

APG100 ACTIVE PIRANI GAUGE

edwardsvacuum.com

Edwards APG100 series Active Pirani vacuum gauges are available in 2 models. The APG100-XM is the standard model and measures to 10^{-3} mbar, the APG100-XLC is a corrosion resistant version with measurement to 10^{-4} mbar.

Both gauges feature compact size for easy installation, a linear output and a replaceable sensor tube. These gauges are compatible with all Edwards TIC instrument controllers and other Active gauge controllers and displays. They are also CSA, C/US approved as well as fully RoHS compliant due to their lead-free construction.



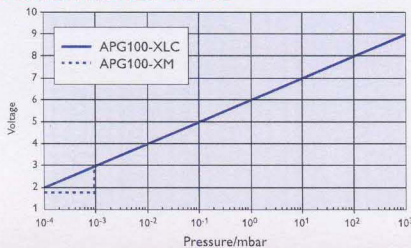
Features and benefits

- Cable connections and gauge adjustment conveniently located, thereby minimising the space envelope required for access
- Sensor tube can be baked to 150 °C
- Adjustable set-point for simple process control and interlocking
- CSA, C/US Approved
 - Meets safety requirements for electrical equipment for measurement
- Linear output - 1 Volt per decade for easy interface with vacuum control systems
- NW16, NW25 and DN16CF flange options for easy connection to vacuum systems
- LED status indicator shows normal and fault conditions
- Remote calibration possible

Technical data

Mass	
NW16 version	85 g
NW25 version	100 g
Internal volume	5 cm ³
Enclosure rating	IP40
Performance, operating and storage conditions	
Measurement range	
APG100-XM	Atmosphere to 10 ⁻³ mbar
APG100-XLC	Atmosphere to 10 ⁻⁴ mbar
Accuracy	
APG100-XM	Typically +/- 15% at <100 mbar
APGX100-XLC	Typically +/- 15% at <10 mbar
Maximum over-pressure	10 bar absolute
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 30 V d.c. nominal 13.5 V d.c. minimum 32 V d.c. maximum
Power consumption	1 W
Output signal	0 to 10 V d.c. nominal
Set-point – open collector transistor	
Rating	30 V d.c. 100 mA
Range of set-point	1.8 to 9.2 V d.c.
Fixed hysteresis	500 mV (1/2 decade)
Level setting resolution	6 mV

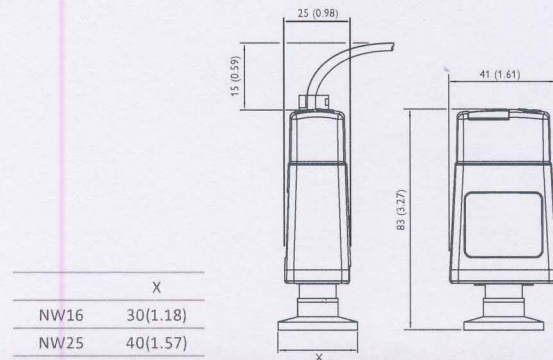
Performance curve



Ordering information

Active Pirani gauges	Order number
APG100-XM Atm to 10 ⁻³ mbar NW16 flange	D02601000
APG100-XM Atm to 10 ⁻³ mbar NW25 flange	D02602000
APG100-XM Atm to 10 ⁻³ mbar DN16CF flange	NRD710000
APG100-XLC Atm to 10 ⁻⁴ mbar corrosion resistant NW16 flange	D02603000
APG100-XLC Atm to 10 ⁻⁴ mbar corrosion resistant NW25 flange	D02604000
Certified gauges. Supplied with a certificate of calibration traceable to national standards	
APG100-XM NW16 + Calibration certificate	D0260100C
APG100-XM NW25 + Calibration certificate	D0260200C
APG100-XLC NW16 + Calibration certificate	D0260300C
APG100-XLC NW25 + Calibration certificate	D0260400C
Spare sensor tubes	
Spare sensor for APG100-XM NW16 flange	D02601801
Spare sensor for APG100-XM NW25 flange	D02602801
Spare sensor for APG100-XLC NW16 flange	D02603801
Spare sensor for APG100-XLC NW25 flange	D02604801
Spare sensor for APF100-XM DN16CF flange	NRD711000
Spare sensor for APF100-XLC DN16CF flange	NRD713000
Spare electronic modules	
Spare APG100-XM electronics module	D02601800
Spare APG100-XLC electronics module	D02603800
Spare mesh filter for APG100 pack of 5	D02601805

Dimensions - mm (inch)



	X
NW16	30(1.18)
NW25	40(1.57)

GLOBAL CONTACTS

Publication Number: 28 0260 1600
© Edwards Limited 2016. All rights reserved Edwards and the Edwards logo are trademarks of Edwards Limited

Whilst we make every effort to ensure that we accurately describe our products and services, we give no guarantee as to the accuracy or completeness of any information provided in this datasheet.

Edwards Ltd, registered in England and Wales
No. 6124750, registered office: Innovation Drive,
Burgess Hill, West Sussex, RH15 9TW, UK.

EMEA

UK +44 1293 528844
(local rate) 08459 212223

Belgium +32 2 300 0730

France +33 1 4121 1256

Germany 0800 000 1456

Italy + 39 02 48 4471

Israel + 972 8 681 0633

ASIA PACIFIC

China +86 400 111 9618

India +91 20 4075 2222

Japan +81 47 458 8836

Korea +82 31 716 7070

Singapore +65 6546 8408

Taiwan +886 3758 1000

AMERICAS

USA +1 800 848 9800

Brazil +55 11 3952 5000



ACTIVE DIGITAL CONTROLLER (ADC)

edwardsvacuum.com

Edwards Active Digital Controller (ADC) is a compact single line vacuum gauge controller and display, featuring a bright LED display and simple push-button controls. The ADC automatically recognises compatible Edwards gauges, loads the appropriate look-up table and displays the pressure in commonly used vacuum units.

The ADC is available in standard and MkII enhanced versions. The ADC standard controller displays the pressure measured by a single active gauge. The MkII enhanced controller now supports two different gauges with two variable hysteresis set-points which are linked to 48 V d.c. 1A changeover relays and two 0-10 V d.c. analog outputs. To aid system integration the enhanced controller is provided with an RS232 interface.

When combined with suitable gauges such as the Edwards APG100 Pirani, AIM Inverted Magnetron or Wide Range Gauge (WRG), the ADC represents a cost effective means of monitoring and controlling process vacuum in a broad range of applications.



Features and benefits

- Plug and Go operation
 - Simply plug in the mains supply, connect the gauge and the ADC displays the measured pressure
- Wide pressure range
 - ADC supports Edwards gauges with a total measuring range of 2000 to 1×10^{-9} mbar (1500 to 7.5×10^{-10} Torr)
 - ADC and Edwards gauges address a broad spectrum of laboratory and industrial applications
- New multiple gauge ability
 - The new enhanced ADC MkII can now support two different gauges making it a more versatile instrument controller
- High visibility display
 - Bright LED display gives clear long distance readability
- Choice of units
 - ADC displays in mbar, Torr, Pascal or Volts
- Compact instrument
 - Small 1/8 DIN enclosure, may be panel or bench mounted
- Very simple to use
 - Push-button control makes operation highly intuitive

PRODUCT DATA SHEET

Specifications

Standard version

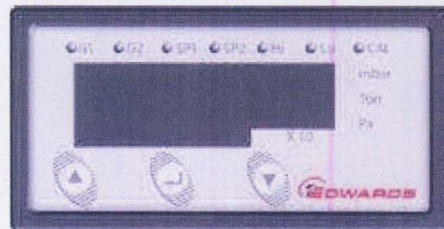


Front panel:



Select display units

MkII enhanced version



Enter/Select button

- Turn the selected gauge on or off
- Edit the selected numerical item
- Move to the next digit of a numerical value



Scroll up button

- Move to previous selection
- Scroll selected numerical values up



Scroll down button

- Move to next selection
- Scroll selected numerical values down

G1 & 2

Indicates gauge displayed

SP1 & 2

Indicates set-point trip

Hi, Lo

Indicates high and low set-point threshold for setting up

CAL

Indicates calibrate message sent to gauge
(remote calibration supporting gauges only)

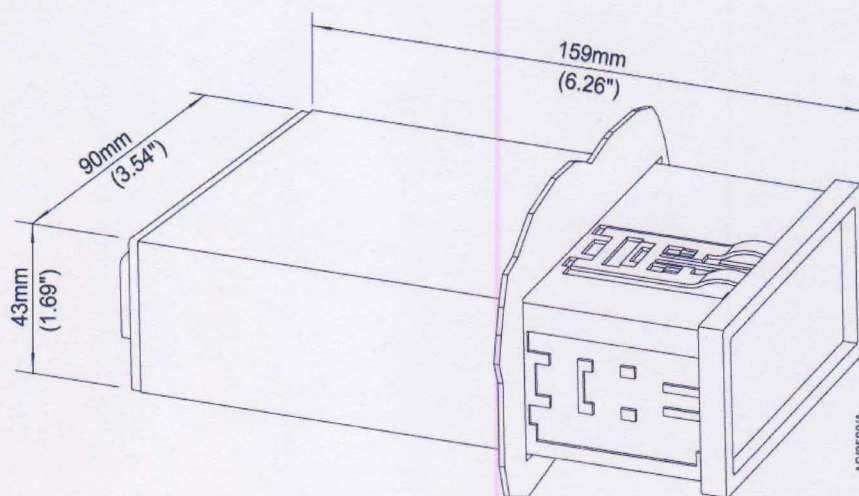
PRODUCT DATA SHEET

Common interfaces and configuration details

		Standard	Enhanced
Active gauge compatibility	APG100, APGX-H, WRG and the following legacy gauges - APG-L, APG-MP, APG-M, APGX-L, APGX-MP and APGX-M	✓	✓
	AIM-S, AIM-X and ASG		✓
Display	High brightness green LED display 12mm (0.47" high) Units - mbar/Torr/Pa/Volts	✓	✓
Electrical supply	100 to 240V a.c. 47 to 63Hz	✓	✓
Serial interface	RS232 serial interface allows the ADC to be linked to a PC, PLC or OEM system controller		✓
	RS232 Protocol - 9600 baud, 1 stop bit, 8 data bits, no parity		✓
Logic interface	May be used either to link to system relays, or a higher-level control system and includes:		✓
	Analog outputs	One 0-10V d.c. output signal per gauge channel	✓
	Set-points	One user programmable, variable hysteresis set point per gauge channel	✓
	Control relays	Two volt-free, single pole change-over relays tied to the respective programmable set-points: 1A @ 48 V d.c. 2A @ 24 V d.c.	

Dimensions, mounting options and weight

Panel cut-out	92 ^{+0.8} x 45 ^{+0.6} mm (3.62" x 1.77") to DIN43700
Panel thickness	1.5 mm (0.06") min
Weight	0.33 kg



Environment and standards compliance

Operating and storage data	
Operating temperature	0 to +40 °C
Storage temperature	-30 to +70 °C
Max ambient operating humidity	90% RH non-condensing at 40°C

Standards	
Electrical safety	BS EN 61010-1 2001
Electrical noise immunity	BS EN 61326 (Industrial location, class B emissions)
Flame retardant case materials	UL94 V1
Enclosure rating	IP40

Ordering information

Product description	Order number
Controllers	
ADC standard	D39590000
ADC MkII Enhanced	D39591500
Certificated Controllers	
Controllers are supplied certificated traceable to national standards	
ADC standard, Certificated	D3959000C
ADC MkII Enhanced, Certificated	D3959150C
The above controllers are certificated on their own without gauges. Contact Edwards for controllers certificated with Active gauges as a set.	
Interface cables	
2m RS232 interface cable	D39700834
Mains cables	
2m UK plug	D40013025
2m USA plug	D40013120
2m Northern European plug	D40013030
Example compatible gauges	
APG100-XM-NW16	D02601000
APGX-H-NW25	D02392000
WRG-S-NW25	D14701000
Active gauge cables (include FCC68/RJ45 compatible connectors at both ends)	
0.5 Active gauge cable	D40001005
1m Active gauge cable	D40001010
3m Active gauge cable	D40001030
5m Active gauge cable	D40001050
10m Active gauge cable	D40001100
15m Active gauge cable	D40001150
25m Active gauge cable	D40001250
50m Active gauge cable	D40001500
100m Active gauge cable	D40001999

GLOBAL CONTACTS

Publication Number: 28 3958 1600
 © Edwards Limited 2016. All rights reserved Edwards and the Edwards logo are trademarks of Edwards Limited

Whilst we make every effort to ensure that we accurately describe our products and services, we give no guarantee as to the accuracy or completeness of any information provided in this datasheet.

Edwards Ltd, registered in England and Wales No. 6124750, registered office: Innovation Drive, Burgess Hill, West Sussex, RH15 9TW, UK.

EMEA	
UK	+44 1293 528844 (local rate) 08459 212223
Belgium	+32 2 300 0730
France	+33 1 4121 1256
Germany	0800 000 1456
Italy	+ 39 02 48 4471
Israel	+ 972 8 681 0633

ASIA PACIFIC	
China	+86 400 111 9618
India	+91 20 4075 2222
Japan	+81 47 458 8836
Korea	+82 31 716 7070
Singapore	+65 6546 8408
Taiwan	+886 3758 1000

AMERICAS	
USA	+1 800 848 9800
Brazil	+55 11 3952 5000

