CL-201-E/CL-202-E/CL-203-E/ CL-204-E/CL-207-E/CL-208-E

▣ Features

- ■ Able to record CO, CO2, HCHO, TVOC, Temperature, Humidity and Dew Point Measurements
- ■ Non-dispersive Infrared (NDIR) CO2 Sensor
- ■ HCHO : Electrochemical Sensor
- ■ VCO : Metal-Oxide Sensor
- ■ Up to 450,000 records with date and time stamps
- ■ Supports the DCON, Modubs RTU/TCP, and MQTT Protocols
- ■ Includes RS-485/Ethernet Communication Interfaces
- ■ Relay Output for Alarm or IAQ Device Control

◼ Introduction

The CL-200 series of data logger devices can be used to record HCHO, TVOC, CO, CO2, temperature, humidity and dew point information, including the 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 data logger from anywhere and at any time using the free Windows software, the iSO App, or the Android App, as long as they are connected to the same local network as the data logger.

Support is provided for common industrial protocols such as DCON, Modbus RTU, and Modbus TCP, as well as the emerging machine-to-machine (M2M)/)IoT (Internet of Things) connectivity protocol – MQTT. The CL-200 data logger can be connected via widely used communication interfaces including RS-485, Ethernet and PoE, meaning that the device can be easily integrated into existing HMI or SCADA systems, ensuring trouble-free maintenance in distributed control systems.

➲ Supports the MQTT Protocol for IoT Applications
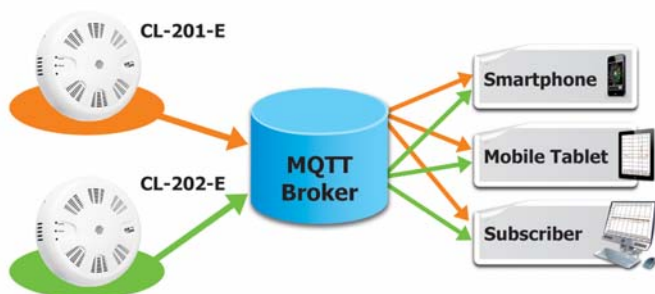
➲ Multi-platform Remote Access Software

Real-time data from the CL-200 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.

◼ System Specifications

Model	CL-201-E	CL-202-E	CL-203-E	CL-204-E	CL-207-E	CL-208-E
System						
CO/CO2/HCHO/VOC/RH/T Alarm	Yes					
Real Time Clock	Yes					
Data Logger	Yes, up to 450,000 records					
Relay Output	Form A×1, SPST 30 V_{DC} @ 16 A or 250 V_{AC} @ 16 A					
Interface	RS-485/Ethernet					
Electrical						
Powered from Terminal Block	+12 to +48 V_{DC}					
Power Consumption	1.6 W (Max.)	1.6 W (Max.)	1.7 W (Max.)	2.0 W (Max.)	2.0 W (Max.)	2.0 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-201-E	CL-202-E	CL-203-E	CL-204-E	CL-207-E	CL-208-E
HCHO Measurement						
Range	-			0 ppb to 2000 ppb (Electrochemical)	0 ppb to 2000 ppb (Electrochemical)	-
Resolution	-			1 ppb	1 ppb	-
Accuracy	-			0 ~ 300ppb : ±30ppb > 300ppb : ±10%	0 ~ 300ppb : ±30ppb > 300ppb : ±10%	-
Response Time	-			≤60 seconds	≤60 seconds	-
Warm-up Time	-			180 seconds	180 seconds	-
VOC Measurement						
Range	-			0 ppb to 60000 ppb (MEMS Metal Oxide)		0 ppb to 60000 ppb (MEMS Metal Oxide)
Resolution	-			1 ppb		1 ppb
Accuracy	-			±15%		±15%
Response Time	-			60 seconds		60 seconds
Warm-up Time	-			180 seconds		180 seconds
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	-	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					

◼ Simple and Powerful DL-300 Utility

The DL-300 Utility is a powerful tool that is designed for configuring the modules, monitoring real-time data, grouping DL-300 and CL-200 modules to view and manage the status of distribution groups, downloading log data, which can be exported to a CSV file that can then be imported into any industry-standard software or spreadsheet for analysis.
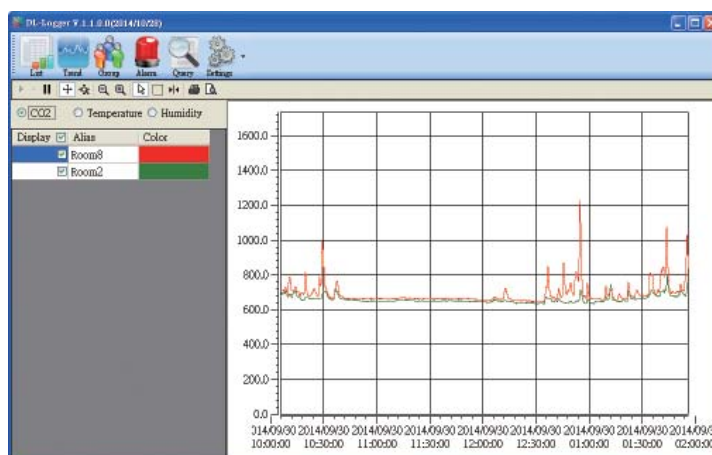
◼ Applications

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

◼ HCHO (Formaldehyde) / VOC Detector Automatic Solution

The **HCHO/VOC** detector provides an instantaneously warning of toxic formaldehyde, which can be found in a plywood factory, furniture factory and new interior remodelling house commonly.
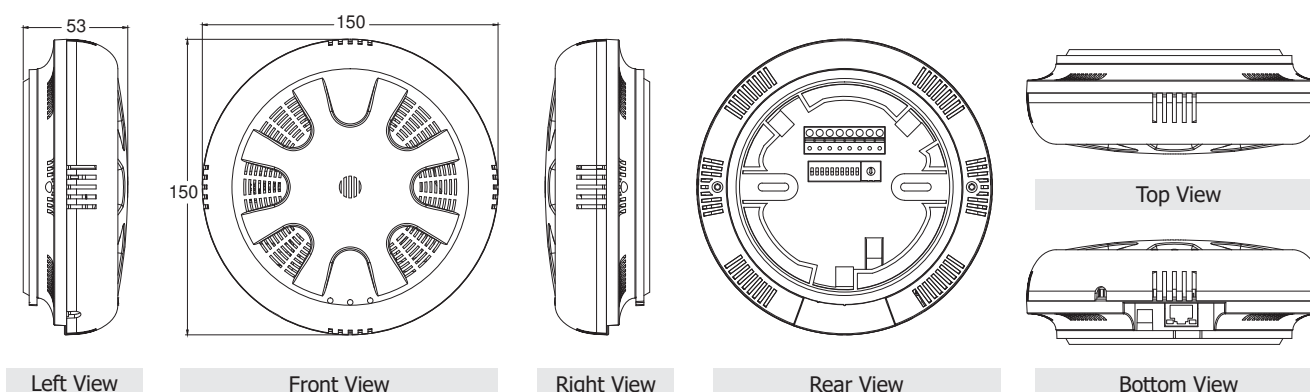

CL-207
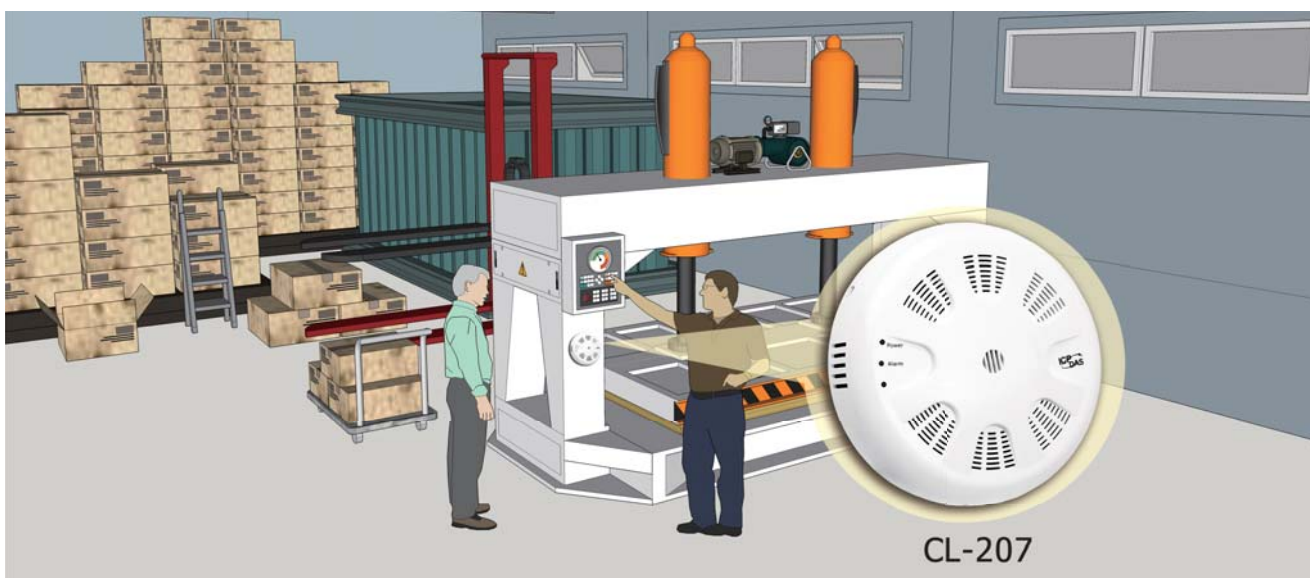
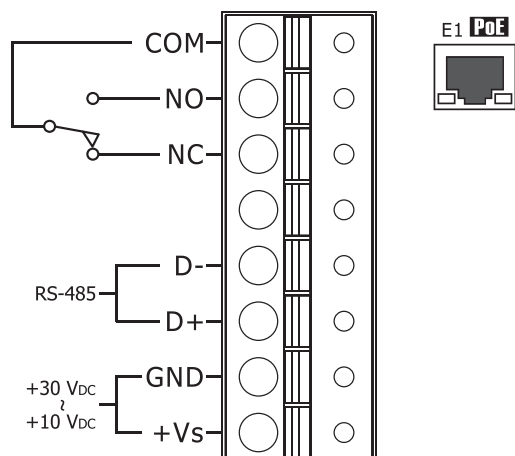## ◼ Indoor or Underground Parking Lot Automatic Monitoring Solution

The air quality automation system for indoor or underground parking lot can use the CL-200 series modules to monitor the health and safity information, such as CO, CO_2, temperature, humiditym, dew point, and more...
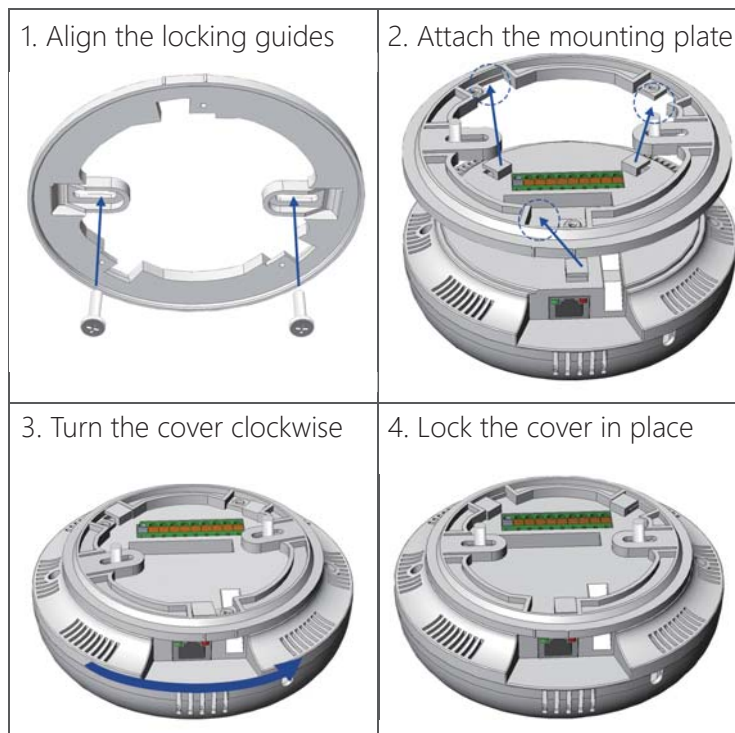

CL-201 CO Sensor

CL-203 CO / CO_2 Sensor

CL-202 CO_2 Sensor

◼ Dimensions (Units: mm)

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

53 | 150 | 150

Top View

Bottom View

■ Pin Assignments & WireConnections

E1 PoE

■ DIP Switch Settings

RS-485 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

■ Mounting

Ceiling Mounting

1. Align the locking guides	2. Attach the mounting plate
3. Turn the cover clockwise	4. Lock the cover in place
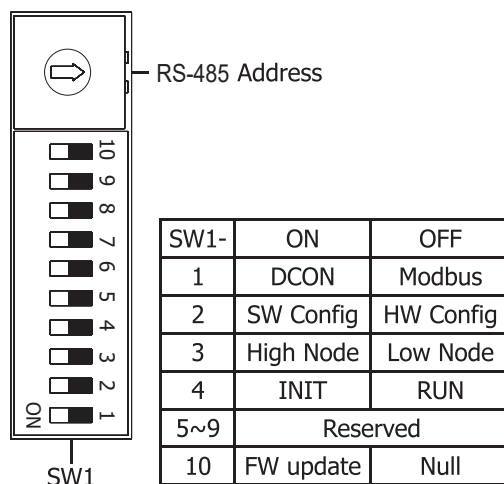
Wall Mounting
(Requires External Wall Box EWB-C150)

1	2
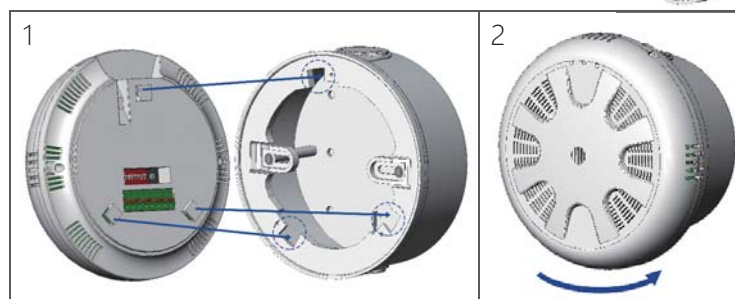
■ Ordering Information

CL-201-E CR	Remote CO/Temperature/Humidity/Dew Point Data Logger Module (RoHS)
CL-202-E CR	Remote CO2/Temperature/Humidity/Dew Point Data Logger Module (RoHS)
CL-203-E CR	Remote CO/CO2/Temperature/Humidity/Dew Point Data Logger Module (RoHS)
CL-204-E CR	Remote HCHO/TVOC/Temperature/Humidity/Dew Point Data Logger Module (RoHS)
CL-207-E CR	Remote HCHO/Temperature/Humidity/Dew Point Data Logger Module (RoHS)
CL-208-E CR	Remote TVOC/Temperature/Humidity/Dew Point Data Logger Module (RoHS)

■ Accessories

EWB-C150	External Wall Box for the CL-200 series