

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
```

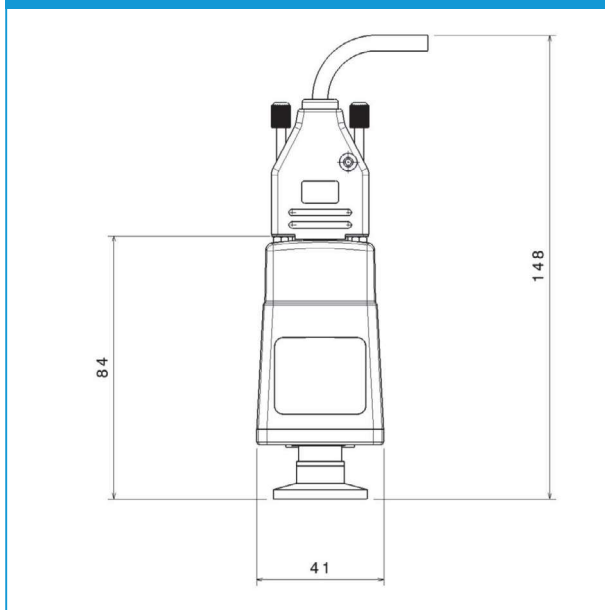
Read gauge pressure and status bits:

```
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 ³
Enclosure rating	IP42 Vertical as shown IP40 Other orientations

Performance

Measurement range	
nAPG-M	Atmosphere to 10 ⁻³ mbar
nAPG-LC	Atmosphere to 10 ⁻⁴ 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.