# NGC2 Ion Gauge Controller

*UHV Bayard-Alpert Ion Gauge Controller*

- 1000 mBar to 3 x $10^{-11}$ mBar range.
- Controls 1 Ion gauge, 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 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: | Types AML AIG17G is recommended. Bayard-Alpert gauges from many other manufacturers are suitable without adjustment other than sensitivity |
| Range: | From 1 x $10^{-3}$ to below 3 x $10^{-11}$ 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.<br>Electrometer logarithmic conformance <1% within any decade from 0.1 mA to 10 pA, <5% to 1 mA and <20% to 2 pA at 25ºC 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.<br>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 PVU2 and PVB2.<br>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. |

### 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. |

### General

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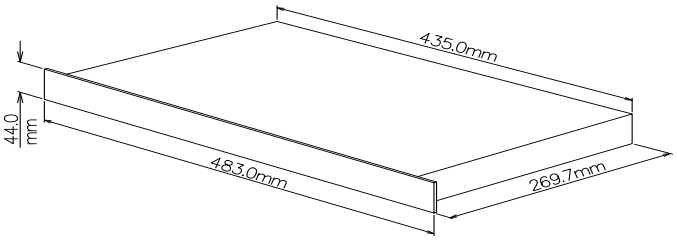
| Pressure display: | Scientific notation or bar-graph displays in mBar, Torr or Pascal |
| Operating Temperature: | 5º to 35º Celsius for specified performance. Incoming air temperature is measured and displayed and operation is inhibited at >40°C. |
| Supply Voltage: | 100 V to 240 V nominal at 48 to 65 Hz, without adjustment. |
| Power Consumption: | <20 watts idling, <75watts in emission. |
| EMC Compliance: | **Compliance with EU EMC Directive 89/336/EEC can only be guaranteed if AML BA gauge leads and Pirani gauges are used.** |




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 25º Celsius, after 1 hour operation. E and OE.

## Ordering Information:

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| **NGC2** | Ion Gauge controller |
| **AIG17G** | UHV Bayard-Alpert gauge. Twin tungsten filaments |
| **AIGL3, (6), (9)** | 3, (6), (9) metre, screened, bakeable Ion Gauge Cable. |
| **PVU2** | Pirani gauge, non-bakeable with 3 metre cable |
| **PVB2** | Pirani gauge, bakeable with 3 metre cable |
| **PVX10** | Pirani 10 metre extension cable, non-bakeable. |

AML

販売元：八坂テクノス株式会社
〒116-0011 東京都荒川区西尾久7-26-8
TEL:03-5926-5619.Fax:03-3893-5621
http://www.yasaka-tec.co.jp
お問い合わせ：contact@yasaka-tec.co.jp