ARANKA

Solution with Perfection

GAS ANALYZER & CONTROLLER

AIO2

FLAME PROOF
AIUTCF

AIGAC

AISO225

AO220H

GAS ANALYZER

The AIGA GAS Analyzer measures GAS concentration on percent levels in a single analyzer and is ideal for Percent Or PPM level measurements in applications such as GAS leakage safty, Veriable Gas Generation Plant, Hazardous Gas Sensing, environment Combust Gas Measurement, Explosive Gas Detection.

OXYGEN ANALYZER

The AIO2 Oxygen Analyzer measures oxygen concentration on percent levels in a single analyzer and is ideal for Percent level measurements in applications such as nitrogen reflow furnaces and semiconductor plants.

FEATURES

* MEASURE GAS AS PER PREDEFINED GAS SELECTION
* POWER 24VDC & 230VAC OPTIONAL
* RELAY OUTPUT FOR CONTROL
* ALARM OPTION AVAILABLE
* DATA CAN BE SEND VIA SMS [OPTIONAL]
* DATA CAN LOGGING
* SCADA SOFTWARE AVAILABLE FOR TRANDING[OPTIONAL]
* CUSTOMIZED SOLUTION

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FACTORY. :
50, NILKANTH INDUSTRIAL PARK,
AMBIKA TUBE COMPOUND,
NEAR OVER BRIDGE VATVA,GIDC,
Vatva, Ahmedabad - 382445.

Web : www.arankainstruments.com
e-mail : utkarsh@arankainstruments.com, contact@arankainstruments.com
Cont. : (F) 09909035088,+91 93288 88879

ORDER CODE FOR ANALYZER

MODEL : AIGA																			
BLINE SENSOR	A																		
INDICATOR CUM TRANSMITTER	B																		
ANALYZER	C																		
SENSOR																			
INBUILT		0																	
EXTENDED		1																	
DIGITAL OUTPUT																			
NONE			0																
1 REALY OUTPUT			1																
2 RELAY OUTPUT			2																
ANALOG OUTPUT																			
NONE				0															
4~20mA				1															
COMMUNICATION																			
NONE					N														
RS485					R														
ENCLOUSER																			
ABS						0													
FLP						1													
PANEL						2													
EXT. SENSOR CONECTION																			
NONE							0												
THREADED							1												
TC							2												
FLANGED							3												
EXT. SENSOR CABLE LENGTH																			
NONE								N	N										
LENGTH IN METERS								X	X										
MOUNITNG																			
WALL MOUNT										A									
PANEL MOUNT										B									
TABLE TOP										C									
DUCT MOUNT										D									
NUMBER OF GAS TO BE MEASURE																			
GAS IN NUMBERS											X								
TYPE OF GAS																			
OXYGEN [O2]												0	1						
BROMINE [Br2]												0	2						
FORMALDEHYDE [CH2O]												0	3						
ETHENE [C2H4]												0	4						
ETHYLENE OXIDE [ETO] [C2H4O]												0	5						
ALCOHOL [R3COH]												0	6						
CARBON MONOXIDE [CO]												0	7						
CARBON DIOXIDE [CO2]												0	8						
NITROGEN DIOXIDE [NO2]												0	9						
SULFUR DIOXIDE [SO2]												1	0						
CHLORINE [CL2]												1	1						
HYDROGEN [H2]												1	2						
HYDROGEN PEROXIDE [H2O2]												1	3						
HYDROGEN SULFIDE [H2S]												1	4						
HYDROGEN CLORIDE [HCL]												1	5						
AMMONIA [NH3]												1	6						
NITRIC OXIDE [NO]												1	7						
OZONE [O3]												1	8						
RANGE IN																			
PPM														A					
PERCENTAGE														B					
RANGE																			
MEASURING RANGE VALUE															X	X	X	X	X

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e-mail : utkarsh@arankainstruments.com, contact@arankainstruments.com
Cont. : (F) 09909035088,+91 93288 88879

SPECIFICATION SHEET for AMMONIA SENSOR with FAST RESPONSE TYPE AINH3/CR-10000

PERFORMANCE CHARACTERISTICS

Nominal Range	0 – 10'000 ppm
Maximum Overload	15'000 ppm
Expected Operation Life	2 years in air
Output Signal	2.5 – 0.5 nA/ppm
Resolution	50 ppm
Temperature Range	- 10 °C to 40 °C
Pressure Range	Atmospheric [1]
Pressure Coefficient	No data
T_{90} Response Time	< 50 sec
Relative Humidity Range	15 % to 90 % R.H. non-condensing
Baseline	-200 ppm to 200 ppm
Maximum Zero Shift (+20°C to +40°C)	– 400 ppm
Typical Long Term Output Drift	< 5% per 6 months
Recommended Load Resistor	10 Ohm
Bias Voltage	Not allowed
Repeatability	< 3 % of signal
Output Linearity	< 5 % full scale
Humidity Effect [2]	< 180 ppm

[1] no data for deviations
[2] abrupt changes in rel. humidity causes a short term transient signal

CROSS-SENSITIVITY DATA

Interfering Gas	Concentration	Reading
CO	1000 ppm	0 ppm
H_2	1000 ppm	0 ppm
SO_2 [3]	100 ppm	-35 ppm
H_2S [3]	100 ppm	35 ppm
NO [3]	200 ppm	-10 ppm
NO_2 [3]	100 ppm	-100 ppm
Cl_2	20 ppm	-55 ppm
CO2	2 %	0 ppm

[3] Long term exposures and high concentrations may affect the performance characteristics

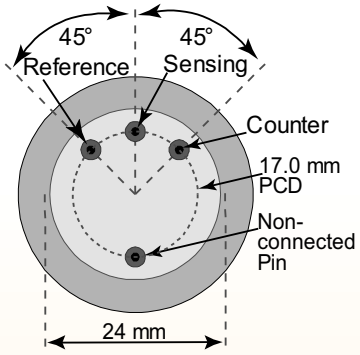
Performance data conditions:
20 °C, 50% RH and 1013 mbar

PHYSICAL CHARACTERISTICS

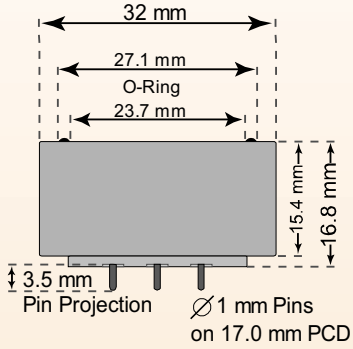
Weight	~ 13 g
Position Sensitivity	None
Storage Life	Six months in container
Recommended Storage Temperature	5 °C – 20 °C
Warranty Period	12 months from date of dispatch

Compact-Size Outline Dimensions

BOTTOM VIEW



SIDE VIEW



APPLICATIONS

Leak Detection
Safety and Environmental Control

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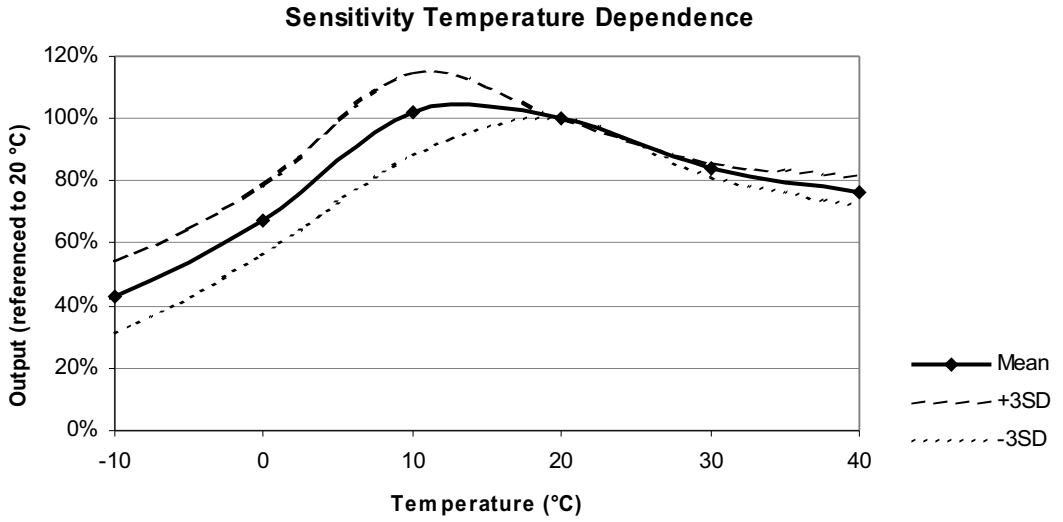
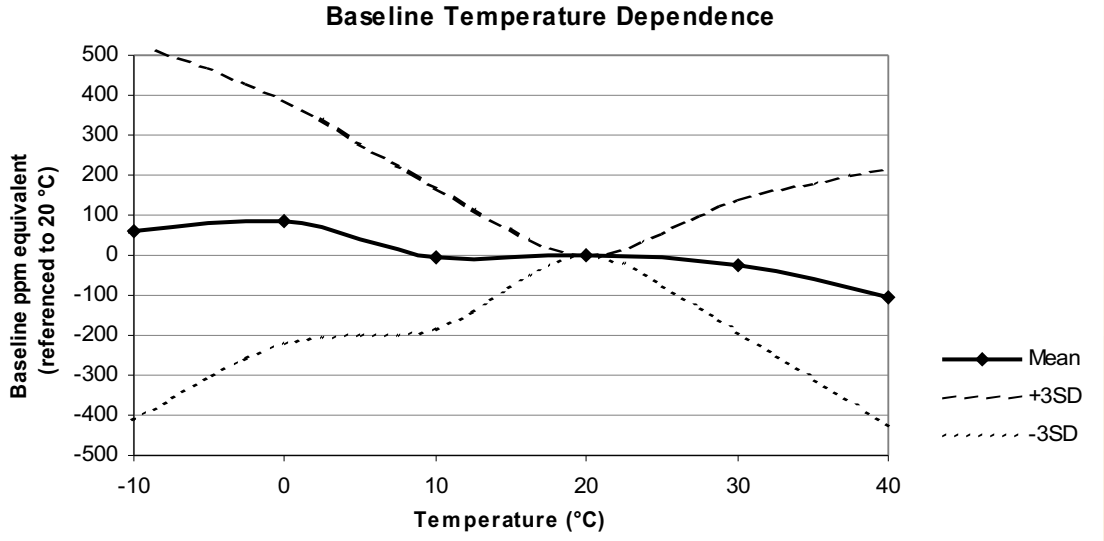
e-mail : utkarsh@arankainstruments.com, contact@arankainstruments.com
Cont. : (F) 09909035088,+91 93288 88879

SPECIFICATION SHEET for AMMONIA SENSOR with FAST RESPONSE TYPE NH3/CR-10000

TEMPERATURE DEPENDENCE

The output of an electrochemical sensor varies with temperature. The graphs below show the variation in output with temperature for this type of sensor. The results are shown in the graphs as a mean for a batch of sensors, along with confidence intervals corresponding to ±3 times the standard deviation. The sensitivity dependence is expressed as a percentage of the signal at 20 °C. The shift in baseline is shown in ppm referenced to 20 °C.





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e-mail : utkarsh@arankainstruments.com, contact@arankainstruments.com
Cont. : (F) 09909035088,+91 93288 88879

SPECIFICATION SHEET FOR H_2 SENSOR TYPE AIH2/C-40000

PERFORMANCE CHARACTERISTICS

Nominal Range	0 – 40'000 ppm
Maximum Overload	50'000 ppm
Expected Operation Life	2 years in air
Output Signal	4 3 nA/ppm
Resolution	10 ppm
Temperature Range	-20 °C to 50 °C
Pressure Range	Atmospheric 10%
Pressure Coefficient	No data
T_{90} Response Time	< 45 sec
Relative Humidity Range	50 % to 95 % R.H. non-condensing
Typical Baseline Range (pure air, 20°C)	-60 to + 60 ppm
Maximum Zero Shift (+20°C to +40°C)	80 ppm
Long Term Output Drift	< 2% signal loss/month
Recommended Load Resistor	10 Ohm
Bias Voltage	Not required
Repeatability	2 % of signal
Output Linearity	Linear

CROSS-SENSITIVITY DATA

Interfering Gas	Cross-Sensitivity (%)
CO	< 40

Performance data conditions:
20 °C, 50% RH and 1013 mbar

APPLICATIONS

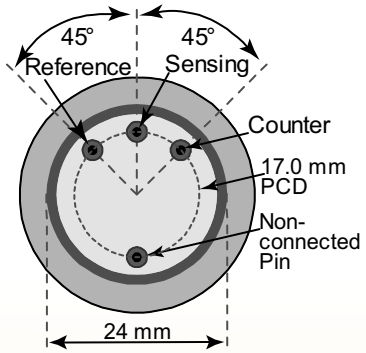
Safety and Environmental Control

PHYSICAL CHARACTERISTICS

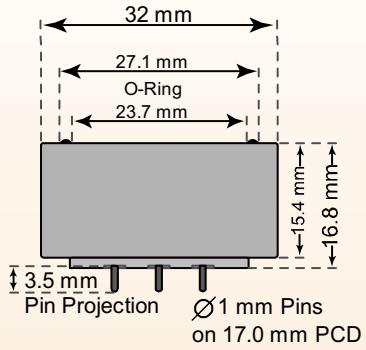
Weight	~ 13 g
Position Sensitivity	None
Storage Life	Six months in container
Recommended Storage Temperature	5 °C – 20 °C
Warranty Period	12 months from date of dispatch

Compact-Size Outline Dimensions

BOTTOM VIEW



SIDE VIEW



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NEAR OVER BRIDGE VATVA,GIDC,
Vatva, Ahmedabad - 382445.
Web : www.arankainstruments.com
e-mail : utkarsh@arankainstruments.com, contact@arankainstruments.com
Cont. : (F) 09909035088,+91 93288 88879

BROMINE SENSOR

SPECIFICATION SHEET FOR Cl_2 Sensor TYPE AICI2/C-5000

PERFORMANCE CHARACTERISTICS

Nominal Range	0 – 5'000 ppm
Maximum Overload	25'000 ppm
Expected Operation Life	2 years in air
Output Signal	- 4 – 1 nA/ppm
Resolution	25 ppm
Temperature Range	- 20 ℃ to 45 ℃
Pressure Range	Atmospheric – 10%
Pressure Coefficient	No data
T_{80} Response Time	< 90 sec
Relative Humidity Range	15 % to 90 % R.H. non-condensing
Typical Baseline Range (pure air, 20℃)	< 20 ppm
Maximum Zero Shift (+20℃ to +40℃)	- 50 ppm
Long Term Output Drift	< 2% signal loss/month
Recommended Load Resistor	10 – 33 Ohm
Bias Voltage	Not required
Repeatability	< 2 % of signal
Output Linearity	Linear

PHYSICAL CHARACTERISTICS

Weight	~ 13 g
Position Sensitivity	None
Storage Life	Six months in container
Recommended Storage Temperature	5 ℃ – 20 ℃
Warranty Period	12 months from date of dispatch

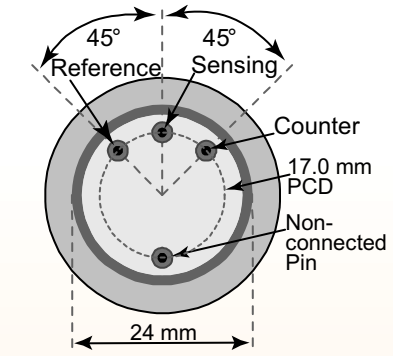
CROSS-SENSITIVITY DATA

Interfering Gas	Concentration	Reading
CO	300 ppm	0 ppm
SO_2	5 ppm	0 ppm
NO	35 ppm	0 ppm
H_2	300 ppm	0 ppm
NO_2	20 ppm	~ 20 ppm
H_2S		ND

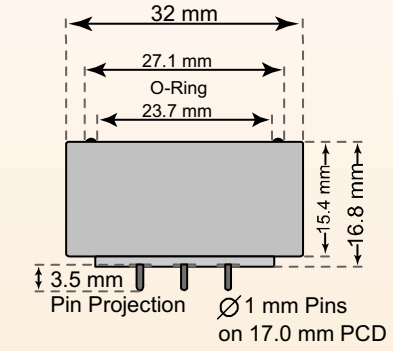
Performance data conditions:
20 ℃, 50% RH and 1013 mbar

Compact-Size Outline Dimensions

BOTTOM VIEW



SIDE VIEW



APPLICATIONS

Continuous Air Quality Monitoring
Safety and Environmental Control

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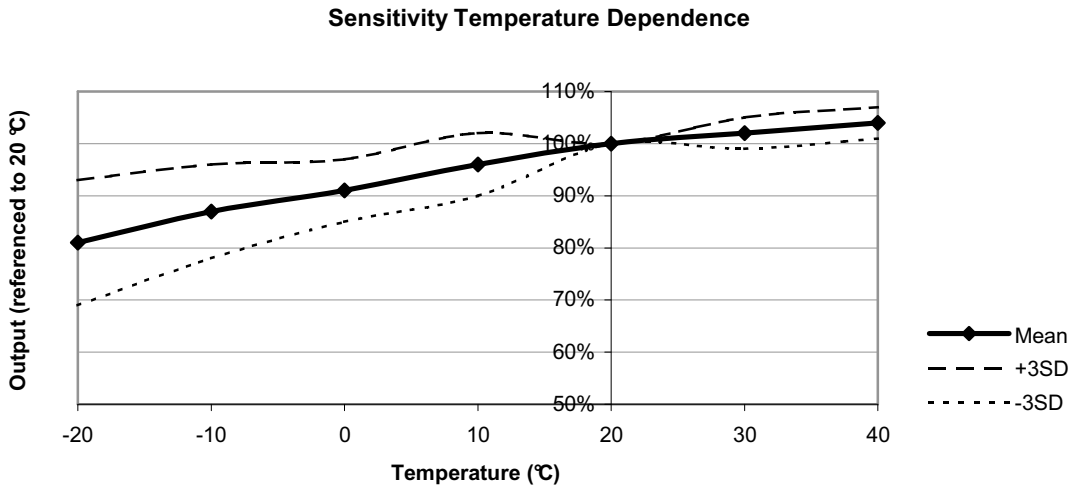
FACTORY. :
50, NILKANTH INDUSTRIAL PARK,
AMBIKA TUBE COMPOUND,
NEAR OVER BRIDGE VATVA,GIDC,
Vatva, Ahmedabad - 382445.
Web : www.arankainstruments.com
e-mail : utkarsh@arankainstruments.com, contact@arankainstruments.com
Cont. : (F) 09909035088,+91 93288 88879

SPECIFICATION SHEET FOR Cl_2 Sensor TYPE Cl2/C-5000

TEMPERATURE DEPENDENCE

The output of an electrochemical sensor varies with temperature. The graphs below show the variation in output with temperature for this type of sensor. The results are shown in the graphs as a mean for a batch of sensors, along with confidence intervals corresponding to –3 times the standard deviation. The sensitivity dependence is expressed as a percentage of the signal at 20 ℃.



The baseline is virtually not affected by changes in temperature.

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FACTORY. :
50, NILKANTH INDUSTRIAL PARK,
AMBIKA TUBE COMPOUND,
NEAR OVER BRIDGE VATVA,GIDC,
Vatva, Ahmedabad - 382445.
Web : www.arankainstruments.com
e-mail : utkarsh@arankainstruments.com, contact@arankainstruments.com
Cont. : (F) 09909035088,+91 93288 88879

SPECIFICATION SHEET

NO/CF-100

Nitric Oxide Gas Sensor in Compact Housing

MEASUREMENT

Operation Principle	3-Electrode Electrochemical
Nominal Range	0 – 100 ppm
Maximum Overload	N.D.
Inboard Filter	To remove effect of SO2
Output Signal	400 ± 80 nA/ppm
Resolution (Electronics dependent)	< 0.5 ppm
T90 Response Time	< 25 sec
Typical Baseline Range (pure air, 20°C)	1 ppm to 4 ppm
Maximum Zero Shift (+20°C to +40°C)	12 ppm
Repeatability	< 2 % of signal
Output Linearity	Linear
Gain	–

ELECTRICAL

Rec. Load Resistor	10 Ohm
Bias (V_Sens-V_Ref)	+300 mV
Conformity to RoHS directive	RoHS Compliance

ENVIRONMENTAL

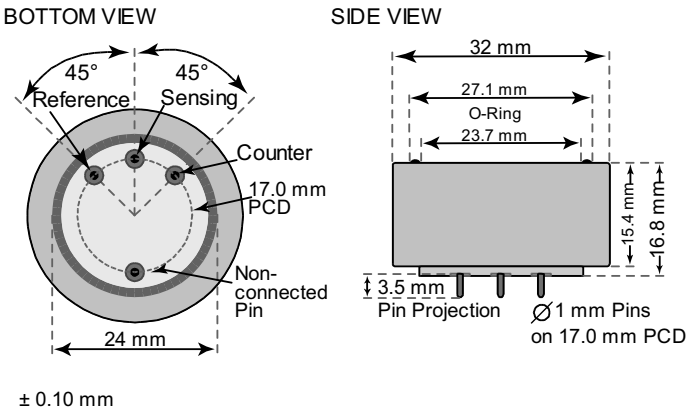
Relative Humidity Range	15 % to 90 % R.H. non-condensing
Temperature Range	-20 °C to 50 °C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	N.D.
Humidity Effect	none

LIFETIME

Expected Operation Life	3 years in air
Expected Long Term Output Drift in air	N.D.
Filter Life	N.D.
Storage Life	6 months in container
Rec. Storage Temperature	5 °C – 20 °C
Warranty Period	12 months from date of dispatch

Performance data conditions: 20 °C, 50% RH, 1013 mbar

Compact-Size Outline Dimensions



± 0.10 mm

MECHANICAL

Weight	13 g
Position Sensitivity	None

APPLICATIONS

Air Quality Monitoring
Emission Monitoring

CROSS-SENSITIVITY DATA

The table below does not claim to be complete. Interfering gases should not be used for calibration.

Interfering Gas	Conc. ppm	Reading ppm
CO	300	0
SO_2	30	0
H_2S	15	0
NO_2	100	1
H_2	300	0

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Web : www.arankainstruments.com
e-mail : utkarsh@arankainstruments.com, contact@arankainstruments.com
Cont. : (F) 09909035088,+91 93288 88879

SPECIFICATION SHEET

NO/CF-100

Nitric Oxide Gas Sensor in Compact Housing

TEMPERATURE DEPENDENCE

The output of an electrochemical sensor varies with temperature. The graphs below show the variation in output with temperature for this type of sensor. The results are shown in the graphs as a mean for a batch of sensors. The sensitivity dependence is expressed as a percentage of the signal at 20 °C. The shift in baseline is shown in ppm referenced to 20 °C and a relative humidity of 50%.

Please note:
It is highly recommended to acquire the temperature dependence curves with the whole instrument. The sampling system, the humidity, the electronics, the interaction between the electronics and the sensor, all have a significant impact on the temperature dependence of the final measurement reading.

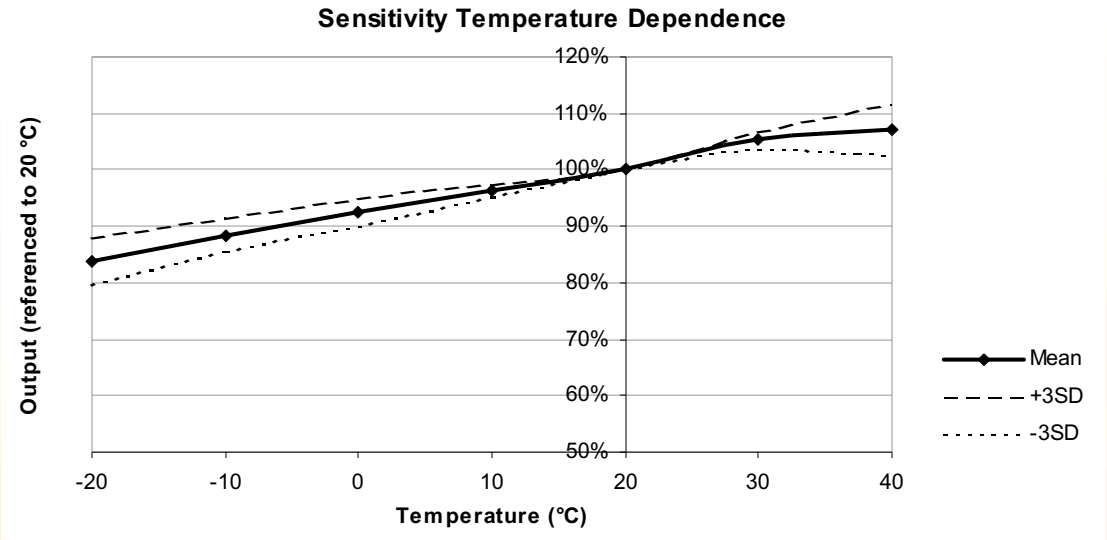

Figure 1: Sensitivity dependence expressed as a percentage of the signal at 20 °C. The result is shown along with confidence intervals corresponding to ±3 times the standard deviation.

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50, NILKANTH INDUSTRIAL PARK,
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NEAR OVER BRIDGE VATVA,GIDC,
Vatva, Ahmedabad - 382445.
Web : www.arankainstruments.com
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SPECIFICATION SHEET

NO/CF-100

Nitric Oxide Gas Sensor in Compact Housing

TEMPERATURE DEPENDENCE

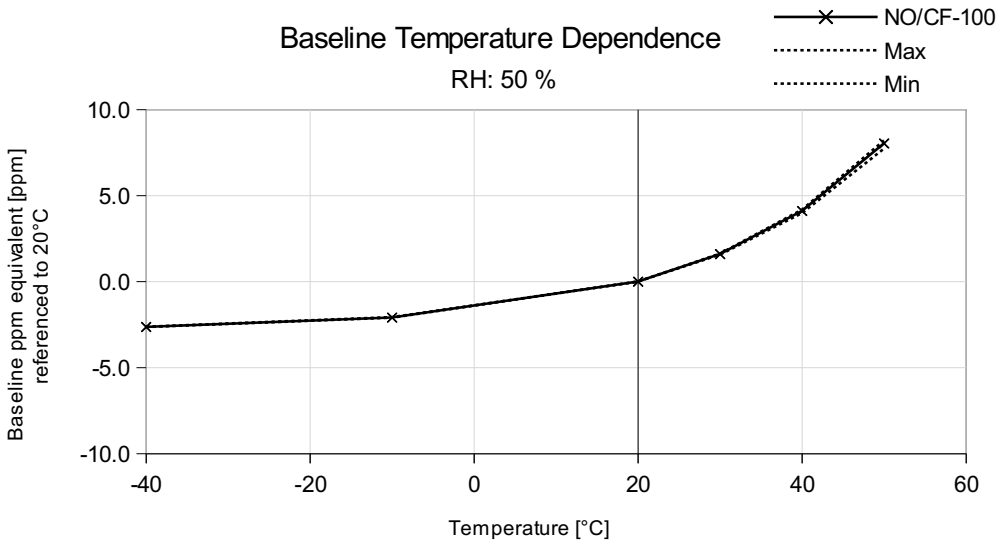

Figure 2: The shift in baseline shown in ppm referenced to 20 °C and a relative humidity of 50%.

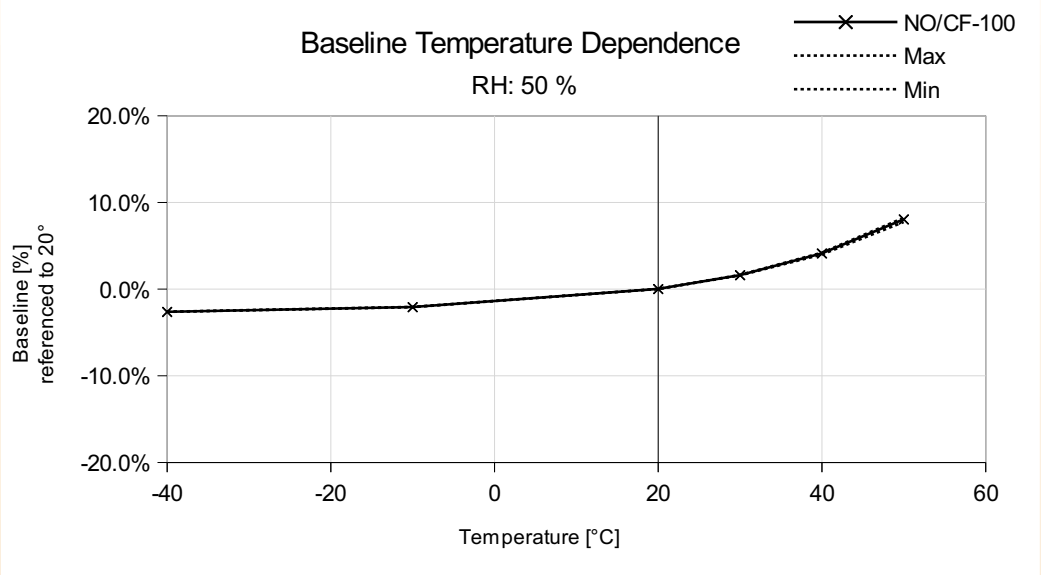

Figure 3: The shift in baseline expressed as percentage of the measurement range referenced to 20 °C and a R.H. of 50%.

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SPECIFICATION SHEET

NO2/C-500

Nitrogen Dioxide Gas Sensor in Compact Housing

MEASUREMENT

Operation Principle	3-Electrode Electrochemical
Nominal Range	0 – 500 ppm
Maximum Overload	1'000 ppm
Inboard Filter	–
Output Signal	-370 ± 70 nA/ppm
Resolution (Electronics dependent)	< 0.5 ppm
T90 Response Time	< 60 sec
Typical Baseline Range (pure air, 20°C)	< 0.2 ppm
Maximum Zero Shift (+20°C to +40°C)	-1 ppm
Repeatability	< 2 % of signal
Output Linearity	Linear
Gain	–

ELECTRICAL

Rec. Load Resistor	10 – 33 Ohm
Bias (V_Sens-V_Ref)	not recommended
Conformity to RoHS directive	RoHS Compliance

ENVIRONMENTAL

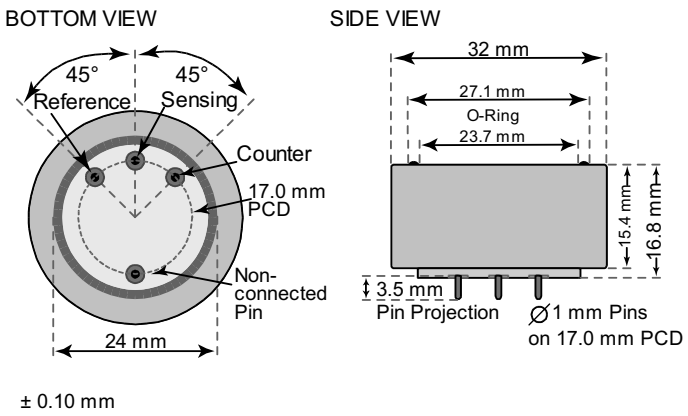
Relative Humidity Range	15 % to 90 % R.H. non-condensing
Temperature Range	-40 °C to 50 °C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	N.D.
Humidity Effect	none

LIFETIME

Expected Operation Life	2 years in air
Expected Long Term Output Drift in air	< 2 % per month
Filter Life	–
Storage Life	6 months in container
Rec. Storage Temperature	5 °C – 20 °C
Warranty Period	12 months from date of dispatch

Performance data conditions: 20 °C, 50% RH, 1013 mbar

Compact-Size Outline Dimensions



± 0.10 mm

MECHANICAL

Weight	13 g
Position Sensitivity	None

APPLICATIONS

Stack/ Flue Gas Monitoring
Emission Monitoring

CROSS-SENSITIVITY DATA

The table below does not claim to be complete. Interfering gases should not be used for calibration.

Interfering Gas	Conc. ppm	Reading ppm
CO	300	0
SO_2	5	0
NO	35	0 [1]
H_2	300	0
C_2H_4	100	0

1) NO readily forms NO2 in the presence of O2

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SPECIFICATION SHEET

NO2/C-500

Nitrogen Dioxide Gas Sensor in Compact Housing

TEMPERATURE DEPENDENCE

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Please note:
It is highly recommended to acquire the temperature dependence curves with the whole instrument. The sampling system, the humidity, the electronics, the interaction between the electronics and the sensor, all have a significant impact on the temperature dependence of the final measurement reading.

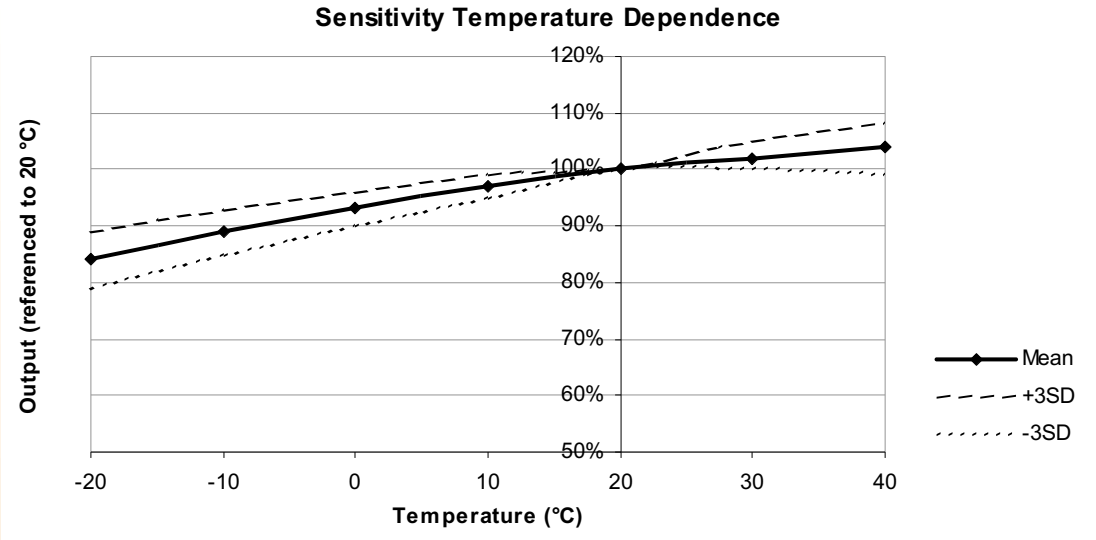

Figure 1: Sensitivity dependence expressed as a percentage of the signal at 20 °C. The result is shown along with confidence intervals corresponding to ±3 times the standard deviation.

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