x H)	Ø 150 mm x 53 mm			
Environment				
Operating Temperature	0 to +50°C			
Storage Temperature	-30 to +75°C			
Humidity	10 to 90% RH, Non-condensing			

I/O Specifications

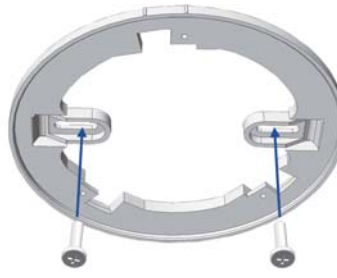
Model	CL-210-WF	CL-211-WF	CL-212-WF	CL-213-WF
PM2.5 Measurement				
Range	0 ~ 400 µg/m ³			
Resolution	1µg/m ³			
Response Time	<= 1 min.			
CO Measurement				
Range	-	0 to 1000 ppm (Electrochemical)	-	0 to 1000 ppm (Electrochemical)
Resolution	-	1 ppm	-	1 ppm
Accuracy	-	±5% of measured value	-	±5% of measured value
Response Time	-	30 seconds	-	30 seconds
Warm-up Time	-	300 seconds	-	300 seconds
CO2 Measurement				
Range	-	0 to 9999 ppm (NDIR)		
Resolution	-	1 ppm		
Accuracy	-	±40 ppm ±3% of measured value		
Response Time	-	120 seconds		
Warm-up Time	-	5 minutes		
Temperature Measurement				
Range	-10 to +50°C			
Resolution	0.1°C			
Accuracy	±0.6°C			
Relative Humidity Measurement				
Range	0 to 100% RH, Non-condensing			
Resolution	0.1% RH, Non-condensing			
Accuracy	±5% RH, Non-condensing			
Dew Point				
Range	Calculated using temperature and relative humidity			
Resolution	0.1°C			

Pin Assignments & WireConnections Mounting



Ceiling Mounting

1. Align the locking guides



2. Attach the mounting plate



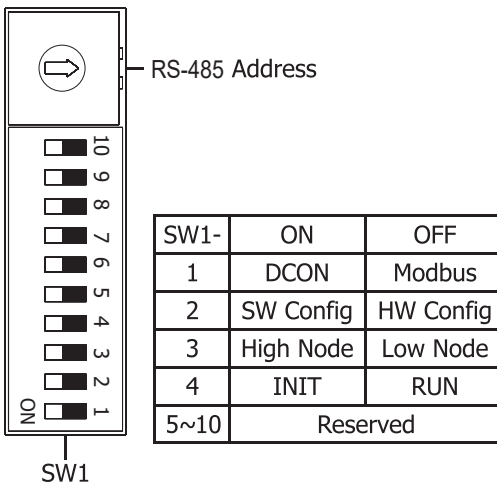
3. Turn the cover clockwise



4. Lock the cover in place

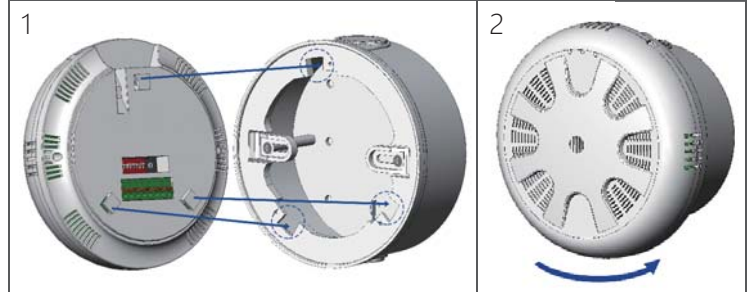


DIP Switch Settings



Wall Mounting



(Requires External Wall Box EWB-C150)



Ordering Information

CL-210-WF CR	Remote PM2.5/Temperature/Humidity/Dew Point Data Logger with Ethernet/RS-485/Wi-Fi Interfaces and PoE (RoHS)
CL-211-WF CR	Remote PM2.5/CO/Temperature/Humidity/Dew Point Data Logger with Ethernet/RS-485/Wi-Fi Interfaces and PoE (RoHS)
CL-212-WF CR	Remote PM2.5/CO2/Temperature/Humidity/Dew Point Data Logger with Ethernet/RS-485/Wi-Fi Interfaces and PoE (RoHS)
CL-213-WF CR	Remote PM2.5/CO/CO2/Temperature/Humidity/Dew Point Data Logger with Ethernet/RS-485/Wi-Fi Interfaces and PoE (RoHS)

Accessories

	EWB-C150	External Wall Box for CL-200 series
	CA-RJ45-04	RJ45 Cable, Male-Female, 30cm, (90°)