Controller

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

Three display modes are available.
- Pressure Trend Display
- Digital Display
- Analog Meter Display

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

Environment Conscious Type Vacuum Gauge

From Atmosphere to Ultra High Vacuum

Three display modes are available.
- Pressure Trend Display
- Digital Display
- Analog Meter 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 cost 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
- Suitable for Measuring at Low Vacuum pressure.

### 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

<table>
<thead>
<tr>
<th>Pirani Gauge</th>
<th>Capacitance Diaphragm Gauge</th>
<th>Crystalion Gauge</th>
<th>Ion Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
<td><strong>M-350PG-STD</strong></td>
<td><strong>M-340DG-QA</strong></td>
<td><strong>M-311MHD-SP</strong></td>
</tr>
<tr>
<td><strong>Set Point Type</strong></td>
<td><strong>M-350PG-SP</strong></td>
<td><strong>M-336MX-SP</strong></td>
<td><strong>M-311MHG-SP</strong></td>
</tr>
<tr>
<td><strong>RS485 Type</strong></td>
<td><strong>M-350PG-RS</strong></td>
<td><strong>M-311MHG-RS</strong></td>
<td><strong>M-311MGH-01</strong></td>
</tr>
<tr>
<td><strong>Corrosion resistance</strong></td>
<td><strong>set point type</strong></td>
<td><strong>M-331PG-SP</strong></td>
<td><strong>M-331MGH-01</strong></td>
</tr>
<tr>
<td><strong>M-351PG-SP</strong></td>
<td><strong>M-336MX-RS</strong></td>
<td><strong>M-311MHG-01</strong></td>
<td><strong>M-311MGH-01</strong></td>
</tr>
<tr>
<td><strong>M-340DG</strong></td>
<td><strong>M-311MHG-RS</strong></td>
<td><strong>M-311MHG-01</strong></td>
<td><strong>M-311MGH-01</strong></td>
</tr>
</tbody>
</table>

### Measurement Range

- **Pirani Gauge:**
  - 5 × 10⁻²~1 × 10⁻⁰ (Pa)
- **Capacitance Diaphragm Gauge:**
  - 4 × 10⁻⁸~1 × 10⁻⁶ (Pa)
- **Crystalion Gauge:**
  - 1 × 10⁻¹⁰~1 (Pa)

### Power Requirement

- DC+14~30V
- DC+13.5~26.4V
- DC+20~28V

### Power Consumption

- 1W
- 0.8W
- 12W

### Analog Output

- 0~10V
- 0~10V
- 0~10V

### Set Point

- 2pc., Relay Output (DC 30V, 1A)
- 2pc., Relay Output (DC30V, 1A)
- 2pc., Relay Output

### Interface

- RS485
- RS485
- RS485

### Connector

- D-sub 9 Pins
- D-sub 9 Pins
- D-sub 9 Pins

### Maximum Cable Length

- 200m (0.34mm²)
- 20m (0.13mm²)
- 300m (1mm²)

### Operation Temperature

- 5~60℃
- 15~35℃
- 5~50℃

### Storage Temperature

- -20~70℃ (No Operation)
- -20~70℃ (No Operation)
- -20~70℃ (No Operation)

### Sensor Head Model Number

- MP-1
- MP-2
- Miniature B-A gauge (MG-2I series)

### Sensor Material

- Pirani Filament: Tungsten, Case: SUS304
- Pirani Filament: Nickel, Case: SUS304
- Filament: Y:O₂/Ir, Case: SUS304
- Filament: Y₂O₃/Ir, Case: SUS304

### Dimensions (mm)

- 88 × 40 × 23 (KF25)
- 103 × 45 × 45 (KF25)
- 149 × 70 × 50 (KF25)
- 114 × 70 × 50 (KF25)

### Protection Category

- IP40

### CE Marking

- Compliance

### RoHS

- Compliance

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**Note:**

- 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.**
- **Al₂O₃ is not used with M-340DG-QA and M-340DG-01 for its membrane coat.**

### Dimensional Drawings

- [Pirani Gauge Diagram](#)
- [Capacitance Diaphragm Gauge Diagram](#)
- [Crystalion Gauge Diagram](#)
- [Ion Gauge Diagram](#)