

DL-301/DL-302/DL-303/DL-304
DL-305/DL-306/DL-307/DL-308

CO/CO2/HCHO/TVOC/NH3/H2S/Temperature/
Humidity/Dew Point Data Logger

Features

- Simultaneous Display for CO, CO2, HCHO, TVOC, NH3, H2S, Temperature, Humidity and Dew Point
- Measurement Range
  - CO: 0 ~ 1000 ppm
  - CO2: 0 ~ 9999 ppm
- Non-dispersive Infrared (NDIR) CO2 Sensor
- 2.8" LCD Touch Screen
- Able to store up to 450,000 records with date and time stamps
- Touch-screen and Web-based Configuration Interface
- Free Software Utility, iOS APP and Android App Included
- Able to Display Multilingual Messages on the Screen
- Supports the DCON, Modbus RTU, Modbus TCP and MQTT Protocols
- Includes RS-485/Ethernet/PoE Communication Interfaces
- Relay Output for Audible/Visual Alarm or IAQ Device Control
- DL-304/DL-305/DL-306/DL-307/DL-308 no FCC

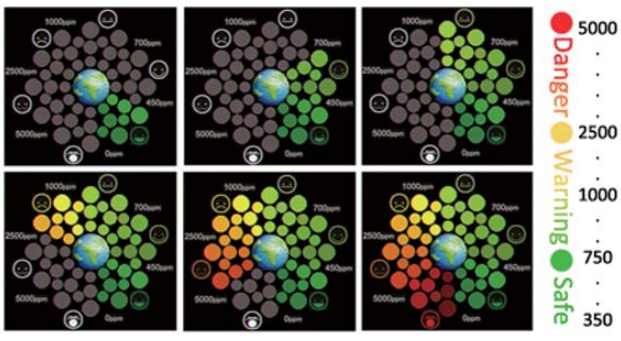
Introduction

The DL-300 series of Data Logger devices can be used to record CO, CO2, HCHO, TVOC, NH3, H2S, Temperature, Humidity and Dew Point information, including date and time stamps, and are able to store up to 450,000 downloadable records.

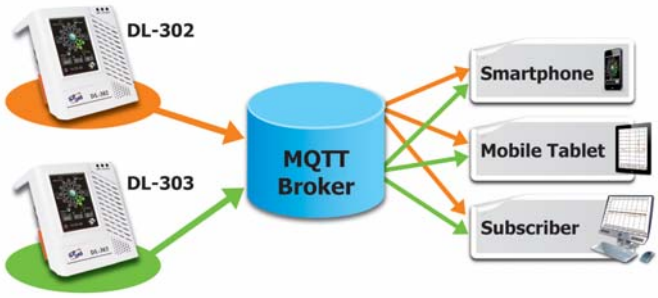
Real-time data can be accessed from the DL-300 Data Logger from anywhere and at any time using the free Windows software, the iOS App or the Android App, as long as they are connected to the same local network as the Data Logger.

Support is provided for popular industrial protocols such as DCON, Modbus RTU, and Modbus TCP, as well as the emerging machine-to-machine (M2M)/)IoT (Internet of Things) connectivity protocol – MQTT. The DL-300 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, and is easy to be maintained in a distributed control system.

Large 2.8" LCD Touch Screen, with clear Color Chart to indicate the CO/CO2 Level



Supports the MQTT Protocol for IoT Applications



Multi-platform Remote Access Software

Real-time data from the DL-300 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.

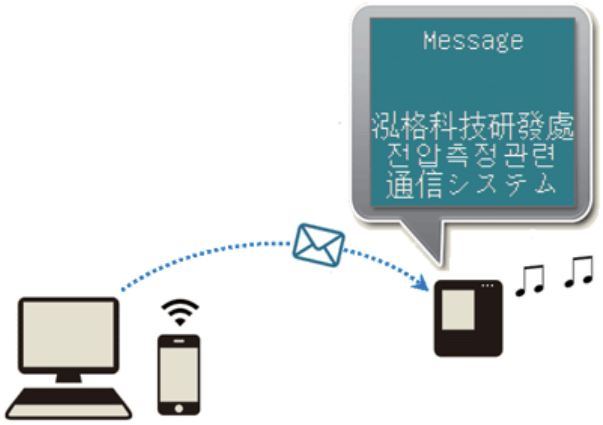


iOS

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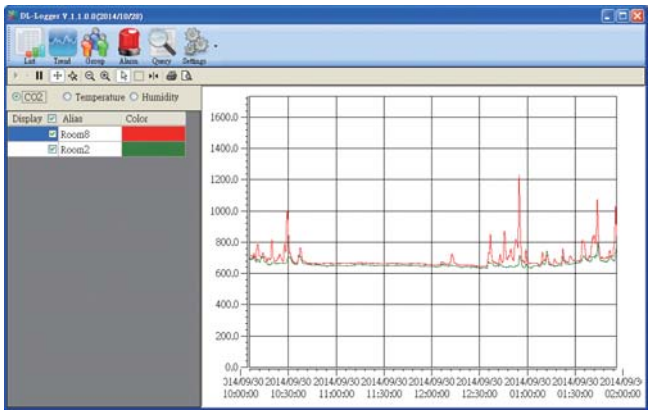
Display Messages in Multiple Languages

The display-message-on-screen function supports multiple language character sets based on UTF-8 encoding. Either pre-configured messages or dynamic messages can be remotely displayed using Modbus commands, or a dynamic message can be sent via the web-based interface.



Free and Power DL300 Utility Software

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.



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



DL-30 X - X - X

Types of Fume Sensor

1 : CO
2 : CO2
3 : CO+CO_2
4 : HCHO + TVOC
5 : NH_3
6 : N_2S
7 : HCHO
8 : TVOC

Communication

N/A : Basic, RS-485 +Ethernet/PoE
BLE : Basic+Bluetooth
WF : Basic+Wi-Fi

Ingress Protection Rating

IP65 : with IP65 Waterproof and dustproof

DL-10xx Series		Fume Sensor / Gas Sensor							Communication
Basic Type	Wi-Fi	CO	CO_2	HCHO	NH_3	H_2S	TVOC	T & RH	
DL-301	DL-301-WF	√	-	-	-	-	-	√	Basic type: RS-485 + Ethernet/PoE WF type: Wi-Fi + RS-485 + Ethernet/PoE
DL-302	DL-302-WF	-	√	-	-	-	-		
DL-303	DL-303-WF	√	√	-	-	-	-		
DL-304	DL-304-WF	-	-	√	-	-	√		
DL-305	DL-305-WF	-	-	-	√	-	-		
DL-306	DL-306-WF	-	-	-	-	√	-		
DL-307	DL-307-WF	-	-	√	-	-	-		
DL-308	DL-308-WF	-	-	-	-	-	√		

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System Specifications

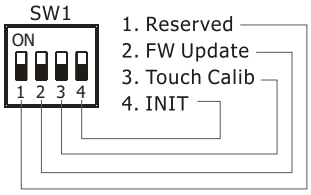
Software	
Built-in Web Server	Yes
CPU Module	
Real Time Clock	Yes
Display	
Backlight Life	20,000 hours
Brightness	160 cd/m2
Touch Panel	Yes
LCD Information Displayed	2.8 TFT (Resolution 240 x 320 x 16), Defective Pixels <= 3
System	
Real Time Clock	Yes
Data Logger	Yes, up to 450,000 records
Relay Output	
Type	Form A × 1, SPST
Contact Rating	30 VDC @ 16 A or 250 VAC @ 16 A
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Protocol	DCON, Modbus/RTU
Ethernet	
Ports	1x 10/100 Base-TX (Auto-negotiating, Auto-MDI/MDIX, LED indicators)
PoE	Yes
Protocol	Modbus/TCP, MQTT
Power	
Consumption	PoE:2.83W(Max.) Non-PoE:2.24W(Max.)
Powered from PoE	IEEE 802.3af, Class 1 (48 V)
Powered from Terminal Block	+12 ~+48 VDC
Dimensions (mm)	
Dimensions (L x W x H)	114106 x 114 x 56 (W x L x H)
Installation	Desktop, DIN-Rail or Wall Mounting
Environment	
Operating Temperature	0 to +50°C
Storage Temperature	-30 to +75°C
Humidity	10 to 90% RH, Non-condensing

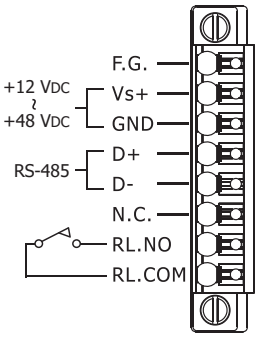
I/O Specifications

Type of Sensor	Range / Sensor Type	Resolution	Accuracy	Response Time	Warm-up Time	Life Time
CO	0 to 1000 ppm (Electrochemical)	1 ppm	±5% of measured value	30 seconds	60 seconds	5 years
CO_2	0 ~ 9999 ppm (NDIR)	1 ppm	±30 ppm ±3% of measured value	120 seconds	300 seconds	15 years
HCHO	0 ppb to 2000 ppb (Electrochemical)	1 ppb	0 ~ 300ppb : ±30ppb > 300ppb : ±10%	≤60 seconds	180 seconds	3 years
TVOC	0 ppb to 60000 ppb (MEMS Metal Oxide)	1 ppb	±15%	60 seconds	180 seconds	5 years
NH_3	0 to 100 ppm (Electrochemical)	1 ppm	±5% of measured value	< 40 seconds	60 seconds	2 years
H_2S	0 to 100 ppm (Electrochemical)	1 ppm	±5% of measured value	< 30 seconds	60 seconds	2 years
O_2	0 ~ 25% (Luminescence for O2 sensor)	0.01%	±2%	< 30 seconds (typical)	120 seconds	5 years
Temperature	-20 to +50°C	0.1°C	±0.6°C	-	-	10 years
Relative Humidity	0 to 100% RH, Non-condensing	0.1% RH, Non-condensing	±5% RH, Non-condensing	-	-	10 years
Dew Point	Calculated using temperature and relative humidity	0.1°C	-	-	-	10 years

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Pin Assignments & Wire Connections

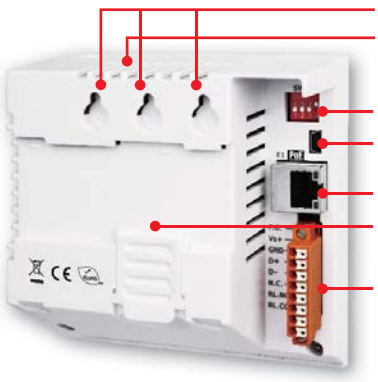




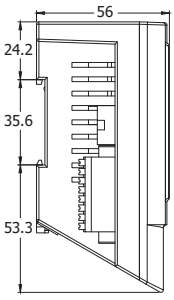
Relay Output
Form A
NO:16 A or 250 VAC

Appearance

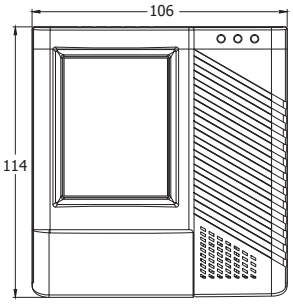




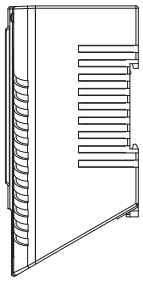
Dimensions (Units: mm)



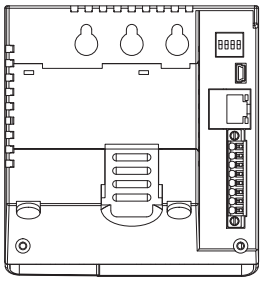
Left View



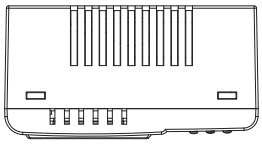
Front View



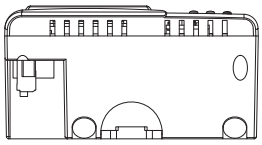
Right View



Rear View



Top View



Bottom View

Ordering Information

DL-301 CR	Remote CO/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-302 CR	Remote CO2/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-303 CR	Remote CO/CO2/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-304 CR	Remote HCHO/TVOC/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-305 CR	Remote NH3/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-306 CR	Remote H2S/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-307 CR	Remote HCHO/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-308 CR	Remote TVOC/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)

Accessories

NS-205 CR	Unmanaged 5-port Industrial Ethernet Switch. 24 VDC Input (RoHS)
NS-205PSE CR	Unmanaged Ethernet switch with 4-PoE and 1 RJ45 uplink connectors. 48 VDC Input (RoHS)
NS-205PSE-24V CR	Unmanaged Ethernet switch with 4-PoE and 1 RJ45 uplink connectors. 24 VDC Input (RoHS)

MDR-20-24 CR	24V/1A, 24 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-48 CR	48V/1.25A, 60 W Single Output Industrial DIN Rail Power Supply (RoHS)
tM-7561 CR	USB to Isolated RS-485 Converter (RoHS)

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