

DUOTESI

多特斯



Tell: 15514557907

Email: 3489555701@qq.com

Add: 河南省郑州市高新区科学大道57号4号楼21层

河南多特斯电子科技有限公司

Henan duotesi Electronic Technology Co., Ltd



公司简介

Company profile

河南多特斯 (DUOTESI) 专注传感器技术及方案开发应用, 集研发、生产、销售和服务于一体的技术型企业。是由美国高德哈普 (GOLDHARPON) 以及镁汇科技联合技术种植的合作企业。2021年, 作为有着多年的光源及光学传感器技术开发经验的美国高德哈普 (GOLDHARPON) 同镁汇科技一起成立了河南多特斯, 成立之后以先进的技术优势和高效的工作效率, 用最短的时间先后推出了光离子化PID传感器、(NDIR) 原理红外气体传感器等系列产品。公司通过技术并购以及在结合世界上先进电化学产品的生产工艺, 使得多特斯公司生产的电化学传感器产品的综合性能已经达到了国内领先水平。产品稳定性、分辨率、一致性等核心指标参数达到或接近了国际一流产品的水平。公司创立之初就以发展民族工业为己任, 以填补国内产品空白为出发点。坚持依靠科技创新、技术创新、产品创新去赢得市场, 以品质去服务客户。在家电、汽车电子、城市管廊、室内外环境安全监测、个人防护、煤矿、石油、化工、冶金等工业安全各个领域为用户提供先进的技术和可靠的产品。

Henan DUOTESI (DUOTESI) focus on sensor technology and solution development and application, set research and development, production, sales and service in one of the technology-oriented enterprises. Is by the United States GOLDHARPON (GOLDHARPON) and magnesium Hui technology joint technology cultivation of cooperative enterprises. In 2021, as an American GOLDHARPON with years of experience in the development of light source and optical sensor technology, Henan Dotus was established together with Magnesium Hui Technology. After its establishment, with advanced technical advantages and high working efficiency, With the shortest time has launched the photoionization PID sensor, (NDIR) principle infrared gas sensor and other products. Through technology acquisition and combining with the world's advanced electrochemical products production process, the comprehensive performance of the electrochemical sensor products produced by Dotus has reached the leading level in China. Product stability, resolution, consistency and other core indicators have reached or approached the level of international first-class products. Since its inception, the company has taken the development of national industry as its own duty and filled the blank of domestic products as its starting point. Adhere to rely on scientific and technological innovation, technological innovation, product innovation to win the market, to serve customers with quality. In household appliances, automotive electronics, urban management gallery, indoor and outdoor environment safety monitoring, personal protection, coal mine, petroleum, chemical, metallurgy and other industrial safety fields to provide users with advanced technology and reliable products.



价值观 Values

城市|奋进|共赢|创新
City|Forge ahead|Win-win situation|Innovation

经营理念 Business philosophy

构造客户、员工和企业价值命运共同体
To build a community of shared future with the values of customers, employees and enterprises



公司优势 Company advantage

快速定制|一周发样|24小时售后|响应迅速|合作灵活
Rapid customization|Weekly sample|24 hours after sale|Quick response|Flexible cooperation

公司使命 Corporate mission

让用户安心、让客户放心、让员工满意、打造气体环境安全守护的传感器生产标杆企业
Let users feel at ease, let customers rest assured, let employees satisfied, to create a gas environment safety guard sensor production benchmarking enterprise



企业愿景 Enterprise vision

成为行业内受人尊重的气体安全检测生产企业
Become a respected gas safety test production enterprise in the industry

企业定位 Enterprise positioning

匠心独运、让品质超过价格
Ingenuity, let quality over price

应用领域 Application field

多特斯传感器选型 Model selection of Dortex sensor



河南多特斯 (DUOTESI) 专注传感器技术，广泛应用于家电、汽车电子、城市管廊、室内外环境安全监测、个人防护、煤矿、石油、化工、冶金等工业安全各个领域。

Henan (DUOTESI) focuses on sensor technology, widely used in household appliances, automotive electronics, urban pipe gallery, indoor and outdoor environment safety monitoring, personal protection, coal mine, petroleum, chemical, metallurgy and other industrial safety fields.

原理 Principle	传感器类型 Sensor type	测试气体 Test gas	产品型号 Product model
光学传感器 Optical sensor	光离子传感器 Photoion sensor	有机挥发物 Organic volatiles /VOC	GH-PID
	红外传感器 Infrared sensor	可燃 Combustible/HC	GH-HC
	红外传感器 Infrared sensor	二氧化碳 Carbon dioxide/CO ₂	GH-CO ₂
电化学 Electrochemistry	民用电化学传感器 Civil electrochemical sensor	酸性一氧化碳 Acid carbon monoxide/CO	DTS-2CO
	工业电化学传感器 Industrial electrochemical sensor	氧气 Oxygen/O ₂	DTS-4O ₂
	工业电化学传感器 Industrial electrochemical sensor	一氧化碳 Carbon monoxide/CO	DTS-4CO
	工业电化学传感器 Industrial electrochemical sensor	硫化氢 Hydrogen sulfide/H ₂ S	DTS-4H ₂ S
	工业电化学传感器 Industrial electrochemical sensor	氨气 Ammonia gas/NH ₃	DTS-4NH ₃
	工业电化学传感器 Industrial electrochemical sensor	甲醛 Formaldehyde/CH ₂ O	DTS-CH ₂ O
	工业电化学传感器 Industrial electrochemical sensor	臭氧 Ozone/O ₃	DTS-4O ₃
	工业电化学传感器 Industrial electrochemical sensor	氯化氢 Hydrogen chloride/HCl	DTS-4HCL
	工业电化学传感器 Industrial electrochemical sensor	氯气 Chlorine gas/Cl ₂	DTS-4CL ₂
	工业电化学传感器 Industrial electrochemical sensor	二氧化氮 Nitrogen dioxide/NO ₂	DTS-4NO ₂
	工业电化学传感器 Industrial electrochemical sensor	二氧化硫 Sulfur dioxide/SO ₂	DTS-4SO ₂
	工业电化学传感器 Industrial electrochemical sensor	一氧化碳 Carbon monoxide/CO	DTS-4CO
模组 Module	民用电化学模组 Civil electrochemical module	一氧化碳模组 Carbon monoxide/CO	ZD-2 系列
	工业电化学模组 Industrial electrochemical module	电化学特气模组 Electrochemical gas	ZD-4 系列

目录 Directory

GH-PID 系列光离子挥发性有机物 (VOCs) 气体监测.....	01
GH-PID series photoion volatile organic compounds (VOCs) gas monitoring	
GH-HC红外可燃性气体传感器.....	02
GH-HC Infrared combustible gas sensor	
GH-CO ₂ 红外二氧化碳气体传感器.....	03
GH-CO ₂ infrared carbon dioxide gas sensor	
DTS-2CO民用电化学酸性一氧化碳传感器.....	04
DTS-2CO civil electrochemical acid carbon monoxide sensor	
DTS-4O ₂ 工业氧气气体传感器.....	05
DTS-4O ₂ Industrial oxygen gas sensor	
DTS-4CO工业一氧化碳气体传感器.....	06
DTS-4CO Industrial carbon monoxide gas sensor	
DTS-4H ₂ S工业硫化氢气体传感器.....	07
DTS-4H ₂ S industrial hydrogen sulfide gas sensor	
DTS-4NH ₃ 工业氨气气体传感器.....	08
DTS-4NH ₃ Industrial ammonia gas sensor	
DTS-4CH ₂ O工业甲醛气体传感器.....	09
DTS-4CH ₂ O industrial formaldehyde gas sensor	
DTS-4O ₃ 工业臭氧气体传感器.....	10
DTS-4O ₃ Industrial chlorine gas sensor	
DTS-4HCL 工业氯化氢气体传感器.....	11
DTS-4HCL industrial hydrogen chloride gas sensor	
DTS-4Cl ₂ 工业氯气气体传感器.....	12
DTS-4Cl ₂ Industrial chlorine gas sensor	
DTS-4NO ₂ 工业二氧化氮气体传感器.....	13
DTS-4NO ₂ Industrial nitrogen dioxide gas sensor	
DTS-4SO ₂ 工业二氧化硫气体传感器.....	14
DTS-4SO ₂ Industrial sulfur dioxide gas sensor	
工业电化学可选气体一览表.....	15
List of gas options for industrial electrochemistry	
ZD-2系列电化学传感器模组.....	16
ZD-2 series electrochemical sensor module	
ZD-4系列电化学传感器模组.....	17
ZD-4 series electrochemical sensor module	

GH-PID

系列光离子挥发性有机物 (VOCs) 气体监测

GH-PID series photoion volatile organic compounds (VOCs) gas monitoring



光离子化检测器 (PID) 是应用最广泛的气体检测技术之一。PID 在便携式和固定气体监测仪中广泛应用, 用于检测环境空气中的各种有机化合物和某些无机气体。

Photoionization detector (PID) is one of the most widely used gas detection techniques. PID is widely used in portable and stationary gas monitors to detect various organic compounds and some inorganic gases in ambient air.

目标气体: 挥发性有机化合物和其他电离电位 < 10.6 eV 的气体。灯能: 10.6 eV

Target gases: volatile organic compounds and other gases with an ionization potential < 10.6 eV. Lamp energy: 10.6 eV

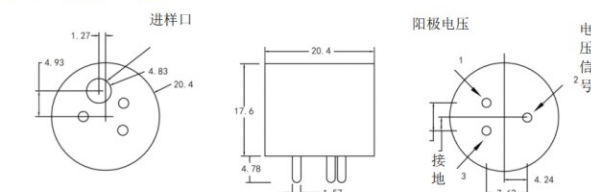
范围 and 最小检出量 Range and minimum detection

部件号Part number	测量范围Measuring range	样品浓度Sample concentration	最低检出限Minimum detection limit
322110000	0~10000ppm	10000ppm	1000ppb
322106000	0~6000ppm	6000ppm	500ppb
322102000	0~2000ppm	2000ppm	200ppb
322101000	0~1000ppm	1000ppm	100ppb
322100200	0~200ppm	200ppm	20ppb
322100100	0~100ppm	100ppm	10ppb
322100060	0~60ppm	60ppm	5ppb
322100020	0~20ppm	20ppm	2ppb
322100010	0~10ppm	10ppm	1ppb
322100002	0~2ppm	2ppm	0.5ppb

产品参数 Product parameter

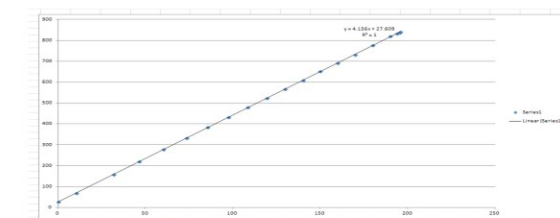
电源电压 Supply voltage	3.2~5.5V
电流 Current	24mA~36mA
最大线性输出信号 Output signal	2.5V
响应时间 Response time (T90)	<3S
温度范围 Temperature range	-20°C~60°C
输出随温度变化 The output varies with temperature	±5%
湿度范围 Humidity range	0~90%RH
紫外灯寿命 Uv lamp life	1年
使用寿命 Life span	>3年
保修期 Warranty period	1年

产品尺寸 Product size



如无特别说明, 所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

传感器特性 Sensor characteristics



量程: 200ppm PID 传感器标准曲线 (最坏情况线性度为+ 5%)
Range: 200ppm PID sensor standard curve (worst case linearity + 5%)



GH-HC

红外可燃性气体传感器

GH-HC Infrared combustible gas sensor

红外可燃性气体传感器基于非色散红外（NDIR）原理，相比传统原理气体传感器具有稳定性好、检测范围宽、选择性强、无氧气依赖性、抗干扰能力强、寿命长、维护周期长等优点，是气体检测发展的趋势，可快速替代传统原理气体传感器，广泛应用于存在甲烷及爆炸性气体的各种场合。

Infrared flammable gas sensor based on non-dispersive infrared (NDIR) principle, compared with the traditional principle of gas sensor has good stability, wide detection range, strong selectivity, no oxygen dependence, strong anti-interference ability, long life, long maintenance cycle and other advantages, is the development trend of gas detection, can quickly replace the traditional principle of gas sensor. Widely used in the presence of methane and explosive gas.

应用领域：石油化工、矿山环境监测、沼气浓度测量、市政管网、燃气及汽油泄漏。

Application: Petrochemical industry, Mine environmental monitoring, Methane concentration measurement, Municipal pipe network, Gas and gasoline leaks.

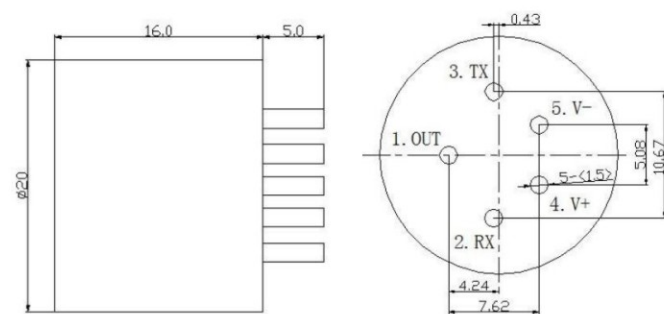
性能参数 Performance parameters

产品型号Product modelProduct model	GH-HC		
量程范围Range	0~5%VOL	0~10%VOL	0~100%VOL
分辨率Resolution	0.01%VOL	0.01%VOL	0.1%VOL
精度Accuracy	0~1%VOL: ±0.06%VOL 1~100%VOL: 真值±6%		
输出方式Output mode	0.4~2V/UART		
工作电压Operating voltage	3.2V~5.5V		
工作电流Working current	75mA		
响应时间Response time	T90≤25s		
零点重复性Zero repeatability	±2%FSD		
灵敏度重复性Sensitivity repeatability	±2%FSD		
30长174期漂移Long-term drift	±1%FSD/月		
工作温度Operating temperature	-20℃~+60℃		
工作湿度Working humidity	0~90%RH (无凝结)		
寿命Life span	5年		

引脚定义 Pin definition

引脚序号 Pin number	名称 Name	说明 Description
1	OUT	模拟输出，与数字输出同步，终端可接 ADC 或电压表 Analog output, synchronous with digital output, terminal can be connected to ADC or voltmeter
2	RXD	传感器 UART 通信接收端，与用户终端的 TXD 相接 Sensor UART communication receiver, connected to the TXD of the user terminal
3	TXD	传感器 UART 通信发送端，与用户终端的 RXD 相接 Sensor UART communication sender, and the user terminal RXD connection
4	V+	传感器电源正极，对 V-电压应为 3.3-5.0V The sensor power supply is positive, and the V- voltage should be 3.3-5.0V
5	V-	传感器电源负极，模拟输出和数据通信公共地端 Sensor power terminal, analog output and data communication common ground

产品尺寸 Product size



如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

GH-CO₂

红外二氧化碳气体传感器

GH-CO₂ infrared carbon dioxide gas sensor



红外二氧化碳气体红外传感器基于非色散红外(NDIR)原理，相比传统原理气体传感器具有稳定性好、检测范围宽、选择性强、无氧气依赖性、抗干扰能力强、寿命长、维护周期长等优点，是气体检测发展的趋势，可快速替代传统原理气体传感器，广泛应用于存在甲烷及爆炸性气体检测的各种场合。

Infrared carbon dioxide gas infrared sensor based on non-dispersive infrared (NDIR) principle, compared with the traditional principle of gas sensor has good stability, wide detection range, strong selectivity, no oxygen dependence, strong anti-interference ability, long Life, long maintenance cycle and other advantages, is the development trend of gas detection. It can quickly replace the traditional principle gas sensor and is widely used in the detection of methane and explosive gas.

应用领域：工业过程及安全防护监控、农业及畜牧业生产过程监控、暖通制冷与空气质量监控。

Application: Industrial process and safety monitoring, agricultural and animal husbandry production process monitoring, HVAC refrigeration and air quality monitoring.

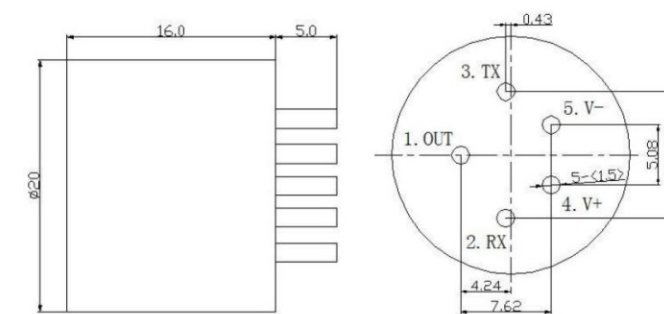
性能参数 Performance parameters

产品型号Product model	GH-CO ₂			
量程范围Range	0~0.2%VOL	0~1%VOL	0~5%VOL	0~20%VOL
分辨率Resolution	20ppm	50ppm	100ppm	0.05%VOL
精度Accuracy	±0.03	±0.04	±(0.05+真值的5%)	±(0.05+真值的5%)
输出方式Output mode	0.4~2V/UART			
工作电压Operating voltage	3.2V~5.5V			
工作电流Working current	75mA			
响应时间Response time	T90≤25s			
零点重复性Zero repeatability	±2%FSD			
灵敏度重复性Sensitivity repeatability	±2%FSD			
长期漂移Long-term drift	±1%FSD/月			
工作温度Operating temperature	-20℃~+60℃			
工作湿度Working humidity	0~90%RH (无凝结)			
寿命Life span	5年			

引脚定义 Pin definition

引脚序号 Pin number	名称 Name	说明 Description
1	OUT	模拟输出，与数字输出同步，终端可接 ADC 或电压表 Analog output, synchronous with digital output, terminal can be connected to ADC or voltmeter
2	RXD	传感器 UART 通信接收端，与用户终端的 TXD 相接 Sensor UART communication receiver, connected to the TXD of the user terminal
3	TXD	传感器 UART 通信发送端，与用户终端的 RXD 相接 Sensor UART communication sender, and the user terminal RXD connection
4	V+	传感器电源正极，对 V-电压应为 3.3-5.0V The sensor power supply is positive, and the V- voltage should be 3.3-5.0V
5	V-	传感器电源负极，模拟输出和数据通信公共地端 Sensor power terminal, analog output and data communication common ground

产品尺寸 Product size



如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm



DTS-2CO

民用电化学酸性一氧化碳传感器

DTS-2CO civil electrochemical acid carbon monoxide sensor

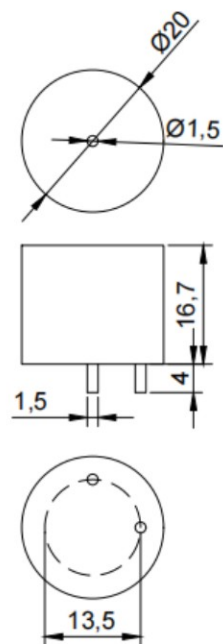
DTS-2CO 民用电化学一氧化碳传感器是定电位电解型传感器，具有高灵敏度、抗干扰、长寿命、独特的防泄漏结构等特点，广泛应用于高空气质量气体检测、地下车库、家用、商用报警仪器、汽车电子等多种领域一氧化碳气体监测。

DTS-2CO civil electrochemical carbon monoxide sensor is a fixed potential electrolytic sensor, with high sensitivity, anti-interference, long Life, unique anti-leakage structure and other characteristics, widely used in high air quality gas detection, underground garage, household, commercial alarm instruments, automotive electronics and other fields of carbon monoxide gas monitoring.

性能参数 Performance parameters

测量气体Measuring gas	CO
测量范围Measuring range	0~1000ppm
极限过载Ultimate overload	2000ppm
输出信号Output signal	150±50nA/ppm
分辨率Resolution	2ppm
响应时间Response time (t90)	<30s
零点漂移Zero drift	<3ppm
输出线性度Output linearity	直线性Straightness
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期输出漂移Long-term output drift	<2% FSD/月
推荐储存环境Recommended storage environment	0~20℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

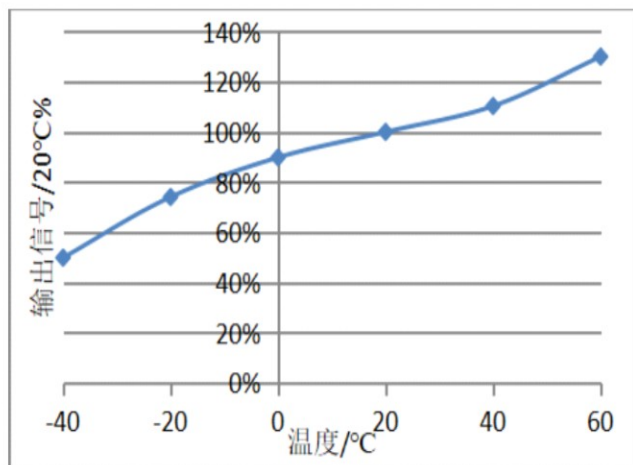


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (ppm)	CO 当量浓度 Equivalent concentration (ppm)
硫化氢 Hydrogen sulfide	20	0
二氧化硫 Sulfur dioxide	10	0
氢气 Hydrogen	100	50
二氧化氮 Nitric oxide	10	-1.5
乙醇 Ethanol	100	0
氨气 Ammonia gas	100	0

传感器特性 Sensor characteristics



DTS-4O₂

工业氧气气体传感器

DTS-4O₂ Industrial oxygen gas sensor



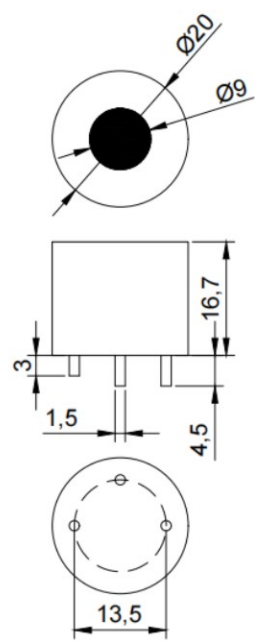
DTS-4O₂ 氧气传感器是原电池型传感器，具有高灵敏度、高精度、稳定性好、响应性快等特点，广泛应用于工业用氧气监测、环保领域氧气监测、矿井领域氧气监测、仓储领域氧气检测等多种环境氧气气体监测。

DTS-4O₂ oxygen sensor is a galvanic cell sensor, with high sensitivity, high precision, good stability, fast response and other characteristics, widely used in industrial oxygen monitoring, environmental protection field oxygen monitoring, mine field oxygen monitoring, storage field oxygen detection and other environmental oxygen gas monitoring.

性能参数 Performance parameters

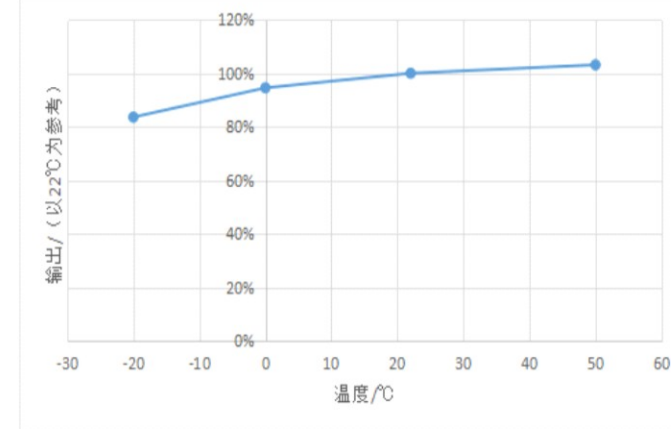
测量气体Measuring gas	O ₂
测量范围Measuring range	0~25%VOL
极限过载Ultimate overload	30%VOL
灵敏度Sensitivity	3.8~5.7uA/%VOL
零点漂移Zero drift	<0.2% VOL
分辨率Resolution	0.1%VOL
响应时间Response time (t90)	<10s
输出线性度Output linearity	直线性Straightness
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~95%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期输出漂移Long-term output drift	<5%/年
推荐储存环境Recommended storage environment	0~20%
预计使用寿命Life span	1年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

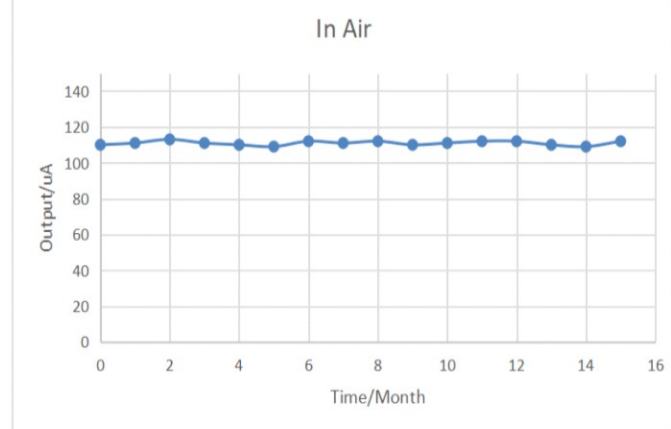


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

传感器特性 Sensor characteristics



温度曲线表 Temperature curve meter



长期曲线表 Long-term curve table



DTS-4CO

工业一氧化碳气体传感器

DTS-4CO Industrial carbon monoxide gas sensor

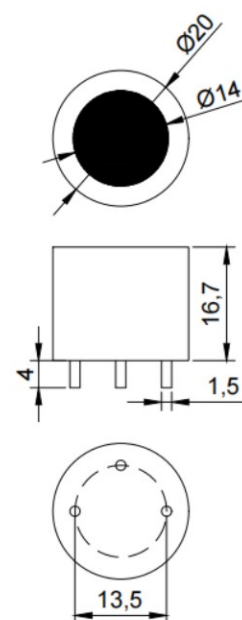
DTS-4CO 一氧化碳传感器是定电位电解型传感器，具有高灵敏度、抗干扰、高精度、长寿命等优点，广泛应用于环保领域、工业领域、地下管廊等多种环境一氧化碳气体监测。

DTS-4CO carbon monoxide sensor is a fixed potential electrolytic sensor, with high sensitivity, anti-interference, high precision, long life and other advantages, widely used in environmental protection field, industrial field, underground pipe corridor and other environmental carbon monoxide gas monitoring.

性能参数 Performance parameters

测量气体Measuring gas	CO
测量范围Measuring range	0~1000ppm
极限过载Ultimate overload	2000ppm
输出信号Output signal	60±15nA/ppm
分辨率Resolution	<1ppm
响应时间Response time (t90)	<30s
零点漂移Zero drift	<3ppm
输出线性度Output linearity	直线性Straightness
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~95%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期输出漂移Long-term output drift	<2% FSD/月
推荐储存环境Recommended storage environment	0~20℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

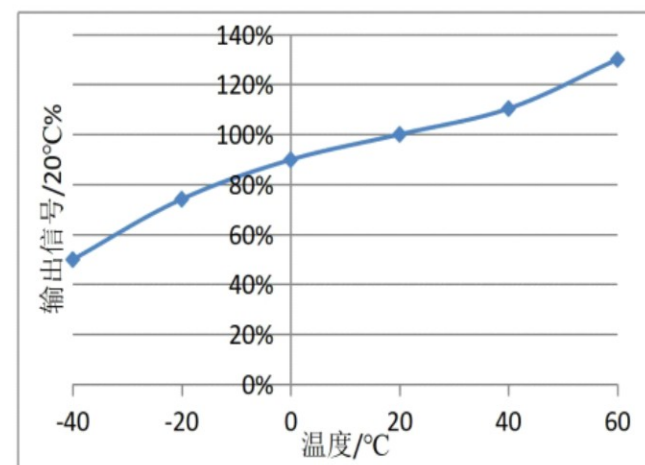


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (ppm)	CO 当量浓度 Equivalent concentration (ppm)
硫化氢 Hydrogen sulfide	20 PPM	0 PPM
二氧化硫 Sulfur dioxide	10 PPM	0 PPM
氢气 Hydrogen	100 PPM	50PPM
二氧化氮 Nitric oxide	10PPM	-1.5 PPM
乙醇 Ethanol	100 PPM	0 PPM
氨气 Ammonia gas	100 PPM	0 PPM

传感器特性 Sensor characteristics



DTS-4H₂S

工业硫化氢气体传感器

DTS-4H₂S industrial hydrogen sulfide gas sensor



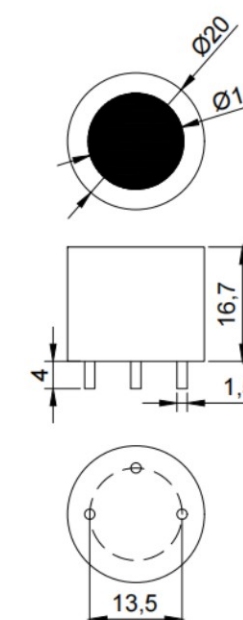
DTS-4H₂S 一氧化碳传感器是定电位电解型传感器，具有高灵敏度、抗干扰、高精度、长寿命等优点，广泛应用于环保领域、工业领域、地下管廊等多种环境硫化氢气体监测。

DTS-4H₂S carbon monoxide sensor is a constant potential electrolysis sensor, with high sensitivity, anti-interference, high precision, long life and other advantages, widely used in environmental protection field, industrial field, underground pipe corridor and other environmental monitoring of hydrogen sulfide gas.

性能参数 Performance parameters

测量气体Measuring gas	H ₂ S
测量范围Measuring range	0~100ppm
极限过载Ultimate overload	0~200ppm
输出信号Output signal	0.4±0.15μA/ppm
分辨率Resolution	<0.5ppm
响应时间Response time (t90)	<30s
零点漂移Zero drift	<1ppm
输出线性度Output linearity	直线性Straightness
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期稳定性Long-term stability	<2% FSD/月
推荐储存环境Recommended storage environment	0~20℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

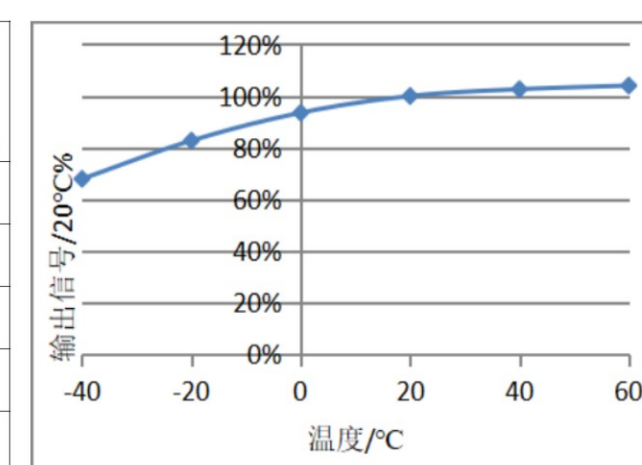


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (ppm)	硫化氢当量浓度 Hydrogen sulfide equivalent concentration (ppm)
一氧化碳 Carbon monoxide	100	<0.5
氢气 Hydrogen	1000	<20
氨气 Ammonia gas	25	<0.3
二氧化碳 Carbon dioxide	5000	0
乙醇 Ethanol	100	<1

传感器特性 Sensor characteristics





DTS-4NH₃

工业氨气气体传感器

DTS-4NH₃ Industrial ammonia gas sensor

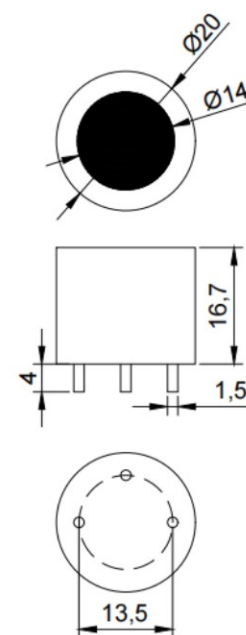
DTS-4NH₃ 氨气传感器是定电位电解型传感器，具有高灵敏度、高精度、抗干扰、长寿命等特点，广泛应用于工业用氨气监测、畜牧业氨气监测、智慧城市氨气监测、环保行业氨气监测等多种环境氨气气体监测。

DTS-4NH₃ ammonia sensor is a fixed potential electrolytic sensor, with high sensitivity, high precision, anti-interference, long life and other characteristics, widely used in industrial ammonia monitoring, animal husbandry ammonia monitoring, intelligent city ammonia monitoring, environmental protection industry ammonia monitoring and other environmental monitoring.

性能参数 Performance parameters

测量气体Measuring gas	NH ₃
测量范围Measuring range	0~100ppm
极限过载Ultimate overload	200ppm
输出信号Output signal	0.1±0.04μA/ppm
分辨率Resolution	<0.5ppm
响应时间Response time (t90)	<90s
零点漂移Zero drift	<3ppm
输出线性度Output linearity	直线性Straightness
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期稳定性Long-term stability	<2% FSD/月
推荐储存环境Recommended storage environment	0~20℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

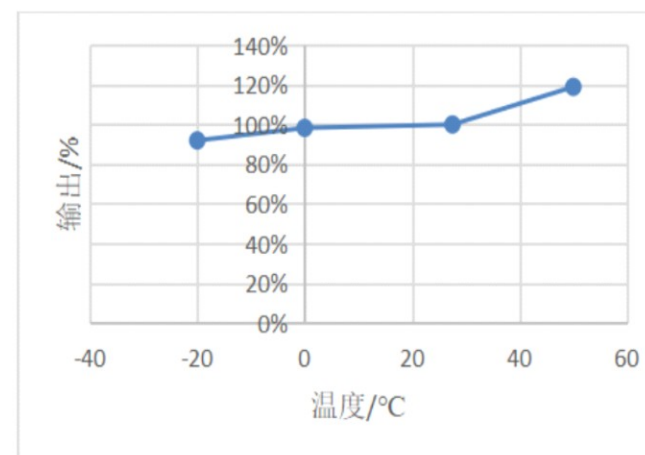


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (ppm)	氨气当量浓度 Ammonia equivalent concentration PPM)
硫化氢 Hydrogen sulfide	25	20
氢气 Hydrogen	100	0
二氧化碳 Carbon dioxide	5000	0
一氧化碳 Carbon monoxide	1000	0
乙醇 Ethanol	100	<1

传感器特性 Sensor characteristics



DTS-4CH₂O

工业甲醛气体传感器

DTS-4CH₂O industrial formaldehyde gas sensor

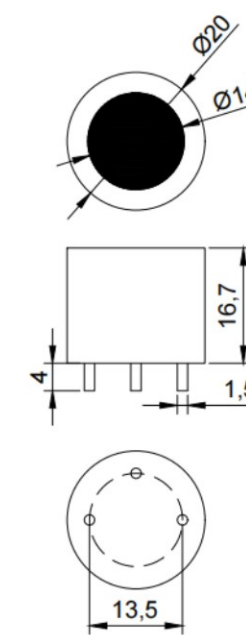
DTS-4CH₂O 甲醛传感器是定电位电解型传感器，具有高灵敏度、高精度、抗干扰、长寿命等优点，广泛应用于石油化工、工业生产、环保领域等多种环境甲醛气体监测。

DTS-4CH₂O formaldehyde sensor is a fixed potential electrolytic sensor, with high sensitivity, high precision, anti-interference, long life and other advantages, widely used in petrochemical, industrial production, environmental protection and other environmental formaldehyde gas monitoring.

性能参数 Performance parameters

测量气体Measuring gas	CH ₂ O
测量范围Measuring range	0~100ppm
极限过载Ultimate overload	200ppm
输出信号Output signal	0.5±0.15uA/ppm
分辨率Resolution	0.5ppm
响应时间Response time (t90)	≤90s
零点漂移Zero drift	<1ppm
偏压Bias	0mV
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期稳定性Long-term stability	<2% FSD/月
推荐储存环境Recommended storage environment	10℃~30℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

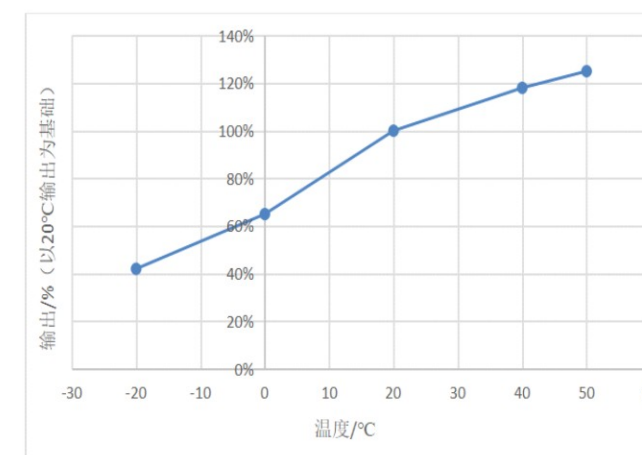


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (ppm)	甲醛当量浓度 Formaldehyde equivalent concentration (ppm)
一氧化碳 Carbon monoxide	50	5
乙醇 Ethanol	300	20
环氧乙烷 Ethylene oxide	10	1
甲苯 Toluene	50	3
二甲苯 Xylene	50	5
硫化氢 Hydrogen sulfide	50	7
二氧化硫 Sulfur dioxide	20	1
氯乙烯 Vinyl chloride	100	10
三氯甲烷 Trichloromethane	50	1

传感器特性 Sensor characteristics





DTS-4O₃

工业臭氧气体传感器

DTS-4O₃ Industrial chlorine gas sensor

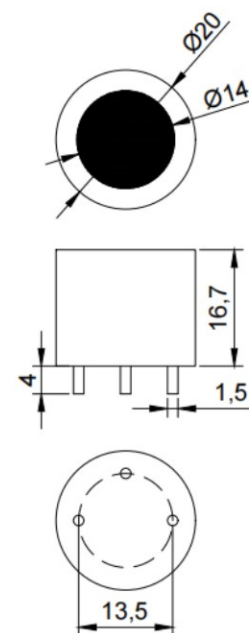
DTS-4O₃ 臭氧传感器是定电位电解型传感器，具有高灵敏度，高精度、抗干扰、长寿命等优点，广泛应用于石油化工、工业生产、环保领域等多种环境臭氧气体监测。

DTS-4O₃ ozone sensor is a constant potential electrolysis sensor, with high sensitivity, high precision, anti-interference, long life and other advantages, widely used in petrochemical industry, industrial production, environmental protection and other fields of environmental ozone gas monitoring.

性能参数 Performance parameters

测量气体Measuring gas	O ₃
测量范围Measuring range	0~10ppm
极限过载Ultimate overload	50ppm
输出信号Output signal	-0.45±0.15uA/ppm
分辨率Resolution	0.05ppm
响应时间Response time (t90)	≤60s
零点漂移Zero drift	<0.2ppm
偏压Bias	0mV
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期稳定性Long-term stability	<2%FSD/月
推荐储存环境Recommended storage environment	10℃~30℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

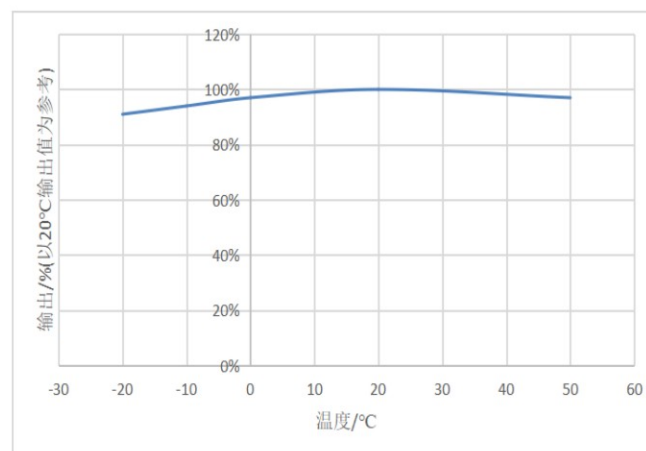


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (ppm)	臭氧当量浓度 Ozone equivalent concentration (ppm)
硫化氢 Hydrogen sulfide	20	-8
一氧化碳 Carbon monoxide	100	0
氯气 Chlorine gas	10	9
氢气 Hydrogen	100	0
二氧化硫 Sulfur dioxide	20	<1
二氧化氮 Nitrogen dioxide	10	12

传感器特性 Sensor characteristics



DTS-4HCL

工业氯化氢气体传感器

DTS-4HCL industrial hydrogen chloride gas sensor

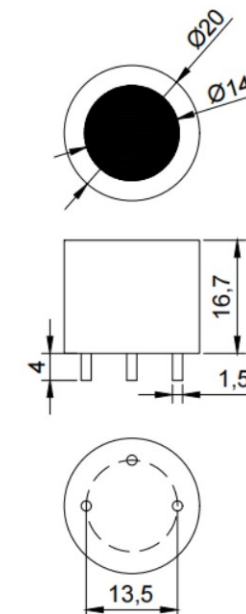
DTS-4HCL 氯化氢传感器是定电位电解型传感器，具有高灵敏度，高精度、抗干扰、长寿命、独特的防泄漏结构等优点，广泛应用于工业用氯化氢泄露监测、环保领域氯化氢监测、矿下氯化氢监测等多种环境氯化氢气体监测。

DTS-4HCL hydrogen chloride sensor is a fixed potential electrolysis sensor, with high sensitivity, high precision, anti-interference, long life unique anti-leakage structure and other advantages, widely used in industrial hydrogen chloride leakage monitoring, environmental protection field hydrogen chloride monitoring, mine hydrogen chloride monitoring and other environmental hydrogen chloride gas.

性能参数 Performance parameters

测量气体Measuring gas	HCL
测量范围Measuring range	0~10ppm
极限过载Ultimate overload	50ppm
输出信号Output signal	0.25±0.1uA/ppm
分辨率Resolution	<0.5ppm
响应时间Response time (t90)	≤60s
零点漂移Zero drift	<5ppm
输出线性度Output linearity	直线性Straightness
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无冷凝)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期稳定性Long-term stability	<2%FSD/月
推荐储存环境Recommended storage environment	0~20℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

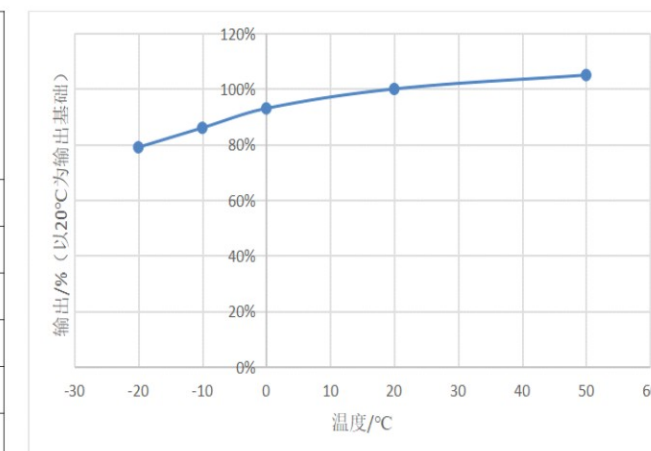


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (PPM)	氯化氢当量浓度 Hydrogen chloride equivalent concentration (ppm)
一氧化碳 Carbon monoxide	100	0
氢气 Hydrogen	100	0
氯气 Chlorine gas	10	-3
二氧化氮 Nitric oxide	10	-1
硫化氢 Hydrogen sulfide	30	100
氮气 Nitrogen gas	100%	0

传感器特性 Sensor characteristics





DTS-4Cl₂

工业氯气气体传感器

DTS-4Cl₂ Industrial chlorine gas sensor

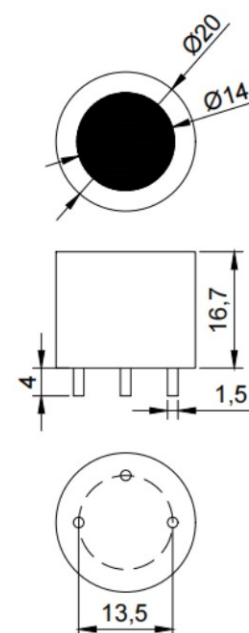
DTS-4Cl₂ 氯气传感器是定电位电解型传感器，具有高灵敏度、高精度、抗干扰、长寿命、独特的防泄漏结构等优点，广泛应用于石油化工、工业生产、环保领域、医药生产等多种环境氯气气体监测。

DTS-4Cl₂ chlorine gas sensor is a fixed potential electrolytic sensor, with high sensitivity, high precision, anti-interference, long life, unique anti-leakage structure and other advantages, widely used in petrochemical industry, industrial production, environmental protection field, medical production and other environmental chlorine gas monitoring.

性能参数 Performance parameters

测量气体Measuring gas	Cl ₂
测量范围Measuring range	0~10ppm
极限过载Ultimate overload	50ppm
输出信号Output signal	-0.35±0.1uA/ppm
分辨率Resolution	0.05ppm
响应时间Response time (t90)	≤60s
零点漂移Zero drift	<1ppm
偏压Bias	0mV
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期稳定性Long-term stability	<2% FSD/月
推荐储存环境Recommended storage environment	10℃~30℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

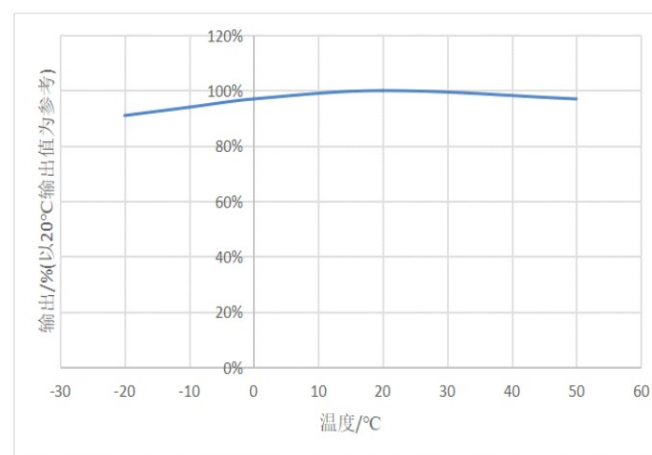


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (PPM)	氯气当量浓度 Chlorine equivalent concentration (ppm)
硫化氢 Hydrogen sulfide	10	-18
二氧化硫 Sulfur dioxide	20	0
二氧化氮 Nitrogen dioxide	10	8
氨气 Ammonia gas	10	0
氯气 Chlorine gas	10	12
氢气 Hydrogen	100	0

传感器特性 Sensor characteristics



DTS-4NO₂

工业二氧化氮气体传感器

DTS-4NO₂ Industrial nitrogen dioxide gas sensor



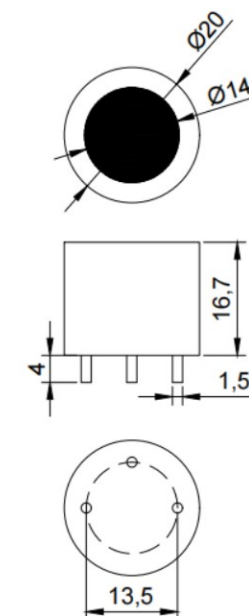
DTS-4NO₂ 二氧化氮传感器是定电位电解型传感器，具有高灵敏度、高精度、抗干扰、独特的防泄漏结构等特点，广泛应用于石油化工、工业生产、环保领域多种环境二氧化氮气体监测。

DTS-4NO₂ nitrogen dioxide sensor is a fixed potential electrolytic sensor, with high sensitivity, high precision, anti-interference, unique anti-leakage structure and other characteristics, widely used in petrochemical, industrial production, environmental protection fields of a variety of environmental nitrogen dioxide gas monitoring.

性能参数 Performance parameters

测量气体Measuring gas	NO ₂
测量范围Measuring range	0~20ppm
极限过载Ultimate overload	50ppm
输出信号Output signal	-0.4±0.15uA/ppm
分辨率Resolution	<0.1ppm
响应时间Response time (t90)	≤60s
零点漂移Zero drift	<0.5ppm
偏压Bias	0mV
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期稳定性Long-term stability	<2% FSD/月
推荐储存环境Recommended storage environment	10℃~30℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

产品尺寸 Product size

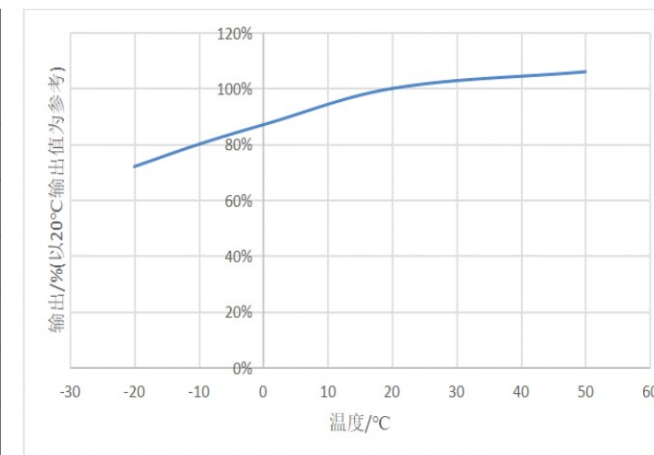


如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

交叉干扰 Cross interference

气体 Gas	浓度 Concentration (ppm)	二氧化氮当量浓度 Nitrogen dioxide equivalent concentration (ppm)
硫化氢 Hydrogen sulfide	20	<1
一氧化碳 Carbon monoxide	100	<1
氯气 Chlorine gas	10	7
臭氧 Ozone	10	9
二氧化硫 Sulfur dioxide	10	-11
一氧化氮 Nitric oxide	100	0

传感器特性 Sensor characteristics





DTS-4SO₂

工业二氧化硫气体传感器

DTS-4SO₂ Industrial sulfur dioxide gas sensor

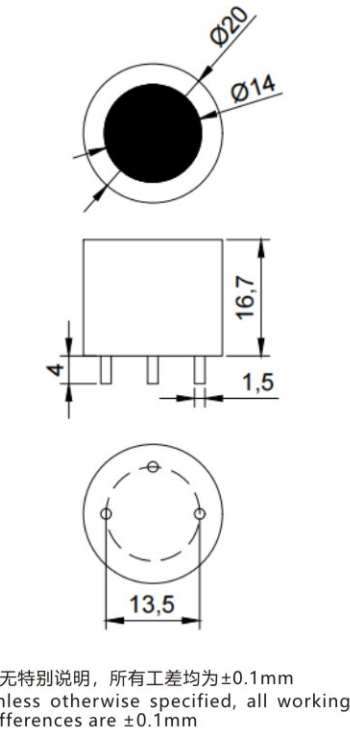
DTS-4SO₂ 二氧化硫传感器是定电位电解型传感器，具有高灵敏度、高精度、抗干扰、独特的防泄漏结构等特点，广泛应用于工业生产、环保领域多种环境二氧化硫气体监测。

DTS-4SO₂ sulfur dioxide sensor is a constant potential electrolysis sensor, with high sensitivity, high precision , anti-interference, unique anti-leakage structure and other characteristics, widely used in industrial production, environmental protection field of a variety of environmental sulfur dioxide gas monitoring.

性能参数 Performance parameters

测量气体Measuring gas	SO ₂
测量范围Measuring range	0~20ppm
极限过载Ultimate overload	50ppm
输出信号Output signal	0.25±0.1uA/ppm
分辨率Resolution	<0.1ppm
响应时间Response time (t90)	≤ 30s
零点漂移Zero drift	<0.5ppm
偏压Bias	0mV
环境Environment	
工作温度Operating temperature	-40~+50℃
工作湿度Working humidity	15%~90%RH (无凝结)
工作压力范围Working pressure range	90~110kPa
寿命质保Life warranty	
长期稳定性Long-term stability	< 2% FSD/月
推荐储存环境Recommended storage environment	10℃~30℃
预计使用寿命Life span	2年 (In the air)
储存期Storage life	6个月
质保期Warranty period	1年

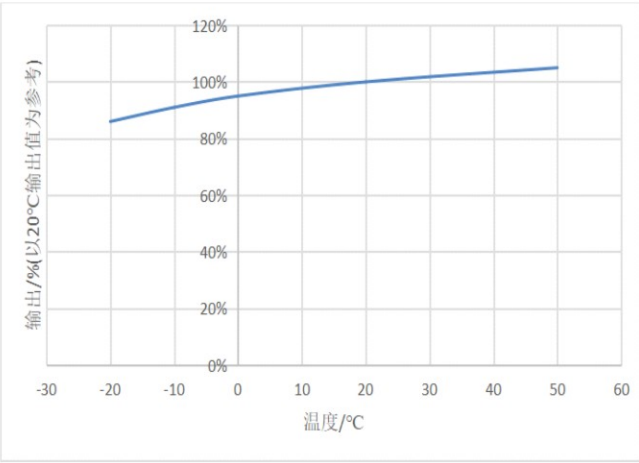
产品尺寸 Product size



交叉干扰 Cross interference

气体 Gas	浓度 Concentration (ppm)	二氧化硫当量浓度 Sulfur dioxide equivalent concentration (ppm)
硫化氢 Hydrogen sulfide	20	0.1
一氧化碳 Carbon monoxide	100	0.1
氯气 Chlorine gas	5	-1.5
氢气 Hydrogen	100	0
氨气 Ammonia gas	10	0
二氧化氮 Nitric oxide	10	-15

传感器特性 Sensor characteristics



工业电化学可选气体一览表

List of gas options for industrial electrochemistry

气体名称 Name Gas name	测量范围 Measuring range	可选量程 Optional range	分辨率 Resolution	报警点 Alarm point
氧气 Oxygen/O ₂	0 ~ 30%VOL	0 ~ 30%VOL	0.1%VOL	L: 19.5%VOL H: 23.5%VOL
硫化氢 Hydrogen sulfide/H ₂ S	0 ~ 100PPM	0 ~ 50/200/1000PPM	0.1PPM	L: 10PPM H: 35PPM
一氧化碳 Carbon monoxide/CO	0 ~ 1000PPM	0 ~ 500/2000/5000PPM	1PPM	L: 50PPM H: 150PPM
二氧化氮 Nitrogen dioxide/NO ₂	0 ~ 20PPM	0 ~ 50/100PPM	0.1PPM	L: 5PPM H: 10PPM
二氧化硫 Sulfur dioxide/SO ₂	0 ~ 20PPM	0 ~ 50/100PPM	0.1PPM	L: 5PPM H: 10PPM
氯气 Chlorine gas/CL ₂	0 ~ 20PPM	0 ~ 10/100PPM	0.1PPM	L: 5PPM H: 10PPM
氨气 Ammonia gas/NH ₃	0 ~ 100PPM	0 ~ 50/100/1000PPM	0.1/1PPM	L: 10PPM H: 20PPM
氢气 Hydrogen/H ₂	0 ~ 1000PPM	0 ~ 1000PPM	1PPM	L: 50PPM H: 150PPM
磷化氢 Phosphine/PH ₃	0 ~ 20PPM	0 ~ 50/100/1000PPM	0.1PPM	L: 5PPM H: 10PPM
氯化氢 Hydrogen chloride/HCL	0 ~ 50PPM	0 ~ 20/50/100PPM	0.01/0.1PPM	L: 5PPM H: 10PPM
二氧化氯 Chlorine dioxide/CLO ₂	0 ~ 50PPM	0 ~ 10/100PPM	0.1PPM	L: 5PPM H: 10PPM
氰化氢 Hydrogen cyanide/HCN	0 ~ 50PPM	0 ~ 100PPM	0.01/0.1PPM	L: 5PPM H: 10PPM
环氧乙烷 Acetylene oxide/C ₂ H ₄ O	0 ~ 100PPM	0 ~ 100PPM	0.1PPM	L: 10PPM H: 20PPM
臭氧 Ozone/O ₃	0 ~ 20PPM	0 ~ 50/100PPM	0.1PPM	L: 5PPM H: 10PPM
甲醛 Formaldehyde/CH ₂ O	0 ~ 100PPM	0 ~ 50/100PPM	0.1PPM	L: 2PPM H: 5PPM
氟化氢 Hydrogen fluoride/HF	0 ~ 10PPM	0 ~ 1/10/50/100PPM	0.01/0.1PPM	L: 2PPM H: 5PPM
二甲苯/Xylene/C ₈ H ₁₀ 甲苯/Toluene/C ₇ H ₈	0 ~ 100PPM	0 ~ 1/10/50/100PPM	0.01/0.1PPM	L: 10PPM H: 20PPM

※ 注：气体种类和参数为一般常规参数，用户可根据实际要求来定制生产不同参数的产品。

※ Note: Gas types and parameters are general parameters. Users can customize and produce products with different parameters according to actual requirements.



ZD-2

系列电化学传感器模组

ZD-2 series electrochemical sensor module

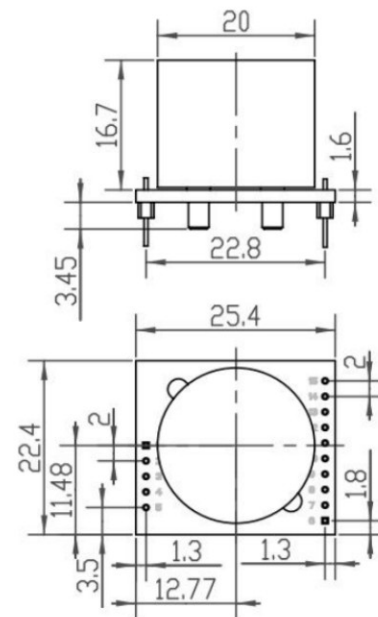
ZD-2CO 一氧化碳电化学模组，用于一氧化碳气体浓度检测，可替换市场常规民用酸性一氧化碳电化学模组。广泛适用于便携式、固定式气体探测仪，以及各种气体检测的场合和设备。

ZD-2CO carbon monoxide electrochemical module, used for carbon monoxide gas concentration detection, can replace the market conventional civil acid carbon monoxide electrochemical module. Widely used in portable, stationary gas detector, and a variety of gas detection occasions and equipment.

性能参数 Performance parameters

项目Project	参数Parameter
测量气体Measuring gas	CO
测量范围Measuring range	0~500PPM
分辨率Resolution	1PPM
供电电压Supply voltage	DC 3.5~ 7.0V
工作电流Working current	< 6mA平均
输出方式Output mode	UART/TTL, 3.3V
预热时间Preheating time	60s
相应时间Corresponding time	T90 < 30s
检测间隔Detection interval	1s
环境Environment	
工作温度Operating temperature	0~+50℃
工作湿度Working humidity	15%~ 90%RH(无凝结)
寿命质保Life warranty	
储存环境Storage environment	-20~ 55℃/15~ 90%RH
使用寿命Life span	2年 (In the air)
尺寸Dimension	
尺寸Dimension	25.4*22.4*20.15 (mm)

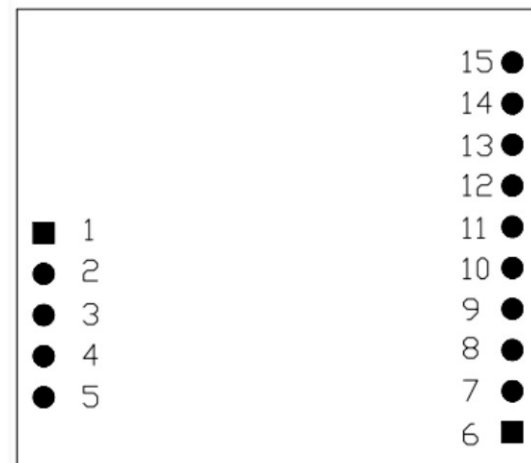
产品尺寸 Product size



如无特别说明，所有公差均为±0.1mm
Unless otherwise specified, all working differences are ±0.1mm

引脚定义 Pin definition

管脚 Pin	定义 Definition
PIN15	Vin (电源正极)
PIN5、 PIN14	GND (电源负极)
PIN1	输出 3.3V
PIN3	PWM 输出 Output (选配)
PIN7	UART(RXD)TTL 3.3V 电平
PIN8	UART(TXD)TTL 3.3V 电平
PIN10	模拟输出 (0.4-2V, 选配)
其他 other PIN	NC



ZD-4

系列电化学传感器模组

ZD-4 series electrochemical sensor module

ZD-4系列工业电化学模组采用高性能微处理器，内置温度传感器进行温度补偿，搭载不同的气体传感器就可以测量对应的气体，具有数字输出和模拟电压输出两种方式，广泛适用于便携式、固定式气体探测仪，以及各种气体检测的场合和设备。

ZD-4 series industrial electrochemical module adopts high-performance microprocessor, built-in temperature sensor for temperature compensation, carrying different gas sensors can measure the corresponding gas, with digital output and analog voltage output two ways, widely used in portable, stationary gas detector, as well as a variety of gas detection occasions and equipment.

技术指标 Technical index

项目 Project	参数 Parameter
测量气体 Measuring gas	CO、H ₂ S、O ₂ 、SO ₂ 、NH ₃ 、O ₃ 、NO ₂ 、PH ₃ 、HCl、H ₂ 、Cl ₂ 、ETO 等
检测范围 Detection range	详见产品参数
供电电压 Supply voltage	DC 3.5~ 7.0V
工作电流 Working current	< 6mA
输出方式 Output mode	UART/TTL, 3.3V 兼容 5V
环境 Environment	
工作温度 Operating temperature	-20~ +50℃
工作湿度 Working humidity	15%-90%RH (无凝结)
寿命质保 Life warranty	
储存环境 Storage environment	-20~55℃/15~ 90%RH
使用寿命 Life span	2年 (In the air)
尺寸 Dimension	
尺寸 Dimension	Ø23.5*24.5mm

引脚定义 Pin definition

GND	电源负极 Negative terminal of power supply
VIN	电源正极 Positive electrode of power supply
VO	传感器原始信号电压 Sensor original signal voltage
RX	串口输入 Serial port input
TX	串口输出 Serial port output



产品参数 Product parameter

检测气体 Detection gas	型号 Model number	量程 Range	分辨率 Resolution
氧气 Oxygen	ZD-4O ₂	0~ 25% VOL	0.1%VOL
一氧化碳 Carbon monoxide	ZD-4CO	0~ 500PPM	1PPM
硫化氢 Hydrogen sulfide	ZD-4H ₂ S	0~ 100PPM	0.1PPM
氨气 Ammonia gas	ZD-4NH ₃	0~ 100PPM	0.1PPM
氢气 hydrogen	ZD-4H ₂	0~ 1000PPM	1PPM
二氧化氮 Nitric oxide	ZD-4NO ₂	0~ 20PPM	0.1PPM
二氧化硫 Sulfur dioxide	ZD-4SO ₂	0~ 20PPM	0.1PPM
氯气 Chlorine gas	ZD-4Cl ₂	0~ 20PPM	0.1PPM
磷化氢 Phosphine	ZD-4PH ₃	0~ 20PPM	0.1PPM
氯化氢 Hydrogen chloride	ZD-4HCL	0~ 50PPM	0.1PPM
臭氧 Ozone	ZD-4O ₃	0~ 10PPM	0.01/0.1PPM
苯 Benzene	ZD-4C ₆ H ₆	0~ 100PPM	1PPM
环氧乙烷 Ethylene oxide	ZD-4C ₂ H ₄ O	0~ 100PPM	1PPM

