Air Quality Series Temp & Humi Transmitter Suitable For Building Automation Application

Air Quality series temp and humi transmitter made by GCONNECT company can be used for the measurement of humi and temp in various building automatic application. Transmitter is installed simply and works reliably.

Air Quality series product can not only provide wall installation and pipe installation forms, but also provide installation for humid region. Besides, it has transmitter with IP65 and outdoor installed transmitter with radiation shield. In addition, it can provide single temperature product and product with optional display or atmosphere light.

Installation is convenient

Air Quality series transmitter is installed conveniently, without loose parts. Screws are all reserved inside the enclosure; all the connectors are marked clearly and convenient for wiring operation.

Pipe installed transmitter can be used matched with various pipe specifications. Outdoor installed transmitter can be installed on the wall or upright directly without any other accessories. Wall installed transmitter can complete installation without opening a hole on the enclosure of transmitter.

Work is reliable

Air Quality series transmitter owns complete detection equipment and advanced rigid production process, owing to applying outstanding and stable high-precision imported sensor and high-quality material, which ensures daily work stability of the product without maintenance.

Functions & Features

- Air Quality series is used as common HVAC and reliable transmitter of multiple bad environments.
- Can provide multiple installation forms and related accessories
- Transmitters installed on the wall and pipe are used as IP65 transmitter and equipment in damp area
- Radiation shield outdoor installation transmitter
- Can provide product on temperature can be measured
- Reflect measuring parameter range, atmosphere light and OLED display
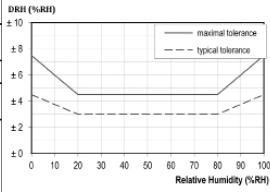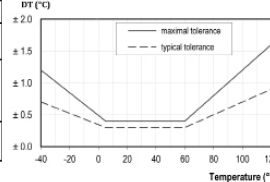
Typical Installation

- Duct mount
- Wall mount
- Outside mount
- Clean area
- Immersion

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Appearance data
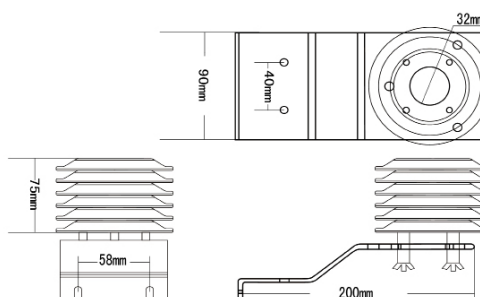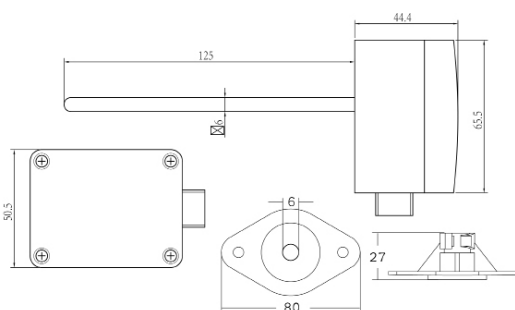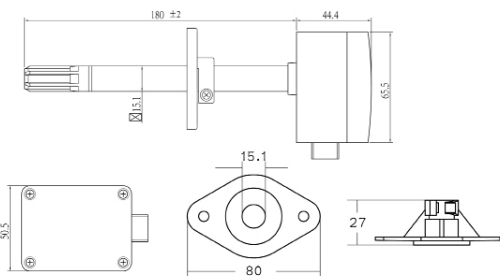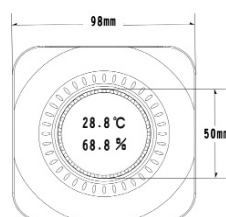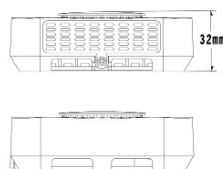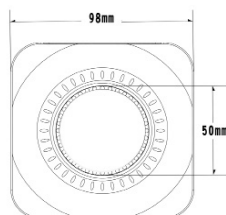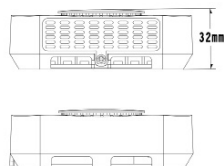
Temp & Humi Product Technical Data

Temp & Humi

性　能	
Range of working temp & humi	-40...+80℃ (-40...+176℉)
	0...100 %RH
Humidity range	0...100 %RH
Accuracy	±2% or 3%RH （@25℃ 77℉,30%RH～80%RH,see the relationship curve between accuracy and measurement range for others
Stability	±1%RH/year
Temperature range	-40...+60℃ ， 0...+50℃or other optional scale
Accuracy	±0.3℃(±0.54℉) （@25℃ 77℉），see the relationship curve between accuracy and measurement range for others
Temperature & humidity sensor	Digital integrated temp & humi sensor

Working environment （including all the models）

Working Environment	Refer to model parameter
Max Airflow Velocity	30 m/s
Storage Temperature	-40...+60℃ (-40...+140℉)
Electromagnetic Compatibility	GB/T17626.2 contact discharge 6KV，air discharge 8KV
GB/T17626.5	Surge±2000V，voltage waveform 1.2/50us
GB/T17626.3	RS：3V/m （80~1000MHz） ——Voltage type
GB/T17626.6	CS：3V （0.15~80MHz） ——Current type

Physical Parameter

Maximum Wire Gauge	1.5 mm2(AWG 16)
Standard Enclosure Color	White(RAL9003)
Material of enclosure	ABS+PC
Input And Output	
Current Output Model （2-wire）	
Output	4... 20 mA loop power supply,
Loop Resistance	0...600 Ω
Input Voltage	Load 500 Ω,20...28VDC .Load 0 Ω,10...28VDC
Current Output Model （3-wire）	
Output	4... 20 mA(3-wire)
Loop Resistance	0...600 Ω
Input Voltage	18...35 VDC 24 VAC ±15% 50/60 Hz
Voltage Output Model （3-wire）	
Output	0...10 V
Loop Resistance	minimum 10 kΩ
Input Voltage	18...35 VDC 24 VAC ±15% 50/60 Hz

Spare parts and accessories

M3.5*30 self-tapping screw and plug	Duct single temperature /humiture product install flange and sealing gasket
Outlet locknut and rubber mat	Water pipe single temperature product installation sleeve and welded pipe clamp

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GC Temp & Humi Product Selection Table

Mount Type	Base Code	Accuracy	Humidity Output	Temperature Output	Temperature Range
Wall Mount	212.	2, 3	1, 2, M, Z	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, M, Z	—
Duct Mount	222.	2, 3	1, 2, M, Z	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, M, Z	0, 1, 2, 3, 7, D
Remote Mount	242.	2, 3	1, 2, M, Z	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, M, Z	0, 1, 2, 3, 7
Outside Air	232.	2, 3	1, 2, M, Z	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, M, Z	0, 1, 2, 3, 7

Column definitions:

- **Accuracy:** 2%, 3%
- **Humidity Output:** 0~10V, 4~20mA, Modbus, ZIGBEE, 无
- **Temperature Output:** 0~10V, 4~20mA, PT1000, PT100, NTC20k, NI1000, NTC10K-II, NTC10K-III, NTC10K-A, Modbus, ZIGBEE, RT
- **Temperature Range:** 0~50°C, 0~100°C, -40~60°C
- **Display:** 直插, LCD

Humiture Product Model Selection Data

Model	Housing	Output	Other	Enclosure Rating
212.3200	Wall Mount,single humi,2-wire	4~20mA		IP30
212.3100	Wall Mount,single humi,3-wire	0~10V		IP30
212.3221	Wall Mount,temp & humi,2-wire	4~20mA		IP30
212.3111	Wall Mount,temp & humi,3-wire	0~10V		IP30
212.3221D	Wall Mount,temp & humi,2-wire	4~20mA	Display	IP30
212.3111D	Wall Mount,temp & humi,3-wire	0~10V	Display	IP30
222.3200	Duct Mount,single humi,2-wire	4~20mA		IP65
222.3100	Duct Mount,single humi,2-wire	0~10V		IP65
222.3221	Duct Mount,temp & humi,2-wire	4~20mA		IP65
222.3111	Duct Mount,temp & humi,3-wire	0~10V		IP65
232.3200	Outside Air,single humi,2-wire	4~20mA		IP65
232.3100	Outside Air,single humi,3-wire	0~10V		IP65
232.3223	Outside Air,temp & humi,2-wire	4~20mA		IP65
232.3113	Outside Air,temp & humi,3-wire	0~10V		IP65
242.3200	Remote Mount,single humi,2-wire	4~20mA		IP65
242.3100	Remote Mount,single humi,3-wire	0~10V		IP65
242.3223	Remote Mount,temp & humi,2-wire	4~20mA		IP65
242.3113	Remote Mount,temp & humi,3-wire	0~10V		IP65
Options				
2x2.2xxx	Accuracy Improvement		Humi Accuracy 2%	
2x2.xMMx	Digital Output	Modbus		
2x2.xWWx	Digital output	WiFi Modbus		
2x2.xxx(3/7)	Range of temperature output		3=-40~60℃ 7=Other	

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temperature product technical data

Temperature technical parameter

Property	
Working temp range of thermocouples	-40...+125℃ (-40...+257℉)
Working temp range of enclosure	-40...100℃ (-40...+212℉)
Range of working humidity	0...95 %RH（non-condensation）
Accuracy	typical value 0.2℃~0.4℃@25℃
Power	Passive（resistance-type），or 24VAC/DC
Corresponding transmission scale of temp	-40...+60℃，0...+50℃ or Other
Accuracy	±0.3℃(±0.54℉)(@25℃ 77℉),see the relationship curve between accuracy and measurement range for others
Temp Sensor	Digital temperature sensor, High-precise thermistor, Grade A PT & NI resistance

Working Environment（Including all the models）

Working Environment	Refer to model parameter
Max Airflow Velocity	30 m/s
Storage Temperature	-40...+60℃ (-40...+140℉)
Electromagnetic Compatibility	GB/T17626.2 contact discharge 6KV，air discharge 8KV
GB/T17626.5	Surge±2000V，voltage waveform 1.2/50us
GB/T17626.3	RS：3V/m（80~1000MHz）——Voltage type
GB/T17626.6	CS：3V（0.15~80MHz）——Current type

Physical Parameter

Maximum Wire Gauge	1.5 mm2(AWG 16)
Standard Enclosure Color	White(RAL9003)
Material of enclosure	ABS+PC
Input And Output	
Current Output Model（2-wire）	
Output	4... 20 mA loop power supply,
Loop Resistance	0...600 Ω
Input Voltage	Load 500 Ω,20...28VDC .Load 0 Ω,10...28VDC
Current Output Model（3-wire）	
Output	4... 20 mA(3-wire)
Loop Resistance	0...600 Ω
Input Voltage	18...35 VDC 24 VAC ±15% 50/60 Hz
Voltage Output Model（3-wire）	
Output	0...10 V
Loop Resistance	minimum 10 kΩ
Input Voltage	18...35 VDC 24 VAC ±15% 50/60 Hz

Spare parts and accessories

M3.5*30 self-tapping screw and plug	Duct single temperature /humiture product install flange and sealing gasket
Outlet locknut and rubber mat	Water pipe single temperature product installation sleeve and welded pipe clamp

GC Temperature Product Selection Table

Mount	Code	Temperature Output 0~10V	4~20mA	PT1000	PT100	NTC20K	NI1000	NTC1000	NTC10K-II	NTC10K-III	NTC10K-A	Modbus	ZIGBEE	Range RT	0~50°C	0~100°C	-40~60°C	黄铜	Length 125MM	200MM	Display LCD	Wire 3M	6M
Wall Mount	11X.①	1	2	3	4	5	6	7	8	9		M	Z	0	1	2	3	7					
Duct Mount	12X.	1	2	3	4	5	6	7	8	9		M	Z	0	1	2	3	7	1	2 / D			
Pipe Mount	14X.	1	2	3	4	5	6	7	8	9		M	Z	0	1	2	3	7					
Outside Air	13X.	1	2	3	4	5	6	7	8	9		M	Z	0	1	2	3	7	1	2			
Freeze protection Switch	100.																		03	06			

① note: When X is 1, it's sensor, so temperature output selects thermistor.

When X is 2, it's transmitter, so temperature output selects X 0~10V, 4~20mA, Modbus and ZIGBEE

When X is D, it's dew point transmitter, so temperature output selects 0~10V, 4~20mA, Modbus and ZIGBEE

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Temperature Product Model Selection Data

Model	Housing	Output	Other	Enclosure Rating
111.300	Wall Mount	PT1000		IP30
111.400	Wall Mount	PT100		IP30
111.500	Wall Mount	NTC20K，B=3950		IP30
111.600	Wall Mount	Ni1000		IP30
111.700	Wall Mount	NTC10K，B=3950		IP30
121.301	Duct Mount	PT1000	L=125mm	IP65
121.401	Duct Mount	PT100	L=125mm	IP65
121.501	Duct Mount	NTC20K，B=3950	L=125mm	IP65
121.601	Duct Mount	Ni1000	L=125mm	IP65
121.701	Duct Mount	NTC10K，B=3950	L=125mm	IP65
141.301	Water Pipe Installation	PT1000	L=125mm	IP65
141.401	Water Pipe Installation	PT100	L=125mm	IP65
141.501	Water Pipe Installation	NTC20K，B=3950	L=125mm	IP65
141.601	Water Pipe Installation	Ni1000	L=125mm	IP65
141.701	Water Pipe Installation	NTC10K，B=3950	L=125mm	IP65
131.300	Outside Air	PT1000		IP65
131.500	Outside Air	NTC20K，B=3950		IP65
131.700	Outside Air	NTC10K，B=3950		IP65
Options				
1x2.（1/2）xx	Transmitter		1=4~20mA 2=0~10V	
1xx.xx2	Length		L=200mm	IP65
1x2.x(1/2/3/7)x	Temperature Range		1=0~50℃ 2=0~100℃ 3=-40~60℃ 7=客户自定义	
1x1.x（3~9）0x	Temperature Resistance	PT、NTC or Ni	3=PT1000 4=PT100 5=NTC20K 6=Ni1000 7=NTC10K-II 8=NTC10K-III 9=NTC10K-A	

Air Quality Series Carbon Monoxide Transmitter
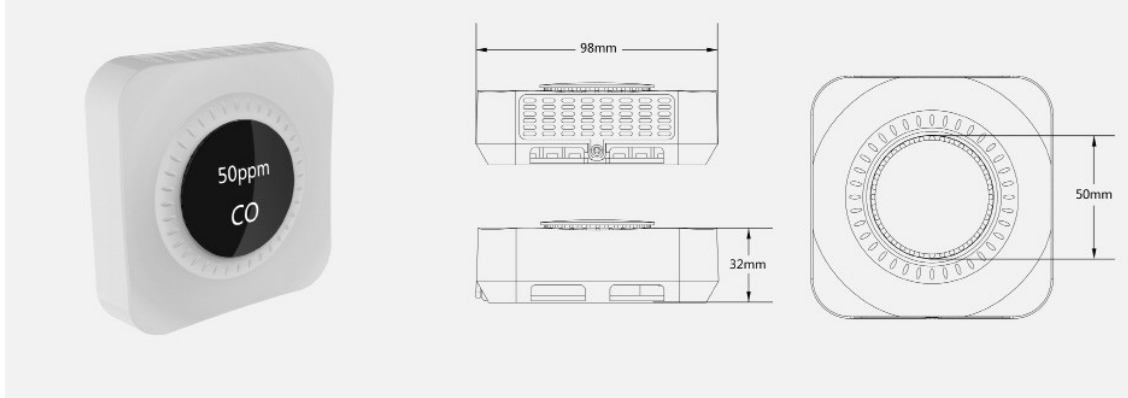
Product Introduction

According to the building code, such buildings as airtight parking garage or motor vehicle operation and maintenance workshop should have good ventilation inside. In order to meet this standard, the buildings must keep ventilated inside frequently. When carbon monoxide concentration is below the standard (CO concentration is below 25ppm or 50ppm), the buildings can have less or no ventilation. Carbon monoxide concentration can be collected for ventilation monitoring to effectively reduce energy consumption.

Air Quality series carbon monoxide transmitter is designed especially for the ventilation of the buildings used for storing motors. British electrochemical sensor technology can ensure the use quality for 6 years, thus providing the product with maximum cost performance to users. The field display function is an optional function.

Product Feature

- Accurate, reliable and sensitive long-term monitoring can be provided through electrochemistry principle.
- Measurement range: 0 - 100 ppm CO
- Two-wire 4-20mA linear output signal is corresponding to 0-100ppm.
- Service life is as long as 6 years.
- Simple design and affordable price; direct connection of supply points in the circuit to the controller
- Convenient replacement of sensor probes, and maximum operation cost saving
- Optional measurement range (0-250ppm or 0-400ppm)
- Optional temperature measurement mode: PT1000 or NTC10K.
- Optional -IP65 pipeline for shell installation

Technical Data

General Features		Performance	
Measurement Principle:	Electrochemistry	CO Measurement Range:	0-100ppm
Sensor Service Life:	6 Years	Repetition Rate:	Measured Value +/-5%
Operating Temperature Range:	0-50 ℃	Linear Error:	Measured Value +/-5%
Operating Humidity Range:	0-90%RH	Recommended Calibration Time Interval:	1 Year
Storage Conditions:	-40-70 ℃	Reaction Time:	T90=<60s
		Preheating Time:	<2min
Power		Output	
Input:	18-30VDC	Calibration Method:	Range Point Adjustment
Power Consumption:	20mA	Output Signal:	4-20mA
		Wiring Specification	16-22 AWG

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Air Quality Series of Carbon Dioxide Transmitter
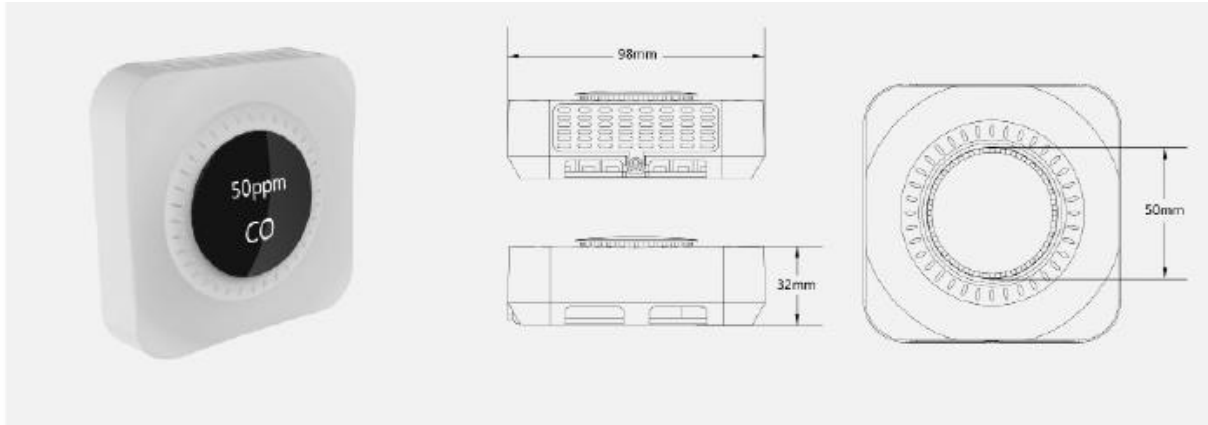
Product Introduction

Air Quality Series is carbon dioxide transmitter with features of convenient installation, easy operation and low cost. It is a transmitter which is specifically designed for intelligent buildings and other places with the need to detect carbon dioxide content.

It can achieve real-time detection of carbon dioxide in the air, and the factory setting standard range is 0-2000ppm CO_2. It has standard linear output: 0-10V and 4-20mA, as well as LCD digital display or indication function of ambient light concentration.

It is used for intelligent ventilation system control, with a good balance effect for energy saving and indoor air improvement.

Application Fields

Air Quality Series of Carbon Dioxide Transmitter is specifically designed for the ventilation control system of intelligent buildings. In this application, the requirement on new air volume can be reflected based on indoor carbon dioxide content. Appropriate ventilation based on indoor personnel number and new air volume requirement can not only ensure indoor fresh air, but also automatically reduce the air volume to save energy in case of fewer or no personnel. Two housings and various signal outputs can guarantee that, the product is applicable for most application fields and the best option for indoor carbon dioxide monitoring.

Product Features

- Adopt first-class infrared waveguide patented technology and permanent coated air sampling probe of Sweden Senseair Company to ensure accuracy of measurement data.
- Measuring range: 0-2000ppm CO_2
  0-5000ppm CO_2 (optional)
- Signal output (jumper option)
  OUT: 0-10V (=0-2000ppm CO_2)
  4-20mA (=0-2000ppm CO_2)
- Relay output set point (jumper option)
  800/1000/or others
- No calibration is required for non-special application environment
- Simple and low cost design, the best option to connect to DDC control
- Two housings with different protection class
  1) IP20 wall mounted type
  2) IP65 air duct type

www.gconnect.com.cn

Technical Data

General Performance	
Certification standard	EMC directive 89/336/EEC
Working temperature	0 - 50℃
Storage temperature	-20 to +70℃
Working humidity	0 to 95% RH (no condensation)
Working environment	Public place, office building, high-rise house and industrial environment
Preheating time	1 minute (in case of full scale, ＜15 minutes)
Expected sensor life	＞15 years
Maintenance interval	Maintenance free
Power supply	
Supplied power	24 VAC/VDC ±20%, 50 Hz(internal half wave rectification)
Power consumption	＜1W
Terminal	Connect power supply input point using 1.5mm^2 wire, signal output (Out), and relay output (NC, NO & COM)
CO_2 measurement	
Measurement method	Infrared waveguide technology and permanent coated air sampling probe (with ABC^{TM} automatic calibration function) and auto diffusion principle
Response time (T1/e)	At flow rate of 30cc/min, less than 10s ＜ 3 minutes, gas natural diffusion
Repetition rate	±20ppm ±1% of reading
Accuracy	±40ppm ±3% of reading
Annual drifting	＜±10ppm
Pressure error	1.6% of reading, per kPa
Calibration function	Built-in atmospheric calibration function (ABC^{TM})
Output range	0 - 2,000ppm or 0 - 5,000ppm
Signal corresponding measurement range	0-10VDC corresponds to 0-2000ppm or 4-20mA corresponds to 0-2000ppm
D/A resolution ratio	10 bits, 10mV/0.016mA
D/A conversion accuracy	±2% of reading ±50mV
External load	Voltage output -ROUT ＜100 Ohm, RLOAD ＞5kOhm
Relay output	Current output – RLOAD ＜500 Ohm
Relay start point	800, 1000 or 8000ppm (jumper option)

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Air Quality Series of VOC Transmitter
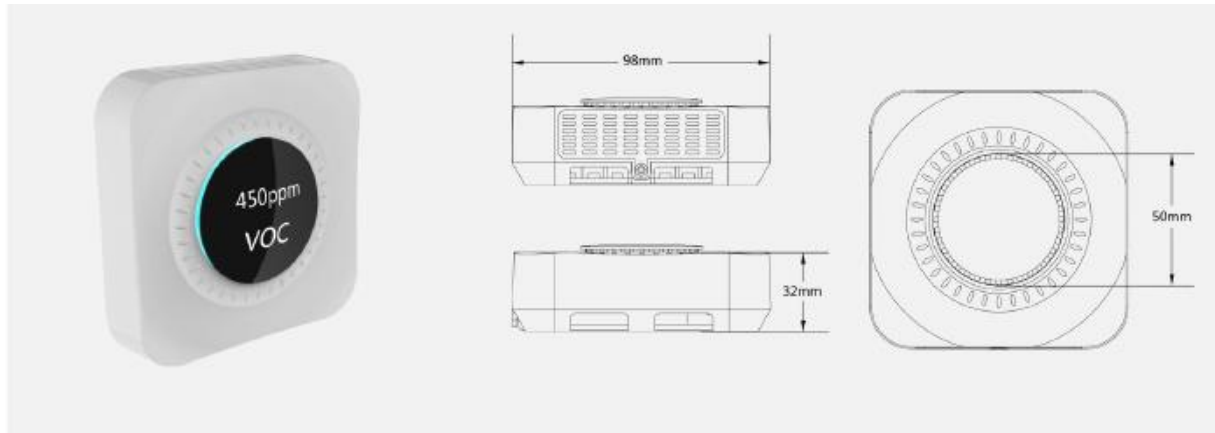
Product Introduction

Air Quality Series is air quality (VOC) transmitter with features of convenient installation, easy operation and low cost. It is a transmitter which is specifically designed for intelligent buildings and other places with the need to detect volatile organic compounds (VOC).

It can achieve real-time detection of VOC content in the air, and visually converted to equivalent CO_2. The product has standard linear output: 0-10V and 4-20mA, as well as OLED digital display or indication function of ambient light concentration.

It is used for intelligent ventilation system control, with a good balance effect for energy saving and indoor air improvement.

Application Fields

Air Quality Series of VOC Transmitter is specifically designed for the ventilation control system of intelligent buildings. In this application, the requirement on new air volume can be reflected based on indoor VOC. Appropriate ventilation based on indoor air quality and new air volume requirement can not only ensure indoor fresh air, but also automatically reduce the air volume to save energy in case of fewer or no personnel. Two installation modes and various signal outputs can guarantee that, the product is applicable for most application fields and the best option for indoor air quality monitoring.

Product Features

- Adopt metal oxide semiconductor mould of Germany advanced MEMS technology to ensure accuracy of measurement data.
- Measuring range: 0-2000ppm equivalent CO_2
- Signal output (jumper option) 0-10V or 4-20mA
- Relay output set point (jumper option) 800/1000/or others
- No calibration is required for non-special application environment
- Simple and low cost design, the best option to connect to DDC control
- Two housings with different protection class
  1) IP20 wall mounted type
  2) IP65 air duct type

Technical Data

General Performance	
Certification standard	EMC directive 89/336/EEC
Working temperature	0 - 50℃
Storage temperature	-20 to +70℃
Working humidity	0 to 95% RH (no condensation)
Working environment	Public place, office building, high-rise house and industrial environment
Preheating time	15 minute (after the first energization)
Expected sensor life	＞15 years
Maintenance interval	Maintenance free
Power supply	
Supplied power	24 VAC/VDC ±20%, 50 Hz (internal half wave rectification)
Power consumption	＜1W
Terminal	Connect power supply input point using $1.5mm^2$ wire, signal output (Out), and relay output (NC, NO & COM)
CO_2 measurement	
Measurement method	MEMS metal oxide semiconductor
Response time (T1/e)	At flow rate of 30cc/min, less than 10s ＜ 3 minutes, gas natural diffusion
Repetition rate	±20ppm ±1% of reading
Accuracy	±40ppm ±3% of reading
Annual drifting	＜±10ppm
Pressure error	1.6% of reading, per kPa
Calibration function	No calibration
Output range	0-2000ppm CO_2 equivalent
Signal corresponding measurement range	0-10VDC or 4-20mA
D/A resolution ratio	10 bits, 10mV/0.016mA
D/A conversion accuracy	±2% of reading ±50mV
External load	Voltage output -ROUT ＜100 Ohm, RLOAD ＞5kOhm
Relay output	Current output – RLOAD ＜500 Ohm
Relay start point	800, 1000 or others ppm (jumper option)

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Air Quality Series of PM2.5 Transmitter
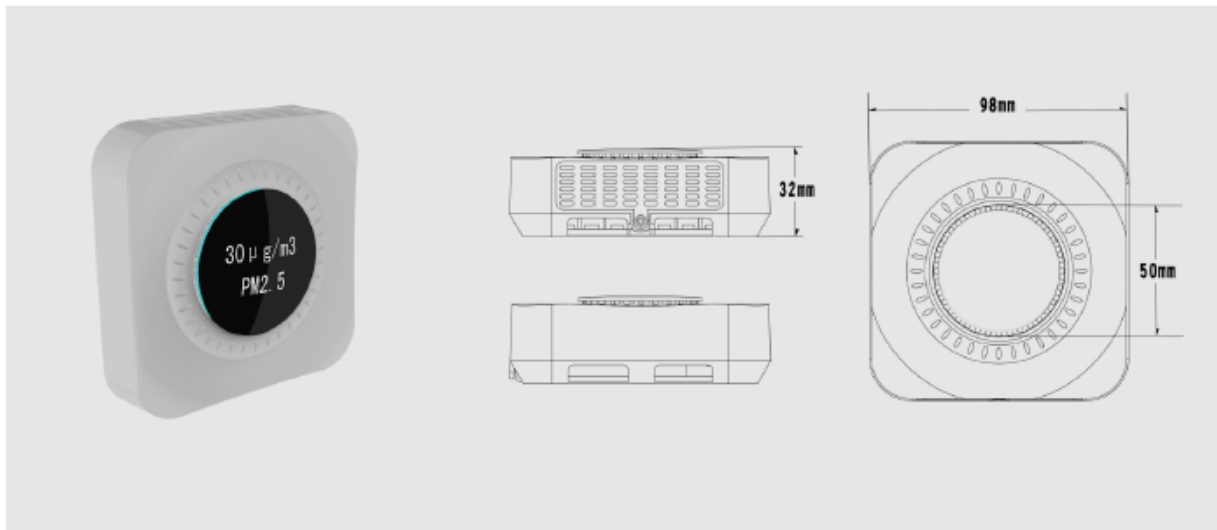
Product Introduction

Air Quality Series of PM2.5 transmitter is a quality concentration measuring device based on laser detection principle, which can be wall mounted or ceiling mounted. The product can continuously measure the indoor PM2.5 concentration, ambient light indicating air quality is the standard configuration and OLED high luminance indication is an optional configuration.

Air Quality Series of PM2.5 transmitter can be used for air quality monitoring for various commercial complex, government buildings, hospitals, schools and residential, to provide controllable and stable indoor air quality for staffs and residents.

Air Quality Index Reading

When the air quality fluctuation exceeds the excellent range, the ambient light color of the display will change accordingly to reflect the air quality change degree. Air Quality Series of PM2.5 transmitter adopts China Air Quality Index (AQI) standard which is based on the standard recommended by World Health Organization (WHO) in 2005.

Air Quality Series of PM2.5 transmitter can display 6 AQI index grades and PM2.5 value range.

Product Features

- 1.3" OLCD high luminance display screen is optional
- Measuring range: 0-500 ug/m^3
- Calibrated by professional instrument
- Standard configured ambient light has 6-color warning based on measurement result
- Easy to install
- Maintenance free within warranty period
- Analogue output or other protocol output is optional
- Built-in zero set device regularly sets zero to continuously maintain the instrument accuracy
- Replace relevant spare parts on site to prolong service life

Index grade and PM2.5 value range

- Green, range: 5-35, excellent
- Blue, range: 36-75: good
- Cyan, range: 76-115: low pollution
- Yellow, range: 116-150: moderate pollution
- Red, range: 151-250: high pollution
- Purple, range: 251-300 above, very high pollution

Technical Data

Sensor type	Laser radiation unit
Measurement concentration range	0-500 ug/m^3 or 0-1000 ug/m^3
Display reading	Air quality index due to PM2.5 concentration and color change
Screen resolution	1 ug/m^3 increment
Zero point stability	$\pm$ 10 ug/m^3
Working temperature	10-30℃
Storage temperature	-10 to 50℃
Working humidity	5-95%, no condensation
Preheating time	3 min
Time constant	5 min slide average value, screen updating per second
Power	24V AC/DC
Output signal	4-20mA or 0-10V, Modbus, Zigbee
Screen	1.3" OLCD high luminance display screen
Calibration	Calibrated sensor with qualification certificate
Ambient light	6-color
Installation	· Wall mounted or ceiling mounted · 86-type work box or American single work box for installation
Maintenance	· Support local service · Sensor and partial key components support onsite repair

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Air Quality Series of Oxygen Transmitter

WiFi
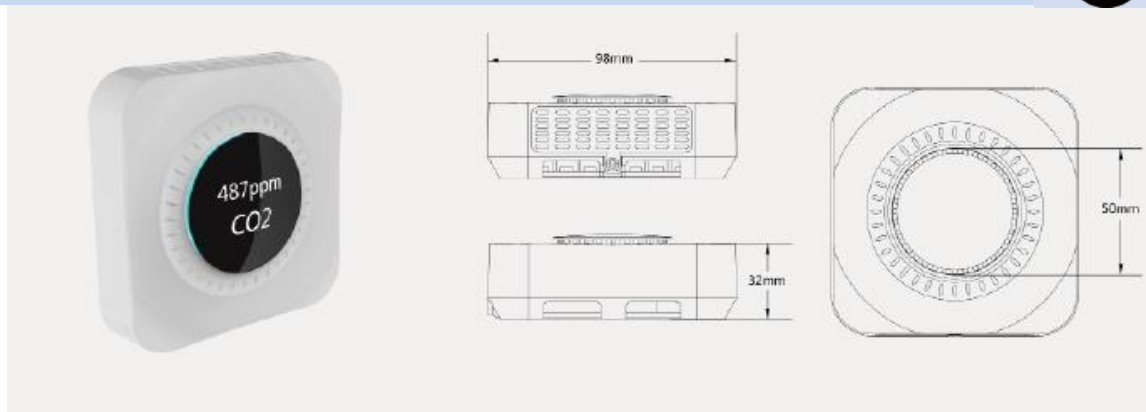
Product Introduction

Air Quality Series of Oxygen Transmitter is specially designed for liquid nitrogen and other leaky gas alarm applications. Electrochemical sensor from the UK accurately measures the oxygen concentration, two years of service life in the air; it can provide intelligent replacement circuit so that the user may replace the sensor on site more conveniently in longer time without calibration. The optional WIFI module may output through WIFI transmission standard Modbus protocol; when the oxygen concentration is too low or sensor should be replaced, it may remind through the built-in buzzer, OLED high luminance screen, built-in ambient light, sound and light alarm.

Application Fields

Air Quality Series of Oxygen Transmitter can be applied for liquid nitrogen leakage, low oxygen concentration alarming and other industrial or commercial fields. It can guarantee safe and reliable working environment to the maximum degree, and provide the best measurement control option for the production and life of customers with its rapid and accurate measuring accuracy.

Features

- Adopt UK imported electrochemical oxygen sensor
- Measuring range: 0-30% vol
- Optional WiFi transmission mode
- Signal output: 4-20mA, modbus
- Buzzer low concentration alarming
- Quick onsite probe replacement
- Two years of service life in the air
- Quick connection with various control systems
- OLED display

Technical Data

General characteristics		Performance	
Measuring principle:	Electrochemistry	O_2 measurement range:	0-30% vol
Sensor life:	2 years in standard air	Repetition rate:	Measuring value +/-5%
Working temperature range:	0-50℃	Linear error:	Measuring value +/-5%
Working humidity range:	0-90%RH	Recommended calibration interval:	1 year
Storage condition:	-20 -70℃	Response time:	T90=＜60s
		Preheating time	< 2 min
Power		Output	
Input:	9-36VDC	Calibration mode:	Electronic calibration
Power consumption:	＜20mA, WiFi edition＜80mA	Output signal:	4-20mA
		Wiring specification:	16-22 AWG

Air Quality Series of Ozone Transmitter
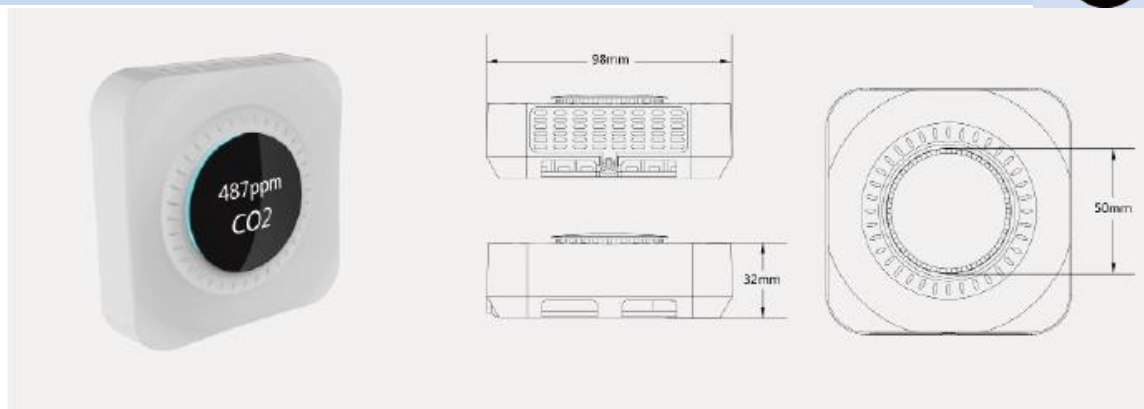
Product Introduction

Air Quality Series of Ozone Transmitter is specifically designed for the substances which are widely used in today's life to deplete ozone. Due to influences of industrial and automotive exhaust gases, surface ozone will be formed and accumulated especially around big cities and agroforestry areas. The surface ozone has erosion and damage effect on human body, particularly the eyes and respiratory. The surface ozone also harms the crops or forests.

Ozone Hazards

Ozone can irritate the mucous membrane and is toxic to human body, and it is unsafe to breath in the air containing 0.1ppm ozone for a long time. Ozone strongly stimulates the human respiratory tract, causing throat swelling, chest distress and cough, causing bronchitis and emphysema; ozone may cause people's nerve poisoning, dizziness, headache, vision loss, memory loss, shortness of breath, fatigue, nose bleeding; ozone damages the vitamin E in human skin and result in skin wrinkles and appearance of taches noir. Ozone also damages the body's immune function, inducing lymphocyte chromosomal lesions, accelerating aging and resulting in maternal deformity children.

Therefore, people must pay high attention to the hazards caused by ozone and organic waste gases.

Product Features

- Adopt MENS ozone sensor module imported with original packaging
- Measuring range: 0-20ppm
- Optional WiFi transmission mode
- Signal output: 4-20mA & 0-10V, modbus
- Buzzer low concentration alarming
- Maintenance free in service life
- Six years of service life in the air
- Quick connection with various control systems

Technical Data

General characteristics		Performance	
Measuring principle:	Solid electrochemistry	O_3 measurement range:	0-20ppm
Sensor life:	＞5 years (10 years @ 23+/- 3C; 40+/-10% RH)	Minimum reaction concentration	＜ 20ppb (instrumentation dependent)
Working temperature range:	-30-50℃	Linear error:	< +/- 3 % of reading
Working humidity range:	0-100%RH	Recommended calibration interval:	1 year
Storage condition:	-40 -70℃	Response time:	＜15 seconds typical
Power		Output	
Input:	24 VAC/DC	Calibration mode:	Electronic calibration
Power consumption:	＜20mA, WiFi edition＜80mA	Output signal:	4-20mA or 0-10V and modbus
		Wiring specification:	16-22 AWG

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Air Quality Series of Formaldehyde Transmitter

WiFi
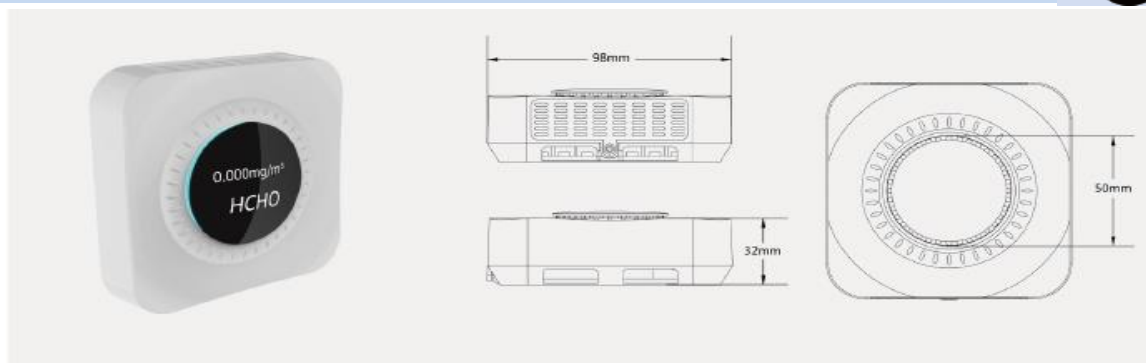
Product Introduction

Air Quality Series of formaldehyde Transmitter is specifically designed to deal with formaldehyde pollution.

The main hazard of formaldehyde is the stimulation on the skin mucous membrane, and people will be discomfort when the indoor formaldehyde reaches to a certain concentration. Formaldehyde concentration higher than $0.08mg/m^3$ may cause red eyes, eye itching, throat discomfort or pain, hoarseness, sneezing, chest tightness, asthma, dermatitis and so on. The newly decorated rooms have relatively higher HCHO content and become the main cause of many diseases. Formaldehyde has a pungent smell and can be smelt at low concentration; the olfactory threshold of human on formaldehyde is $0.06\text{-}0.07mg/m^3$. However, there is a larger individual difference and threshold of some people may be up to $2.66mg/m^3$. Long term exposure to low concentration formaldehyde may cause headaches, dizziness, fatigue, sensory disturbances, reduced immunity, and may appear drowsiness, memory loss or neurasthenia and depression; chronic poisoning also has a great risk to the respiratory system, and long-term exposure to formaldehyde may induce respiratory dysfunction and liver toxic lesions, showing liver cell damage, liver radiation abnormalities and so on.

In 2006, the formaldehyde is identified as Class 1 carcinogens (i.e., carcinogenic to humans and animals - "sufficient evidence of carcinogenicity").

Product Features

- Adopt fuel cell formaldehyde module imported with original packaging
- Measuring range: 0-2ppm or 0-5ppm
- Optional WiFi transmission mode
- Signal output: 4-20mA & 0-10V, modbus
- Buzzer low concentration alarming
- Maintenance free in service life
- Three years of service life in the air
- Quick connection with various control systems

Technical Data

General characteristics		Performance	
Measuring principle:	Fuel cell	Formaldehyde measurement range:	Standard 0-2ppm
Sensor life:	3 years in the air	Resolution	0.01ppm
Working temperature range:	-20-50℃	Maximum overload:	10ppm
Working humidity range:	10-90%RH (no condensation)	Recommended calibration interval:	1 year
Storage condition:	0 -20℃	Response time:	＜40S
Power		Output	
Input:	24 VAC/DC	Calibration mode:	Electronic calibration
Power consumption:	＜20mA, WiFi edition＜80mA	Output signal:	4-20mA or 0-10V and modbus
		Wiring specification:	16-22 AWG

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Air Quality Product Selection Table

		Not optional								Optional												
		Gas range					Output				Temperature output										Screen	Light
		100ppm	2000ppm	500μg/m3	甲醛	其他	0~10V	4~20mA	Modbus	ZIGBEE	无	PT1000	PT100	NTC20K	NI1000	NTC10K-II	NTC10K-III	NTC10K-A			LCD	氛围灯
Wall mounted type	A	CD		1			5																
		CM	1																				
		Q		1																			
		PM			1																		
		F				1																	
		X12 [①]						1	2	M	Z	0	3	4	5	6	7	8	9		D	L

Note: CD is CO_2, CM is CO, Q is VOC, PM is PM2.5 and F is formaldehyde

Where every single gas may be combined with single temperature, or temperature and humidity

Where CO_2 and VOC may simultaneously combined with single temperature, or temperature and humidity

When X=1, it is single temperature sensor;

When X=2, it is temperature and humidity sensor

Ambient light;

With display;

Temperature output is thermistor;

Optional, add if necessary

Gas, temperature and humidity output, extended one position in case that temperature is thermistor

Gas range
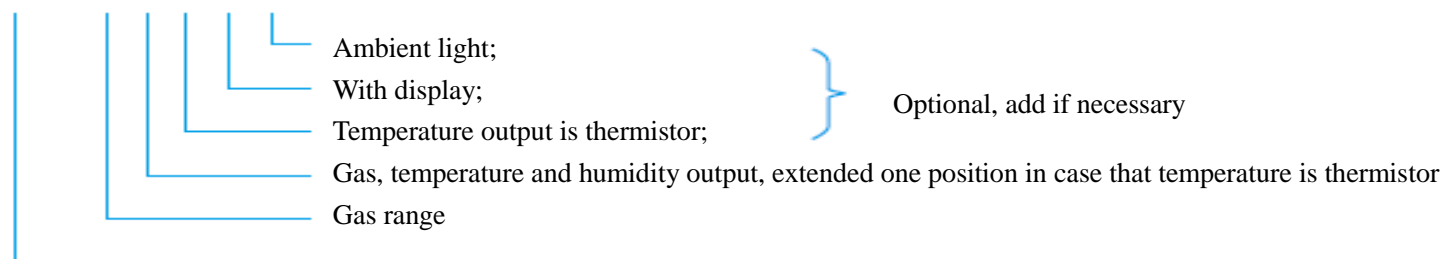
Integrated gas arrangement order, gradually list in line with model selection table, and then the temperature and humidity; in this example, CO_2, VOC, temperature and humidity, then it is ACDQ212

G-CONNECT

iAir Five-in-One Air Comprehensive Index Monitoring System

WiFi
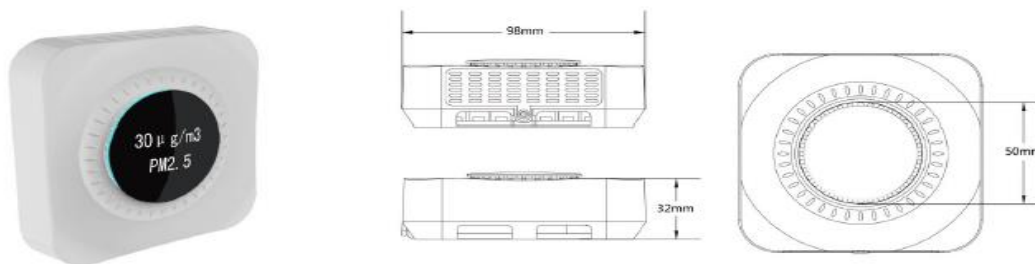
Product Introduction

iAir Five-in-One Air Comprehensive Index Monitoring System can accurately measure five common air qualities related physical quantities, including temperature, humidity, carbon dioxide, air quality (VOC) and PM2.5. With a new generation of computing chips and unique algorithms, it accurately converts the measurement data to standard modbus/RTU signal and outputs to relevant monitoring/control device, WiFi optional.

As to the product, the user may combine measurement of five physical quantities freely and read data via WeChat terminal in combination with iAir system, or deliver to video device via HDMI using conversion equipment; the product provides standard air quality monitoring solution for commercial buildings, office buildings, schools, government agencies and other intelligent buildings.
Customizable visualization interface provides customers with more parameters selection, and is compatible with Air Quality Series of Oxygen, Formaldehyde, Ozone and other products to be indoor big data statistical system, providing reliable working and living environment for end users.

Product Features

- Temperature, humidity, CO_2, VOC, PM2.5 multi-parameter measurement
- Originally imported module to ensure accurate measurement accuracy
- Multi-directional breathable design to reduce internal temperature rise
- Built-in WiFi module unvarnished transmission standard modbus/RTU output
- Optional ambient light and OLED display
- Optional relay module output
- Optional digital-to-analog conversion module into analog output
- Customizable HDMI output display interface
- Automatically adjust the physical property based on user's demand
- Customizable formaldehyde and other parameters all-in-one product
- Optional –IP65 pipeline installation housing
- Optional 5V, USB supply power
- Optional 220V power adapter to supply power
- Optional multiple housing colors
- Customizable LOGO, OEM production

Technical Data

Sensor/Accuracy ±		Performance	
Temperature sensor:	Digital integration/ 0.5℃@25℃	Power supply:	24VAC/DC, 5V optional
Humidity sensor:	Digital integration/3% (2% optional)	Output:	Modbus/RTU, WiFi optional
CO_2 sensor:	Infrared waveguide /20ppm	Optimum working environment:	16-26℃, 10-85%RH
Air quality (VOC):	MEMS metal oxide semiconductor/ 20ppm	Recommended maintenance interval:	1 year
PM2.5:	Laser radiation/15ug/m^3 or 15% of reading	Response time:	T90=＜60s

100 Series of Antifreezing Controller

Applications:

The antifreezing controller mainly plays a role of antifreezing, which is used to ensure the system temperature is not lower than the set value, such as:

◎ Re-heater in air conditioning system

◎ Heat exchanger in the refrigeration system
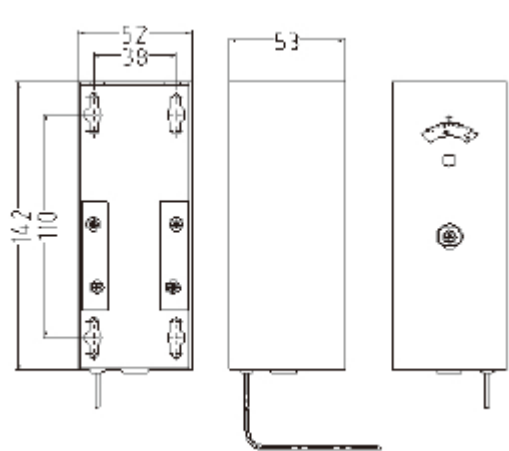
Features

- Temperature sensitive 3m or 6m capillary coil
- Optional scale ℃ or ℉
- Easy wiring, installation and debugging
- High accuracy control, quick response
- Anti-corrosion, no condensation influence design

Order Model

Model	Capillary length
100.03	3M
100.06	6M
100.xx	Customized

Technical Data

Switching action:	24-250 VAC; 15(8) A
Humidity range:	0-90%, no condensation
Adjustable temperature range:	1.0-7.5℃
Storage temperature range:	-30 - +70℃
Limiting temperature range:	80℃
Terminal:	Waterproof connector
Capillary material:	Copper
Weight:	About 320g
Protective class:	IP54

Boundary dimensions:

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400 Series of Differential Pressure Switch

Applications:

Differential pressure switch is the electrical switch for pressure operation, which can be used to measure absolute pressure, pressure difference, gauge pressure and vacuum negative pressure of air and non-corrosive gases compatible with diaphragm material.

Differential pressure switch is used as an air switch or differential pressure switch in the ventilation duct to monitor the filter status and fan on/off status; in addition, it is also used in the primary and secondary control system of the air damper.
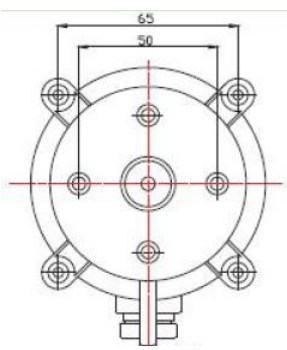
Differential pressure switch is also very suitable to prevent heating coil from overheating and monitor industrial air refrigeration circuit.

Order Model

Order model	Measurement range	Return difference
400.300	20-300Pa	10Pa
400.500	50-500Pa	20Pa
400.1000	200-1000Pa	100Pa
400.2500	500-2500Pa	150Pa

Features

- Service life of 1 million times of mechanical and electrical life
- Easy installation, convenient debugging, foot mounting or support mounting, providing the whole set of installation accessories
- Wide application scope and wide ambient temperature range, fixed/adjustable switch set point

Technical Data

		Boundary dimensions:
Maximum pressure	10KPa	
Pressure medium	Air, noncombustible and noncorrosive gases	
Pressure-relief connection	Straight pipe with outer diameter of 6.0mm	
Contact capacity	1.5A, (0.4A)/250VAC	
Allowable working temperature	-20 - +85	
Allowable storage temperature	-40 - +85	
Electrical connection	AMP connector or screw terminal	
Diaphragm material	Silicone rubber	
Protective class:	IP54	

440 Series of Water Differential Pressure Switch

Applications
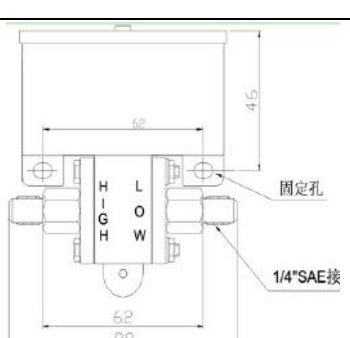
440 Series of Water Differential Pressure Switch has SPDT output, with excellent performance, high precision and accuracy, which can be installed in the water pipe and liquid non-corrosive to copper. The product can close one loop and open the other loop when the liquid flow rate is higher or lower than the adjusting rate, typically used in the places with interlocking effect or disconnection protection.

440 Series of Water Differential Pressure Switch can be used in oil, water and air fluid engineering for differential pressure monitoring of detection filters, pumps, heat exchangers, chillers and coils.

Order Model

Order model	Measurement range	Return difference
440.015	5-15KPa	3KPa
440.100	6-100KPa	6KPa
440.300	20-300KPa	15KPa

Features

- High reliability relative to target flow switch
- Compatible with oil, water and other media
- Easy installation method
- Solid housing
- Effective misinformation prevention

Technical Data

Work medium	Water, oil or air (specify in order)	Boundary dimensions:
Medium temperature range	-20 -80℃	
Set point repetition error	±1%	
Pipeline connection	1/4'' SAE (7/16''-20UNF)	
Output	SPDT	
Electric shock capacity	3A (250VAC)	
Maximum static pressure/pressure difference	10bar/16bar	
Housing protection class	IP54	Fixing hole 1/4'' SAE connector

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DWM 2000 Electromagnetic Flow Meter
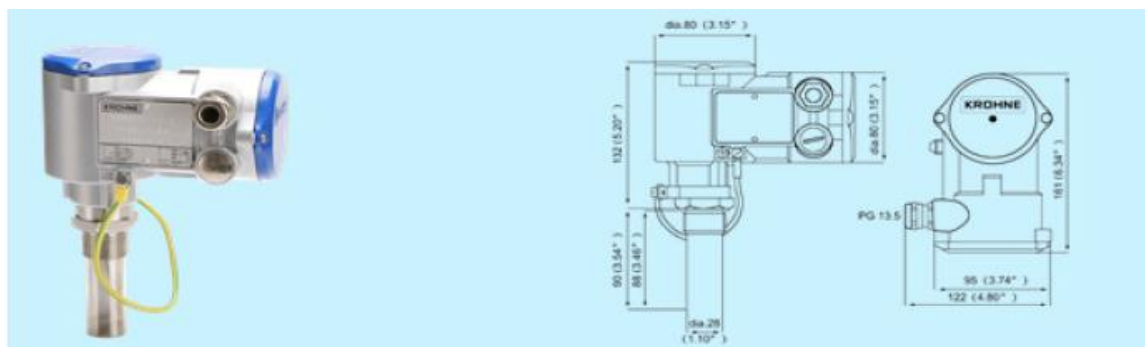
Applications and Features

Used to measure the flow of conductive liquids, colloids and suspensions

Measure pipelines with diameter≥ DN50 (2 ")

Easy installation and operation, low maintenance cost

Low power consumption

No moving parts, low pressure loss, maintenance free

Lengthened type optional

LCD display optional

Technical indicators

Output: 4-20mA	Power supply: 24VDC (20-30VAC)
Load: maximum 500Ω	Power consumption: ≤5mA
Range: 1-8m/s	Working medium: ≤2.5Mpa
Time constant: generally 5s	≥20 μ s/cm, -25 -+150℃
Repetition: 1%	Working environment: -25 -+60℃
Accuracy: 2% (＞1m/s) 3% (＜1m/s)	Cable interface: M20 ×1.5 Protection class: IP66

MAC3 Liquid Level Switch

Applications and Features

Used to start and stop pump, water valve or alarm.

The shape has no edge structure, suitable for sewage treatment applications. Specially designed double-layer protective seal structure can guarantee long-term use reliability in any case.

Model Selection

Model	Description
MPM0306GB0C	SPDT, 3m cable
MPM0506GB0C	SPDT, 5m cable
MPM1006GB0C	SPDT, 10m cable
MPM1506GB0C	SPDT, 15m cable

Technical Indicators

Microswitch electrical characteristics: 20(8)A, 250V ~	Dimension: 106x 154x 54mm
Certificate: ENEC/CE	Weight: 234g
Outer identification: 10(8)A, 250V ~	Volume: 384cm^3
Use temperature: 0-50℃	Maximum depth: 1bar
Storage temperature: -20℃~80℃	Floater sealing material: non-toxic polypropylene (PP)
Protection: IP68	Color addition: non toxic
Switch angle: ±45 °	Function grade: drinking water standard I/II

342 Series of Water Pipe Pressure Transmitter

Applications

342 Series of Water Pipe Pressure Transmitter is developed for various industrial control applications, professional and reliable, with simple and user-friendly appearance.

Output signal can be converted to standardization signal via sensing bridge. The circuit board is mounted in solid stainless steel housing which not only withstands harsh and extreme environmental conditions, but also reduces noise significantly. Every sensor undergoes strict inspection and calibration before leaving the factor to ensure its quality.

The product can be used in the following systems:

Hydraulic monitoring system; air compressor; pneumatic equipment
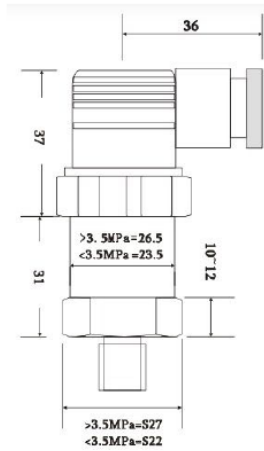Pump control; HVAC system

Features

- Temperature compensation
- Output band amplification
- High performance output signal
- EMI/RFI standard protection
- Compact appearance design
- Good anti-vibration performance
- 0 and span adjustable

Order Model

342.930224	0-10 bar
342.931224	0-16 bar
342.932224	0-25 bar

Technical Data

Performance characteristics	
Accuracy	≤±0.5% full scale (including non-linear, delayed and non-repeatable)
Stable at 25℃	≤0.4% full scale/year
Thermal effect	≤±0.04% full scale/℃
Environment parameters	
Medium temperature range	-25 ~+85℃
Ambient temperature range	0~+70℃
Storage temperature range	-25 ~+85℃
Compensation range	-40 ~ +135℃
Protection class	IP65
Physical characteristics	
Material	304 stainless steel
Sensor	Al_2O_3 (96%)
Sealing material	NBR''
Pressure fastener	G1/2''
Electrical connection	Terminal box DIN43650A
Electrical data	
Output signal	4-20mA (two-wire system)
Power supply	10-32VDC (generally 24VDC)
Load protection	≤(supply voltage-10V)/(0.02A)Ohms

Boundary dimension:

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342L Series of Throw-in Type Liquid Transmitter

Applications

300 Series of Water Pipe Pressure Transmitter is developed for various industrial control applications, professional and reliable, with simple and user-friendly appearance.

Output signal can be converted to standardization signal via sensing bridge. The circuit board is mounted in solid stainless steel housing which not only withstands harsh and extreme environmental conditions, but also reduces noise significantly. Every sensor undergoes strict inspection and calibration before leaving the factor to ensure its quality.

The product can be used in the following systems:

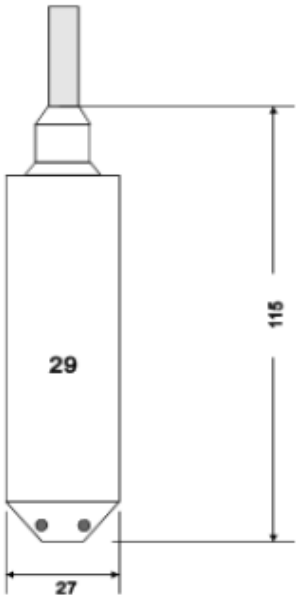Hydraulic monitoring system; pump control; HVAC system

Features		Order Model	
● Temperature compensation	● EMI/RFI standard protection	342L.01	0-1m
● Output band amplification	● Compact appearance design	342L.05	0-5m
● High performance output signal	● Good anti-vibration performance	342L.10	0-10m

Technical Data

Performance characteristics		Boundary dimension:
Accuracy	≤±0.5% or 0.2% full scale (including non-linear, delayed and non-repeatable)	
Stable at 25℃	≤±0.25% FS/year	
Thermal effect	≤±0.02% FS/℃	
Output	4-20mA	
Insulation resistance	≤500MΩ	
Power supply	16-32VDC	
Environment parameters		
Medium temperature range	-25~+85℃	
Storage temperature range	-40~+85℃	
Physical characteristics		
Measurement medium	Liquid compatible with stainless steel or nylon	
Overloading pressure	≤1.5 times (scale ≤ 30bar)	
Sealing material	Fluorous rubber	

522 Series of Air Speed Transmitter

Applications

500 Series of Air Speed Transmitter is widely used for ventilation control for building HVAC systems, pharmaceutical plants, electronics factories, purification plants, laboratories, pharmaceutical machineries and other occasions.
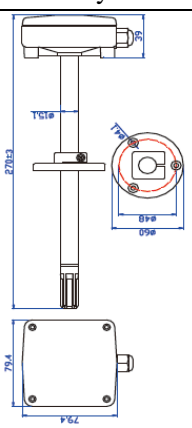
Features

- Adopt high precision imported digital air speed module
- Accurate measurement of low and medium air speed
- Excellent vibration proof, pollution proof, resistant to environmental influences
- Excellent long-term stability
- Super excellent cost performance

Order Model and Technical Parameters

Order model	Air speed range
522.0121	0-1m/s
522.2021	0-20m/s

Technical Data

Performance characteristics		Boundary dimension:
Measurement range	0-1m/s to 0-20m/s optional	
Measuring medium	Air and compatible gases	
Output	4-20mA	
Precision	0~3m/s: ±（0.06m/s+2%m.v.）	
	0~20m/s: ±（0.2m/s+3%m.v.）	
	0~40m/s: ±（0.4m/s+5%m.v.）	
Total precision	Details can refer to product instruction	
Long-term stability	≤0.5%RH/year	
Response time	＜3s	
Work power	12V-28VDC	
Circuit working temperature	-10~50℃	
Storage temperature	-40~80℃ （no condensation)	
Material	ABS+PC engineering plastics	
Protection class	IP65	

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4D1A Conversion Module

Applications

4D1A module is a universal extended module which is specially designed for HVAC self-control system. It can convert four passive switch signals (DI) to one analog signal (AI) to access to an analog input channel, and the generated analog could generate internal digital state by controller decoding, which can be used to detect the input of alarming information or other status signals.

4D1A module can not only be installed in the weak box, but also installed in strong electric box to save project cost and traditional DDC/PLC module quantity for customers.
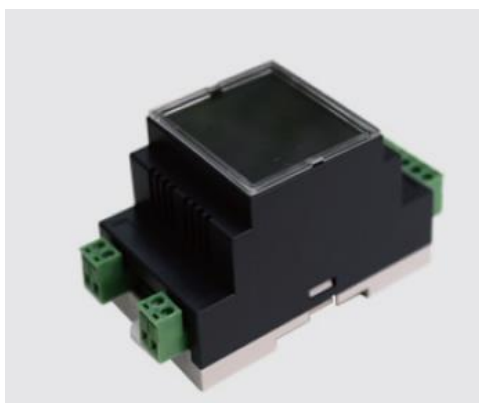
Technical Indicators

Power supply	14-38V DC (12V-28VAC), in DC or AC
Input DI points	4 (recommended) or 6
DI point input type	Passive dry contact
Output AO points	1
Output parameters	DC 0-10V, maximum 200Ω load or 4-20mA
Ambient temperature	Temperature at -20 ℃ -80 ℃ ; humidity 5%-90%
Installation mode	DN35 standard guide rail mounting, terminal wiring
Specification	Length 87mm, width 53mm, height 60mm

Product Features

- Compatible with all brands DDC/PLC
- Power supply AC and DC universal
- 4-20mA or 0-10V output optional
- Isolation circuit design anti-interference
- High reliability, stability and applicability
- Signal indicator shows switch status
- Modular design appearance of standard guide rail installation
- Rapid and simple installation

Standard 4 product outputs table (DI open=0, DI close=1)

No.	DI (DI4-DI3-DI2-DI1)	Output (AO)	No.	DI (DI4-DI3-DI2-DI1)	Output (AO)
1	0-0-0-0	1.5V	9	1-0-0-0	5.5V
2	0-0-0-1	2.0V	10	1-0-0-1	6.0V
3	0-0-1-0	2.5V	11	1-0-1-0	6.5V
4	0-0-1-1	3.0V	12	1-0-1-1	7.0V
5	0-1-0-0	3.5V	13	1-1-0-0	7.5V
6	0-1-0-1	4.0V	14	1-1-0-1	8.0V
7	0-1-1-0	4.5V	15	1-1-1-0	8.5V
8	0-1-1-1	5.0V	16	1-1-1-1	9.0V