Vol. DLS_F.3.26.10_EN

IIoT
Smart Environmental Monitoring

Real-Time Environmental Monitoring & Hazardous Gas Detection



Smart Monitoring
Mini Weather Station

Compact
Temperature&Humidity Sensing Module

Cybersecure
Gas Sensing Module

Multiple Interfaces

Temperature, Humidity, Multi-Gas, Weather Monitoring

IP65/IP66 Water&Dust Protection

ICP DAS Industrial Automation Technology
Innovator and Enhancer.

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Temperature & Humidity Sensing

DL-10 Series — Compact Type



- ✓ Small-Sized 3cm x 2.5cm x 2cm
- ✓ Magnetic Mount for Easy Installation

Model	Temp.	Humidity	Atmospheric Pressure	Interface	Protocol	Power Consumption
DL-10(-UL)	●	Accuracy3 %RH	-	RS-485	Modbus RTU	10 ~ 30 VDC
DL-11(-UL)	●		●			

DL-100 Series — IP65 Type

- ✓ IP65 or Higher, Suitable for Harsh Environments









Mode	DL-100T M485S	DL-100T M485PS	DL-100T MS-ZT	DL-100S -E	DL-101S -E	DL-101S -WF	DL-101S -LRS	DL-102S -LRS	DL-110S -E	DL-111S -WF	DL-120-E
Temperature	●			●		●	●		●	●	-
Humidity	Accuracy 3%RH	Accuracy 1%RH	Accuracy 3%RH	Accuracy 3%RH		Accuracy 3%RH	Accuracy 3%RH		●	●	-
Illuminance	-			-		-	-		●	●	●
Atmospheric Pressure	-			-		-	-	●	-	-	-
Altitude	-			-		-	-	●	-	-	-
Interface	RS-485		Zigbee	Ethernet		Wi-Fi	LoRa		· RS-485 · Ethernet	Wi-Fi	· RS-485 · Ethernet
Protocol	Modbus RTU			· Modbus TCP · MQTT		Modbus TCP	Modbus TCP (Via a Gateway)		· DCON · Modbus RTU/TCP · MQTT	· Modbus TCP · HTTP	· DCON · Modbus RTU/TCP · MQTT
Power Consumption	10~30 VDC			PoE	· PoE · 12~48 VDC	9~48 VDC	12~48 VCD		· PoE · 12~48 VDC	9~48 VDC	· PoE · 12~48 VDC
Water & Dust Ingress Protection	IP66			IP66		IP67	IP65		IP65	IP67	IP65
DO	-			-	2	2	2		-	2	-
LCD	●			●		●	●		-	-	-

iSN-200 Series — Indoor Type



- ✓ Illuminance, Temperature and Humidity
- ✓ Suitable for Indoor Use

Gas, Temp. & Humidity Sensing

DLS-1000/DL-1000 Series — Cybersecurity Type/Standard Type



IP43

- ✓ Multi-Gas, Temperature & Humidity Monitoring
- ✓ Fan-Assisted Gas Channel Design
- ✓ Replaceable Filter

DLS-1000 DL-1000

	DLS-1000 (Cybersecurity Type)	DL-1000 (Standard Type)
Modbus	Modbus UDP/TCP/TLS	Modbus RTU/TCP
MQTT	TLS, Username/Password, and Certificate Authority	Username/Password
LwM2M	Username/Password and Certificate Authority	-
Web	http/https/RESTful API	http
Encrypted Transmission	TLS	-
Real-Time Communication	LINE、Telegram、Facebook Messenger、WhatsApp	-
Support for Other Protocols	OPC UA、SNMP	DCON
DDoS Protection	Yes	-

DL-300 Series — LCD Type



IP43 NH_3

IP65 Other Gases



IP30

- ✓ Multi-Gas, Temperature and Humidity Monitoring
- ✓ Resistive 2.8" Color Touchscreen
- ✓ Visual Interface for Temperature, Humidity, and Gas Concentration

CL Series — Indoor Type



CL-200 Series

- ✓ Multi-Gas, Temperature and Humidity Monitoring
- ✓ Replaceable Filter



CL-2S Series

- ✓ Smoke, Temperature and Humidity Monitoring
- ✓ 70 dB Alarm
- ✓ Industrial Design Patent

Not for life safety applications



CL-20A-C Series

- ✓ Methane Monitoring
- ✓ 85 dB Alarm
- ✓ CAN Bus Communication

Not for life safety applications

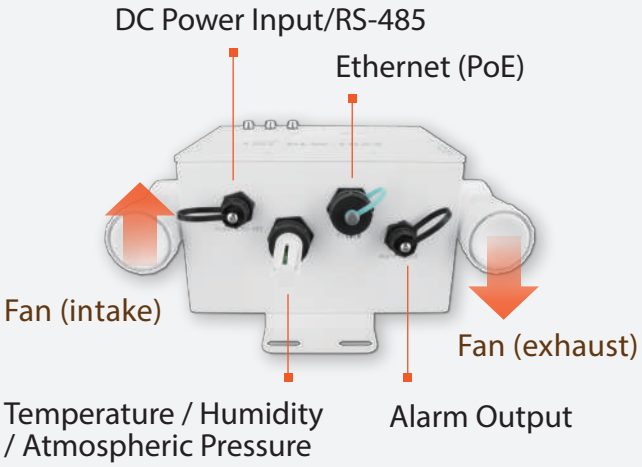
Mini Weather Station

TAIWAN EXCELLENCE

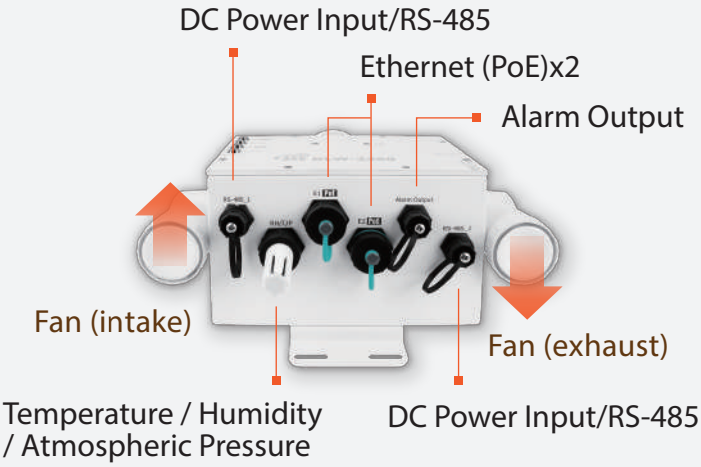


- ✓ Meteorological Data and Gas Monitoring
- ✓ Up to IP67 Protection
- ✓ Fan-Assisted Gas Channel Design
- ✓ Replaceable Filter

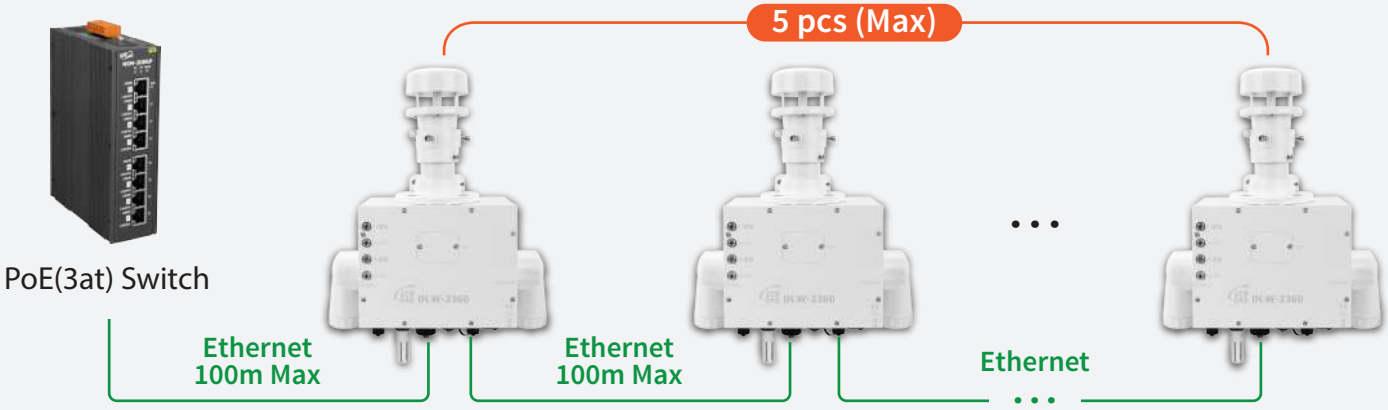
DLW-1000 Series



DLW-2000 Series

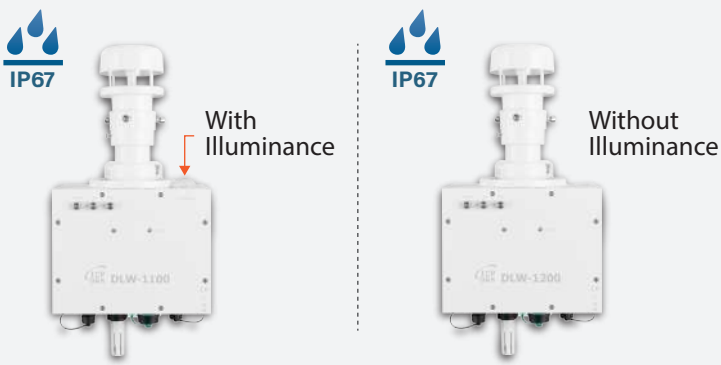


DLW-2000 Series – Daisy-Chain PoE Design

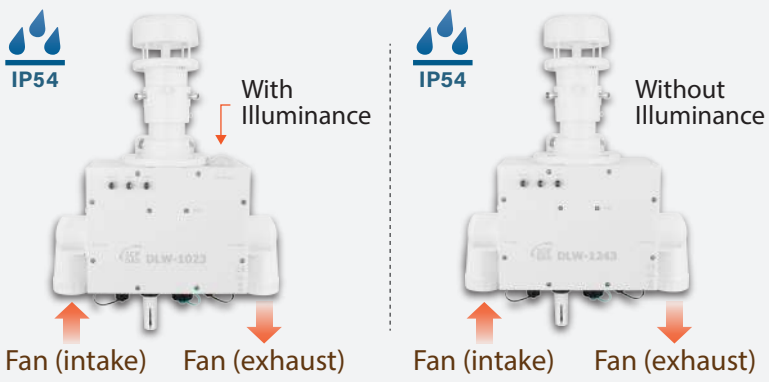


Mechanical Type

Meteorological Monitoring Only



With Gas Monitoring



Environmental Monitoring Series – Specifications

Sensor Type		Range	Accuracy	Resolution	Response Time	Lifetime
Wind Speed		0 ~ 40 m/s	5%	0.01 m/s	-	10 yrs
Wind Direction		0 ~ 359°	< 3°	1		
Atmospheric Pressure		300 ~ 1,200 hPa	1 hPa	0.1 hPa		
Precipitation		0 ~ 100 mm/hr	± 10%	0.01 mm/hr		
Altitude		-50 ~ 9,000 m	-	0.1 m		
Temp.	DL-10 Series	-25°C ~ 75°C	± 0.5°C	0.1°C		
	CL-2S Series	-10°C ~ 60°C				
	Other	-20°C ~ 50°C				
Humidity		0 ~ 100%	± 5%	0.1%		
Illuminance		0 ~ 200,000 Lux		1 Lux		
PM1.0/2.5/10		0 ~ 1,000 μg/m^3	± 10%	1 μg/m^3	1 s	5 yrs

Gas Sensor	Range	Accuracy	Resolution	Response Time	Warm-Up Time	Lifetime
Carbon Monoxide (CO)	0 ~ 1,000 ppm (Electrochemical)	± 5%	1 ppm	30 s	60 s	5 yrs
Carbon Dioxide (CO_2)	0 ~ 9,999 ppm (NDIR)	± 3%	1 ppm	120 s	300 s	15 yrs
Formaldehyde (HCHO)	0 ppb ~ 2,000 ppb (Electrochemical)	± 10%	1 ppm	≤ 60 s	180 s	3 yrs
Total Volatile Organic Compounds (TVOC)	0 ppb ~ 60,000 ppb (MEMS Metal Oxide)	± 15%	1 ppm	60 s	180 s	5 yrs
Ammonia (NH_3)	0 ~ 100 ppm (Electrochemical)	± 5%	1 ppm	< 40 s	60 s	2 yrs
Hydrogen Sulfide (H_2S)	0 ~ 100 ppm (Electrochemical)	± 5%	1 ppm	< 30 s	60 s	2 yrs
Oxygen (O_2)	0 ~ 25% (Luminescence for O_2 sensor)	± 2%	0.01%	< 30 s (typical)	120 s	5 yrs
Methane (CH_4)	0 ~ 100 % (Catalytic Oixdation)	± 5%	1%	< 20 s	15 s	2 yrs
Sulfur Dioxide (SO_2)	0 ~ 20 ppm (Electrochemical)	± 5%	0.1 ppm	< 40 s	60 s	5 yrs

Product	DL-10 Series [1]	DL-100 Series	iSN-200 Series	CL-200 Series	CL-2S Series	DL-300 Series	DLS-1000 Series	DL-1000 Series	DLW Series
Sensor									
Temp. & Humidity	●	●	●	●	●	●	●	●	●
Atmospheric Pressure	●	●[2]							●
Illuminance		●	●						●
PM2.5/PM1/PM10				●			●	●	●
Carbon Monoxide				●		●	●	●	●
Carbon Dioxide				●		●	●	●	●
Ammonia				●		●	●	●	●
Hydrogen Sulfide				●		●	●	●	●
Formaldehyde				●		●	●	●	●
TVOC				●		●	●	●	●
Methane				●					●
Sulfur Dioxide							●	●	●
Oxygen							●	●	●
Smoke					●				●
Wind Speed / Altitude / Wind Direction / Precipitation									●
Interface									
RS-485	●	●	●	●	●	●	●	●	●
CAN									
Ethernet/PoE		●	●	●	●	●	●	●	●
Wi-Fi		●	●	●	●	●	●	●	
Zigbee		●							
LoRa		●			●				
Protocol									
DCON		●	●	●	●	●	●	●	
Modbus RTU	●	●	●	●	●	●	●	●	●
Modbus TCP		●	●	●	●	●	●	●	●
MQTT		●	●	●	●	●	●	●	●
OPC UA							●		
Function									
LCD Display		●				●			
Data Storage		●		●		●	●	●	●
Relay Output		●	●	●	●	●	●	●	●
Cybersecurity[3]		●	●	●	●	●	●[4]	●	●

1. UL version(optional) 2. LoRa Version
3. All Ethernet versions support blacklist/whitelist and password login
   All Wi-Fi versions support WEP, WPA, and WPA2
4. Cybersecurity Enhanced Version (Modbus TLS, DDos, etc.)