

# nAPG ACTIVE PIRANI GAUGE



Edwards nAPG series, active Pirani vacuum gauges will be available in 2 models. The nAPG-M is the standard model and measures to  $10^{-3}$  mbar. The nAPG-LC is a corrosion resistant version with measurement to  $10^{-4}$  mbar.

Both gauges feature compact size for easy installation, a serial output and a replaceable sensor tube. It is anticipated that the digital gauges will be compatible with the next generation of Edwards instrument and active gauge controllers and displays. They are CSA and C/US approved as well as fully RoHS compliant due to their leadfree construction.

## Features and Benefits

- Wide-range supply voltage allows operation from 15 to 48V d.c.
- Gauge naming allows user to store gauge identification data
- Sensor tube can be baked to 150 °C
- NW16 and NW25 flange options for easy connection to vacuum systems – other flange options on request
- Serial communications based on a simple ASCII, low latency, query and command protocol that can operated in a point to point or multidrop system with minimum overhead
- Adjustable open collector set-point output for straightforward process control and interlocking
- Remote calibration possible
- RS485, 9600baud, 8bits, 1 start bit 1 stop bit

For information on Digital Gauge DX protocol please contact Edwards.

## Example Serial Commands

### Read gauge Identity:

Send: ?S751<cr>  
 Reply: =S751 nAPG-LC\_  
 RS485;D02610600A;nnnn<cr>  
 Hardware version; software version; gauge name

### Set pressure units:

Send: !S751 nnnn<cr>  
 Reply: \*S751 0<cr>  
 Name: 0000 to 9999

### Set pressure units:

Send: !S755 n<cr>  
 Reply: \*S755 0<cr>  
 Units: 1 = mbar, 2 = Pa, 3 = Torr

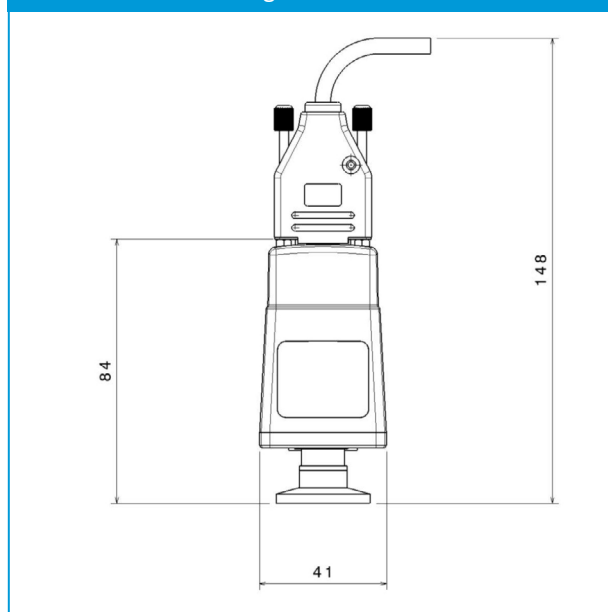
### Read gauge pressure and status bits:

Send: ?V752<cr>  
 Reply: =V752 n.nnE±nn;nnnn<cr>

### Status bit masks:

Set-point: 0x0004  
 Units: 0x0030

## nAPG Active Pirani Gauge Dimension



## Technical Data

### Part Number

**nAPG Range D0269xxx0**

					Magnet	Comms	Tube & Flange	
D	0	2	6	9	0 - M 1 - LC	0 - RS485 5 - RS232	0 - NW16 1 - NW25 2 - CF	0

### Mechanical

Mass	85g – 107g
Internal volume	5 cm <sup>3</sup>
Enclosure rating	IP42 Vertical as shown IP40 Other orientations

### Performance

Measurement range	
nAPG-M	Atmosphere to 10 <sup>-3</sup> mbar
nAPG-LC	Atmosphere to 10 <sup>-4</sup> mbar
Accuracy	
nAPG-M Typically	±15% at <100 mbar
nAPG-LC Typically	±15% at <10 mbar
Maximum over-pressure	10 bar absolute

### Operating and Storage Conditions

Temperature range	
Operating	5° to 60° C
Storage	30° to 70° C
Bake-out with electronics removed	150° C
Humidity	80% RH up to 31° C decreasing linearly to 50% RH at 40° C and above
Maximum altitude	3000 m
Filament temperature	100° C above ambient

### Electrical Data

Electrical supply voltage	15 to 48 V DC nominal
Power consumption	1 W
Identification Resistor	10KΩ ±2%
Set-point – open collector transistor	
Rating	48 V DC 100 mA

All serial gauges are identified by a 10KΩ resistor as full gauge identification is carried out over serial communications.