The AQM-100A is a compact and lightweight panel type resistivity analyzer. This model, which allows for a wide range of temperature compensations from 0 to 100°C, is suitable for measuring the resistivity of ultra-pure water (0 – 20MΩ·cm) used in semiconductor manufacturing plants, etc. The 4 – 20mADC transmission output and alarm contact output (2 circuits, contact “c”) come standard. Various features include sample water temperature display.

- **Compact DIN 96 size**
  - Features compact and lightweight design – Dimensions: 96mm x 96mm (DIN standard) x 90mm
- **Temperature compensation through microprocessor calculations**
  - Comparing to analog-type instruments, highly accurate temperature compensation is achieved with a wider temperature range covered.
- **Suitable for high-temperature applications up to 99.9°C**
  - The unit can be used for measurements during hot water sterilization processes for ultra-pure water.
- **2 detectors connectable (optional feature)**
  - Water quality index at 2 different locations can be displayed; this is selectable by key operation. However, note that transmission output and alarm contact output correspond to the selected detector only.
- **Temperature display**
  - As well as resistivity, sample water temperature can also be monitored at each point of measurement.
- **The model operates on a universal AC power supply at 90 – 264VAC.**

- **Cell constant adjustable**
  - When replacing the detector to a new one, the cell constant can be easily adjusted by key operation. This ensures the value to be measured accurately.
- **2 alarm points setting available**
  - 2 alarm points corresponding to measured values can be set; low-limit alarm and lower-low-limit alarm or upper-limit alarm and lower-limit alarm. If the measured value falls below the set point, the corresponding LED, “ALM 1” or “ALM 2,” illuminates and no-voltage contact will be activated.
- **Isolated 4 – 20mADC transmission output signals**
  - 2 isolated 4 – 20mA signals are available for connection to any external device.
- **Easy determination of detector and transmitter quality**
  - By removing the detector’s connector and replacing it with an equivalent resistance calculator, whether a fault is caused by the detector’s side or transmitter’s side (including the cable) can be assessed.
- **RS-232C interface (optional feature)**
  - Resistivity and solution temperature data can be output via RS-232C connection.

### Configuration

![Configuration diagram](https://via.placeholder.com/150)

**Detector**
- Model AR (2 detectors connectable)

**Field site**
- EC-10 Extension cable (Max. 100 m)

**Local panel/Instrument room**
- Controller Model AQM-100A

**Receiver**
- Recorder, Controller, etc

**Power supply**
- AC 90-264V

**Alarm contact output**
- Transmission output 4-20mADC
Standard Specifications

Product name: Resistivity Analyzer/Controller
Model: AQM-100A
Measurement: 2 metal electrodes

Measurement range: Resistivity: 0.00 – 20.00MΩ·cm (at 25°C)
The number of decimal places displayed (20.00 or 20.0) is selectable by key operation
Temperature: 0.0 – 99.9°C, resolution 0.1°C (display only)

Display: 4-digit digital LCD
Temperature compensation: Temperature range: 0 – 100°C
Transmission output: Isolated output, 4 – 20mA DC, Max. load resistance 650Ω
Alarms: Number of circuits: 2 circuits
Setting range: 0 – 20MΩ·cm
Contact output: No-voltage contact
Contact capacity: 250VAC, 3A (resistance load)
ALARM indication: LCD ALM 1 or 2 blinks

Number of detectors connectable: Up to 2 detectors (The second detector is optionally available upon request at the time of order)
Other functions: Over-scale indication; Blinking LCD
Performance (at equivalent resistance): Linearity: 0.04MΩ cm
Repeatability: 0.02MΩ cm
Temperature compensation: ±0.20MΩ cm

Power requirements: 90 – 264VAC, 50/60Hz
Power consumption: Approx. 5VA
Ambient temperature / humidity: -10 – 50°C, 95%RH or less
Case: Material: Main unit...Aluminum Window...Resin
Mounting: Panel mount
Panel cutout: 92(W) x 92(H)mm
Dimensions: 96(W) x 96(H) x 90(D)mm
Weight: Approx. 0.5 kg

Dimensions
Unit: mm

Panel cutout dimensions

Mounting panel

Operation panel

Input-output terminals

Brackets

Case

Terminal cover
Notes:
Either alarm contact output 1 or 2 can be set as the upper limit or lower limit.

Product code

AQM100A-1-

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<tr>
<td>90 - 264VAC, 50/60Hz</td>
<td>Custom spec.</td>
<td>Transmission output</td>
<td>4 - 20mA DC</td>
<td>4 - 20mA DC equipped with RS-232C interface</td>
<td>Connecting cable length*1</td>
<td>30m or less</td>
<td>Custom spec.</td>
<td>Sample water temperature</td>
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<td>A</td>
<td>Z</td>
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<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
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*1. The EC-10 extension cable must be separately ordered as required. (Max. 100m)
When the cable length is 31–100m, the instrument needs re-adjustment.
*2. In-house testing will be conducted using high-temperature samples.
*3. If the instrument is NOT ordered together with the detector, the information of the detector to be used by the client (serial number, etc.) is required.

Supported detectors

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<th>Standard Specifications</th>
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<tr>
<td>Product name</td>
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<td>Cell constant</td>
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Note 1: This is a compact detector equipped with a drip-proof connector, designed for use in combination with the AQM-100A/210A resistivity analyzer. Since the thermistor (5kΩ at 25°C) sealed in the inner electrode is used as a temperature-sensing element, the detector can also be combined with the conductivity analyzer for ultra-pure water.

Note 2: For use in combination with the resistivity analyzer, select the appropriate cell constant according to the measurement range as shown below.

- 0 – 0.2/2/2/20MΩ·cm: 0.1/cm
- 0 – 2/20/200MΩ·cm: 0.01/cm

Note 3: The main material of the electrodes is titanium. Insulation between the inner and outer electrodes is provided by PPS. An FKM (FKM rubber) O-ring insulating seal is also provided. Be sure to install the detector indoors, as it is not spray-proof.

Note 4: Sample water conditions

- Temperature: 0 – 100°C
- Pressure: 0.5MPa or less

Note 5: The EC-10 extension cable must be separately ordered as required.