

DL-311-IP65
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DL-315-IP43
DL-316-IP65
DL-317-IP65
DL-318-IP65

Remote $CO/CO_2/HCHO/TVOC/NH_3/H_2S$/Temperature/Humidity/Dew Point/Pressure Data Logger Module

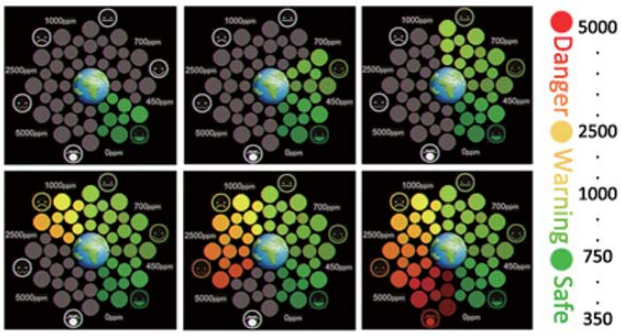
Features

- Able to record CO, CO_2, HCHO, TVOC, NH_3, H_2S, Temperature, Humidity, Dew Point and Pressure Measurements
- Non-dispersive Infrared (NDIR) CO2 Sensor
- Electrochemical Sensor
- 2.8" LCD Touch Screen
- Touch-screen and Web-based Configuration Interface
- Simple and Powerful Software Utility, iOS APP and Android App Included
- Able to Display Multilingual Messages on the Screen
- Supports the DCON, Modbus RTU/TCP, and MQTT Protocols
- Includes RS-485/Ethernet/PoE Communication Interfaces
- Relay Output for Audible/Visual Alarm or IAQ Device Control
- Includes redundant power inputs: PoE (IEEE 802.3af, Class 1) and DC input
- IP65/IP43 Protection Approval

Introduction

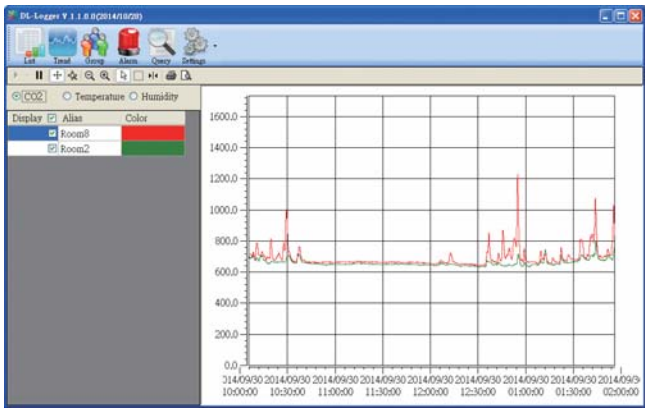
The DL-310-IP65 series of Data Logger devices can be used to record CO, CO_2, HCHO, TVOC, NH_3, H_2S, Temperature, Humidity, Dew Point and Pressure information, including date and time stamps, and are able to store up to 450,000 downloadable records. Real-time data can be accessed from the DL-310-IP65 series 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-310-IP65 series 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. The IP65/IP43 version of DL-310-IP65 series is designed for industrial applications in harsh environments that provides IP65/IP43 grade protection approval. The rugged RJ-45 ensures tight, robust connections, and guarantees reliable operation, even for applications that are subject to high vibration and shock.

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

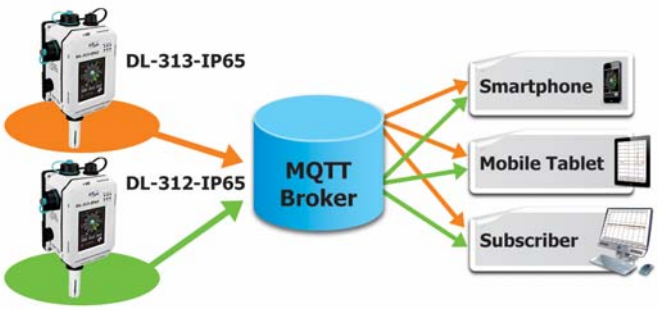


Simple and powerful utility

The iAir Utility can be used to configure the modules, monitor real-time data, group DL-310 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.



Supports the MQTT Protocol for IoT Applications



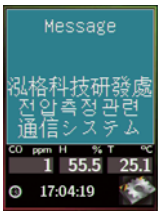
Multi-platform Remote Access Software

Real-time data from the DL-310 Data Logger can be accessed from anywhere and at any time using the IAir 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.



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.



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Applications

Mushroom Farm

Mushroom growth yield requires long time to monitor the environment of CO_2 concentration, temperature and humidity values, and its growth environment is high humidity condition. The general equipment cannot work in such environment, but the DL-312-IP65 can be used to record CO_2, temperature, humidity and dew point information with date and time stamps in the operating temperature from -20˚C to +50˚C, and are able to store up to 450,000 downloadable records . The WISE-5231-3GWA features timer and schedule functions. It allows user to schedule specific date or time for control logic execution, or perform specific tasks such as time delay. With calendar user interface provided, schedule setting can be more efficient and flexible. This does not require programming, only some simple settings will be able to achieve the farm production control and quality control, production resume ... and so on.



Pig Farm

Ammonia and Hydrogen sulfide are two of the most harmful gases in animal farming environment. They will directly affect animals' growth and immunity.
Pig farm requires long-term immediate monitoring the environment of NH_3 concentration, temperature and humidity values. The general equipment cannot work in such environment, but the DDL-315-IP43 can be used to record NH_3, temperature, humidity and dew point information with date and time stamps in the operating temperature from -20°C to +50°C, and are able to store up to 450,000 downloadable records . The WISE-5231-3GWA features timer and schedule functions. It allows user to schedule specific date or time for control logic execution, or perform specific tasks such as time delay. With calendar user interface provided, schedule setting can be more efficient and flexible. This does not require programming, only some simple settings will be able to achieve the farm production control and quality control, production resume ... and so on.



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Specifications

COM Ports		
Ports		1 x RS-485
Baud Rate		1200 ~ 115200 bps
Protocol		DCON, Modbus/RTU
Ethernet		
Ports		10/100 Base-TX, 8-Pin RJ-45 x1(Auto-negotiating, Auto-MDI/MDIX, LED indicators)
PoE		Yes
Protocol		Modbus/TCP, MQTT
Software		
Built-in Web Server		Built-in Web Server
CPU Module		
Real Time Clock		Yes
Watchdog Timer		Yes, Module (2.3 sec), Communication (Programmable)
System		
Security		IP fi lter (whitelist) and Password (web)
Real Time Clock		Yes
Data Logger		Yes, up to 450,000 records
Relay Output		
Type		PhotoMos Relay × 4, 100 VDC @ 1 A
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 Backlight Life 20,000 hours
LED Indicators		
Status	PWR	Green for normal operation
	Link	Green for the Ethernet-linked
	S1~S4	Red for an alarm condition
Power		
Consumption	PoE	3.1 W (Max)
	Non-PoE	3.0 W (Max)
Powered from PoE		IEEE 802.3af, Class 1 (48V)
Powered from Terminal Block		+12 to +48 VDC
Mechanical		
Dimensions (mm)		116 x 211 x 70 (W x L x H)
Installation		DIN-Rail or Wall Mounting
Ingress Protection Rating		DL-31X-IP65 DL-315-IP43
Environment		
Operating Temperature		-20 ~ +50°C
Storage Temperature		-30 ~ +75°C
Humidity		10 ~ 90% RH, Non-condensing

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DL-31X-IP65 Series	Type of Sensor								Communication
	T & RH	Pressues	Gas Monitoring						
			CO	CO_2	HCHO	NH_3	H_2S	TVOC	
DL-311-IP65	√	√	√	-	-	-	-	-	**RS-485 + Ethernet/PoE**
DL-312-IP65	√	√	-	√	-	-	-	-	
DL-313-IP65	√	√	√	-	-	-	-	-	
DL-314-IP65	√	√	-	-	√	-	-	√	
DL-315-IP43	√	√	-	-	-	√	-	-	
DL-316-IP65	√	√	-	-	-	-	√	-	
DL-317-IP65	√	√	-	-	√	-	-	-	
DL-318-IP65	√	√	-	-	-	-	-	√	

I/O Specifications

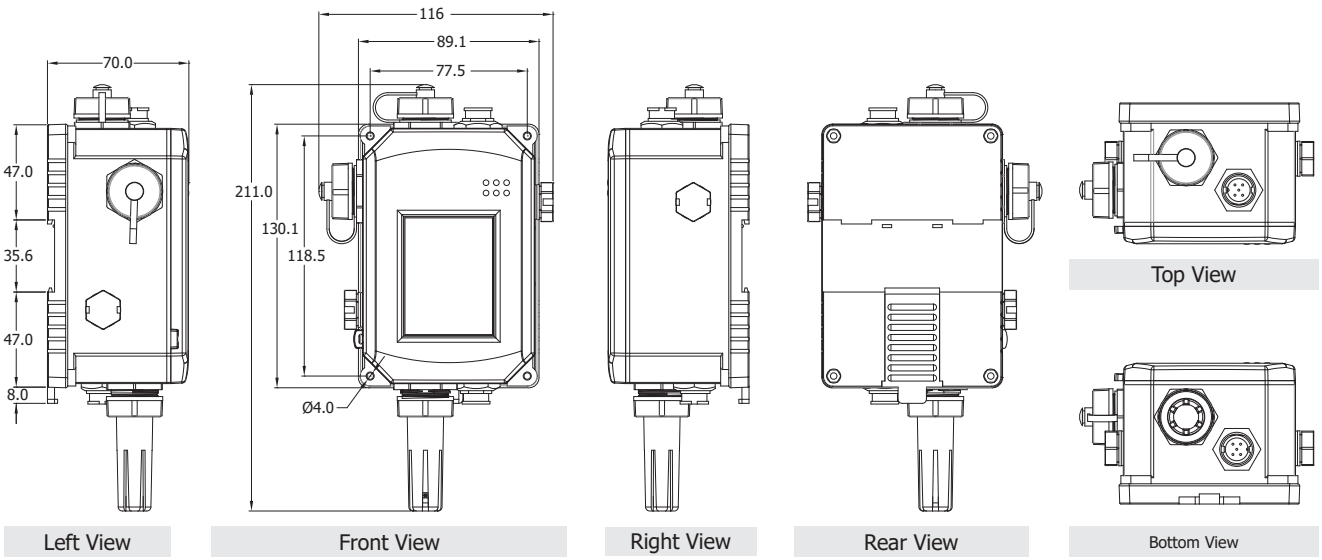
Type of sensor	Rang	Resolution	Accuracy	Response Time	Warm-up Time	Life Time
CO	0 to 1000 ppm (Electrochemical)	1 ppm	±5% of measured value	30 seconds	60 seconds	5 years
CO_2	0 ~ 9999 ppm (NDIR)	1 ppm	±30 ppm ±3% of measured value	120 seconds	300 seconds	15 years
HCHO	0 ppb to 2000 ppb (Electrochemical)	1 ppm	0 ~ 300ppb : ±30ppb > 300ppb : ±10%	≤60 seconds	180 seconds	3 years
TVOC	0 ppb to 60000 ppb (MEMS Metal Oxide)	1 ppm	±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
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
Pressure	300 ~ 1200 hpa	0.1 hpa	1 hpa	-	-	-

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Appearance

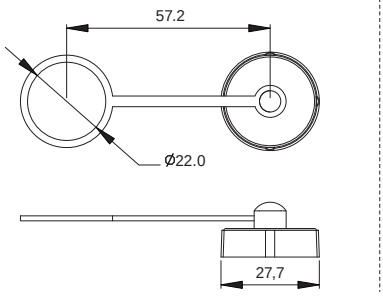


Dimensions (Units: mm)



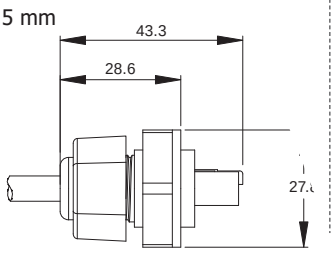
Left View | Front View | Right View | Rear View | Top View | Bottom View

IP65 Ethernet Cap with Tether



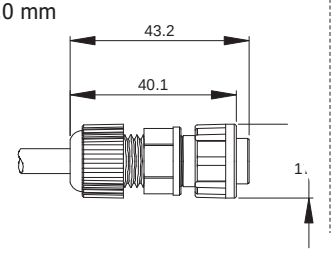
IP65 Ethernet Plug

Cable Dia:
Max. 7.0 mm
Min. 5.5 mm



IP65 PWR Plug

Cable Dia:
Max. 6.5 mm
Min. 5.0 mm



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Ordering Information

DL-311-IP65 CR	IP65 Remote CO/Temperature/Humidity/Dew Point/Pressure Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-312-IP65 CR	IP65 Remote CO_2/Temperature/Humidity/Dew Point/Pressure Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-313-IP65 CR	IP65 Remote CO/CO_2/Temperature/Humidity/Dew Point/Pressure Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-314-IP65 CR	IP65 Remote HCHO/TVOC/Temperature/Humidity/Dew Point/Pressure Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-315-IP43 CR	IP43 Remote NH_3/Temperature/Humidity/Dew Point/Pressure Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-316-IP65 CR	IP65 Remote H_2S/Temperature/Humidity/Dew Point/Pressure Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-317-IP65 CR	IP65 Remote HCHO/Temperature/Humidity/Dew Point/Pressure Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
DL-318-IP65 CR	IP65 Remote TVOC/Temperature/Humidity/Dew Point/Pressure Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)

Accessories

Mode Name	NS-205-IP67	NS-208PSE-IP67	NS-208-IP67
Picture			
PoE	–	802.3af x 8	–
Input Voltage Range	+10 V_{DC} ~ +30 V_{DC} (1 kV Isolated)	+46 V_{DC} ~ +53 V_{DC}	+12 V_{DC} ~ +53 V_{DC}
Installation	Wall Mounting	Wall Mounting	
Dimensions (W x L x H)(Unit: mm)	85 x 76 x 137	190 x 155 x 104	

IP67 RJ-45 Plug	Cap with Tether	IP67 Waterproof Cable, 1M
		
4SASO-0001	4SASO-0004	CA-05BFFM-LL7A01

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