**DC Voltage Measurement**

<table>
<thead>
<tr>
<th>Model</th>
<th>Range</th>
<th>Display Adjustable</th>
<th>Input Impedance</th>
<th>Max. Allowed Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-215A-11</td>
<td>±99.99mV</td>
<td>Offset ±9999</td>
<td>100MΩ or more</td>
<td>±50V</td>
</tr>
<tr>
<td>AM-215A-12</td>
<td>±999.9mV</td>
<td>Full scale ±9999</td>
<td>Approx. 1MΩ</td>
<td></td>
</tr>
<tr>
<td>AM-215A-13</td>
<td>±9999V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AM-215A-1V</td>
<td>1 to 5V</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accuracy: ±(0.03% of rdg. +2 digit) (23°C ±5°C)

**DC Current Measurement**

<table>
<thead>
<tr>
<th>Model</th>
<th>Range</th>
<th>Display Adjustable</th>
<th>Input Impedance</th>
<th>Max. Allowed Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-215A-2A</td>
<td>4-20mA</td>
<td>Offset ±9999</td>
<td>50μA</td>
<td>±50mA</td>
</tr>
</tbody>
</table>

Accuracy: ±(0.1% of rdg. +2 digit) (23°C ±5°C)

* This accuracy is for (FSC - OFS) / (FIN - OIN) < 1
*1: 1V | (FIN - OIN) | 2A | (FIN - OIN) | ±5

**Specifications**

- Measurement function: Select either DC voltage or DC current (single range)
- Input circuit: Single ended
- Operation type: Sigma-Delta conversion
- Sampling speed: Max. 25 per second
- Display: Red 7-segment LED display (character height: approx. 8mm)
- Polarity display: A minus sign is displayed if the operation result is negative.
- Out-of-range warning: “OL” or “-OL” is displayed with respect to the input signal when the value is outside the display range.
- Max. display: ±9999 (full 4 digits)
- Decimal point: Can be set at any position using the front-panel flat switches.
- Zero display: Leading zero suppress
- Backup: Settings are held in EEPROM (guaranteed for 100,000 writes)
- Operating temperature and humidity ranges: 0 to 50°C, 35% to 85% RH (no condensation)
- Storage temperature and humidity ranges: -20 to 70°C, 60% or less RH (no condensation)
- Supply voltage: DC 24V ±20%
- Consumed power: Approx. 2.2W
- External dimensions: 48(W) × 24(H) × 87.8(D)
- Weight: Approx. 100g
- Withstand voltage: DC 500V for 1 minute across power terminals/input terminals and each output terminal.
- DC 500V for 1 minute across input terminals/each output terminal.
- AC 1500V for 1 minute across case/power terminals, input terminals, and each output terminal.
- Insulating resistance: 100MΩ or more with DC 500V across the terminals listed above.
- Standard accessories: Operation manual, unit seal
- Conformity standard: EN61326+A1, +A2 E247481

**Features**

- AL1 and AL2 set-point
- Bright LED 8mm (Red)
- 1 to 5V, 4 to 20mA Measurement
- Power Supply DC24V ±20% (isolated)
- Offset +/-9999 adjustable
- Fullscale +/-9999 adjustable

**External control unit**

Digital zero: Digital zero is turned ON when the DZ terminal and COM terminal are shorted or at the same potential.

**External power supply unit**

Rating: DC 24V ±5%
Max. load: 25mA

**Comparator unit**

Control method: Microcomputer computation
Setting range: -9999 to +9999
Comparator operation: Depends on sampling speed
Comparator conditions: HI / GO / LO mode

**Comparator condition**

<table>
<thead>
<tr>
<th>Comparator condition</th>
<th>Check result display</th>
<th>Output</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurement value</td>
<td>HI limit value</td>
<td></td>
</tr>
<tr>
<td>LO limit value</td>
<td>HI limit value</td>
<td></td>
</tr>
<tr>
<td>LO limit value</td>
<td>Measurement value</td>
<td></td>
</tr>
<tr>
<td>HI limit value</td>
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<td></td>
</tr>
<tr>
<td>HH / HI / GO mode</td>
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<tr>
<td>Measurement value</td>
<td>HH limit value</td>
<td></td>
</tr>
<tr>
<td>Measurement value</td>
<td>HI limit value</td>
<td></td>
</tr>
<tr>
<td>Measurement value</td>
<td>LO limit value</td>
<td></td>
</tr>
<tr>
<td>HI limit value</td>
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<td></td>
</tr>
<tr>
<td>LL limit value</td>
<td>Measurement value</td>
<td></td>
</tr>
<tr>
<td>LO limit value</td>
<td>Measurement value</td>
<td></td>
</tr>
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<td>Measurement value</td>
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<td>GO / LO / LL mode</td>
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**Setting condition**

HI / GO / LO mode HI limit value > LO limit value
HH / HI / GO mode HH limit value > HI limit value
GO / LO / LL mode LO limit value > LL limit value

**Hysteresis**

For each comparator all limit value can be set as 1 to 999 digits.

**Relay output unit**

Output ratings: DC 24V, 1A (resistance load)

**Photocoupler output unit**

Output ratings: MAX. 30V 50mA
Output saturation voltage: 1.2V max. at 50mA

**Optional unit**

Analog output unit (can not be installed together with RS-485)

Output function: 4 to 20mA (AM-215A-XX-6X) or 0 to 10V (AM-215A-XX-7X)

**Output specifications**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Load Resistance</th>
<th>Accuracy</th>
<th>Ripple</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 to 20mA</td>
<td>0 to 250Ω</td>
<td>±(0.5% of FS)</td>
<td>25mV(p-p) max.</td>
</tr>
<tr>
<td>0 to 10V</td>
<td>10kΩ min.</td>
<td></td>
<td>50mV(p-p) max.</td>
</tr>
</tbody>
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Watanabe Electric Industry Co., Ltd.