

nWRG WIDE RANGE GAUGE



Edwards nWRG series Wide Range gauges offer single port pressure measurement in the range atmosphere to 10^{-9} mbar. These are new digital versions of gauges that have proved to be rugged and reliable in a wide range of applications ranging from scientific instruments to industrial processes.

The nWRG 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 oHS compliant due to their lead-free 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.
- Automatic vacuum setting of Pirani gauge element
- Unique striker design ensures rapid striking even at high vacuum or in contaminating conditions
- Low external magnetic field version (L) for sensitive analytical instruments (patented)
- 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
- 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 nWRG_
RS485;D02610600A;nnnn<cr>
Hardware version; software version; gauge name

Set pressure units:

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

Turn gauge magnetron element On and Off:

Send: !C752 n<cr>
Reply: *C752 0<cr>
State: 0 = Off, 1 = On, 2 = Auto (default)

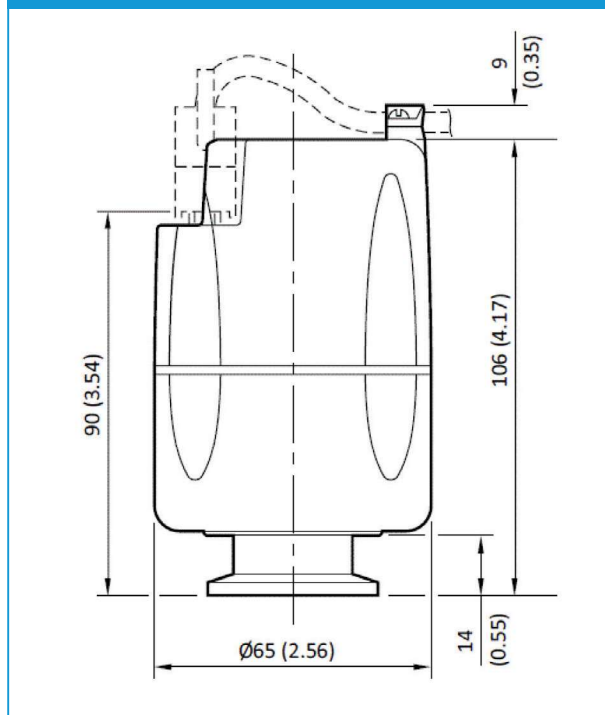
Read gauge pressure and status bits:

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

Status bit masks:

Gauge on: 0x0002
Set-point: 0x0004
Units: 0x0030

nWRG Active Pirani Gauge Dimension



Technical Data

Part Number

nWRG Range D1479xxx0

					Magnet	Comms	Tube & Flange	
D	1	4	7	9	0 - Standard 1 - Low Field	0 - RS485 5 - RS232	1 - Non-Industrial NW25 2 - Non-Industrial CF	0

Mechanical

Mass	0.75 kg – 1.05kg
Internal volume	26 cm ³
Enclosure rating	IP42 Vertical as shown IP40 Other orientations

Performance

Measurement range	
nWRG	Atmosphere to 10 ⁻³ mbar
Accuracy typically	±15% <100 mbar ±30% <10 ⁻³ mbar
Maximum over-pressure	6 bar absolute

Operating and Storage Conditions

Temperature range	
Operating	5° to 60° C
Storage	30° to 70° C
Humidity	80% RH up to 31 °C decreasing linearly to 50% RH at 40 °C and above

Maximum altitude 3000 m

Electrical Data

Electrical supply voltage	15 to 48 V DC nominal
Power consumption	2 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.