



Product

PROFESSIONAL GAS SENSOR SUPPLIER

BIKAI TECHNOLOGY CO., LTD.

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COMPANY PROFILE

BIKAI TECHNOLOGY CO., LTD. is dedicated to the research, development, and manufacturing of Gas Sensors, including Electrochemical sensors and PID sensors, as well as related Analytical Light Sources.

BIKAI's products are trusted across pharmaceuticals, chemicals, environmental protection, semiconductors, electronics, industrial safety, and other critical sectors. BIKAI delivers accuracy, stability, and reliability, along with attentive, comprehensive technical support to partners worldwide.

Professional Focused



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Photoionization Detector (PID) Sensor

03

The BK series Photoionization Detector (PID) sensors, independently developed and manufactured by BIKAI, are plug-and-play, easy to operate, and widely used in environmental monitoring, industrial hygiene, safety monitoring, indoor air quality monitoring, soil contamination monitoring, and other fields.



Electrochemical Oxygen (O₂) Gas Sensor O₂-BK-25 %

04/05

This product is used for Oxygen gas concentration detection, with fast response and recovery, good stability, and a low probability of leakage.



Electrochemical Hydrogen Sulfide (H₂S) Gas Sensor H₂S-BK-100

06/07

This product is used for Hydrogen Sulfide gas concentration detection, with fast response and recovery, and excellent resistance to carbon monoxide interference.



Electrochemical Ammonia (NH₃) Gas Sensor NH₃-BK-100

08/09

This product is used for Ammonia gas concentration detection, with good interference resistance and strong stability.



Electrochemical Sulfur Dioxide (SO₂) Gas Sensor SO₂-BK-20

10/11

This product is used for Sulfur Dioxide gas concentration detection.



Electrochemical Chlorine (Cl₂) Gas Sensor CL₂-BK-10

12/13

This product is used for Chlorine gas concentration detection, with fast response and good stability.



Electrochemical Ethylene Oxide (ETO) Gas Sensor ETO-BK-100 14/15
 This product is used for Ethylene Oxide and Volatile Organic Compounds gas concentration detection.



Electrochemical Hydrogen Chloride (HCL) Gas Sensor HCL-BK-10 16/17
 This product is used for Hydrogen Chloride gas concentration detection.



Electrochemical Hydrogen Cyanide (HCN) Gas Sensor HCN-BK-10 18/19
 This product is used for Hydrogen Cyanide gas concentration detection.



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 This product is used for Arsine gas concentration detection.



Electrochemical Phosphine (PH₃) Gas Sensor PH3-BK-10 22/23
 This product is used for Phosphine gas concentration detection.



BIKAI NO_x Module BK-PSICK-2044088 24/25
 This product is a plug-and-play light source for NO_x measurement, with a spectrum output of 200-600 nm, enabling very accurate direct analysis and measurement of NO and NO₂ possible.



Xenon Flash Lamp Modules 26/27
 This product is used for spectral analysis and environmental monitoring, with a wide spectrum of 185-2000 nm, available in 2W/5W multiple power options, and plug-and-play functionality.



Deuterium-Tungsten integrated light source 28/29
 This product is used for spectral analysis and online monitoring, with a wide spectrum of 185-1100 nm, long lifespan, and multiple power supply and output modes.


PID SENSOR

Photoionization Detector (PID) Sensor
 (Customization or OEM services available)

The BK series Photoionization Detector (PID) sensors, independently developed and manufactured by BIKAI, are plug-and-play, easy to operate, and widely used in environmental monitoring, industrial hygiene, safety monitoring, indoor air quality monitoring, soil contamination monitoring, and other fields. The BK series sensors feature long lifespan, compact size, lightweight design, high accuracy, reasonable range setting, high consistency, strong adaptability, and interference resistance capabilities. BIKAI can provide product matching for instrument and equipment manufacturers, as well as offer new product design and development services.



Sensor for detecting VOCs (volatile organic compounds) in gas

- Spare parts:**  **Features:** **Applications:**
- ◆ High sensitivity to VOCs in gases
 - ◆ Low power consumption
 - ◆ Long service life
 - ◆ Compact size
 - ◆ Wide range of applications
 - ◆ Moisture resistant and pollution-proof
 - ◆ Industrial hygiene and safety monitoring
 - ◆ Soil pollution detection
 - ◆ Hazardous chemical detection
 - ◆ Gas detection in confined spaces
 - ◆ Medical gas detection
 - ◆ Low concentration leak detection

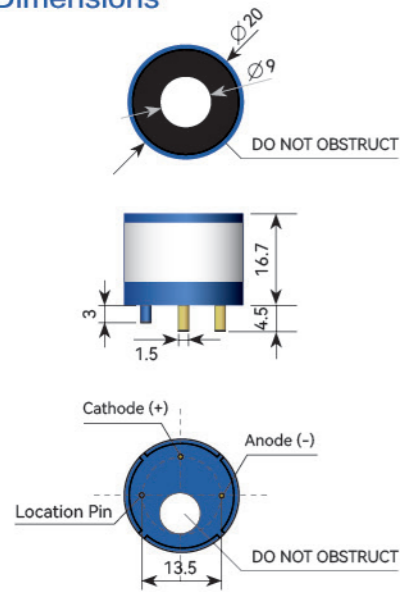
Model	Measurement Range	Minimum detection limit	Response time (free diffusion)
PID-00002	0 ~ 2 ppm	0.5 ppb	≤ 4 s
PID-00010	0 ~ 10 ppm	1 ppb	≤ 4 s
PID-00020	0 ~ 20 ppm	2 ppb	≤ 2 s
PID-00060	0 ~ 60 ppm	5 ppb	≤ 2 s
PID-00100	0 ~ 100 ppm	10 ppb	≤ 2 s
PID-00200	0 ~ 200 ppm	20 ppb	≤ 2 s
PID-00500	0 ~ 500 ppm	50 ppb	≤ 2 s
PID-01000	0 ~ 1000 ppm	100 ppb	≤ 2 s
PID-02000	0 ~ 2000 ppm	200 ppb	≤ 2 s
PID-06000	0 ~ 6000 ppm	500 ppb	≤ 2 s
PID-10000	0 ~ 10000 ppm	1000 ppb	≤ 2 s

Model	BK Series
Detection principle	Photoionization
Package	Standard A package
Operating voltage	DC 3 V ~ 5 V
Operating current	24 mA ~ 36 mA
Power consumption	80 mW ~ 200 mW
Output signal range	100 mV ~ 3.3 V linearity
Weight	8 g
Life	UV lamp life is 10000 hours
Warranty period	1 year
Detection gas	Ionization energy ≤ 10.6 eV
Optimal environment	Room temperature, dry and dust-free environment
Working temperature	- 20 °C ~ 60 °C
Relative humidity range	0 ~ 90 % RH (non-condensing)
Humidity inhibition effect	< 15 % @ 90 % RH

Electrochemical Oxygen (O₂) Gas Sensor O2-BK-25 % (Customization or OEM services available)



Dimensions



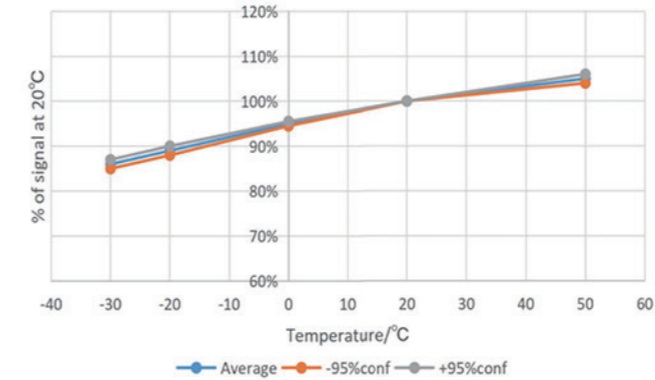
Note: All dimensions are in millimeters (mm).
Unless otherwise specified, the dimensional tolerance is ± 0.15 mm.

Measurement	
Operating Principle	Electrochemical
Measurement Range	0 ~ 25 % vol O ₂
Maximum Overload	30 % vol O ₂
Output Signal*	80 ~ 120 μ A in air
Response Time (T90)*	< 15 s
Zero Current (Offset)*	< 0.2 % vol O ₂
Linearity	Linear within the range
Electrical	
Recommended Load Resistor	100 Ω
Mechanical	
Housing Material	ABS
Weight	14.9 \pm 0.2 g
Orientation Sensitivity	< 0.2 % vol O ₂
Environmental	
Operating Temperature Range	-20 $^{\circ}$ C ~ 50 $^{\circ}$ C
Recommended Storage Temp	0 $^{\circ}$ C ~ 20 $^{\circ}$ C
Operating Pressure Range	1 atm \pm 10%
Relative Humidity Range	(at 0 $^{\circ}$ C ~ 20 $^{\circ}$ C)
Continuous	15 ~ 90 % RH non-condensing
Short Term	0 ~ 99 % RH non-condensing
Lifetime	
Long Term Output Drift*	< 5 %
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	24 months from date of dispatch

* Specifications are based on conditions at 20 $^{\circ}$ C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



Note: The data shown above does not form part of the product specification and is supplied for guidance only.

Cross Sensitivity Data

Toxic gases at TLV levels will have no cross-sensitivity effect on our Oxygen sensors. At very high levels (i.e. percent levels), highly oxidizing gases (e.g. ozone, chlorine) will interfere to the extent of their oxygen equivalent, but most other commonly occurring gases will have no effect.

Precautions for Use

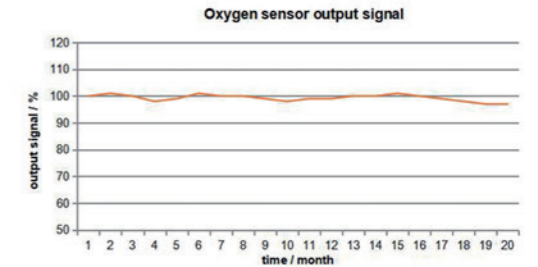
- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

Safety Note

- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Life Test

The oxygen output remains essentially stable until the lead anode is consumed to the point where it becomes non-conductive. Once non-conductivity occurs, the output signal will disappear immediately. Based on historical field-use data, this condition typically develops gradually after extended operation.

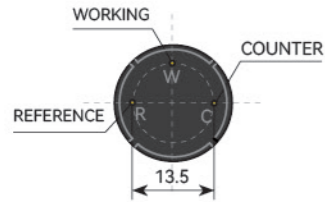
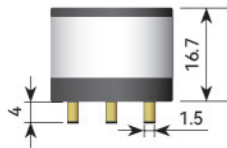
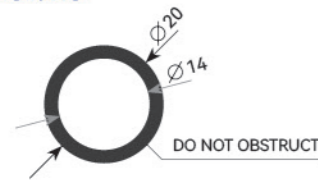


Electrochemical Hydrogen Sulfide (H₂S) Gas Sensor H2S-BK-100

(Customization or OEM services available)



Dimensions



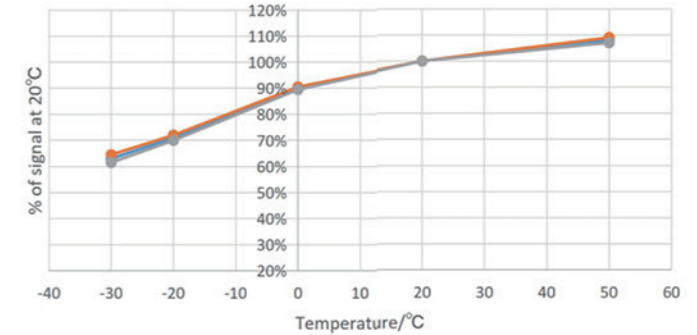
Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 100 ppm
Maximum Overload	200 ppm
Resolution	0.1 ppm
Filter	None
Sensitivity*	0.45 ± 0.15 µA/ppm
Response Time (T90)*	≤ 60 s
Baseline Offset (clean air)*	-0.5 ppm ~ 0.5 ppm
Zero Shift (-30°C to +50°C)*	< 0.5 ppm
Repeatability	< 3 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	Not required
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30°C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2 % signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

* Specifications are based on conditions at 20°C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.

Cross Sensitivity

GAS	Concentration Used (ppm)	H2S-BK-100 (ppm H ₂ S)
Ammonia (NH ₃)	50	< 0.3
Carbon Monoxide (CO)	100	< 2
Nitrogen Dioxide (NO ₂)	5	< 0.5
Carbon Dioxide (CO ₂)	1000	0
Sulphur Dioxide (SO ₂)	20	0

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

Safety Note

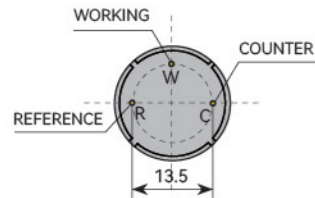
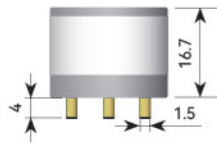
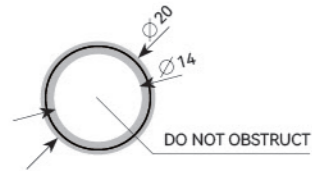
- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Electrochemical Ammonia (NH₃) Gas Sensor NH3-BK-100

(Customization or OEM services available)



Dimensions



Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 100 ppm
Maximum Overload	200 ppm
Resolution	0.5 ppm
Filter	None
Sensitivity*	0.12 ± 0.04 µA/ppm
Response Time (T90)*	≤ 90 s
Baseline Offset (clean air)*	-0.5 ppm ~ 0.5 ppm
Zero Shift (-30 °C to +50 °C)*	< 3 ppm
Repeatability	< 5 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	Not required
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30 °C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2% signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

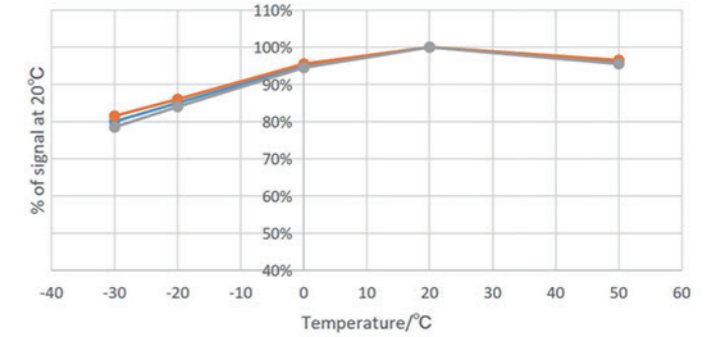
* Specifications are based on conditions at 20°C, 50% RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.



Cross Sensitivity

GAS	Concentration Used (ppm)	NH3-BK-100 (ppm NH ₃)
Carbon Monoxide (CO)	300	0
Hydrogen Sulfide (H ₂ S)	25	30
Sulphur Dioxide (SO ₂)	5	0
Nitric Oxide (NO)	35	0

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

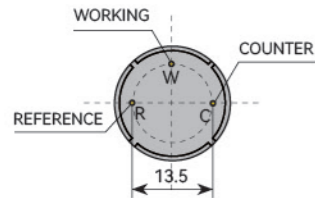
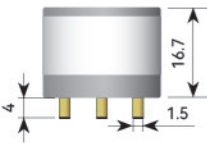
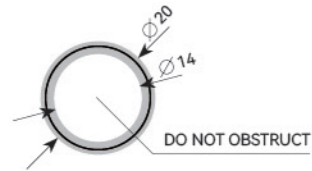
Safety Note

- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Electrochemical Sulfur Dioxide (SO₂) Gas Sensor SO2-BK-20 (Customization or OEM services available)



Dimensions



Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 20 ppm
Maximum Overload	50 ppm
Resolution	0.1 ppm
Filter	Yes
Sensitivity*	0.3 ± 0.1 µA/ppm
Response Time (T90)*	≤ 60 s
Baseline Offset (clean air)*	-0.5 ppm ~ 0.5 ppm
Zero Shift (-30 °C to +50 °C)*	< 0.5 ppm
Repeatability	< 3 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	Not required
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30 °C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2 % signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

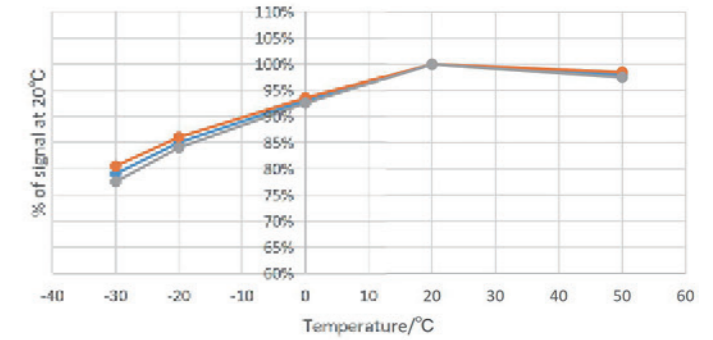
* Specifications are based on conditions at 20°C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.



Cross Sensitivity

GAS	Concentration Used (ppm)	SO2-BK-20 (ppm SO ₂)
Ammonia (NH ₃)	100	0
Hydrogen Sulfide (H ₂ S)	10	0
Nitrogen Dioxide (NO ₂)	10	-15
Hydrogen (H ₂)	100	0

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

Safety Note

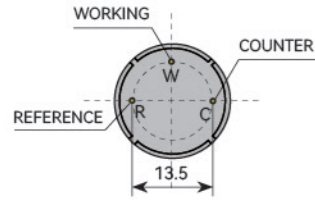
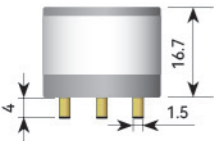
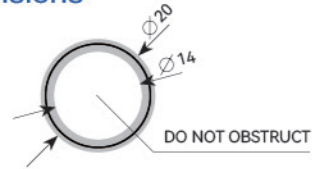
- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Electrochemical Chlorine (Cl₂) Gas Sensor CL2-BK-10

(Customization or OEM services available)



Dimensions



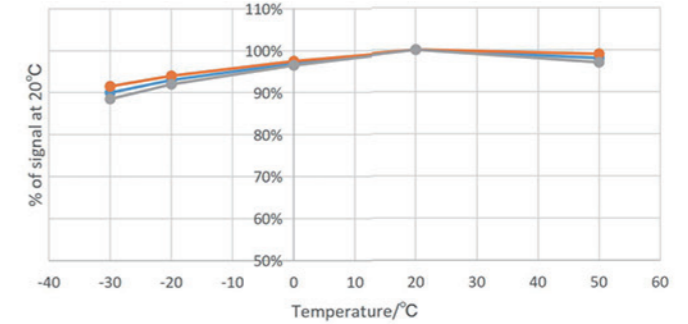
Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 10 ppm
Maximum Overload	100 ppm
Resolution	0.1 ppm
Filter	None
Sensitivity*	-0.4 ± 0.15 µA/ppm
Response Time (T90)*	≤ 90 s
Baseline Offset (clean air)*	- 0.5 ppm ~ 0.5 ppm
Zero Shift (-30°C to +50°C)*	< 0.5 ppm
Repeatability	< 3 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	Not required
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30 °C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2 % signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

* Specifications are based on conditions at 20°C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.

Cross Sensitivity

GAS	Concentration Used (ppm)	CL2-BK-10 (ppm CL ₂)
Nitrogen Dioxide (NO ₂)	22	10
Hydrogen Sulfide (H ₂ S)	10	-5
Sulphur Dioxide (SO ₂)	10	0
Hydrogen (H ₂)	100	0

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

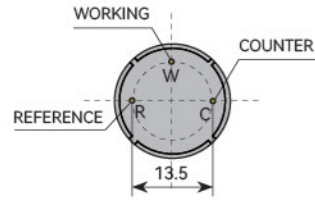
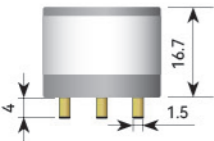
Safety Note

- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Electrochemical Ethylene Oxide (ETO) Gas Sensor ETO-BK-100 (Customization or OEM services available)



Dimensions



Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 100 ppm
Maximum Overload	200 ppm
Resolution	1 ppm
Filter	None
Sensitivity*	0.2 ± 0.12 μA/ppm
Response Time (T90)*	≤ 120 s
Baseline Offset (clean air)*	-0.5 ppm ~ 0.5 ppm
Zero Shift (-30°C to +50°C)*	< 10 ppm
Repeatability	< 3 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	+ 300 mV
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30 °C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2 % signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

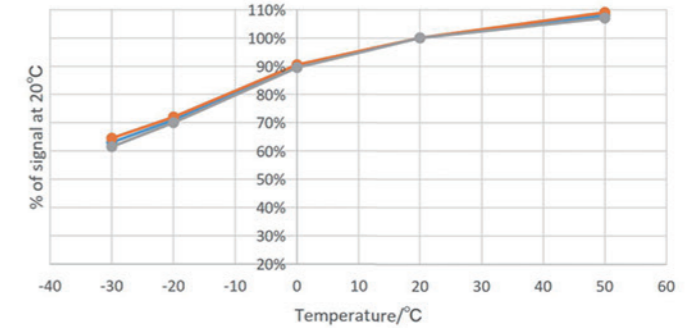
* Specifications are based on conditions at 20°C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.



Cross Sensitivity

GAS	Concentration Used (ppm)	ETO-BK-100 (ppm ETO)
Carbon Monoxide (CO)	30	15
Isobutylene (C ₄ H ₈)	50	30
Ethylene (C ₂ H ₄)	50	40
Ethanol (C ₂ H ₅ OH)	100	40
Carbon Dioxide (CO ₂)	100	0

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

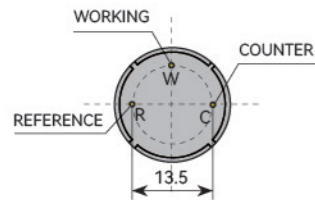
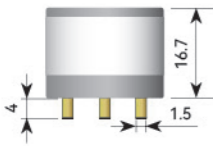
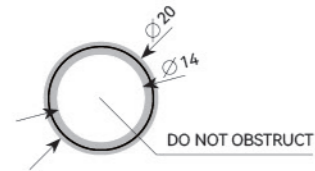
Safety Note

- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Electrochemical Hydrogen Chloride (HCL) Gas Sensor HCL-BK-10 (Customization or OEM services available)



Dimensions



Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 10 ppm
Maximum Overload	20 ppm
Resolution	0.1 ppm
Filter	None
Sensitivity*	0.15 ± 0.1 µA/ppm
Response Time (T90)*	≤ 60 s
Baseline Offset (clean air)*	-0.5 ppm ~ 0.5 ppm
Zero Shift (-30°C to +50°C)*	< 0.5 ppm
Repeatability	< 3 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	+ 200 mV
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30 °C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2 % signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

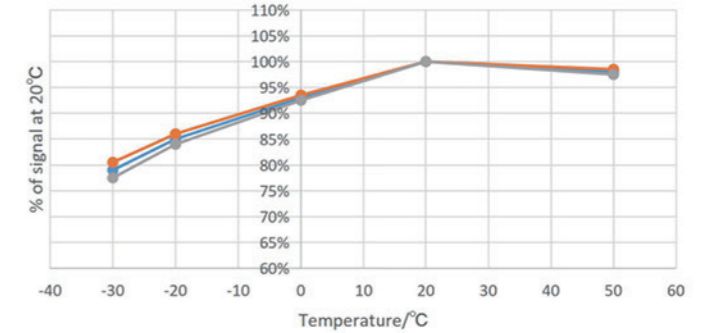
* Specifications are based on conditions at 20°C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.



Cross Sensitivity

GAS	Concentration Used (ppm)	HCL-BK-10 (ppm HCL)
Carbon Monoxide (CO)	100	0
Hydrogen (H ₂)	100	0
Sulphur Dioxide (SO ₂)	5	20
Hydrogen Sulfide (H ₂ S)	5	15

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

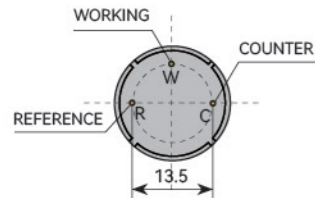
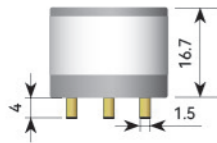
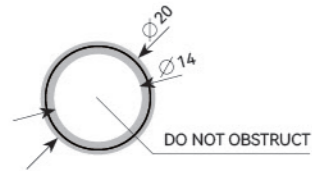
Safety Note

- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Electrochemical Hydrogen Cyanide (HCN) Gas Sensor HCN-BK-10 (Customization or OEM services available)



Dimensions



Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 10 ppm
Maximum Overload	50 ppm
Resolution	0.1 ppm
Filter	None
Sensitivity*	50 ± 10 nA/ppm
Response Time (T90)*	≤ 60 s
Baseline Offset (clean air)*	-0.5 ppm ~ 0.5 ppm
Zero Shift (-30°C to +50°C)*	< 1 ppm
Repeatability	< 3 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	Not required
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30 °C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2 % signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

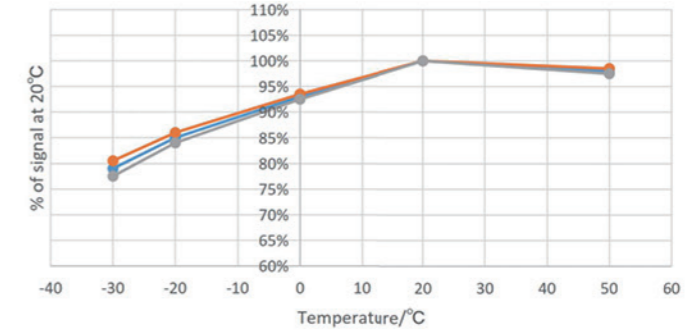
* Specifications are based on conditions at 20°C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.



Cross Sensitivity

GAS	Concentration Used (ppm)	HCN-BK-10 (ppm HCN)
Carbon Monoxide (CO)	100	0
Hydrogen Sulfide (H ₂ S)	10	30
Nitrogen Dioxide (NO ₂)	10	-20
Nitric Oxide (NO)	50	0

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

Safety Note

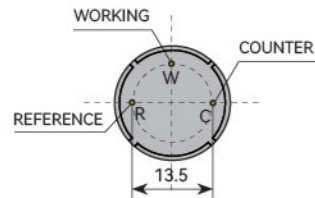
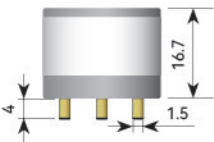
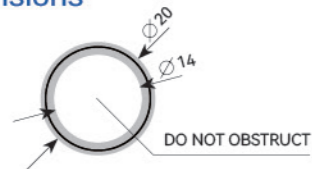
- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Electrochemical Arsine (AsH₃) Gas Sensor AsH3-BK-10

(Customization or OEM services available)



Dimensions



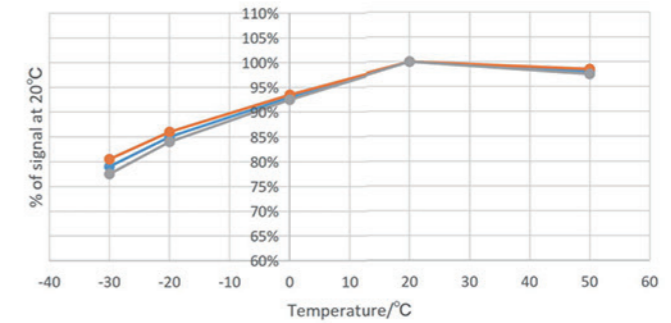
Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 10 ppm
Maximum Overload	20 ppm
Resolution	0.1 ppm
Filter	None
Sensitivity*	0.25 ± 0.1 µA/ppm
Response Time (T90)*	≤ 60 s
Baseline Offset (clean air)*	-0.5 ppm ~ 0.5 ppm
Zero Shift (-30°C to +50°C)*	< 0.5 ppm
Repeatability	< 3 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	Not required
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30 °C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2 % signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

* Specifications are based on conditions at 20°C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.

Cross Sensitivity

GAS	Concentration Used (ppm)	AsH3-BK-10 (ppm AsH ₃)
Ammonia (NH ₃)	100	0
Hydrogen Sulfide (H ₂ S)	2	3
Nitrogen Dioxide (NO ₂)	10	-3
Hydrogen (H ₂)	1000	5
Sulphur Dioxide (SO ₂)	20	4

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

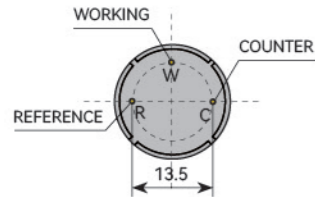
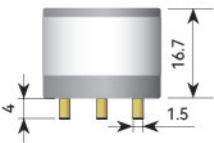
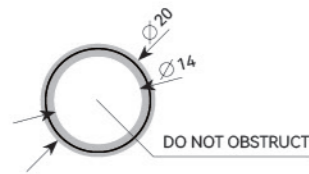
Safety Note

- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

Electrochemical Phosphine (PH₃) Gas Sensor PH3-BK-10 (Customization or OEM services available)



Dimensions



Note: All dimensions are in millimeters (mm). Unless otherwise specified, the dimensional tolerance is ±0.15 mm.

Measurement	
Operating Principle	Three-electrode electrochemical
Measurement Range	0 ~ 10 ppm
Maximum Overload	50 ppm
Resolution	0.1 ppm
Filter	None
Sensitivity*	0.5 ± 0.1 µA/ppm
Response Time (T90)*	≤ 60 s
Baseline Offset (clean air)*	-0.5 ppm ~ 0.5 ppm
Zero Shift (-30°C to +50°C)*	< 0.5 ppm
Repeatability	< 3 %
Linearity	± 6 %FS
Electrical	
Recommended Load Resistor	33 Ω
Bias Voltage	Not required
Mechanical	
Housing Material	ABS
Weight	5.7 ± 0.2 g
Orientation	Any
Environmental	
Operating Temperature Range	-30 °C ~ 50 °C
Operating Pressure Range	1 atm ± 10 %
Operating Humidity Range	15 ~ 90 % RH non-condensing
Lifetime	
Long Term Output Drift	< 2 % signal drift / month
Recommended Storage Temperature	0 °C ~ 20 °C
Expected Operating Life	2 years in air
Storage Life	6 months in original packaging
Warranty	12 months from date of dispatch

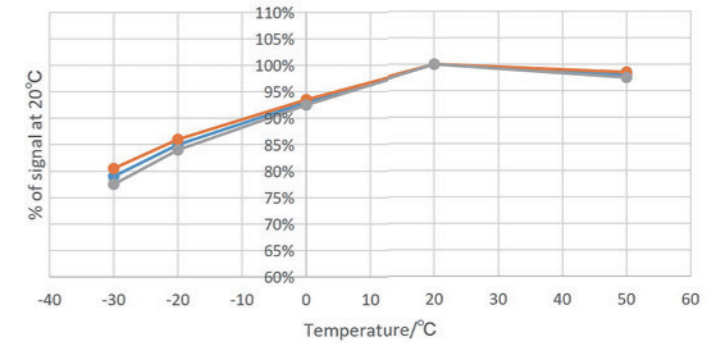
* Specifications are based on conditions at 20°C, 50 % RH, and 1013 mbar, using BIKAI Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first three months. Output signal can drift below the lower limit over time.

BIKAI TECHNOLOGY CO., LTD.

Temperature response



*Note: The data shown above does not form part of the product specification and is supplied for guidance only.



Cross Sensitivity

GAS	Concentration Used (ppm)	PH3-BK-10 (ppm PH ₃)
Ammonia (NH ₃)	100	0
Hydrogen Sulfide (H ₂ S)	100	20
Sulphur Dioxide (SO ₂)	100	25
Chlorine (Cl ₂)	5	-1.5

- ◆ Whilst BIKAI sensors are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.
- ◆ Note: The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Precautions for Use

- ◆ Avoid exposure: During storage, installation, and operation, avoid exposing the sensor to high concentrations of solvent vapors. Do not blow organic solvents, paint, chemical reagents, oils, or high-concentration gases directly onto the sensor.
- ◆ Ensure ventilation: Do not block the air inlet. Do not use adhesive bonding materials such as glue or sealants on, above, or around the sensor.
- ◆ Correct installation: Connection should be made via PCB sockets only. Direct soldering or bending of the pins is prohibited. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.
- ◆ Prevent mechanical damage: Avoid compression, dropping, strong vibrations, or physical impacts.
- ◆ Visual inspection: If the housing is damaged, deformed, or the seal is compromised, discontinue use immediately.
- ◆ No disassembly: Do not disassemble the sensor to prevent electrolyte leakage or internal contamination.
- ◆ Recovery and calibration: After the sensor is exposed to high concentration gas for long periods, the output signal may require time to recover to normal operation. It is recommended to allow the sensor to stabilize and perform calibration before reuse.
- ◆ Periodic calibration: Under normal operating conditions, it is recommended to perform a standard calibration every three months. Under harsh operating conditions, shorten the interval to once per month.

Safety Note

- ◆ This sensor is designed to be used in safety critical applications. To ensure proper operation of the sensor and/or instrument in which it is used, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may endanger personnel and property.

BK BIKAI NOx Module BK-PSICK-2044088

(Customization or OEM services available)

Plug & Play Light Solution for NOx measurement. Monitoring Environmental Pollution.

NOx measurement

NOx is a generic term for the nitrogen oxides NO and NO2. It reacts in our atmosphere to form a wide variety of toxic products, as well as supporting the formation of ground-level (tropospheric) ozone. Common methods for measuring NOx include sensor technologies based on chemiluminescence and electrochemical techniques. This requires conversion of NO2 to NO for measurement or calculation of the NO2 content based on an assumed NO : NO2 ratio. In addition, NOx can be measured with IR and that can be affected by the content of H2O and CO2 in the sample. Direct UV absorption measurement of both NO and NO2 is the more precise way to measure total NOx for continuous emissions monitoring, and measurement in the UV-region avoids the influence of H2O and CO2.

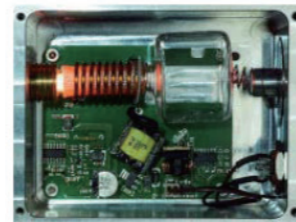
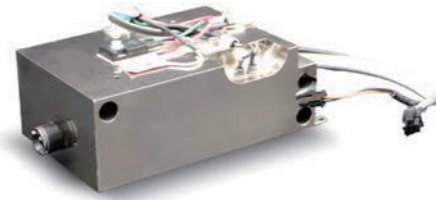
However, system development based on UV Resonance Absorption Spectroscopy (UV-RAS) has been difficult in the past due to challenges in tuning the UV-lamp operation within its environment to optimize lifetime and intensity.

BIKAI NOx Module

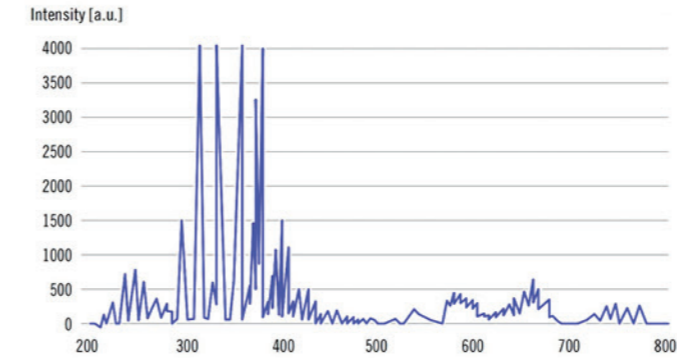
An NOx EDL is a lamp with N2, O2 gas fill that emits a spectrum in the wavelength range between 200 nm to 600 nm. Spectral lines in the 200 nm region can be used for the detection of NO and NO2, H2S, NH3, SO2 and others. BIKAI has developed a plug & play light solution for NOx Measurement. This NOx lamp module offers a pre-tuned UV-light source in a stable environment, for easy integration into OEM UV-RAS systems.

BIKAI NOx Module has an integrated EDL and comes with the corresponding power supply combined in a box.

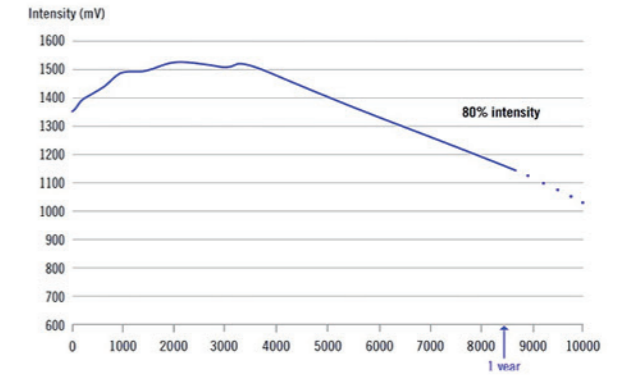
Spectral output	200 ~ 600 nm NOx specific lines between 200 ~ 300 nm
Technology	Electrodeless gas discharge lamp Gas: N2, O2
Operating conditions	12 V High frequency stimulation
Features	NOx specific lines High stability No tuning needed No auxiliary devices Shock/vibration resistant
Lifetime	1 year plus



BIKAI NOx Module Spectrum



BIKAI NOx Module Lifetime



BIKAI NOx Module Features and Benefits

- ◆ Plug & Play 12 V.
- ◆ No frequency adjustment.
- ◆ Simple integration and replacement.
- ◆ Very accurate direct analysis and measurement of NO and NO2 possible.
- ◆ No crossover of H2O, CO and CO2.
- ◆ Long life time of the lamp (1 year plus) for continuous measurement.
- ◆ Reduced design-in costs – complete plug & play-module for simple system integration.
- ◆ No consumable costs per measurement.

BIKAI NOx Module Applications

Sources of NOx are predominantly man-made: burning fossil fuels for energy generation, such as coal-,oil- and gas-fired power stations, refuse incineration, some chemical processes and vehicle fuels, like modern diesel cars, used for land, water and air transportation.

Application fields:

- ◆ Environmental monitoring
- ◆ Smoke stack monitoring
- ◆ Emission control testing
- ◆ Marine exhaust monitoring



BK Xenon Flash Lamp Modules

(Customization or OEM services available)

BK-XFM series xenon flash lamp module is a new instrument light source which integrates xenon lamp bulb, trigger and high voltage power supply. It is the latest light source module product of our company.

Product application:

- ◆ Ultraviolet-visible photometer, liquid chromatograph, fluorescence spectrometer
- ◆ Air pollution analysis
- ◆ Water pollution analysis
- ◆ Thin film measurement
- ◆ Semiconductor detection
- ◆ Medical equipment
- ◆ Microscope illumination

Product features:

- ◆ There are 2W/5W/10W/15W/16W/20W light sources to choose from.
- ◆ It has EXT/INT selector switch and both internal and external trigger modes.
- ◆ High radiation intensity, high flash instantaneous power.
- ◆ Wide spectral range, 185 ~ 2000nm.
- ◆ Long service life
- ◆ Good stability
- ◆ Low calorific value, which is beneficial to the stability of the optical machine.
- ◆ Start immediately without preheating.
- ◆ DB-9 universal connector, plug and play.
- ◆ The external structure and size can be customized according to user's requirements.

Operating conditions:

Item	Parameter
Operating ambient temperature	0 ~ +40 °C
storage temperature	-40 ~ +90 °C
Use and store humidity	Max 95 % RH

Output parameters:

Item	Parameter
Discharge arc length	1.5 ± 0.2 mm
Transparent panel material	UV transparent glass
Optical radiation wavelength range	185 ~ 2000 nm
Light output stability	Max 2.0 % CV ; Max 8.0 % PV ~ 1000 flash
Life (number of flashes)	≥ 109 times
Maximum average power	Continuous 5 W (10 W / 15 W / 20 W)
Discharge capacitance	0.047、0.11、0.22、0.28 μF
Main discharge voltage	400 ~ 600V, special customization can reach 1000V

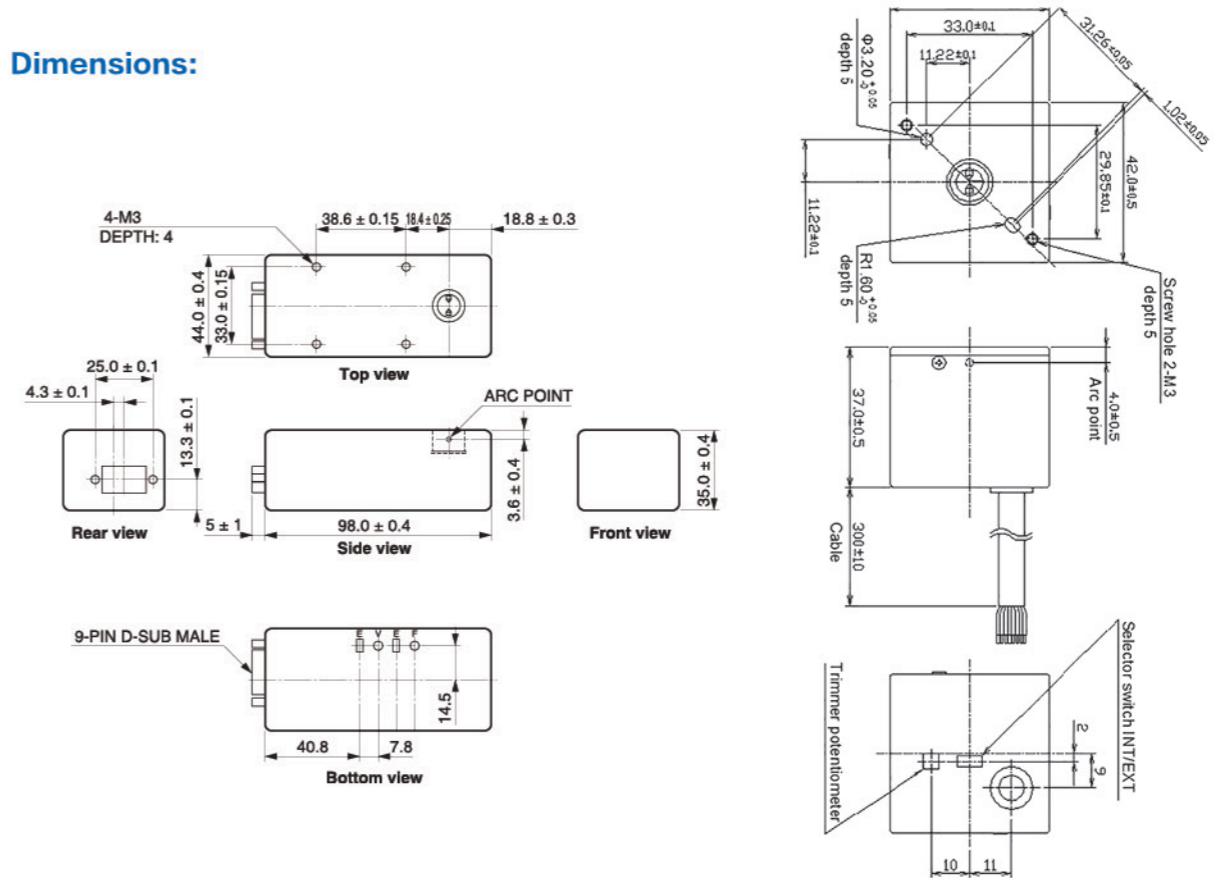
Input parameters:

Item	Parameter
input voltage	Min 11.0 ~ Max 28.0 V
incoming current	11 V: Max 1.4 A
gate voltage	5V square wave pulse; High level pulse width ≥ 10 μS
Maximum trigger frequency (5W)	C=0.047 μF, V=600 V : Max 530 Hz
	C=0.11 μF, V=600 V : Max 252 Hz
	C=0.22 μF, V=600 V : Max 126 Hz
	C=0.28 μF, V=600 V : Max 100 Hz
Trigger input impedance	390 Ω

Selection table:

Item	External modulation voltage	Main discharge voltage	Single flash energy	Maximum frequency	Power output
0.047	3.2	400	3.8	530	2.0
	4.0	500	5.9	530	3.1
	4.4	550	7.1	530	3.7
	4.8	600	8.5	530	4.5
0.11	3.2	400	8.8	530	4.7
	4.0	500	13.8	382	5.0
	4.4	550	16.6	300	5.0
	4.8	600	19.8	252	5.0
0.22	3.2	400	17.6	284	5.0
	4.0	500	27.5	182	5.0
	4.4	550	33.3	150	5.0
	4.8	600	39.6	126	5.0
0.28	3.2	400	22.4	223	5.0
	4.0	500	35.0	143	5.0
	4.4	550	42.4	118	5.0
	4.8	600	50.4	100	5.0

Dimensions:



Deuterium-Tungsten integrated light source

(Customization or OEM services available)

As a compact analytical light source, the spectral range of the light source can cover 185-1100nm, and various power supply modes ensure that the light source can adapt to more application scenarios. A variety of light output modes can meet different types of needs of users and can be customized for users. The continuous working life of the light source is over 1000 hours, and it has excellent repeatability and stability (the deviation is within 0.1 %).

The light source adopts pulse lighting mode, which can achieve stable output when it is turned on instantly. It is an ideal light source for on-line monitoring equipment, and can provide a variety of optional light sources.

Applications:

- ◆ Laboratory: UV-visible spectroscopy
- ◆ Environment: water quality monitoring, sewage, analysis, marine chemistry
- ◆ Biological measurement
- ◆ Process control
- ◆ Independent light source
- ◆ Spectral calibration



Selectable lamp				
Module Model	DTM6/10	DTM6/10S	DTM6/50	DTM6/50S
Lamp Model	DTL6/10	DTL6/10S	DTL6/50	DTL6/50S
Part Number	45006253	80000756	45006266	80001018
Aperture Size	1.0 mm	1.0 mm	0.5 mm	0.5 mm
Window Material	Fused quartz	Fused synthetic silica	Fused quartz	Fused synthetic silica
Spectral Distribution and Fiber	200 ~ 1100 nm	185 ~ 1100 nm	200 ~ 1100 nm	185 ~ 1100 nm
Recommended Fiber	400 ~ 600 μm	400 ~ 600 μm	200 ~ 600 μm	200 ~ 600 μm

Parameter	D2B style	D2C style	D2H style
spectral distribution	200 ~ 1100 nm, Optional range 185 ~ 1100 nm	200 ~ 1100 nm, Optional range 185 ~ 1100 nm	185 ~ 1100 nm
power consumption	6 W	6 W	12 W
power requirement	12V / 0.6 mA DC	12V / 0.6 mA DC	12V / 1.2 mA DC
Operating ambient temperature	5 ~ 35 °C	5 ~ 35 °C	5 ~ 35 °C
relative humidity	90 % max, no condensation	90 % max, no condensation	90 % max, no condensation
Size (length × width × height)	157 × 55 × 37 mm	123 × 36 × 38 mm	161 × 58 × 51.5 mm
weight	130 g	104 g	230 g
shutter	Yes	Yes	Yes
tungsten lamp	Yes	Yes	Yes
External control	The lamp (D2, tungsten lamp) is independently turned on/off, Shutter opening/closing, The green LED lights up when the 12V DC power supply supplies power.	The lamp (D2, tungsten lamp) is independently turned on/off, Shutter opening/closing, The green LED lights up when the 12V DC power supply supplies power.	The lamp (D2, tungsten lamp) is independently turned on/off, Shutter opening/closing, The green LED lights up when the 12V DC power supply supplies power.
Light outlet	Focused or collimated light beam	Focused or collimated light beam	Focused
fibre diameter	200 μm, 400 μm, 600 μm	200 μm, 400 μm, 600 μm	200 μm, 400 μm, 600 μm
Optical fiber connector	SMA905	SMA905	SMA905
Numerical aperture (NA)	D2 lamp 0.245, tungsten lamp 0.057.	D2 lamp 0.245, tungsten lamp 0.057.	D2 lamp 0.245, tungsten lamp 0.057.
cool	No need	Suggested external cooling	Forced cooling of onboard fan
deuterium lamp			
spectral distribution	200 ~ 400 nm wireless, Optional range 185 ~ 1100 nm	200 ~ 400 nm wireless, Optional range 185 ~ 1100 nm	185 ~ 400 nm wireless
Window material	Fused quartz, fused silica.	Fused quartz, fused silica.	Fused synthetic silica
Light output (radiation intensity)	≥ 5 × 10 ~ 8W/sr@230nm	≥ 5 × 10 ~ 8W/sr@230nm	≥ 10 × 10 ~ 8W/sr@230nm
stability	≤ 1 × 10 ~ 3AU	≤ 1 × 10 ~ 3AU	need to be decided or settled
drift	≤ 0.25 %/h	≤ 0.25 %/h	need to be decided or settled
Excitation frequency	250 kHz	250 kHz	250 kHz
operating voltage	About 1kV	About 1kV	About 1kV
life	≥ 1000 hours: @230nm (50 % strength loss)	≥ 1000 hours: @230nm (50 % strength loss)	≥ 1000 hours: @230nm (50 % strength loss)
tungsten lamp			
spectral distribution	400 ~ 1100 nm	400 ~ 1100 nm	400 ~ 1100 nm
voltage	5V DC	5V DC	5V DC
electric current	45 mA DC	45 mA DC	45 mA DC
Typical service life	≥ 2000 hours	≥ 2000 hours	≥ 2000 hours