

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

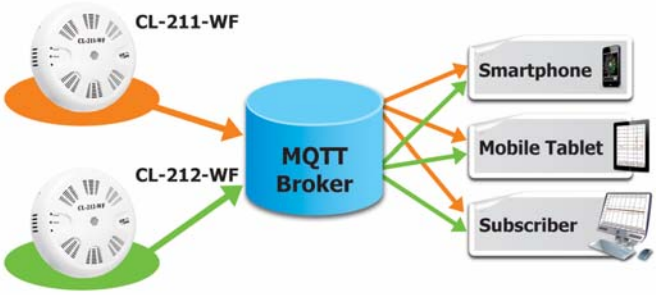
The CL-200-WF is an IAQ (Indoor Air Quality) monitoring module that includes Wi-Fi, Ethernet and RS-485 interfaces, It provides a WLAN connection which complies with the IEEE802.11b/g/n standards. With the popularity of 802.11 network infrastructure, the modules provide an easy method of incorporating 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.

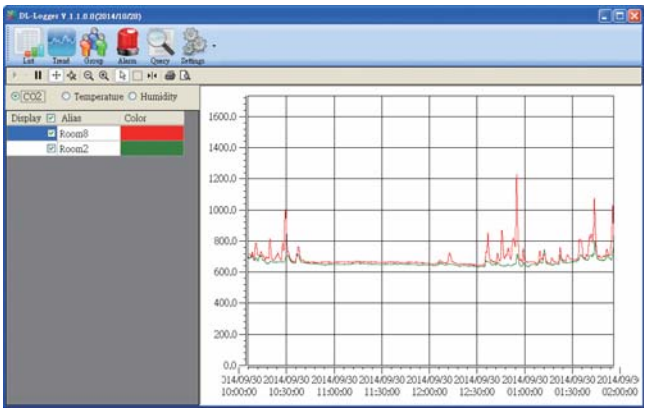
Support for the MQTT protocol for IoT Applications (Ethernet Interface Only)

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.



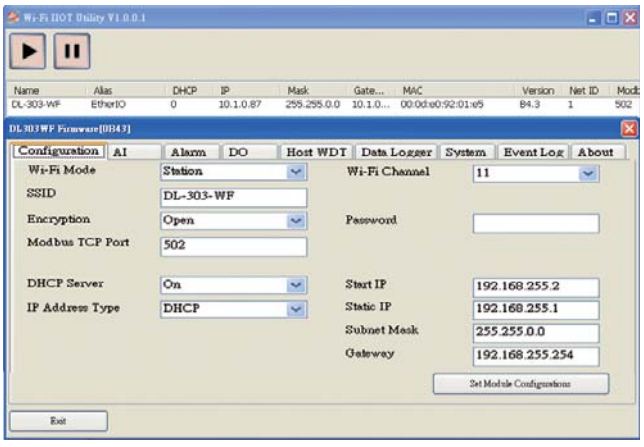
Get Real-time Data Anywhere and Anytime

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



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

System Specifications

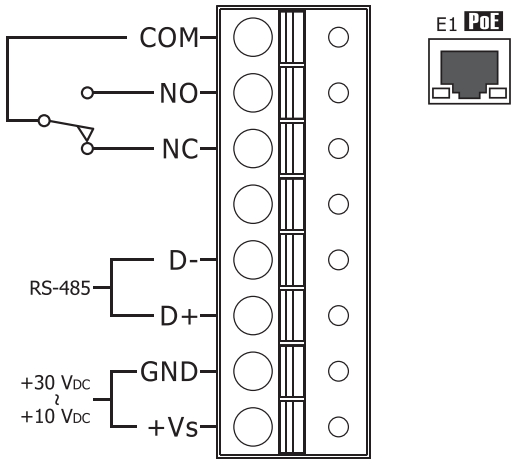
Model		CL-210-WF	CL-211-WF	CL-212-WF	CL-213-WF
System					
PM2.5 Alarm		Yes			
CO Alarm		-	Yes	-	Yes
CO2 Alarm		-		Yes	Yes
RH/Temperature Alarm		Yes			
Real Time Clock		Yes			
Data Logger		Yes, up to 450,000 records			
Relay Output		Form A×1, SPST 30 VDC @ 16 A or 250 VAC @ 16 A			
Communication					
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	Non-PoE	2.7 W (Max.)	2.8 W (Max.)	2.9 W (Max.)	2.9 W (Max.)
	PoE	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

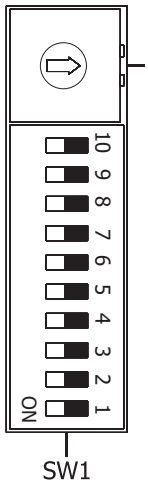
Model	CL-210-WF	CL-211-WF	CL-212-WF	CL-213-WF
PM2.5 Measurement				
Range	0 ~ 400 µg/m3			
Resolution	1µg/m3			
Response Time	<= 1 min.			
CO Measurement				
Range	-	0 to 1000 ppm (Electrochemical)	-	0 to 1000 ppm (Electrochemical)
Resolution	-	1 ppm	-	1 ppm
Accuracy	-	±5% of measured value	-	±5% of 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			

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Pin Assignments & WireConnections

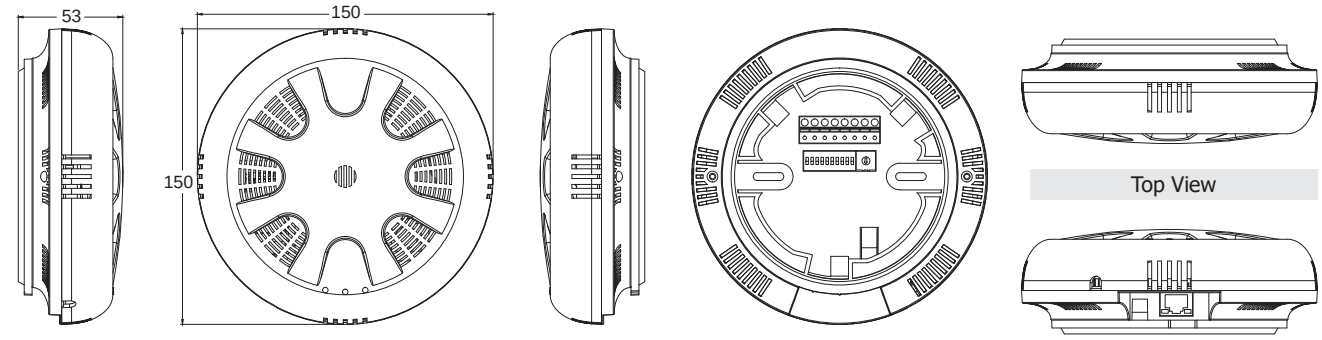


DIP Switch Settings



SW1-	ON	OFF
1	DCON	Modbus
2	SW Config	HW Config
3	High Node	Low Node
4	INIT	RUN
5~10	Reserved	

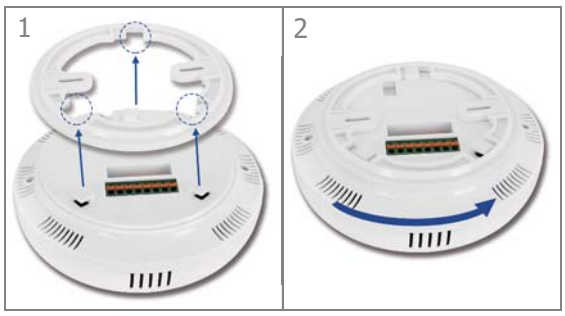
Dimensions (Units: mm)



Left View | Front View | Right View | Rear View | Top View | Bottom View

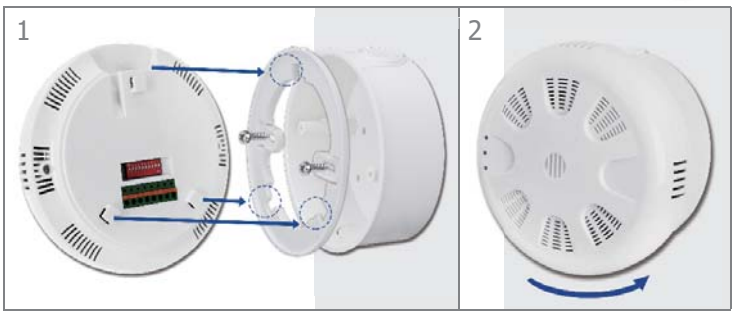
Installation

Ceiling Mounting



Wall Mounting (+ External Wall Box EWB-C150)





Replaceable Filter Patch:

CL-21x Series offers a replaceable filter patch on the back of the hood filter. This mechanism makes users to replace only the filter patch rather than uninstall all devices.

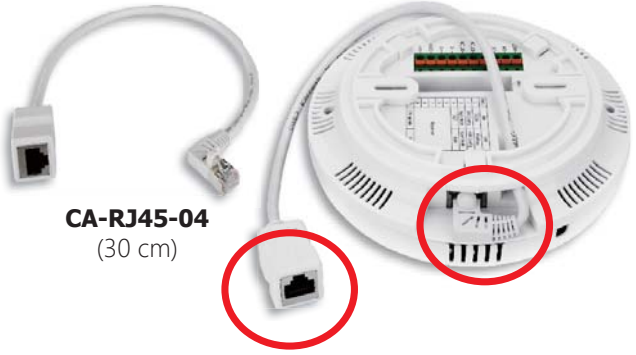




Filter Patch
FLT-C001

CL-2xx-E + RJ45 Cable:

CL-2xx-E (Ethernet Type) are with optional angle-bent RJ45 cable to smoothly install the Ethernet plug in the hole of the ceiling-mounted.

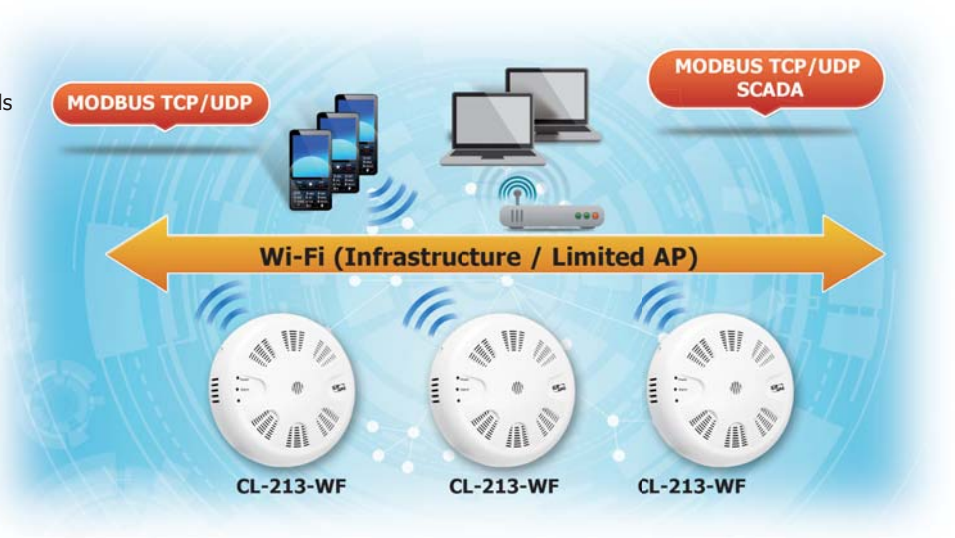


CA-RJ45-04
(30 cm)

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

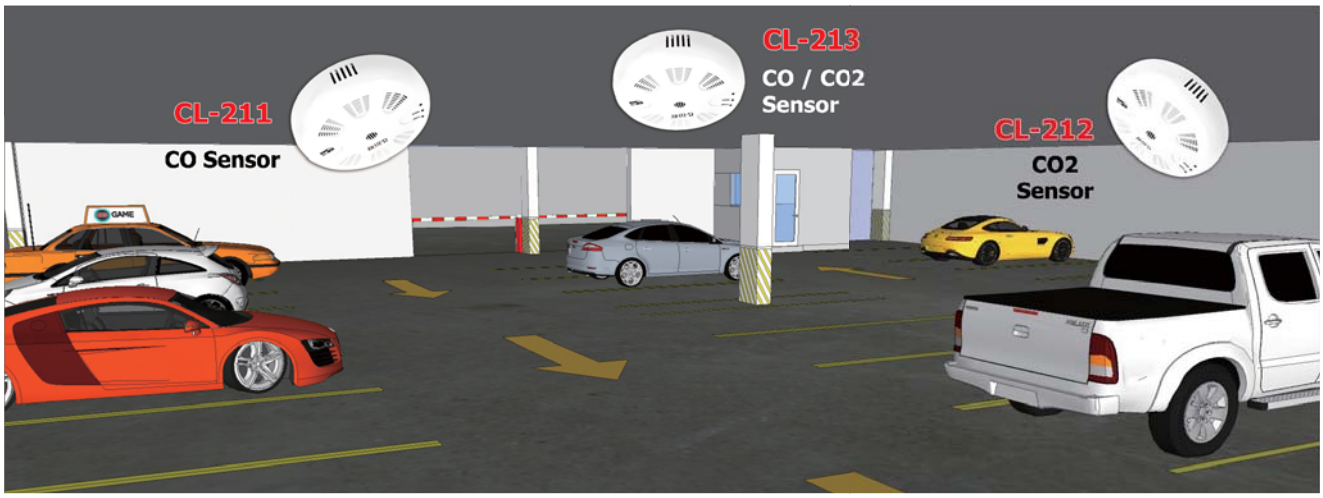
Applications

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



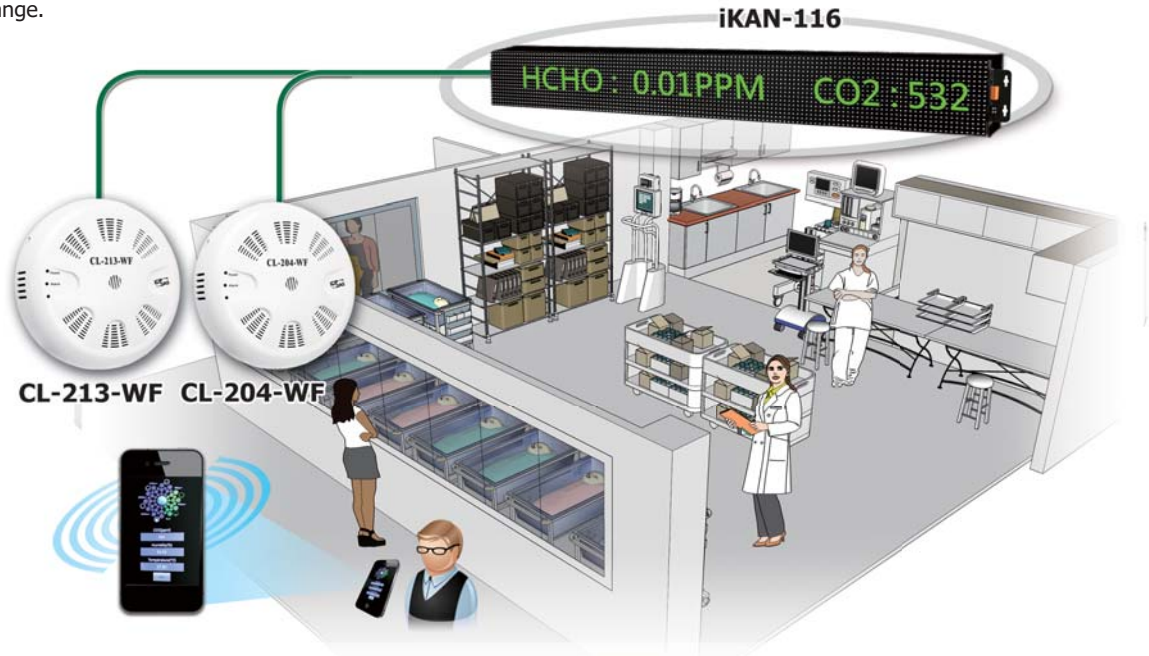
Indoor or Underground Parking Lot Automatic Monitoring Solution

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...



Preschool Air Quality Monitoring

Indoor air quality is a key matter for children in preschool. ICP DAS provide a solution toward this environment include CL-213-E, CL-204-E modules to monitor the fumes and Particle Matters such as PM1, PM2.5, PM10, CO, CO2, HCHO, TVOC, and etc. Combine with ICP DAS iKAN series LED monitors, teachers in the preschool can easily check the real-time Air Quality Index. Furthermore, diversity of SCADA software is also compatible with these monitoring modules and can upload received data into remote database. Teachers can use their mobile App to remotely check the AQI or other fumes data to make sure that the Air Quality is always in the safety range.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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 the CL-200 series
CA-RJ45-04 	RJ45 Cable, Male-Female, 30cm (90º)
FLT-C001 	Replaceable Filter Patch

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000