



- DL-301-IP65**
- DL-302-IP65**
- DL-303-IP65**
- DL-304-IP65**
- DL-305-IP43**
- DL-306-IP65**
- DL-307-IP65**
- DL-308-IP65**

Remote CO/CO<sub>2</sub>/HCHO/TVOC/NH<sub>3</sub>/H<sub>2</sub>S/Temperature/  
Humidity/Dew Point Data Logger Module

### Features

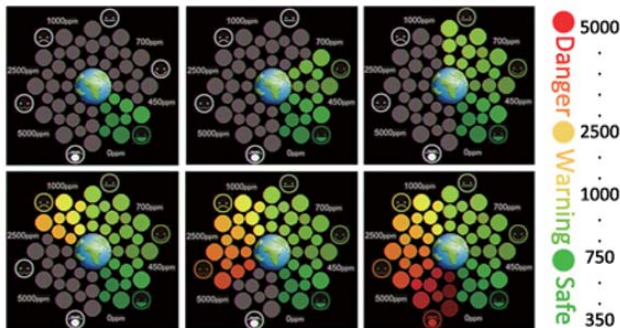
- Able to record CO, CO<sub>2</sub>, HCHO, TVOC, NH<sub>3</sub>, H<sub>2</sub>S, Temperature, Humidity, and Dew Point Measurements
- Non-dispersive Infrared (NDIR) CO<sub>2</sub> Sensor
- Electrochemical Sensor
- 2.8" LCD Touch Screen
- Up to 450,000 records with date and time stamps
- Touch-screen and 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

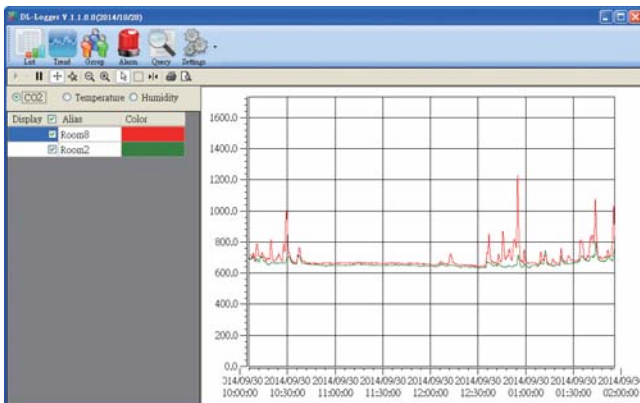
The DL-300-IP65 series of Data Logger devices can be used to record CO, CO<sub>2</sub>, HCHO, TVOC, NH<sub>3</sub>, H<sub>2</sub>S, Temperature, Humidity and Dew Point information, including date and time stamps, and are able to store up to 450,000 downloadable records. Real-time data can be accessed from the DL-300-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-300-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-300-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/CO<sub>2</sub> Level

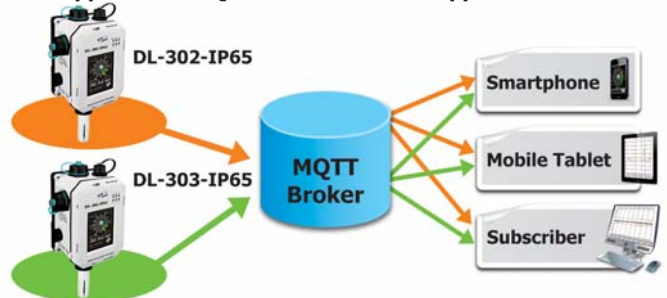


#### Simple and powerful utility

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.



#### 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.



#### 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.



## Applications

### Mushroom Farm

Mushroom growth yield requires long time to monitor the environment of CO<sub>2</sub> concentration, temperature and humidity values, and its growth environment is high humidity condition. The general equipment cannot work in such environment, but the DL-302-IP65 can be used to record CO<sub>2</sub>, 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<sub>3</sub> concentration, temperature and humidity values. The general equipment cannot work in such environment, but the DL-305-IP43 can be used to record NH<sub>3</sub>, 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.



## System Specifications

Model	DL-301-IP65	DL-302-IP65	DL-303-IP65	DL-304-IP65	DL-305-IP43	DL-306-IP65	DL-307-IP65	DL-308-IP65	
<b>System</b>									
CO Alarm	Yes	-	Yes	-					
CO2 Alarm	Yes		Yes	-					
HCHO Alarm	-			Yes	-		Yes	-	
TVOC Alarm	-			Yes	-			Yes	
NH3 Alarm	-				Yes	-			
H2S Alarm	-				Yes		-		
RH/Temperature Alarm	Yes								
<b>Software</b>									
Built-in Web Server	Yes								
<b>CPU Module</b>									
Real Time Clock	Yes								
Watchdog Timer	Yes, Module (2.3 sec), Communication (Programmable)								
<b>Display</b>									
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								
<b>LED Indicators</b>									
Status	PWR	Green for normal operation							
	Link	Green for the Ethernet-linked							
	S1 ~ S4	Red for an alarm condition							
<b>System</b>									
Security	IP filter (whitelist) and Password (web)								
Real Time Clock	Yes								
Data Logger	Yes, up to 450,000 records								
<b>Relay Output</b>									
Type	PhotoMos Relay × 4, 100 VDC @ 1 A								
<b>COM Ports</b>									
Ports	1 x RS-485								
Baud Rate	1200 ~ 115200 bps								
Protocol	DCON, Modbus/RTU								
<b>Ethernet</b>									
Ports	10/100 Base-TX, 8-Pin RJ-45 x1(Auto-negotiating, Auto-MDI/MDIX, LED indicators)								
PoE	Yes								
Protocol	Modbus/TCP, MQTT								
<b>Power</b>									
Consumption	PoE	2.9 W (Max.)	3.0 W (Max.)	3.1 W (Max.)	2.0 W (Max.)	2.9 W (Max.)	2.9 W (Max.)	2.1 W (Max.)	2.0 W (Max.)
	Non-PoE	2.7 W (Max.)	2.8 W (Max.)	2.8 W (Max.)	2.0 W (Max.)	3.0 W (Max.)	3.0 W (Max.)	2.1 W (Max.)	2.0 W (Max.)
Powered from PoE	IEEE 802.3af, Class 1 (48 V)								
Powered from Terminal Block	+12 to +48 VDC								
<b>Mechanical</b>									
Dimensions (mm)	116 x 211 x 70 (W x L x H)								
Installation	DIN-Rail or Wall Mounting								
Ingress Protection Rating	IP65				IP43		IP65		
<b>Environment</b>									
Operating Temperature	-20 ~ +50°C								
Storage Temperature	-30 ~ +75°C								
Humidity	10 ~ 90% RH, Non-condensing								

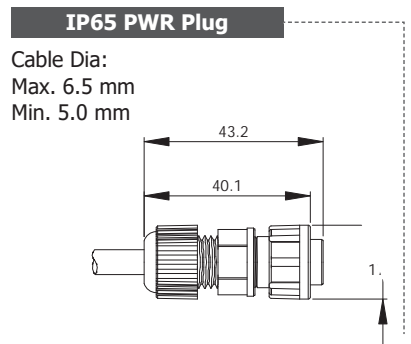
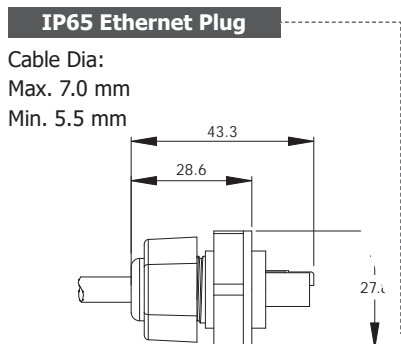
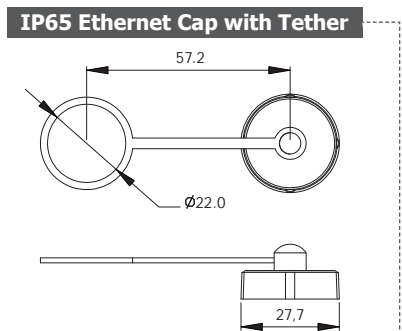
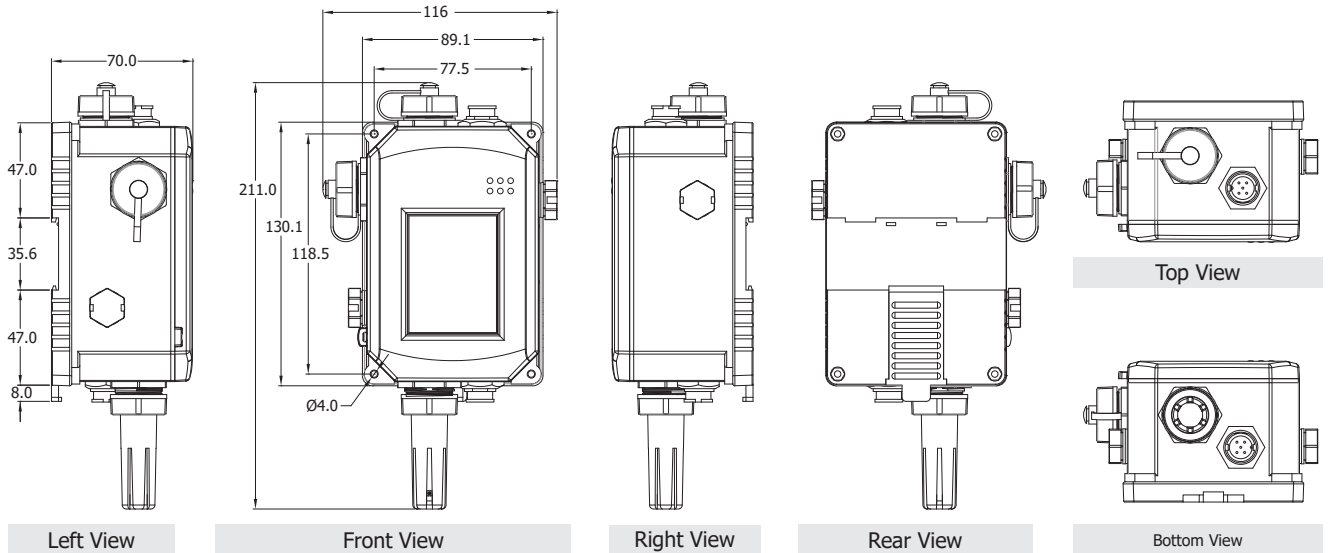
## I/O Specifications

Model	DL-301-IP65	DL-302-IP65	DL-303-IP65	DL-304-IP65	DL-305-IP43	DL-306-IP65	DL-307-IP65	DL-308-IP65
<b>CO Measurement</b>								
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 sec	-	30 sec			-		
Warm-up Time	300 sec	-	300 sec			-		
<b>CO2 Measurement</b>								
Range	-	0 to 9999 ppm (NDIR)				-		
Resolution	-	1 ppm				-		
Accuracy	-	±30 ppm ±3% of measured value				-		
Response Time	-	20 sec				-		
Warm-up Time	-	60 sec				-		
<b>HCHO Measurement</b>								
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 sec		-	≤60 sec		-
Warm-up Time		-	180 sec		-	180 sec		-
<b>TVOC Measurement</b>								
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 sec		-	60 sec		-
Warm-up Time		-	180 sec		-	180 sec		-
<b>NH3 Measurement</b>								
Range		-		0 to 100 ppm (Electrochemical)		-		
Resolution		-		1 ppm		-		
Accuracy		-		±5% of measured value		-		
Response Time		-		< 40 Sec		-		
Warm-up Time		-		60 Sec		-		
<b>H2S Measurement</b>								
Range		-			0 to 100 ppm (Electrochemical)		-	
Resolution		-			1 ppm		-	
Accuracy		-			±5% of measured value		-	
Response Time		-			< 30 Sec		-	
Warm-up Time		-			60 Sec		-	
<b>Temperature Measurement</b>								
Range	-20 to +50°C							
Resolution	0.1°C							
Accuracy	±0.6°C							
<b>Relative Humidity Measurement</b>								
Range	0 to 100% RH, Non-condensing							
Resolution	0.1% RH, Non-condensing							
Accuracy	±5% RH, Non-condensing							
<b>Dew Point</b>								
Range	Calculated using temperature and relative humidity							
Resolution	0.1°C							

## Appearance






## Dimensions (Units: mm)



## Ordering Information

<b>DL-301-IP65 CR</b>	IP65 Remote CO/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
<b>DL-302-IP65 CR</b>	IP65 Remote CO2/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
<b>DL-303-IP65 CR</b>	IP65 Remote CO/CO2/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
<b>DL-304-IP65 CR</b>	IP65 Remote HCHO/TVOC/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
<b>DL-305-IP43 CR</b>	IP43 Remote NH3/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
<b>DL-306-IP65 CR</b>	IP65 Remote H2S/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
<b>DL-307-IP65 CR</b>	IP65 Remote HCHO/Temperature/Humidity/Dew Point Data Logger with Safety Alarm (RS-485, Ethernet, PoE) (RoHS)
<b>DL-308-IP65 CR</b>	IP65 Remote TVOC/Temperature/Humidity/Dew Point 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 VDC ~ +30 VDC (1 kV Isolated)	+46 VDC ~ +53 VDC	+12 VDC ~ +53 VDC
Installation	Wall Mounting	Wall Mounting	
Dimensions (W x L x H)(Unit: mm)	85 x 76 x 137	190 x 155 x 104	

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