



**HGS-NO2**

## **NITROGEN DIOXIDE 0-20ppm SENSOR**

### **Features**

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- Australian Manufactured using High Quality 3rd party replaceable NO2 cell.
- NO2 cell complies with all relevant standards with international compliance.
- L.E.D Indication of output and fault status
- Easy Site Calibration with ZERO and GAIN potentiometers.
- Test plug feature for forced 100 % output and fault mode testing
- MODBUS Output version available

### **Use**

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The HGS-NO2 is primarily designed as a Carpark Nitrogen Dioxide measurement device for connection to a NO2 Controller or BMS system. Hevac also manufacture a CO/NO2 controller model HCP7 which can except 7 of the HGS series sensor's, and using expansion modules, up to a total of 42 sensors. The sensor is a 3 wire connection powered by 24V AC or DC voltage and produces a 2 to 10 volt DC signal over the measurement range of 0 to 20 ppm NO2. The sensor is marked with a signed calibration date sticker & certificate of compliance. HEVAC recommend a 12 month recalibration period. A Modbus version (HGS-NO2-BMS) is also available, communicating via standard RS485 shielded twisted pair.



**Made in Australia**  
**100% Australian Owned Company**

## Technical Data

General Specifications	Operating Voltage	24 Volts AC or DC
	Power Consumption 24 Volts	1 VA
	Re Calibration Period	12 months
	Sensor Output	2-10vDC over 0-20 ppm NO2
Environmental Conditions	Operation	
	Ambient Temperature	0...40oC
	Humidity	< 95 % RH (Non Condensing)
	Storage and Transport	
	Ambient Temperature	1...50oC
	Humidity	< 90 % RH (Non Condensing)
Product Standards	As per Australian standards.	
Weight	Including Packaging	150 grams
Housing	Colour	BLACK
	Material	ABS POLYCARBONATE
	UV Stabilised	YES
	Fire Retardant	YES
	Size	H122mm x W98mm x D35mm
	Mounting Method	Wall mount 2 screw locations

## Terminal Designations



G 24 Volt Supply Active AC or DC

G0 24 Volt Neutral (ground)

Y 2-10VDC Signal Out

TEST PLUG. Use to short pins 1 & 2 for simulated NO2 level of ~12ppm to cause full output. Or use to short pins 2 & 3, to cause a simulated over scale fault input, that triggers fault mode causing 100% O/P & full alarm mode O/P's

FLASHING YELLOW LED INDICATES NO2 LEVELS ABOVE 3ppm OR FAULT MODE. ALSO FLASHES ON POWER UP -1 MIN.



## **MAINTAINANCE**

*HEVAC RECOMMEND SENSOR CALIBRATION TO BE CARRIED OUT EVERY 12 MONTHS FROM THE LAST CALIBRATION DATE BY QUALIFIED PERSONAL USING APPROPRIATE CALIBRATED TEST APPARATUS.*

### **REQUIRED EQUIPMENT:**

- 1 X CLEAN AIR GAS BOTTLE CALIBRATED TO 0 ppm (STILL WITHIN USED BY DATE)
- 1 X NITROGEN DIOXIDE GAS BOTTLE CALIBRATED IN THE RANGE OF 10-20 ppm (STILL WITHIN USED BY DATE)
- 1 X GAS BOTTLE REGULATOR C/W TUBING & FLOW HEAD TO FIT SENSOR HEAD
- 1 X ELECTRONIC VOLT METER SET TO 20vDC SCALE

### **CALIBRATION STEPS :**

TO CALIBRATE HEVAC HGS-NO<sub>2</sub> SENSORS PLEASE FOLLOW THE FOLLOWING PROCEDURE.

- 1.) REMOVE SENSOR COVER AND LOCATE "ZERO" & "GAIN" POTENTIOMETERS ON PCB.
- 2.) CONNECT OR HOLD VOLT METER PROBES TO MEASURE THE SENSOR OUTPUT.  
  
CONNECT THE METER'S BLACK LEAD TO TERMINAL "GO" AND THE RED LEAD TO "Y"
- 3.) USING THE "0ppm" GAS BOTTLE & REGULATOR ATTACH FLOW HEAD SNUGGLY OVER  
  
CO SENSOR HEAD, LOCATED PROTRUDING BOTTOM RIGHT OUT OF THE HGS HOUSING.
- 3.) OPEN THE REGULATOR ON THE "0ppm" GAS BOTTLE AND LEAVE TO SETTLE MEASUREMENT FOR 15 SECONDS, NOTE VOLTAGE OUTPUT.
- 4.) AJUST THE "ZERO" POTENTIOMETER WITH A SMALL FLAT HEAD SCREW DRIVER UNTILL THE VOLTAGE O/P READS 2.00 +/- 0.02 Volts. ( 2-10vDC O/P =0 to 20 ppm with 0.4 volts per 1ppm)
- 5.) CLOSE THE REGULATOR ON THE "0ppm" BOTTLE AND CONNECT THE "20 ppm" GAS BOTTLE AND REGULATOR.
- 6.) OPEN THE REGULATOR ON THE "20ppm" GAS BOTTLE AND LEAVE FOR 30 SECONDS OR UNTIL MEASUREMENT SETTLES, NOTE VOLTAGE OUTPUT.
- 7.) ADJUST "GAIN" POTENTIOMETER SUCH THAT THE O/P VOLTAGE READS 10.00 +/- 0.02 Volts
- 8.)TURN OFF REGULATOR AND REPLACE SENSOR HOUSING LID.
- 9.) ATTACH A NEW CALIBRATION STICKER TO HOUSING SHOWING NEXT DUE CALIBRATION DATE AND IDENTIFICATION OF THE SERVICE TECHNICIAN & COMPANY.



## **EX FACTORY CALIBRATION CERTIFICATE**

**SENSOR MODEL NUMBER :** HGS-N02

**SENSOR SERIAL NUMBER :** \_\_\_\_\_

**0ppm CALIBRATION "CO" BOTTLE WITHIN USE BY DATE** \_\_\_\_\_

**10ppm CALIBRATION "N02" BOTTLE WITHIN USE BY DATE** \_\_\_\_\_

**FACTORY CALIBRATION DATE :** \_\_\_\_\_

**CALIBRATION TECHNICIAN :** \_\_\_\_\_

**THIS IS TO CERTIFY THAT THIS SENSOR HAS BEEN CALIBRATED IN ACCORDANCE WITH AUSTRALIAN STANDARDS AS1668.2 , AND IS REQUIRED TO BE SITE CALIBRATED IN 12 MONTHS FROM THE ABOVE DATE BY QUALIFIED PERSONAL.**