PRODUCT DATA SHEET

# LINEAR CONVECTION GAUGE (APGX-H)

edwardsvacuum.com

**Edwards Linear Convection Vacuum Gauge has a wide measuring range from 1333 to 3 x $10^{-4}$ mbar (1000 to 2.3 x $10^{-4}$ Torr). The use of convection technology ensures accuracy and sensitivity are maintained to the top of the pressure range compared to conventional Pirani gauge which are not as accurate above 100 mbar.**

The gauge is compact and may be mounted in any orientation, simplifying installation where space is limited. The gauge incorporates a setpoint and two LEDs, which indicate setpoint and gauge status.

## Features and benefits

- Wide measuring range
  - 1333 to 3 x $10^{-4}$mbar (1000 to 2.3 x $10^{-4}$ Torr)
- Consistent measuring accuracy
  - Use of convection technology ensures consistent measuring accuracy (typically ±15%) and repeatability (±5%) to top of range
- Reduced cost of ownership
  - Replaceable tubes are available
- Standard analog output
  - Log linear in range 2.5 to 9.125 V (1V/decade)
  - Compatible with our ADC, TAG and TIC controllers
- Calibration data held in tube
  - Tubes are shipped pre-calibrated
- Easy installation in restricted spaces
  - Maintains accuracy in any orientation across the whole measuring range
- Compact instrument
  - Significantly smaller than leading competitor convection gauges
- Local status indication
  - LEDs indicate setpoint and gauge status at the gauge head
- CSA, C/US approved

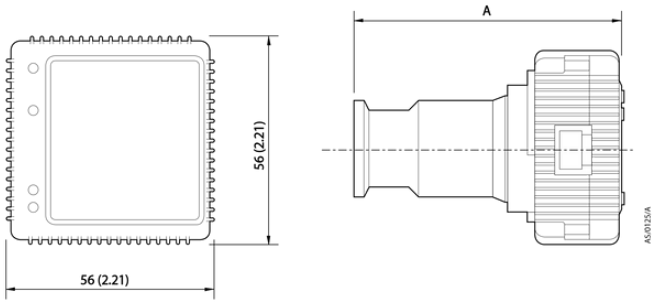
## TECHNICAL DATA

| | |
|---|---|
| **Pressure range** | 1333 to 3 x $10^{-4}$ mbar (1000 to 2.3 x $10^{-4}$ Torr) |
| **Power supply** | 14.5 to 30 V d.c. |
| **Power consumption** | 1.5 W maximum |
| **Accuracy** | ±15% of reading |
| **Repeatability** | ±5% of reading |
| **Resolution** | 6mV increments |
| **Response time** | < 100 ms |
| **Maximum overpressure** | 10 bar absolute (145 psia) |
| **Adjustments** | Set vacuum and set atmosphere<br>To allow for variations in barometric pressure, atmosphere may be set in the range 700 to 1100 mbar<br>(525 to 825 Torr) |
| **Setpoints† (open collector transistor)** | |
| **Range of setpoint** | 1.8 to 9.3 V |
| **Rating** | 30 V d.c. 100 mA |
| **Fixed hysteresis (~ 1/2 decade)** | 500 mV |
| **Enclosure rating** | IP40 |
| † The setpoint output will be turned off if an error is detected | |
| **Temperature range** | |
| **Operating temperature** | +5 to +60 °C |
| **Storage temperature** | -30 to +70 °C |
| **Material exposed to vacuum** | |
| **Aluminum tube** | Aluminum, Tungsten, Nickel, PTFE, Fluoroelastomer and Phosphor bronze |
| **Stainless steel tube** | St SS 316L, Tungsten, Nickel, PTFE, Fluoroelastomer and Phosphor bronze |
| **Filament** | Tungsten |

## ORDERING INFORMATION

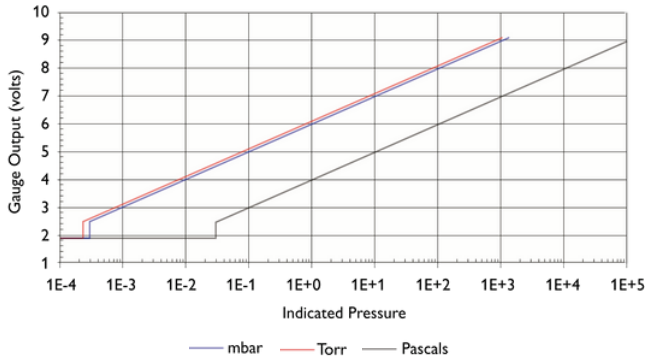
| Gauges | Order number |
|---|---|
| **APGX-H NW16 aluminium** | D02391000 |
| **APGX-H NW25 ST/ST** | D02392000 |
| **APGX-H NW16 ST/ST** | D02395000 |
| **APGX-H 1/8" NPT ST/ST** | D02396000 |
| **Certificated gauges are supplied with a certificate traceable to national standards** | |
| **APGX-H-NW16 aluminium, certificated** | D0239100C |
| **APGX-H-NW16 ST/ST, certificated** | D0239500C |
| **APGX-H-NW25 ST/ST, certificated** | D0239200C |
| **APGX-H 1/8" NPT ST/ST, certificated** | D0239600C |

## DIMENSIONS - mm (inch)




| | NW16 AL | NW16 St St | NW25 St St | 1/8" NPT St St |
|---|---|---|---|---|
| **Dim 'A'** | 75 mm | 75 mm | 75 mm | 87 mm |
| **Int Vol** | 11 $cm^3$ | 11 $cm^3$ | 11 $cm^3$ | 11 $cm^3$ |
| **Weight** | 110 g | 160 g | 170 g | 150 g |

## OUTPUT




Log linear in range 2.5 to 9.125 V (1V/decade)
$P=10^{V-6}$ or $V=\log(P)+6$

| Spares and accessories | Order number |
|---|---|
| **APGX-H electronics module** | D02391800 |
| **NW16 AL tube** | D02391801 |
| **NW16 ST/ST tube** | D02395801 |
| **NW25 ST/ST tube** | D02392801 |
| **1/8" NPT ST/ST tube** | D02396801 |
| **APGX-H filter pack 5 (not NPT version)** | D02391805 |

| Compatible controllers | Order number |
|---|---|
| **TIC instrument controller 3 head** | D39700000 |
| **TIC instrument controller 6 head** | D39701000 |
| **ADC standard** | D39590000 |
| **ADCmkII enhanced** | D39591500 |
| **TAG controller** | D39592000 |

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