NAIM ACTIVE INVERTED MAGNETRON





Edwards nAIM series, active Inverted Magnetron vacuum gauges combine the gaugehead and controller in one compact active unit. 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 nAIM 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 also CSA and C/US approved as well as fully RoHS 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.
- Rapid tube replacement without pre-calibration
- 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 M

For information on Digital Gauge DX protocol please contact Edwards.

Example Serial Commands

Read gauge Identity:

Send: ?S751<cr> Reply: =S751 nAIM

RS485;D02610600A;nnnn<cr>

Hardware version; software version; gauge name

Set pressure units:

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

Turn gauge On and Off:

!C752 n<cr> Send: Reply: *C752 0<cr> State: 0 = Off, 1 = On

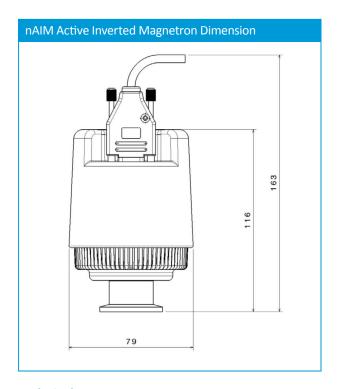
Read gauge pressure and status bits:

Send: ?V752<cr>

Reply = V752 n.nnE±nn;nnnn<cr>

Status bit masks:

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



Technical Data

Part	Miller	hor
Pail	INUII	ıneı

nAIM Range D1469xxx0

					Magnet	Comms	Tube & Flange	
							1 - Non-Industrial NW25	
D	1	4	6	9	0 - Standard 1 - Low Field	0 - RS485 5 - RS232	2 - Non-Industrial CF 3 - Industrial NW25 4 - Industrial CF	0

Mechanical Mass 0.81kg - 1.11kg Internal volume 26 cm³ Enclosure rating IP42 Vertical as shown Performance Measurement range The color of				4 - Industrial CF			
Internal volume 26 cm³ IP42 Vertical as shown IP40 Other orientations Performance Measurement range nAIM 10° to 10° mbar Accuracy typically ±30% Maximum over-pressure 10 bar absolute Operating and Storage Conditions Temperature range Operating 5° to 60° C Storage 0° 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 ∨ DC nominal Power consumption 2 W Identification Resistor 10KΩ ±2% Set-point – open collector transistor	Mechanical						
IP42 Vertical as shown IP40 Other orientations Performance Measurement range nAIM 10² to 10³ mbar Accuracy typically ±30% Maximum over-pressure 10 bar absolute Operating and Storage Conditions Temperature range Operating 5° to 60° C Storage 0° 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	Mass	0.81kg – 1.11kg					
Enclosure rating Performance Measurement range 10° to 10° mbar Accuracy typically ±30% Maximum over-pressure 10 bar absolute Operating and Storage Conditions Temperature range Operating 5° to 60° C Storage 0° 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 Electrical supply voltage 15 to 48 V DC nominal Power consumption 2 W Identification Resistor 10KΩ ±2% Set-point – open collector transistor	Internal volume 26 cm ³						
Performance Measurement range nAIM 10² to 10° mbar Accuracy typically ±30% Maximum over-pressure 10 bar absolute Operating and Storage Conditions Temperature range Operating 5° to 60° C Storage 0° 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	Facility and and an artists	IP42 Vertical as shown					
Measurement range nAIM10² to 10° mbarAccuracy typically±30%Maximum over-pressure10 bar absoluteOperating and Storage ConditionsTemperature range5° to 60° CStorage0° to 70° CHumidity80% RH up to 31° C decreasing linearly to 50% RH at 40° C and aboveMaximum altitude3000 mElectrical DataElectrical supply voltagePower consumption2 WIdentification Resistor10 KΩ ±2%Set-point – open collector transistor	Enclosure rating		IP40 Other orientations				
nAIM 10² to 10° mbar Accuracy typically ±30% Maximum over-pressure 10 bar absolute Operating and Storage Conditions Temperature range Operating 5° to 60° C Storage 0° 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	Performance						
Accuracy typically ±30% Maximum over-pressure 10 bar absolute Operating and Storage Conditions Temperature range Operating 5° to 60° C Storage 0° 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 10ΚΩ ±2% Set-point – open collector transistor	Measurement range						
Maximum over-pressure10 bar absoluteOperating and Storage ConditionsTemperature range5° to 60° COperating5° to 70° CHumidity80% RH up to 31° C decreasing linearly to 50% RH at 40° C and aboveMaximum altitude3000 mElectrical DataElectrical supply voltageElectrical supply voltage15 to 48 V DC nominalPower consumption2 WIdentification Resistor10KΩ ±2%Set-point – open collector transistor	nAIM		10 ⁻² to 10 ⁻⁹ m	bar			
Operating and Storage Conditions Temperature range 5° to 60° C Storage 0° 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 Electrical supply voltage 15 to 48 V DC nominal Power consumption 2 W Identification Resistor 10KΩ ±2% Set-point – open collector transistor	Accuracy typically		±30%				
Temperature range Operating 5° to 60° C Storage 0° 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 10ΚΩ ±2% Set-point – open collector transistor	Maximum over-pressure	ute					
Operating5° to 60° CStorage0° to 70° CHumidity80% RH up to 31° C decreasing linearly to 50% RH at 40° C and aboveMaximum altitude3000 mElectrical DataElectrical supply voltage15 to 48 V DC nominalPower consumption2 WIdentification Resistor10KΩ ±2%Set-point – open collector transistor	Operating and Storage Conditions						
Storage 0° 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	Temperature range						
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 10ΚΩ ±2% Set-point – open collector transistor	Operating	5° to 60° C					
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 10ΚΩ ±2% Set-point – open collector transistor	Storage	0° to 70° C					
Maximum altitude3000 mElectrical DataSelectrical supply voltageElectrical supply voltage15 to 48 V DC nominalPower consumption2 WIdentification Resistor10KΩ ±2%Set-point – open collector transistor	Humidity						
Electrical Data Electrical supply voltage 15 to 48 V DC nominal Power consumption 2 W Identification Resistor 10KΩ ±2% Set-point – open collector transistor		80% RH	up to 31° C decreasing linearly	to 50% RH at 40° C and above			
Electrical supply voltage 15 to 48 V DC nominal Power consumption 2 W Identification Resistor 10KΩ ±2% Set-point – open collector transistor	Maximum altitude		3000 m				
Power consumption 2 W Identification Resistor 10KΩ ±2% Set-point – open collector transistor	Electrical Data						
Identification Resistor 10KΩ ±2% Set-point – open collector transistor	Electrical supply voltage		15 to 48 V DC nominal				
Set-point – open collector transistor	Power consumption		2 W				
	Identification Resistor		10KΩ ±2%				
Rating 48 V DC 100 mA	Set-point – open collector transistor						
	Rating 48 V DC 100 mA						

All serial gauges are identified by a $10 K\Omega$ resistor as full gauge identification is carried out over serial communications.



















