

NGC2D Process Controller

UHV Dual Bayard-Alpert Ion Gauge Controller

The NGC2D is a high-accuracy Ion Gauge controller that offers integrated pressure measurement and process control; with a large, clear display, an intuitive user interface and serial communications.



Features

- Continuous measurement range: 1000 mBar to 3×10^{-11} mBar range.
- Controls 2 Ion gauges (sequentially), 2 Pirani gauges and 1 Capacitance Manometer.
- Bright green LED display shows bar-graph or numeric pressure, trend, diagnostics, etc.. Display in mBar, Torr or Pascal. Permanent bar-graph of Pirani pressures.
- Simple, guided setup is re-entrant and can be password protected.
- Reduced emission current. Instrument can advise optimum current or may be set manually. Variable Ion gauge sensitivity. Filament in use selectable from front panel
- Automatic start of Ion gauge in pump-down and can be interlocked by Pirani or external signal.
- Manual and automatic electron-bombardment degas programs.
- Integral, variable sensitivity leak detector with audio output on Pirani 1 or Ion gauge.
- 4 power relays for process control (5A, 240V) flexibly assignable to gauges.
- System bakeout program with control of temperature, time & over-pressure limit. Integral K-thermocouple amplifier.
- Automatic control of titanium sublimation pump controller with optional countdown / cancellation of imminent firing.
- RS-232C interface for data-logging and control
- Recorder output 1.0 volt/decade.
- 1U high full-width, steel cased instrument for easy rack-mounting.
- Operates from 100V to 240V, 50/60Hz supply.



SPECIFICATIONS:

Ionization Gauge

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| Gauge Type | AML AIG1xG are recommended. Bayard-Alpert gauges from many other manufacturers are suitable without adjustment other than sensitivity |
| Range | From 1×10^{-3} to below 3×10^{-11} mB with a UHV gaugehead with tungsten filaments. The low limit is dependent on gaugehead, cable construction and length and conditions of use. The upper limit is determined by the acceptable life of the filament and may be extended by the use of thoria or yttria-coated iridium filaments. |
| Accuracy and Repeatability | Determined principally by the gaugehead: controller errors are much smaller. Emission at 0.5mA is recommended. Electrometer logarithmic conformance <1% within any decade from 0.1 mA to 10 pA, <5% to 1 mA and <20% to 2 pA at 25°C incoming air temperature. Slope temperature compensation <0.02% per degree Celsius. Differential linearity of the 12-bit A to D converter is less than 0.1 LSB. Emission current initial accuracy <2%, stability <1%. |
| Gauge Supplies | Grid: +200 volts in emission, +500 volts at £60 mA in degas. Filament: +50 volt bias, ≤12 volts at ≤4.2 A (Tungsten) ≤2.6 A (Yttria) with filament power limited at > 30 watts. |

Pirani Gauge

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| Gauge Type | AML types PVU and PVB. A constant-voltage bridge circuit reduces contamination at high pressures. AML Pirani gaugeheads may be exchanged or extension leads may be connected without adjustments being necessary. |
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Capacitance Manometer

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| Gauge Type | Capacitance Manometers of any manufacture having a +10 volt full-scale output at 1, 10, 100 or 1000 mBar or Torr and which are self-powered are suitable. Pressure indication can be in units different to the full-scale units defined for the Capacitance Manometer. |
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General Specifications

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| Pressure Display | Scientific notation or bar-graph displays in mBar, Torr or Pascal |
| Operating Temperature | 5° to 35° Celsius for specified performance. Incoming air temperature is measured and displayed and operation is inhibited at >40°C. |
| Supply Voltage | 100 V to 240 V nominal at 48 to 65 Hz, without adjustment. |
| Power Consumption | <20 watts idling, <75watts in emission. |
| Dimensions | 1U high, full width x 270mm Deep |

Order Code

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| NGC2D | Dual (Sequential) Ion Gauge Controller |
| Accessories | |
| AIG17G | UHV Ion Gauge. 2 x Tungsten filaments |
| AIG18G | UHV Ion Gauge. 2 x Thoria coated filaments |
| AIG19G | UHV Ion Gauge. 2 x Yttria coated filaments |
| AIGL3 (6) or (9) | 3, 6 or 9 metre bakeable Ion gauge cable |
| PVU3 | Pirani Gauge. Non-bakeable with 3m cable |
| PVB3 | Pirani Gauge. Bakeable with 3m cable |
| PVX10 | Pirani 10 metre extension cable, non-bakeable |



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AML pursues a policy of continuous product improvement and reserves the right to make detail changes to specifications without consultation. Unless otherwise stated all specifications are typical and at 25° Celsius, after 1 hour operation. E and OE.