

## Controller

- Visible by Large Digital STN-LC Display
- Easy to Operate

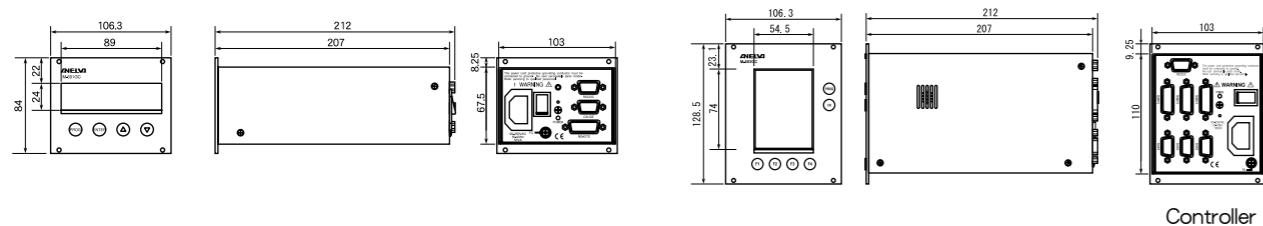


Three display modes are available.

- Pressure Trend Display
- Digital Display
- Analog Meter Display

|                         | Controller                                 |   |
|-------------------------|--|---|
|                         | M-601GC<br>1Ch                             | M-603GC<br>3Ch                          |
| Power Requirement       | AC90~250V 50/60Hz                          |   |
| Power Consumption       | 50W  | 100W                                    |
| Operation Temperature   | 5~50°C                                     | 5~40°C                                  |
| Storage Temperature     | -20~60°C                                   |   |
| Gauge Identification    | Automatic                                  |   |
| Connections for Gauges  | 1Ch  | 3Ch (Simultaneous display is available) |
| Gauge Sensors Connected | Pirani, Crystalion, CC-Pirani, Capacitance |   |
| Set Point               | 2pc.                                       | 2pc./Ch                                 |
| Analog Output           | 1  | 1/Ch                                    |
| Recorder Output         | 1  | 1/Ch                                    |
| Interface               | RS232C                                     |   |
| Dimensions (mm)         | 84 × 106.3 × 212                           | 128.5 × 106.3 × 212                     |
| Display                 | STN-LCD                                    | Color TFT LCD                           |
| Protection Category     | IP30                                       |   |
| CE Marking              | Compliance                                 |   |
| RoHS                    | Compliance                                 |   |

## Dimensional Drawings



Controller

Canon ANELVA Corporation is constantly improving, its products, hence specifications are subject to change without notice.

February 2011

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## From Atmosphere to Ultra High Vacuum

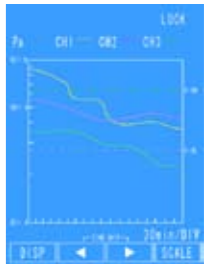
# Transducer Gauge Series

## Environmental Conscious Type Vacuum Gauge



Three display modes are available.

- Pressure Trend Display
- Digital Display
- Analog Meter Display



Pressure Trend Display

## Outline

Compact, Reduced wiring, CE & RoHS Compliance

The “New A-net Series”

The available product line includes Pirani gauge, Capacitance Diaphragm gauge, Crystal Ion gauge, Ion gauge and Display unit (1 Channel and 3 Channel type). And the available gauges can be fitted to the Semiconductor and Flat Panel manufacturing equipments or any industrial applications requiring vacuum pressure measurement.

## Features

- Reduced wiring and space transducer type
- Reduced power consumption cast efficiency
- Analog output and PC communication are available
- Automatic recognition between gauge and display unit
- New external design for “New A-net Series”
- Lead free soldering completion
- CE making compliance
- RoHS directive compliance

## Applications

- Thin Film Vacuum Equipments, Deposition Equipments
- Semi-conductor Manufacturing Equipments, Electron Devices Manufacturing Equipments
- Scanning Electron Microscopes, Electron Beam Equipments
- Mass Analysis Systems, Other Analytical Equipments
- Vacuum Furnaces, Freeze Drying Systems
- Various Industrial Equipment Applications
- Pumping Systems
- R & D Equipment

## ● Pirani Gauge

- Recognized in various Industries for Cost Effectiveness and Performance Reliability
- $5 \times 10^{-2}$ Pa~Atmosphere
- Suitable for Measuring at Low Vacuum pressure.



Pirani

## ● Capacitance Diaphragm Gauge

- Introducing the "First" Capacitance Diaphragm Gauge based on MEMS Technology
- Sensor with Diaphragm made from Mono Crystal Silicon
- Compact, Lightweight, Inexpensive
- High Sensitivity, Excellent Repeatability



Capacitance

## ● Crystalion Gauge

- Combination Gauge with Miniature B-A Gauge and Crystal Gauge
- $4 \times 10^{-8}$ Pa~Atmosphere
- Excellent Measurement Repeatability



Crystalion

## ● Ion Gauge

- Wide pressure range is available
- High speed analog output
- Four kinds of emission setting mode
- Reduced space and power consumption cast efficiency
- Safety and ecologically product



Ion Gauge

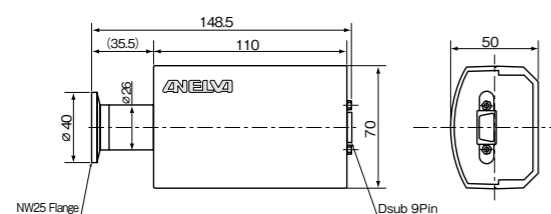
|                          | Pirani Gauge   |                                 |                          |   | Capacitance Diaphragm Gauge                                    |        |          |          |         | Crystalion Gauge  |                          | Ion Gauge   |             |
|--------------------------|--|---------------------------------|--------------------------|---|--|--------|----------|----------|---------|---|--------------------------|---|-------------|
|                          | Standard<br>M-350PG-STD                                | Set Point Type<br>M-350PG-SP    | RS485 Type<br>M-350PG-RS | Corrosion<br>resistance<br>set point type<br>M-351PG-SP | M-340DG  |        |          |          |         | Set Point Type<br>M-336MX-SP                              | RS485 Type<br>M-336MX-RS | M-311MHG-SP   | M-311MHG-RS |
|                          |  |                                 |                          |   | -QA  | -01    | -11      | -12      | -13     |   |                          |   |             |
| Measurement Range        | $5 \times 10^{-2} \sim 1 \times 10^5$ (Pa)             |                                 |                          |   | ~33Pa  | ~133Pa | ~1.33kPa | ~13.3kPa | ~133kPa | $4 \times 10^{-8} \sim 1 \times 10^5$ (Pa)*               |                          | $1 \times 10^{-7} \sim 10$ (Pa)                           |             |
| Power Requirement        | DC+14~30V  |                                 |                          |   | DC+13.5~26.4V  |        |          |          |         | DC+20~28V   |                          | DC+20~28V   |             |
| Power Consumption        | 1W   |                                 |                          |   | 0.8W   |        |          |          |         | 12W   |                          | 12W   |             |
| Analog Output            | 0~10V  |                                 | —                        | 0~10V   | 0~10V  |        |          |          |         | 0~10V   | —                        | 0~10V   | —           |
| Set Point                | —  | 2pc., Relay Output (DC 30V, 1A) |                          |   | —  |        |          |          |         | 2 pc., Relay Output (DC30V, 1A)                           |                          | 2pc., Relay Output  |             |
| Interface                | —  |                                 | RS485                    | —   | —  |        |          |          |         | —   | RS485                    | —   | RS485       |
| Connector                | D-sub 9 Pins   |                                 |                          |   | D-sub 9 Pins   |        |          |          |         | D-sub 9 Pins  |                          | D-sub 9 Pins  |             |
| Maximum Cable Length     | 200m (0.34mm <sup>2</sup> )                            |                                 |                          |   | 20m (0.13mm <sup>2</sup> )                                     |        |          |          |         | 300m (1mm <sup>2</sup> )                                  |                          | 200m (1mm <sup>2</sup> )                                  |             |
| Operation Temperature**  | 5~60°C   |                                 |                          |   | 15~35°C  | 5~50°C |          |          |         | 5~50°C  |                          | 5~50°C  |             |
| Storage Temperature**    | -20~70°C (No Operation)                                |                                 |                          |   | -20~70°C (No Operation)  |        |          |          |         | -20~70°C (No Operation)                                   |                          | -20~70°C (No Operation)                                   |             |
| Sensor Head Model Number | MP-1   |                                 |                          | MP-2  | —  |        |          |          |         | MX-1  |                          | Miniature B-A gauge (MG-2Iseries)                         |             |
| Sensor Material          | Pirani Filament: Tungsten, Case: SUS304                |                                 |                          | Pirani Filament: Nickel, Case: SUS304                   | SUS304, SUS316, Al <sub>2</sub> O <sub>3</sub> ***, Si, PYREX® |        |          |          |         | Filament: Y <sub>2</sub> O <sub>3</sub> /Ir, Case: SUS304 |                          | Filament: Y <sub>2</sub> O <sub>3</sub> /Ir, Case: SUS304 |             |
| Dimensions (mm)          | 88 × 40 × 23 (KF25)                                    |                                 |                          |   | 103 × 45 × 45 (KF25)   |        |          |          |         | 149 × 70 × 50 (KF25)                                      |                          | 114 × 70 × 50 (KF25)                                      |             |
| Flange                   | DN16/25 ISO KF, φ 34CF, 1/8NPT, Φ15adaptor, Φ18adaptor |                                 |                          |   | DN16/25 ISO KF, φ 70CF, Cajon 8VCR (Female) , Φ15adaptor       |        |          |          |         | DN16/25/40 ISO KF, φ 70CF                                 |                          | DN16/25 ISO KF, φ 34CF, Φ70CF                             |             |
| Protection Category      | IP40   |                                 |                          |   | IP40   |        |          |          |         | IP40  |                          | IP40  |             |
| CE Marking               | Compliance   |                                 |                          |   | Compliance   |        |          |          |         | Compliance  |                          | Compliance  |             |
| RoHS                     | Compliance   |                                 |                          |   | Compliance   |        |          |          |         | Compliance  |                          | Compliance  |             |

\*: Lower Limit Pressure in Measurement Range shows Soft X Ray Limit of B-A Gauge.

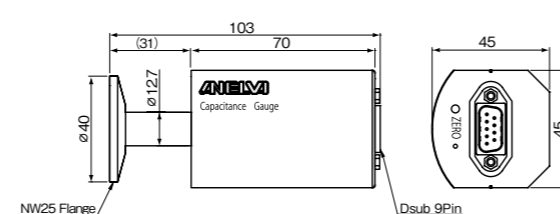
\*\* : Operation and Storage in High Temperature can cause Short lifetime.

\*\*\* : Al<sub>2</sub>O<sub>3</sub> is not used with M-340DG-QA and M-340DG-01 for its membrane coat.

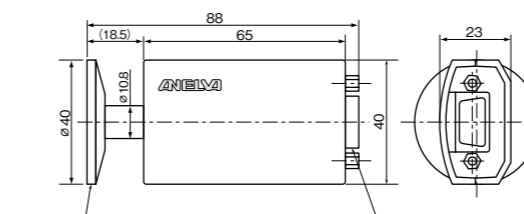
## ● Dimensional Drawings



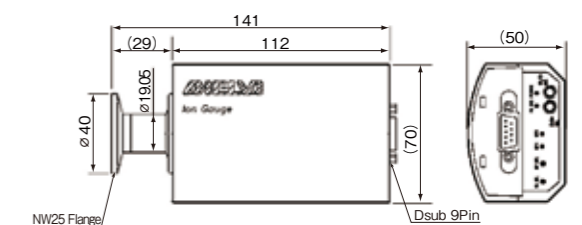
Pirani Gauge



Capacitance Gauge



Crystalion Gauge



Ion Gauge