LM305Z576H06

Electronic Multi-Measuring Instrument Types: ME96SSHB-MB / ME96SSRB-MB / ME96SSEB-MB

Úser's Manual (Digest version)

Be sure to read this manual carefully in order to properly use this instrument

This manual must be forward to the end user and be kept ready to hand and accessible for future use at all times

# Features

- Common to every type
  This instrument measures the load status by wiring the secondary sides of VT (Voltage Transformer) and CT (Current Transformer) and displays various measured values.
  The password protection prevents accidental setting change and losing measured data.
  The MODBUS RTU communication function transmits measured data to superior monitoring systems.
  The standard complies with the requirements of CE marking, UL standards, KC mark, and FCC/IC.
  The support function for confirming input wiring connections can determine the wiring condition in the test mode. When incorrect wiring occurs by either voltage input or current input, the function displays the wrong parts on the screen, and also shows the phase angle for current/voltage and the active power/voltage/current value.
- ME96SSHB-MB and ME96SSRB-MB also have the following features:
- The measurement of high-order harmonics is supported.

  Active energy can be measured by dividing into three time period such as peak/off-peak/shoulder. (Periodic active energy)
- This instrument enables measurement of the energy in a block of any period (interval) (Rolling demand)
   By using the option plug-in module:
- > The transmission function such as CC-Link communication or MODBUS TCP communication send the measured data The transmission function such as CC-LINK COMMUNICATION. OF NAMED AND ADDRESS RTU communication error occurs.
  The logging function enables the backup of measured values even when MOCBUS RTU communication error occurs.
  Only one unit can output key measuring elements such as current, voltage, active power, power factor, and active energy at the power receiving point. It is ideal for remote monitoring.

  The built-in logging function provides the logging of measured values, alarm logs, and system logs into the instrument.
  MODBUS is a registered trademark of SCHNEIDER ELECTRIC USA, INC in the United States.

  \*Ethernet is a trademark of FUJIFILM Business Innovation Corp.

### 1. Safety precaution

**A**CAUTION

safety, be sure to read and observe the precautions in this section. The caution icon  $(\triangle)$  on the main unit indicates that incorrect handling may cause hazardous conditions. Always follow the subsequent instructions  $(\triangle)$ -unnow) because they are important to personal safety. Otherwise, there is danger of an electric shock, a fire, an erroneous operation or damage to the instrument. If the instrument is not handled in a manner specified by the manufacturer, it might impair the protection provided by the product. The terminals of auxiliary power (MA, MB) and voltage inputs (P1, P2, P3, PN) have hazards of electric

Exposed to direct sunlight

exogenous noise

• Exposed to a strong electromagnetic field or large

Max 35 V DC

shock, explosion, or arc flash. Turn off the auxiliary power and the power supply of the input circuit prior to



- working on the product
- Working on the product.

  I Precautions on operating environment and conditions on ot use the instrument in the following places. Otherwise, there is danger of a malfunction or reduction life of the product.

  The ambient temperature exceeds the range -5°C to +55°C
  The relative humidity exceeds the range 0 to 85%RH, or condensation occurs

  The autive humidity exceeds the range 0 to 85%RH, or condensation occurs

  Proposed to much dust, corrosive gas, salty environment, or
- Transient over voltage: 4000 V (Note 1)

- Exposed to rain or water drips
  Pieces of metal or similar substances are scattered

• Precess or metai or similar substances are scattered exogenous noise
Note 1. For the definition of the Pollution Degree and the Transient over voltage category, refer to EN61010-1:2010.
Dust, dirt, small insect and so on will cause such faults as poor contacts, and reduced insulation due to those accumulated and moisture-absorbed. In an atmosphere where conductive powder floats, it will cause such as malfunction of the instrument, deteriorated insulation and so on in a short time. In such a case, the instrument is needed to take adequate measures such as placing in a totally enclosed enclosure. Also, if the in-enclosure temperature rises, take measures for that.
Percentitions on installation and wingo conpection.

- autions on installation and wiring connection fied electrician must install and wire the instrument for safety.
- A quantitied electrician must install and wre the instrument for safety.

  Do not supply power to the instrument until completing its assembly work on the cabinet's door.

  The instrument is to be mounted on a panel. All connections must be kept inside the cabinet.

  This equipment is dask a sper ENS6011. This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

  The following table shows specifications on the input/output terminal.

  Auxiliary power supply and measuring elements.

| Auxiliary power supply |           | 100 to 240 V AC (±15%) 50 Hz to 60 Hz<br>100 to 240 V DC (-30% + 15%)   | MA, MB terminals |  |
|------------------------|-----------|---|------------------|--|
| Elements               | Voltage   | 3-phase 4-wire: Max 277 V AC (L-N) (480 V AC (L-L) 3-phase 3-wire: (DELTA) Max 220 V AC (L-L) (STAR) Max 440 V AC (L-L) 1-phase 3-wire: Max 220 V AC (L-N) (440 V AC (L-L) 1-phase 2-wire: (DELTA) Max 220 V AC (L-L) (STAR) Max 440 V AC (L-L) | Category III     | P1, P2, P3, PN<br>terminals            |
|                        | Current   | 5 A (CT secondary side), Max 30 V AC  | Category III     | +C1, C1, +C2, C2,<br>+C3, C3 terminals |
|                        | Frequency | 50 / 60 Hz  | •                |  |

uring circuit during operatior

Others
 MODBUS RTU communication
 T/R+,T/R-,SG terminals
 Do not doon the instrument from high place. If you doon it...

- Do not drop the instrument from high place. If you drop it and crack its display, do not touch the liquid leaking from the broken LCD or do not get it in your mouth. If you touch the liquid, rinse it off with soapy water at once.

  Keep the protection sheet affixed to the front of the instrument during the work.

  Do not work in live-line condition. Otherwise, there is danger of a failure, an electric shock, or a fire.

  When tapping or wiring, take care not to enter any foreign objects such as chips and wire pieces into the instrument.

  If the terminal wiring is pulled with a strong force, the terminals may come off. (Tensile load: 39.2 N or less)
  Check the wiring diagram carefully. Wrong wiring can cause an instrument failure, an electric shock, or a fire.

  Use an appropriate wire size compatible with the rated current. Otherwise, there is danger of a fire due to heat generation.
  Use a crimped terminal compatible with the wire size. Otherwise, there is danger of a malfunction/failure of the instrument, burnout, or a fire due to damage to the terminal or contact failure.

  Tighten the terminal screws with a specified torque and use a suitable pressure connector. Excessive tightening can cause damage to the terminals and screws.
- Tighten the terminal screws with a specined torque and use a suitable pressure connector. Excessive tightening can cause damage to the terminals and screws.
   Be sure to confirm the wiring connection strictly after its work. Forgetting to connect can cause a malfunction of the instrument, an electric shock, or a fire.
- In order to prevent the invasion of noise, communication wires, auxiliary power supply wires, and other signal wires mus not be placed close to or bound together with power lines or high voltage lines. When lying parallel to the power lines or high voltage lines. When lying parallel to the power lines or high voltage lines. Yefer to the following table for the separation distance. (except the input part of the terminal block)

  Conditions

  Distance
- Power lines of 600 V AC or less 300 mm or more Other power lines
- otective conductor terminals for mains circuits shall be at least equivalent in current-carrying capacity to the mains supply terminals upply terminals. If the protective conductor terminals are also used for other bonding purposes, the protective conductor shall be applied
- first and secured independently of other connections.

- Precautions on operation
   Precautions on operation
   Before operating the instrument, check that active bare wire does not exist around it. If any bare wire exists, stop the operation immediately, and take an appropriate action such as isolation protection.
   If a power outage occurs during the setting, the instrument will be not set correctly. Set it again after power recovery.

   Do not disassemble or modify the instrument. Otherwise, an instrument failure, an electric shock, or a fire could be caused. Use the instrument within the ratings specified in the manual. If it is used outside the ratings, it can cause
- not only malfunctions or failure but also ignition or burnout.

  Do not open the secondary side of the CT circuit. If the CT is not connected properly or if the secondary A CAUTION side of the CT is open, it will result in high voltage on the secondary side of the CT and the temperatur rise. Therefore, the insulation of the secondary winding wife can be broken. This may cause burnout.

  • When the external teminals are connected to external equipment, the external equipment and the instrument must not be powered and not be used until its definitive assembly on the cabinet's door The rating of the terminal of external equipment must satisfy that of the external terminal of the instrument.

- enance (Every 6 months to 1 year) (a)No looseness with installation and wire connection

  Do periodical maintenance under power outage condition. Failure to do so may cause electric shock,

CAUTION DO periodical manuscrance and potential additional regularly to prevent fire.

Precautions on storage
To store the instrument, turn off the power, remove the wires, and put them in a plastic bag. For long-time storage, Avoid the following places. Otherwise, there is danger of a failure or reduction life of the product.

The ambient temperature exceeds the range -25°C to +75°C

The relative humidity exceeds the range 0 to 85%RH or exceeded to excessive vibration or impact.

- exposed to much dust, corrosive gas, salty environment, or
   exposed to rain or water drips
- Pieces of metal or similar substances are scattered
  - Exposed to direct sunlight

- Precautions on disposal
- When disposing of the instrument, treat it as industrial waste.

  When disposing of the instrument, treat it as industrial waste.

  ME-0000BU-SS96 or ME-0000BU2-SS96, an optional plug-in module, has built-in lithium battery. Lithium batteries are disposed of according to the local regulations.

  In EU member states, there is a separate collection system for waste batteries. Dispose of batteries properly at the local community waste collection/recycling center. The symbol shown the right is printed on the packaging of the unit.
  [Note] This symbol mark is for EU countries only. This symbol mark is according to the directive 2012/19/EU Article 14 Information for users and Annex IX,
- It is recommend that you renew the product every ten years although it depends on your use condition. The long-term use of the product may cause discoloration of the LCD or a product malfunction

This symbol means that electrical and electronic equipment, batteries and accumulators, at their end-of-life, should be disposed of separately from your ho

Warranty
The warranty period is 1 year from the date of your purchase or 18 months after manufacturing, whichever is earlier. However, if failure of the product is caused by the user's intent or negligence, the charge will be made for such repair even under warranty.

Our company shall not be liable to compensate for any loss arising from events not attributable to our company, the opportunity loss and lost profits of the customer due to failure of the product, and the loss, secondary loss, accident compensation, damage to other products besides our products, and other operations caused by special reasons regardless of our company's predictability

CAUTION When abnormal sound, odor, smoke, or heat is confirmed, stop using the instrument and turn off the power immediately

# 3. Contained harmful substances

nstrument complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

and to the directive 2006/66/EC Article 20 Information for end-users Annex II.

#### ■电器电子产品有害物质限制使用标识

根据《电器电子产品有害物质限制使用管理办法》,该标 记适用于在中国销售的电器电子产品,其中的数字为产品的环保使用期限。只要遵守本产品在安全和使用方面的注意 事项,从生产日算起的环保使用期限内不会造成环境污染

或对人体、财产产生深刻的影响。注)产品正常使用废弃后,应按照国家和地方的法律法规完成 该电器电子产品的回收和再利用。

#### ■产品中有害物质的名称及含量

本产品中所含有的6种有害物质的名称、含有信息及含有部件如下表所示。

|                                |          |             |      | 有害物质      |       |        |  |  |
|--------------------------------|----------|-------------|------|-----------|-------|--------|--|--|
| 部件名称                           | 铅        | 汞           | 镉    | 六价铬       | 多溴联苯  | 多溴二苯醚  |  |  |
|                                | (Pb)     | (Hg)        | (Cd) | (Cr (VI)) | (PBB) | (PBDE) |  |  |
| 基板                             | ×        | 0           | 0    | 0         | 0     | 0      |  |  |
| 箱子                             | 0        | 0           | 0    | 0         | 0     | 0      |  |  |
| 金属零件                           | 0        | 0           | 0    | 0         | 0     | 0      |  |  |
| 螺钉                             | 0        | 0           | 0    | 0         | 0     | 0      |  |  |
| 端子盖                            | 0        | 0           | 0    | 0         | 0     | 0      |  |  |
| 铭牌                             | 0        | 0           | 0    | 0         | 0     | 0      |  |  |
| I also the title a common or a | 111 Am - | Culto March |      |           |       |        |  |  |

- ○:表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。 公、我不然有目的原至少在该部件的某一均质材料中的含量超出BB1726672规定的限量要求。 且虽然目前业界沒有成熟的替代方案,但是符合软型RoHS指令要求。

### 4. Display and Button Function ■ Display



| 7 8 9 10 11 12 |                         |    |                                |  |  |  |  |  |
|----------------|-------------------------|----|--------------------------------|--|--|--|--|--|
| 1              | LEAD status             | 8  | Test mode status               |  |  |  |  |  |
| 2              | LAG status              | 9  | Clock status                   |  |  |  |  |  |
| 3              | Built-in Logging status | 10 | Upper/lower limit alarm status |  |  |  |  |  |
| 4              | Digital element display | 11 | Communication status           |  |  |  |  |  |
| 5              | Digital display         |    | Harmonics status               |  |  |  |  |  |
| 6              | Unit                    |    | Metering status                |  |  |  |  |  |
| 7              | Setup status            |    |                                |  |  |  |  |  |

#### ■ Function of operation buttons + RESET MAX/MIN PHASE DISPLAY $\bigcirc$ Set button Reset button Phase button +/-button Maximum/Minimum button Display button

SET | - | + | RESET | MAX/MIN | PHASE | DISPLAY Function vitch display witch phase Enter/Exit Max/Min value 0 Clear the displayed alarm 0 Clear all alarms at once Enter setup value Enter setup value (0) confirmation mode

Direct input

①Auxiliary power supply: 100 V AC to 240 V AC or 100 V DC to 240V

Breaking Capacity: 250 V AC 1,500 A/

250 V DC 1 500A

(UL certified)

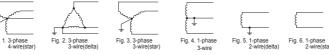
Rated Current: 0.5A

### 5.Wiring diagram

■ Optional plug-in module

■ SD card

■ Rated voltage for each phase/wire system



| Phase / Wire    | Connection | Rated voltage                      | Figure   |
|-----------------|------------|------------------------------------|----------|
| 3-phase 4-wire  | Star       | Max 277 V AC (L-N)/ 480 V AC (L-L) | Figure 1 |
| 3-phase 3 wire  | Delta      | Max 220 V AC (L-L)                 | Figure 2 |
| 3-priase 3 wire | Star       | Max440 V AC (L-L)                  | Figure 3 |
| 1-phase 3 wire  | _          | Max 220 V AC (L-N)/ 440 V AC (L-L) | Figure 4 |
| 1-phase 2-wire  | Delta      | Max 220 V AC (L-L)                 | Figure 5 |
| (Note)          | Star       | Max 440 V AC (L-L)                 | Figure 6 |

Note: The circuit derived from the 3-phase 3-wire delta connection and the 1-phase 2-wire transformer circuit have the maximum rating of 220 V AC.
The circuits derived from the 3-phase 4-wire and 3-phase 3-wire star connections and 1-phase

■ MODBUS TCP communication

■ Analog output /Pulse output /Alarm output/DI ■ DI, DO

Analog output CH1

Analog output CH2

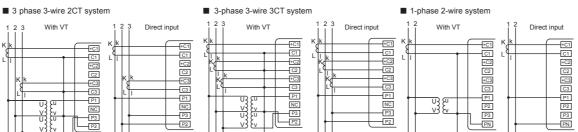
Analog output CH3

Analog output CH4

Digital inpu

Pulse output2 / Alarm output2

3-wire connection have the maximum rating of 440 V AC



2Fuse(recommendation)

■ 3-phase 4-wire system / MODBUS RTU communication

With VT

#### ③Some MODBUS RTU equipment does not have a SG terminal. In this case, the wiring hetween SG terminals is unnecessary ④A 120 Ω terminating resistor should be connected in the line between TR+ and T/R when this instrument is placed on each end of MODBUS RTU communication line Note: For a low voltage circuit, it is not necessary to ground the secondary sides of VT and CT.

# **⚠** CAUTION

- . Do not open the secondary side of CT during power on the primary side current
- . Avoid the short circuit of the secondary side of VT. Use an appropriate wire size compatible with the rated current and voltage.
- Appropriate Wire Specification

| Product type  | Screw type  | Wire for use  | torque  |
|---|---|---|---------|
| ME96SSHB-MB,<br>ME96SSRB-MB   | 96SSRB-MB AWG 26 to 14 (Connection up to two wires) |   | 0.8 N·m |
| ME96SSEB-MB   | INIO  | Appropriate crimped terminal:<br>One for M3 screw 6.0 mm or less in outer diameter  | 0.5 N·m |
| Optional plug-in<br>module:<br>ME-4210-SS96B,<br>ME-0052-SS96,<br>ME-0040C-SS96 | Non-screw   | Single wire, Stranded wire: AWG 24 to 14 (For stranded wire, possible in combination with rod terminals) The peeling size of the cable sheath: 10 to 11 mm "1: If complying with UL standards, follow the conditions listed below.  Single wire, Stranded wire: AWG 24 to 18 Rod terminals are not available.  When using a rod terminal with insertion points of two wires, select the terminal that insertion hole depth of the terminal block is 12 to 13 mm as a guide. | ı       |
| Optional plug-in<br>module:<br>ME-0040MT2-SS96                                  | Non-screw   | Single wire, Stranded wire: AWG 24 to 16 (For stranded wire, possible in combination with rod terminals) The peeling size of the cable sheath: 8 mm Rod terminals (without plastic sleeve): 0.2 to 1.5 mm² Rod terminals (with plastic sleeve): 0.2 to 0.75 mm²   | _       |

the necessary insulation with an insulating tube not to expose the charger. . To use ME-0000BU-SS96 or ME-0000BU25-SS96, an optional SD card is necessary.

Use EMU4-SD2GB, which is a SD card manufactured by Mitsubishi Electric Corporation . For MODBUS TCP communication, use an appropriate cable compatible with IEEE802.3

| un | unpacking your package.             |          |               |  |  |  |  |  |
|----|-------------------------------------|----------|---------------|--|--|--|--|--|
|    | Parts name                          | Quantity | Specification |  |  |  |  |  |
|    | User's Manual<br>(This manual)      | 1        | A3 size       |  |  |  |  |  |
|    | Mounting<br>bracket with a<br>screw | 2        |               |  |  |  |  |  |

2. Check on your delivery

# , 1200 , 1303 , 11110. 183 IO. 13 1530°

When you press the DISPLAY button, the measurement screen is switched over.

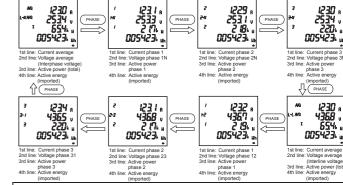
Example of switching display (Phase wire system: 3-phase 4-wire, Display pattern: P01, No additional display

6.2 How to switch phase display

6.1 How to switch measurement screen

6. Operation

When you press the PHASE button, the phase display of current and voltage is switched over Example of switching phase (Phase wire system: 3-phase 4-wire)



6.3 How to display Maximum/Minimum value

■ Display Maximum/Minimum value

When you press the MAX/MIN button, the maximum and minimum values are displayed. Press it again and return to the present value display.

■ Reset Maximum/Minimum value

On the Maximum/Minimum value display screen, press the RESET button for two seconds. The maximum and minimum values displayed will be reset to the present values.

Moreover, on this screen, pressing the RESET and + button simultaneously for two seconds provides a complete reset. All the maximum and minimum values will be reset to the present values.

6.4 Alarm display and How to reset ■ Alarm output, display, and reset

Alarm output: When a measured value exceeds its alarm setup value, some parts on the displayed screen will blink. The alarm contact is closed. Clear an alarm to return to the normal display. The alarm contact is oper

ALARM, HI, or LO blin Normal mode (Auto) ALARM, HI, or LO blink ALARM, HI, or LO light up RESET Display

Alarm reset Method Automatic (Auto) If a measured value falls below its alarm setup value, the alarm will be automatically reset. Even after a measured value falls below its alarm setup value, the alarm state is maintained Display the item where an alarm generates and press the RESET button to clear the alarm

Alarm delay time

If a situation beyond a threshold continues and passes an alarm delay time, it will reach an alarm state. Set the alarm delay time to prevent unnecessary alarm output caused by some problems such as instantaneous overload and noises.

6.5 Harmonics display

Harmonic RMS value and distortion ratio is displayed.

■ Measurement items
ME96SSHB-MB: Harmonic total, From 1st to 31st (only odd number)

ME96SSRB-MB: Harmonic total, From 1st to 19th (only odd number) ME96SSEB-MB: Harmonic total ■ Degree chang

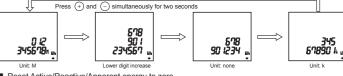
Pressing the  $\boxplus$  or  $\blacksquare$  button switches the harmonic degree. Pressing the PHASE button switches between the RMS value and distortion ratio.

6.6 Expanded counting display

■ Display Active/Reactive/Apparent energy

For active energy, reactive energy, and apparent energy, the upper or lower digits of the measured values are confirmed by displaying the unit (M, k, or none) or the lower digits.

Example of switching active energy (imported): 012,345,678,901,234.567 Wh



■ Reset Active/Reactive/Apparent energy to zero

When you press the SET, RESET, and PHASE button simultaneously for two seconds, the values of active energy, reactive energy, and apparent energy will be reset to zero. This is available only on the present value display screen

■ Example of display for Reactive energy







DI1-.DI2-.DI3-.DI4-.DI5-are connected inside.

24 V DC 24 V DC

CC-Link communication

H☐ }Digital input 1 Digital input 2 Digital input 3 Digital input 4 Digital input 5 Digital output

Digital output 2

Digital input

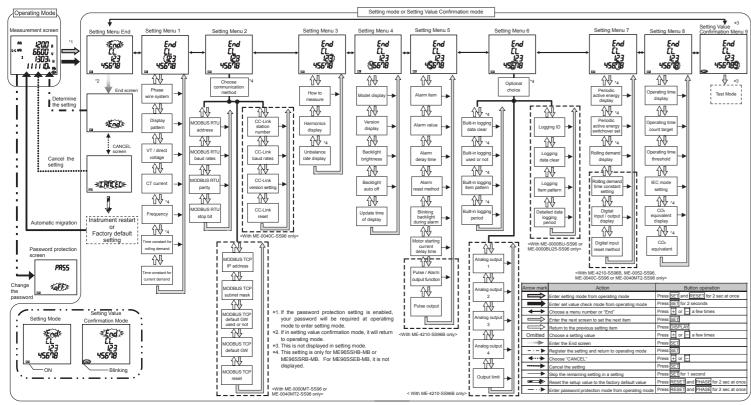
Do not connect terminals or RJ-45 connectors to the product in live-line condition. 2. Do not insert or remove a SD card under live-line condition

34587B<sub>\*\*</sub>

34567Bk

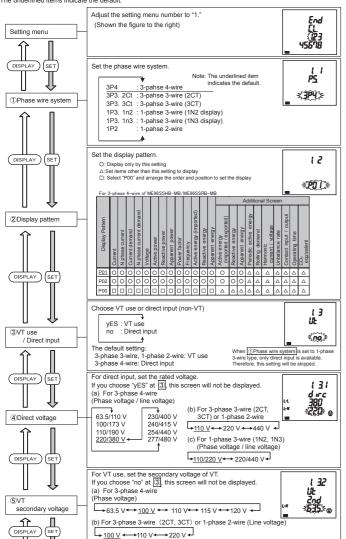
### 7. Setting flow

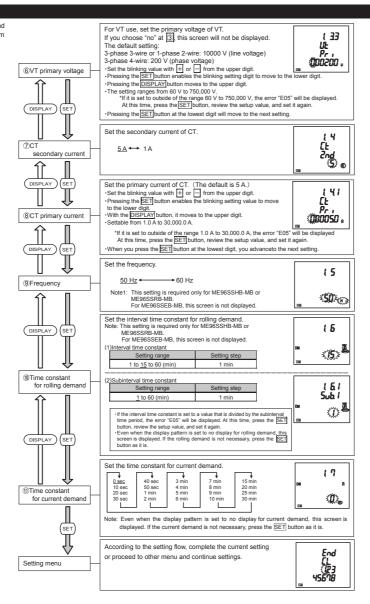
- 1. Press the SET and RESET button simultaneously for two seconds to enter setting mode.
  2. Press the or button to choose a setting menu number on the first screen.
  3. Press the SET button to determine a setting menu number.
- 4. Set each setting item.
- After completing the setting, choose "End" on the screen and press the SET button
   Confirm the End screen and press the SET button again.



#### 8. Setting

At setting menu 1, set the following basic items for the correct measurement. In operating mode, pressing the SET and RESET button simultaneously for two seconds or more enables the following operation. The setting items are different from each model type. For more information, see the detailed version of the user's manual for each model type. The underlined items indicate the default.





# ME96SSHB-MB / ME96SSRB-MB / ME96SSEB-MB 3-phase 4-wire: max 277/480 V AC 3-phase 3-wire: (DELTA) max 220 V AC, (STAR) max 440 V AC nported lag, Imported lead, Exported lag, E 1.0% (total, 1st to 31st) ±1.0% (total, 1st to 19th ±2.0% (total) Rolling block, Fixing block (Select either of them according to the settings.) leasuring method DA: Thermal type calculat Display type CD with LED backlight irst to third line indication: 4 digits, Fourth line indication: 6 digits LDA, V, W, var, VA, PF, DW, Dvar, DVA, Aunb, Vunb: 4 digits Hz: 3 digits Wh, varh, VAh: 9 digits (6 digit or 12 digit is also available) tamonic distortion ratio / content rate: 4 digits Harmonic RMS value: 4 digits Operating time: 6 digits CO; equivalent: 6 digits or 9 digits Digital input/output: I/O armonic RMS value: 4 digits Operating time: 6 digits Logging mo tomatic overwrite update easuring data and time data are logged at the interval set at the data logging period. (15 min, 30 min, 60 min) \*It is output not the difference values but the display values of the instrument as the integrated values. Time data at alarm generating/cancellation and at waiting for alarm cancellation tegrated value data: 5 items, Data other than integrated value: 15 items, Total: A maximum of 20 items he number of the set alarms The recorded time of the record for every Max/Min value factor cquire the logging data via MODBUS RTU Communication ion-volatile memory is used (Item: Setup value, Logging data, System log data) 1 VA/phase (at 110 V AC), 0.2 VA/phase (at 220 V AC), 0.4 VA/phase(at 440 V AC) Embedded -5°C to +55°C (average daily temperature: 35°C or less), 0 to 85% RH, -25°C to +75°C (average daily temperature: 35°C or less), 0 to 85% RH.

1: ME-0040MT2-SS96 is only applicable to ME96SSHB-MB.

11: Mt=.UU4UM 12-SS96 is only applicable to ME96SSHB-MB.

22: An optional SD memory card is necessary to use an optional module, ME-0000BU-SS96 or ME-0000BU25-SS96. Use a SD memory card, EMU4-SD2GB, manufactured by Mitsubishi Electric Corporation. If a SD memory card not manufactured by Mitsubishi Electric Corporation is used, it may cause a problem such as data corruption in the SD card or system stop. Regarding the use of commercially available SD memory cards, access our FA website. Note that the customer is responsible for verifying safe use of those SD memory cards.

11. Standards

### 10. Optional plug-in module

|                  | Input / Output Specification |                         |               |                |                         |                  |  |  |
|------------------|------------------------------|-------------------------|---------------|----------------|-------------------------|------------------|--|--|
| Model name       | Analog output                | Pulse / Alarm<br>output | Digital input | Digital output | Communication           | Logging function |  |  |
| ME-4210-SS96B    | 4 ch                         | 2 ch                    | 1 ch          | -              | -                       | -                |  |  |
| ME-0040C-SS96    | -                            | -                       | 4 ch          | -              | CC-Link                 | -                |  |  |
| ME-0052-SS96     | -                            | -                       | 5 ch          | 2 ch           | -                       | -                |  |  |
| ME-0000MT-SS96   | -                            | -                       | -             | -              | MODBUS TCP 1 port       | -                |  |  |
| ME-0040MT2-SS96  | -                            | -                       | 4 ch          | -              | MODBUS TCP 2 ports (*1) | -                |  |  |
| ME-0000BU-SS96   | -                            | -                       | _             | _              | -                       | 6 items          |  |  |
| ME-0000BU25-SS96 | _                            | _                       | _             | _              | -                       | 25 items         |  |  |

Note: The above optional plug-in modules (except ME-0040MT2-SS96) are installed on ME96SSHB-MB and ME96SSRB-MB.

ME-0040MT2-SS96 is only applicable to ME96SSHB-MB with firmware version 01.01 or later. The firmware version can be confirmed in the setting menu 4.2. \*1: 2 ports for daisy chain, one IP address

# CE, as per IEC61010-1: 2010 (3<sup>st</sup> Edition) UL, cUL recognized as per UL61010-1: 2012 (3<sup>st</sup> Edition) IEC61010-1: 2010 (3<sup>st</sup> Edition) CCN: PICQ2/8(\*1) nstallation Category = EN61326-1/EN55011, CISPR 11, FCC Part15 Subpart B Class A. EN6100-3-2. EN61000-4-3, EN61000-4-2, EN61000-4-3, EN61000-4-4 EN61000-3-5, EN61000-4-6, EN61000-4-8, EN61000-4-11

PICQ2/8 is intended to be placed in an industrial control panel or similar type of enclosure.

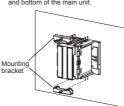
The devices covered under this category are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL.

See "UL product IQ (UL certified product search platform)" for details.

#### 12. Installation

■ Install on panel

①Attach the mounting brackets to the top and bottom of the main unit. ②Tighten the screws of the mounting brackets to fix them to the panel.



13. External Dimensions

■ ME96SSHR-MR ME96SSRR-MR

Do not over-tighten the screws in order to avoid damage to the panel and screws. In addition, tighten all the screws uniformly A recommended torque for this product is 0.3 N•m to 0.5 N•m, which is about half the size of a

[mm]

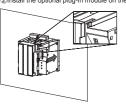
normal torque.

92 +0.5 Install on a panel 1.6 to 4.0 mm thick

■ ME96SSER-MR

Remove the option cove

2Install the optional plug-in module on the main unit.



Note: Turn off the power supply before the installation

# 3 Protective conductor terminal

#### 15. Precautions for KC mark

# 사용자안내문 이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

■Precautionary note written in Korean

This device has undergone a conformity assessment for use in a commercial environment and may cause radio wave interference when used in a home environment.

■Applicant for KC mark: MITSUBISHI ELECTRIC AUTOMATION KOREA CO.,LTD
■Manufacturer: MITSUBISHI ELECTRIC CORPORATION
Note 1: This is the notification for the KC mark (Korea Certification)

# 16. Service Network

# MITSUBISHI ELECTRIC CORPORATION

Please refer to our website for service network.

Our website address: https://www.mitsubishielectric.com/fa/