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Mitsubishi Electric Electronic Multi-measuring Instruments

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Safety Tips:
Be sure to read the instruction manual fully before using this product.

Precautions Before Use
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Super-S Series
ELECTRONIC MULTI-MEASURING INSTRUMENTS

for a greener tomorrow
Results of Pursuing Operation Ease and Viewing Clarity
ME110 Super-S Series Electronic Multi-measuring Instruments

Inspired by the excellent reputation of the popular New-S (NS) Series products introduced in 2006, Mitsubishi Electric is delighted to introduce its all-new Super-S (SS) Series electronic multi-measuring instruments developed in the pursuit of enhanced operation ease and viewing clarity.

This new series features a liquid-crystal display (LCD) screen that integrates the top and bottom tiers, clear easy-to-read text/characters, and compatibility with NS Series applications in terms of both functions and installation.

The innovative design of the SS Series is supporting the realization of energy-saving measurement monitoring systems that are easy to use and read.

ME110Super-S

5 Advantages

Enhanced Viewing Clarity

- Wide-angle-view LCD
  Wide-angle-view LCD with top and bottom tiers integrated for total freedom in installation. Crystal-clear display makes text even easier to read when viewed from the front.

- High-brightness Backlight
  A high-brightness LED is incorporated for improved illumination.

Communication Functions to Support Open Networks
CC-Link communication
ModBus communication

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- Service Network
Inspired by the excellent reputation of the popular New-S (NS) Series products introduced in 2006, Mitsubishi Electric is delighted to introduce its all-new Super-S (SS) Series electronic multi-measuring instruments developed in the pursuit of enhanced operation ease and viewing clarity.

This new series features a liquid-crystal display (LCD) screen that integrates the top and bottom tiers, clear easy-to-read text/characters, and compatibility with NS Series applications in terms of both functions and installation.

The innovative design of the SS Series is supporting the realization of energy-saving measurement monitoring systems that are easy to use and read.

- **Motor Start-up Current Masking**
  Prevents maximum-value updates and alarm outputs caused by motor start-up current.

- **Contact Input (Digital Input)**
  Equipped with a digital input terminal (transmission) function, enabling transmission at five points via B/NET transmission.

- **Misconnected Wiring Detection**
  Support for detecting misconnected wires by displaying voltage/current phase angles.

- **Test Function**
  Outputs a test signal when an auxiliary power source is applied (input voltage/current not needed) (alarm circuit, analog output, pulse output, communication function).

- **Highly precise monitoring functions using our dedicated ASIC**
  Upper/lower limit monitoring of up to four items
  Harmonics monitoring
  Measuring of import/export active energy

- **Wide-angle-view LCD**
  Wide-angle-view LCD with top and bottom tiers integrated for total freedom in installation.
  Crystal-clear display makes text even easier to read when viewed from the front.

- **High-brightness Backlight**
  A high-brightness LED is incorporated for improved illumination.

- **Communication Functions to Support Open Networks**
  CC-Link communication
  ModBus communication
**High Cost Efficiency**
- Save space and reduce connection wires

**Crystal-clear Display**
- Top, middle and bottom tiers in the digital display are all the same size.
- The positions of items measured can be changed freely between the top, middle and bottom tiers.
- Function for adjusting LCD contrast and backlight brightness added (optional).
- Freedom to select items displayed (P00).
- Items can be set to be displayed in a repeating cycle.

**Simple Settings, Simple Operations**
- Possible to set items such as phase-wire type and primary voltage/current.
- Maximum scale value can be set according to primary current/voltage.
- Switch display and switch phase buttons can be used to easily change between screens and view desired items.

**Product Line-up**

<table>
<thead>
<tr>
<th>Model name</th>
<th>Measurement items</th>
<th>Phase-wire type</th>
<th>Output/Communication functions</th>
<th>Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME110SSR</td>
<td></td>
<td>1P2W/1P3W/3P3W/3P4W</td>
<td>Analog output</td>
<td></td>
</tr>
<tr>
<td>ME110SSR-4A2P</td>
<td></td>
<td>1P2W/1P3W/3P3W/3P4W</td>
<td>Pulse output</td>
<td></td>
</tr>
<tr>
<td>ME110SSR-4AP NEW</td>
<td></td>
<td>1P2W/1P3W/3P3W/3P4W</td>
<td>Alarm output</td>
<td></td>
</tr>
<tr>
<td>ME110SSR-APH</td>
<td></td>
<td>1P2W/1P3W/3P3W/3P4W</td>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>ME110SSR-C</td>
<td></td>
<td>1P2W/1P3W/3P3W/3P4W</td>
<td>Digital input</td>
<td></td>
</tr>
<tr>
<td>ME110SSR-CH NEW</td>
<td></td>
<td>1P2W/1P3W/3P3W/3P4W</td>
<td>ModBus</td>
<td></td>
</tr>
<tr>
<td>ME110SSR-MB</td>
<td></td>
<td>1P2W/1P3W/3P3W/3P4W</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Shared Functions

The previous NS Series is divided into two models based on phase-wire type. However, the new SS Series integrates everything into a single model, simplifying model selection and inventory management.

### NS Series

1P2W/1P3W/3P3W common

### SS Series

1P2W/1P3W/3P4W common

Enhanced Viewing Clarity

Wide-angle-view LCD

- Built-in wide-angle-view LCD for total freedom in installation position. Easier to read when viewed from the front.
- Previously used exclusively for bottom-tier mounting; however, top and bottom-tier specifications are now shared, simplifying model selection.

<table>
<thead>
<tr>
<th>New/Previous</th>
<th>Series name</th>
<th>Viewed from side</th>
<th>Viewed from above</th>
</tr>
</thead>
<tbody>
<tr>
<td>New model</td>
<td>ME110SS</td>
<td>60° 60° 60° 60°</td>
<td></td>
</tr>
<tr>
<td>Previous</td>
<td>ME110NS</td>
<td>10° 60° 60° 60°</td>
<td></td>
</tr>
</tbody>
</table>

* Viewing-angle values for the NS Series apply to the standard model (top-tier specifications).

High-brightness Backlight

- Highly reliable, high-brightness backlight incorporated.
- Backlight brightness can be adjusted between levels 1~5 (3 is the default).
- The backlight has two modes, always-on and automatic-off (always-on is the default).

Support for Wiring Checks

Support Function for Detecting Misconnected Wires

- Support for detecting misconnected wires is provided by displaying current/voltage phase angles (one-side as standard for voltage), phase power values (W1, W3), and current/voltage values. The function checks for abnormal current/voltage phase angles by comparisons with normal values, making it easier to specify the location of misconnected wires.

* This function only works in the value setting confirmation mode; the items stated above are not displayed during normal operation.

Example: Three-phase, three-wire; power factor: 1.0

Displays phase angle (current) in the case of balanced load

<table>
<thead>
<tr>
<th>Top tier</th>
<th>Bottom tier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between VRS and IR</td>
<td>Between VRS and IT</td>
</tr>
<tr>
<td>Normal operation</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>Misconnected</td>
</tr>
<tr>
<td>30°</td>
<td>210°</td>
</tr>
<tr>
<td>270°</td>
<td>90°</td>
</tr>
</tbody>
</table>

- Easier to read when viewed from the front.
ME110 Super-S Series Features

(1) Alarm Circuit Test
Displays present alarm contact status

<table>
<thead>
<tr>
<th>Status</th>
<th>Display</th>
<th>Between output terminal A-COM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm activated</td>
<td>ON</td>
<td>Closed</td>
</tr>
<tr>
<td>Alarm not activated</td>
<td>OFF</td>
<td>Open</td>
</tr>
</tbody>
</table>

Each time the reset button is pushed for two seconds, the display and contact will be reversed, regardless of whether or not the alarm is activated.

(2) Analog Output Test
Confirms the corresponding CH test.

<table>
<thead>
<tr>
<th>Output</th>
<th>Output specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>4-20mA, 1-5V, 0-5V</td>
</tr>
<tr>
<td>25%</td>
<td>4mA, 1.05V, 0.05V</td>
</tr>
<tr>
<td>50%</td>
<td>8mA, 2.02V, 1.25V</td>
</tr>
<tr>
<td>75%</td>
<td>12mA, 3.00V, 2.50V</td>
</tr>
<tr>
<td>100%</td>
<td>20mA, 5.00V, 5.00V</td>
</tr>
</tbody>
</table>

(3) Pulse Output Test
Push the reset button once for a single-pulse output.

(4) Communication Function Test
Display screen

- The ME110NS Series is only equipped with the alarm circuit test mode. However, for the ME110SS Series, analog output, pulse output, and communication function wiring check test functions have been newly introduced.
- At the time of counter-testing onsite to check the system and checking wiring at the time of shipment, when the auxiliary power source is applied, a test signal can be output. Items other than analog output, pulse output, and the communication function are not displayed on the set-up screen.

Abundant Functions

Motor Start-up Current Masking
This function monitors motor current, and is used to prevent maximum-value updates and alarm outputs caused by motor start-up current. Note that although the maximum value is not updated, the present value is displayed.

Contact Input Function
By setting the external switch terminal as the external contact input, the circuit breaker switching signal and overcurrent relay alarm signal are connected, and the contact status can be displayed. A model with a communication function, three-point contact input, and one alarm has been newly added to the line-up. In addition, for B/NET transmission models, three-point digital input is provided, allowing monitoring of contact status by inputting the alarm contact output to the main unit and transmitting it to the central device.
Capacitor Panel Compatibility

(1) Using the reactive power meter, two-quadrant and four-quadrant measurements are possible. (2) A bar graph with only lagging reactive power can be displayed.

Abundant Alarm Display Functions

(1) Flashing backlight at time of alarm added. The backlight of the new model can be set to flash to indicate an alarm, an improvement over previous models that use a flashing-screen alarm. (2) As with previous models, there is a choice of automatic or manual alarm recovery. (3) As with previous models, up to four upper/lower-limit values can be monitored.

Operating Time, CO₂ Conversion Function

(1) Operating time load can now be measured. When setting the operating time display, the current measurement time is cumulative and the load for operating time is displayed. ※The operating time is cumulative when the measurement value for current phase R is not zero. (2) CO₂ emissions conversion function added When setting the CO₂ emissions display, the CO₂ emissions converted from power consumption (reception) are displayed. ※CO₂ emissions are to be calculated as follows: CO₂ emissions = Power use (reception) × CO₂ conversion ratio setting value. As this is not a cumulative value, when the CO₂ conversion ratio setting is changed, the CO₂ emissions value changes as well.

Compatibility with Specific Primary Current/Voltage and Specific Secondary Voltage

(1) Specific primary current can now be set. Use in various operating environments is possible. When the primary current is set to SPA: 5A～30kA <10A: set upper two digits ≥10A: set upper three digits (3) Rated secondary voltage can now be set. The following VT secondary-side voltages can now be measured. /100V/110V/220V

Abundant Options for Displaying Power Consumption/Reactive Power Consumption

●Power consumption and reactive power consumption measurements can be divided into two and four categories, respectively. Power consumption: power reception/transmission Reactive power consumption: leading/lagging power reception/transmission ●Both types of power consumption (reception and transmission) can be displayed simultaneously. ●A model capable of pulse output at two points has been added to the line-up. Same element: one point; Different elements: one point each
ME110SSR

- Circuit alternating current, alternating current voltage, power, reactive power, power factor, frequency, power use, and high-frequency voltage/current measurements can be displayed.
- The line-up includes an analog model with four circuits, single-pulse and single alarm output functions, an analog model with a two-pulse output function, and an analog model with four circuits and a single output pulse function.

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Multi-measuring instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase-wire type</td>
<td>1P2W/1P3W/3P3W (2CT), 3P3W (3CT) /3P4W</td>
</tr>
<tr>
<td>Interference voltage: class 0.5</td>
<td>1P2W/1P3W/3P3W: •x3 (1, 2, 3) 3P4W: •x5 (1, 2, 3, N, AVG)</td>
</tr>
<tr>
<td>Demand: class 0.5</td>
<td>1P2W/1P3W/3P3W: •x3 (1, 2, 3) 3P4W: •x5 (1, 2, 3, N, AVG)</td>
</tr>
<tr>
<td>Alternating voltage: class 0.5</td>
<td>1P2W/1P3W/3P3W: •x3 (12, 23, 31) 3P4W: •x4 (12, 23, 31, AVG)</td>
</tr>
<tr>
<td>Power: Demand: class 0.5</td>
<td>1P2W/1P3W/3P3W: • 3P4W: •x4 (2, 1, 2, 3)</td>
</tr>
<tr>
<td>Apparent power: class 0.5</td>
<td>1P2W/1P3W/3P3W: • 3P4W: •x4 (2, 1, 2, 3)</td>
</tr>
<tr>
<td>Reactive power: class 2.0</td>
<td>1P2W/1P3W/3P3W: • 3P4W: •x4 (2, 1, 2, 3)</td>
</tr>
<tr>
<td>Power factor: class 2.0</td>
<td>1P2W/1P3W/3P3W: • 3P4W: •x4 (2, 1, 2, 3)</td>
</tr>
<tr>
<td>Frequency: class 0.5</td>
<td>1P2W/1P3W/3P3W: • 3P4W: •x4 (2, 1, 2, 3)</td>
</tr>
<tr>
<td>Power consumption: class 0.5</td>
<td>-</td>
</tr>
<tr>
<td>Reactive power consumption: class 0.5</td>
<td>-</td>
</tr>
<tr>
<td>High-frequency voltage: class 2.5</td>
<td>(THD, h1···h13)</td>
</tr>
<tr>
<td>Voltage circuit: Each phase 0.1VA (110VAC), 0.2VA (220VAC) &amp; (100V: set upper two digits)</td>
<td></td>
</tr>
<tr>
<td>Current circuit: Each phase 0.1VA (100V: set upper three digits)</td>
<td></td>
</tr>
<tr>
<td>Possible range for settings</td>
<td>Voltage: Three-phase, three-wire: single-phase, two-wire transformer connection: 150V (110V), 300V (220V) When using VT: 60V~750kV (&lt;100V: set upper two digits) (&gt;100V: set upper three digits)</td>
</tr>
<tr>
<td>Auxiliary power source</td>
<td>8VA (110VAC), 9VA (220VAC), 6W (100VDC)</td>
</tr>
<tr>
<td>Power compensation</td>
<td>Recorded in nonvolatile memory (set-up value, max./min. values, power consumption, reactive power consumption)</td>
</tr>
</tbody>
</table>

### How to Order

#### Model name
- ME110SSR-4AP

#### Phase/Wire no.
- 3P3W

#### Rated current
- 5A

#### With analog output
- 4-20mA

#### With settings

#### No. of units
- 5

- For orders where values are not specified, instruments will be manufactured using standard specifications (5A input, analog output: 4-20mA, no settings).
- For products with settings, please specify the settings in detail.
ME110SSR (with transmission function)

- Circuit alternating current/voltage, power, reactive power, power factor, frequency, power consumption, reactive power consumption, high-frequency voltage/current can be displayed and measured amounts are transmitted/output.
- The line-up includes models with CC-Link communication and ModBus communication. Construction of all types of network systems is simple and easy.
- The line-up includes ME110SSR-CH, which features CC-Link communication function, three-point digital input, and one-point alarm output.

### Specifications

<table>
<thead>
<tr>
<th>Model name</th>
<th>ME110SSR-C</th>
<th>ME110SSR-CH</th>
<th>ME110SSR-MB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/Wire type</td>
<td>1P2W/1P3W/3P3W (2CT), 3P3W (3CT)</td>
<td>3P4W (common)</td>
<td>100m (10Mbps) ~ 1200m (156kbps)</td>
</tr>
<tr>
<td>Inrush current</td>
<td>1P2W/1P3W/3P3W: +3 (1, 2, 3)</td>
<td>3P4W: +5 (1, 2, 3, N, AVG)</td>
<td>3P4W only: +4 (2, 1, 3)</td>
</tr>
<tr>
<td>Demand</td>
<td>1P2W/1P3W/3P3W: +3 (1, 2, 3)</td>
<td>3P4W: +5 (1, 2, 3, N, AVG)</td>
<td>3P4W only: +4 (2, 1, 3)</td>
</tr>
<tr>
<td>Alternating voltage</td>
<td>1P2W/1P3W/3P3W: ±3 (12, 23, 31)</td>
<td>3P4W: ±4 (12, 23, 31, AVG)</td>
<td>3P4W only: ±4 (2, 1, 3)</td>
</tr>
<tr>
<td>Power</td>
<td>1P2W/1P3W/3P3W:</td>
<td>3P4W: ±4 (2, 1, 3)</td>
<td>3P4W only: ±4 (2, 1, 3)</td>
</tr>
<tr>
<td>Apparent power</td>
<td>1P2W/1P3W/3P3W:</td>
<td>3P4W: ±4 (2, 1, 3)</td>
<td>3P4W only: ±4 (2, 1, 3)</td>
</tr>
<tr>
<td>Reactive power</td>
<td>1P2W/1P3W/3P3W:</td>
<td>3P4W: ±4 (2, 1, 3)</td>
<td>3P4W only: ±4 (2, 1, 3)</td>
</tr>
<tr>
<td>Power factor</td>
<td>(class: 0.7)</td>
<td>(class: 0.7)</td>
<td>(class: 0.7)</td>
</tr>
<tr>
<td>Current consumption</td>
<td>(class: normal)</td>
<td>(class: normal)</td>
<td>(class: normal)</td>
</tr>
<tr>
<td>High-frequency current</td>
<td>1P2W/1P3W/3P3W:</td>
<td>3P4W:</td>
<td>3P4W only:</td>
</tr>
<tr>
<td>High-frequency voltage</td>
<td>1P2W/1P3W/3P3W:</td>
<td>3P4W:</td>
<td>3P4W only:</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>1P2W/1P3W/3P3W: 110V/220V</td>
<td>3P4W: 63.5:110V~277/480V</td>
<td>50-60Hz</td>
</tr>
<tr>
<td>Rated current</td>
<td>AC 5A or AC 1A</td>
<td>AC 1A is a special product (please specify when ordering)</td>
<td>AC 1A is a special product (please specify when ordering)</td>
</tr>
<tr>
<td>Scale settings</td>
<td>Automatic scale display based on primary voltage, primary current, power/reactive power scale, positive only/positive-negative power scale settings</td>
<td>Automatic scale display based on primary voltage, primary current, power/reactive power scale, positive only/positive-negative power scale settings</td>
<td>Automatic scale display based on primary voltage, primary current, power/reactive power scale, positive only/positive-negative power scale settings</td>
</tr>
<tr>
<td>Displaying</td>
<td>Voltage</td>
<td>Single-phase, three-wire, two-wire</td>
<td>Three-phase, four-wire</td>
</tr>
<tr>
<td>Setting range</td>
<td>For direct connection: 150V (110V), 300V (220V)</td>
<td>For direct connection: 300V (220V)</td>
<td>For direct connection: 277V/480V (max.)</td>
</tr>
<tr>
<td></td>
<td>When using VT: 60V~750V (&lt;100V: set upper two digits)</td>
<td></td>
<td>When using VT: 60V~750V (&lt;100V: set upper two digits)</td>
</tr>
<tr>
<td></td>
<td>≥100V: set upper three digits (≥100V: set upper three digits)</td>
<td></td>
<td>≥100V: set upper three digits (≥100V: set upper three digits)</td>
</tr>
<tr>
<td>Setting precision</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
</tr>
<tr>
<td>External switch</td>
<td>Choice of two from switch display, switch phase, reset, max./min., and external contact input</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input circuit</td>
<td>Voltage circuit: Each phase 0.1VA (110VAC), 0.2VA (220VAC)</td>
<td>Current circuit: Each phase 0.1VA</td>
<td></td>
</tr>
<tr>
<td>Auxiliary power source</td>
<td>8VA (110VAC), 9VA (220VAC), 6V (100VDC)</td>
<td>8VA (110VAC), 9VA (220VAC), 6V (100VDC)</td>
<td>8VA (110VAC), 9VA (220VAC), 6V (100VDC)</td>
</tr>
<tr>
<td>Transmission type</td>
<td>CC-Link transmission</td>
<td>CC-Link transmission</td>
<td>RS485 (ModBus) communication</td>
</tr>
<tr>
<td>Transmission method</td>
<td>Broadcast polling method</td>
<td>Broadcast polling method</td>
<td>Mod Bus RTU</td>
</tr>
<tr>
<td>Transmission speed</td>
<td>10M, 5M, 2.5M, 625k, 156kbps</td>
<td>10M, 5M, 2.5M, 625k, 156kbps</td>
<td>2400, 4800, 9600, 19200, 38400bps</td>
</tr>
<tr>
<td>Connection method</td>
<td>Bus connection method</td>
<td>Bus connection method</td>
<td>Bus connection method</td>
</tr>
<tr>
<td>Transmission distance</td>
<td>100m (100kps) ~ 1200m (156kps)</td>
<td>100m (100kps) ~ 1200m (156kps)</td>
<td>100m</td>
</tr>
<tr>
<td>No. of controllable units</td>
<td>42 units (remote device station)</td>
<td>42 units (remote device station)</td>
<td>31 units</td>
</tr>
<tr>
<td>Alarm output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power output compensation</td>
<td>Recorded in nonvolatile memory (set-up value, max/min. values, power consumption, reactive power consumption)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auxiliary power source</td>
<td>100-240VAC, 50-60Hz/25-140VDC (dual use)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>0.5kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
1. The power demand value is calculated based on thermo-motive models; it is not the average power for 30 minutes.
2. When input voltage is 11V or lower, the measured values are displayed as follows. However, note that voltage is measured only when there is no voltage input.
4. Frequency, high-frequency current/voltage: Displayed as ----.
5. Power consumption, high-frequency voltage/current can be displayed and measured amounts are transmitted/output.

**Legend for measurement display items:**
- **Max./Min. values included:**
- **Max./Min. values included:**
- **Max. value included:**
- **Cumulative value:**

### How to Order

Specify in all cases | Specify if required

<table>
<thead>
<tr>
<th>Model name</th>
<th>ME110SSR-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase/Wire no.</td>
<td>3P3W</td>
</tr>
<tr>
<td>Rated current</td>
<td>5A</td>
</tr>
<tr>
<td>With settings</td>
<td>With settings</td>
</tr>
<tr>
<td>No. of units</td>
<td>5</td>
</tr>
</tbody>
</table>

- For orders where values are not specified, instruments will be manufactured using standard specifications (5A input, no settings).
- For products with settings, please specify the settings in detail.
**Electronic Multi-measuring Instruments**

### External Dimensions

*Models vary in terms of output terminals and terminal symbols incorporated.*

- Stopper
- Attachment stud 2-M5
- Terminal screw M3
- Terminal block with terminal cover
- Panel hole dimensions (View from the front of panel)

### Electronic Multi-measuring Instrument Mounting Angle

(View from side) (View from above)

### Wiring Diagrams

**ME110SSR**

1. For a low-voltage circuit, grounding of the secondary sides of VT and CT is not necessary.
2. Do not connect to NC terminal.
3. "(   )" shows terminal block No. for 3P3W, 1P3W, 1P2W.

- Single-phase, two-wire
- Single-phase, three-wire
- Three-phase, three-wire (2CT)
- Three-phase, three-wire (3CT)
- Three-phase, four-wire (with VT)
- Three-phase, four-wire (Condition for direct input)
ME110SSR-4APH

1. For a three-phase circuit, grounding of the secondary sides of VT and CT is not necessary.
2. Do not connect to NC terminal.
3. 1: Single terminal block No.: IPD2 PH, VP/PH, VPW.

Analog output CH1
Analog output CH2
Analog output CH3
Analog output CH4
Pulse output
Alarm output

Single-phase, two-wire

Single-phase, three-wire

Three-phase, three-wire

Three-phase, four-wire (with VT)

Three-phase, four-wire (Condition for direct input)

ME110SSR-4A2P

Analog output CH1
Analog output CH2
Analog output CH3
Analog output CH4
Pulse output

Single-phase, two-wire

Single-phase, three-wire

Three-phase, three-wire

Three-phase, four-wire (with VT)

Three-phase, four-wire (Condition for direct input)
External Dimensions/Wiring Diagrams

ME110SSR-C

1. Auxiliary power supply 100-240VAC, 100VDC.
2. Fuse gL type (IEC369) or M type rated between 5.5 and 5A.
3. CC-Link communication.
4. RS485 (ModBus).

Single-phase, two-wire

Single-phase, three-wire (2CT)

Three-phase, three-wire (2CT)

Three-phase, four-wire (with VT)

Three-phase, four-wire (Condition for direct input)

ME110SSR-MB

1. Auxiliary power supply 100-240VAC, 100VDC.
2. Fuse gL type (IEC369) or M type rated between 5.5 and 5A.
3. CC-Link communication.
4. RS485 (ModBus).

Single-phase, two-wire

Single-phase, three-wire

Three-phase, three-wire (2CT)

Three-phase, four-wire (with VT)

Three-phase, four-wire (Condition for direct input)
Safety Precautions

Be sure to read these instructions before using the products described in this brochure

Be sure to keep the manual where it is easily available for future reference. Be sure that the end user receives and reads the manual and precautions before using a product.

This symbol indicates that improper use/handling may cause the unit to malfunction, electrical shock or even a fire. To ensure safety, follow instructions at all times.

### Operating Environment/Conditions

The use of an instrument in any of the following environments may cause a malfunction or reduce service life. Do not use instruments in environments where:

- Ambient temperature is outside the range of -5–50°C
- Daily average temperature exceeds 35°C
- Relative humidity is outside the range of 30–85%, or where condensation occurs
- There is excessive dust, corrosive gas, salt-saturated air or oily smoke
- The instrument is subject to excessive vibration or physical shock

### Installation and Connection

- The instrument should be installed and used by qualified electricians.
- The instrument must not be connected to a power source and used outside of the panel.
- Before use, verify the following:
  - The external equipment terminal rating should match the instrument's external terminal rating (see Specifications).
  - Voltage circuits, P1, P2 and P3 are measurement category III.
  - The instrument must be mounted on a panel, and all connections must be installed inside the cabinet.
  - Tighten the terminal screws to the specified torque, and use suitable pressure connectors and wire size.

### Operation Instructions

- When the external terminals are connected to external equipment, the instrument and external equipment must not be connected to a power source and used outside the panel.
- The external equipment terminal rating should match the instrument's external terminal rating (see Specifications).

### Maintenance Instructions

- Do not touch the terminals when live circuits are connected to the instrument.
- Do not try to disassemble or modify the instrument.
- Use a soft, dry cloth to wipe dirt/dust from the surface.
- Before use, check the following:
  - The instrument for damage.

### Storage Conditions

Storage of an instrument in one of the environments described below may cause a malfunction or reduce service life. Do not store instruments for long periods of time in environments where:

- Ambient temperature is outside the range of -20–60°C.
- Relative humidity is outside the range of 30–85%, or where condensation occurs.
- There is excessive dust, corrosive gas, salt-saturated air or oily smoke.
- The instrument is directly exposed to rain, drops of water or sunlight.

### Disposal

- Dispose of these products as industrial waste.
- These products are not battery operated.

### Guarantee

The product is covered by a free-of-charge warranty for one year from the day of purchase. However, please note that Mitsubishi Electric is not liable for: problems with products caused by the customer or any third party, legal problems relating to the products, and failure of damage to products caused by improper use or nonconformance to the precautions or operating instructions.
Service Network

<table>
<thead>
<tr>
<th>Country / Region</th>
<th>Company</th>
<th>Address</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>P.T. Sahabat Indonesia</td>
<td>Jl. Muara Karang Selatan Blok A,Utara No.1 kav. No.11 P.O. Box 5045,Jakarta/11050, Jakarta, Indonesia</td>
<td>+62-(0)21-6621780</td>
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<tr>
<td>Korea</td>
<td>Mitsubishi Electric Automation Korea Co., Ltd.</td>
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<td>+82-2-3668-6567</td>
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<tr>
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<td>+886-(0)2-2298-8889</td>
</tr>
<tr>
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<td>+66-223-4220-3</td>
</tr>
<tr>
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<td>Sa Giang Techno Co., Ltd.</td>
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<td>+84-8-910 4763 / 4758 / 4759</td>
</tr>
</tbody>
</table>

Safety Tips: Be sure to read the instruction manual fully before using this product.

Precautions Before Use

• Please consult with a Mitsubishi Electric representative when considering the application of products presented in this catalogue with machinery or systems designed for specialized use such as nuclear power, electrical power, aerospace/outer space, medical, or passenger transportation vehicles.
• Mitsubishi Electric Corporation shall not be liable, to the customer or equipment user, for:
  1) Any damage found not to be attributable to a Mitsubishi Electric product.
  2) The loss of opportunity or profits for the customer or user caused by any fault in a Mitsubishi Electric product.
  3) Damage, secondary damage or accident compensation resulting from special factors regardless of whether or not such factors could be predicted by Mitsubishi Electric.
  4) Damage to products of other companies and/or guarantees relating to other services.

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE: TOKYO BUILDING, 2-7-9, MARUNOUCHI, CHIYODA-KU, TOKYO 100-6010, JAPAN

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