CL-211/212/213

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

Features

- PM2.5, CO, CO2, Temperature, Humidity and Dew Point Measurement
- Non-dispersive Infrared (NDIR) CO2 Sensor
- Up to 450,000 records with date and time stamps
- Support DCON and Modbus RTU Protocols
- Providing RS-485 Communication Interface
- Relay Output for Alarm Device or IAQ Device Control

Introduction

The CL-200 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 DL-300 Utility from anywhere and at any time using the free Windows software. Support is provided for popular industrial protocols such as DCON and Modbus RTU. The DL-300 Data Logger can be connected via widely used RS-485 communication interfaces, meaning that the device can be easily integrated into existing HMI or SCADA systems, and is easy to be maintained in a distributed control system.
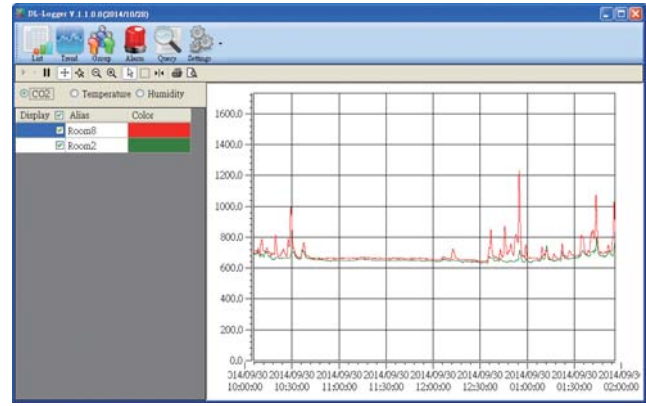
Applications

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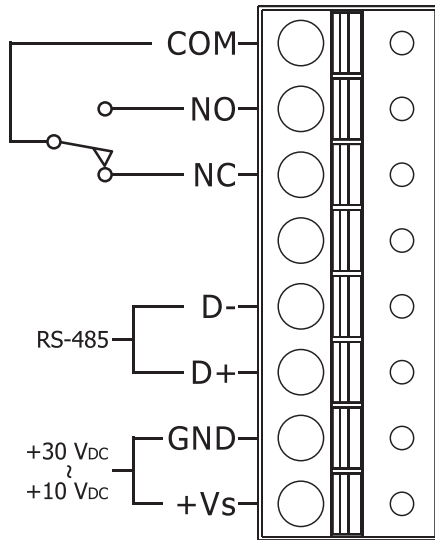- Museums, Archives and Galleries

System Specifications

Model	CL-211	CL-212	CL-213
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		
Interface	RS-485		
Electrical			
Powered from Terminal Block	+10 to +30 VDC		
Power Consumption	1.0 W (Max.)	1.2 W (Max.)	1.5 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-211	CL-212	CL-213
PM2.5 Measurement			
Range	$0 \sim 400$ 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	60 seconds	-	60 seconds
CO2 Measurement			
Range	-	0 to 9999 ppm (NDIR)	
Resolution	-	1 ppm	
Accuracy	-	±40 ppm ±3% of measured value	
Response Time	-	20 seconds	
Warm-up Time	-	60 seconds	
Temperature Measurement			
Range	-10 to +50°C		
Resolution	0.1°C		
Accuracy	±0.6°C		
Relative Humidity Measurement			
Range	0 to 100% RH		
Resolution	0.1% RH		
Accuracy	±5% RH		
Dew Point			
Range	Calculated using temperature and relative humidity		
Resolution	0.1°C		

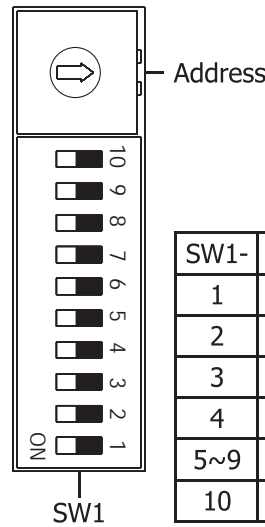## ■ Free and Power DL-300 Utility Software

The DL-300 Utility is designed for setup modules, monitor real-time data, group DL-300 and CL-200 modules to view and manage the statuses of distribution groups, download log data and export data into a .CSV file that can be imported into any industry-standard software or spreadsheet for analysis.

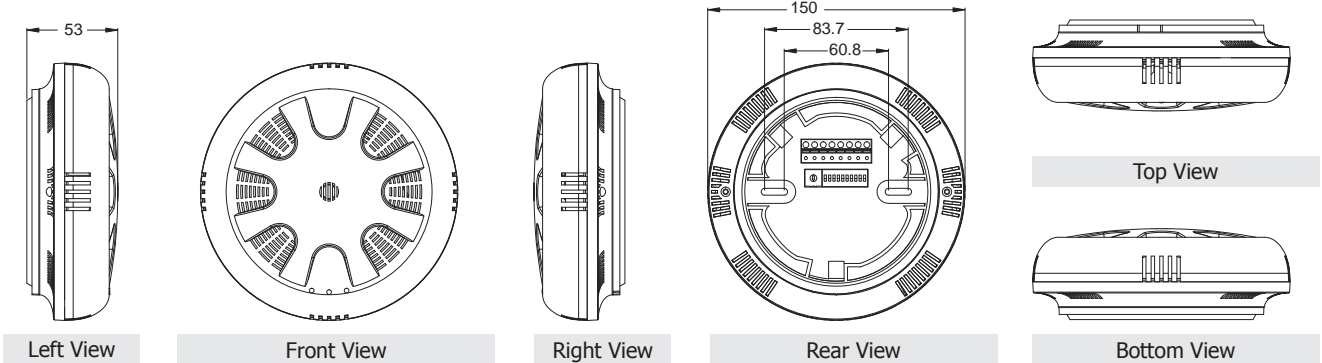## ■ Pin Assignments & Wire Connections

COM
NO
NC

RS-485 — D-, D+

GND
$+30\ V_{DC} \sim +10\ V_{DC}$ — +Vs

■ DIP Switch Settings

Address

SW1

SW1-	ON	OFF
1	DCON	Modbus
2	SW Config	HW Config
3	High Node	Low Node
4	INIT	RUN
5~9	Reserved	
10	FW update	Null

■ Dimensions (Units: mm)

53

Left View

Front View

Right View

150
83.7
60.8

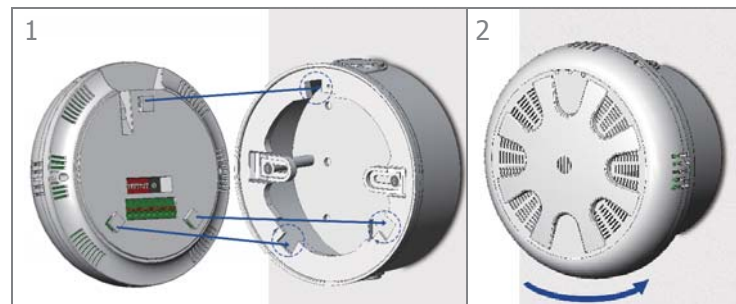Rear View

Top View

Bottom View

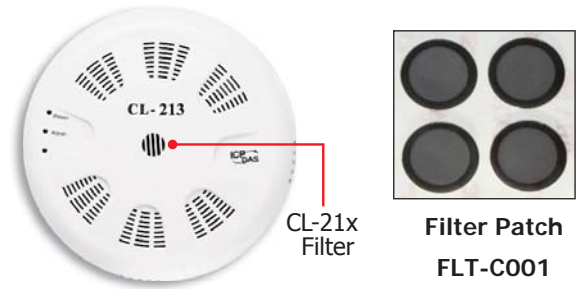## ■ Installation

Ceiling Mounting

1

2

Wall Mounting (+ External Wall Box EWB-C150)

1

2

◼ Installation

◾ 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.

CL-21x
Filter

Filter Patch
FLT-C001

◼ Ordering Information

CL-211 CR	Remote PM2.5/CO/Temperature/Humidity/Dew Point Data Logger Module (RoHS)
CL-212 CR	Remote PM2.5/CO2/Temperature/Humidity/Dew Point Data Logger Module (RoHS)
CL-213 CR	Remote PM2.5/CO/CO2/Temperature/Humidity/Dew Point Data Logger Module (RoHS)

◼ Accessories

EWB-C150		External Wall Box for CL-200 series