MITSUBISHI ELECTRIC

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This manual is digest version.
For detail, refer to User's Manual.
It is possible to access from the two-dimensional code on the left.
For other related materials, visit the Mitsubishi Electric Global Website, where you can download them.

Logging Unit,
CC-Link Communication Unit,
CC-Link IE field network Basic communication Unit,
CC-Link TSN communication Unit,
MODBUS TCP Communication Unit
for Energy Measuring Unit (EcoMonitorLight, EcoMonitorPlus)

Model EMU4-LM, EMU4-CM-C, EMU4-CM-CIFB, EMU4-CM-TSN, EMU4-CM-MT

Before using the instrument

Before using this unit, please read both this instructions and the User's Manual carefully and pay attention to safety to handle this unit correctly for use properly.
Make sure that the end users read this instructions and User's Manual, and then keep these documents in a safe place for future reference.
Deliver this instructions to the end user. Be sure to check the following items of the User's manual.

- ·Safety Precautions
- ·Name and function of each part
- ·Attaching and removing
- ·Wiring
- ·Requirement for the compliance with EMC Directives
- ·Warranty

1. Safety Precautions

In this instructions, the following safety alert symbols are used in the following meanings.

Symbols	Meaning explanation
⚠ DANGER	Indicates that incorrect handling occurs hazardous conditions, resulting in death or severe injury.
⚠ WARNING	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
⚠ CAUTION	Indicates that incorrect handling may cause in personal injury.

Even the items listed in "CAUTION" may have serious consequences depending on the situation. Observe the precautions of all levels because they contain important information. For details, please refer to the User's manual of each product.

1.1 Precautions for Operating Environment and Conditions

Do not use this product in the places listed below. Failure to follow the instruction may cause malfunctions and a life decrease of product.

- ·Places the Ambient temperature exceeds the range -5 to +55℃.
- ·Places the average daily temperature exceeds +35℃.
- ·Places the Relative humidity exceeds the range 30 to 85% or places with dewfall.
- ·Dirt, corrosive gas(Note), saline and oil smoke exist.
- ·Vibration and impact exceed the specifications.
- ·Place exposed to strong induction noises, electric fields, magnetic fields.
- ·Places exposed to rain or water drop.
- ·Places exposed to direct sunlight.
- ·Places exposed to UV rays for long time.
- ·Places exposed to large amounts of external noise.
- ·Altitude exceeds 2000m.
- ·Places metal fragments or conductive substance are flying.

(Note) Gas that attacks metals and plastics (Such as sulfur dioxide, ammonia, hydrogen sulfide)

This unit is premised on being used in pollution degree 2(Note) environment. When used in higher pollution degree, protect this unit from pollution on another device side to be incorporated.
For the precautions for the compliance of the system incorporating this unit with the EMC Directives, refer to the User's Manual of Energy Measuring Unit (EcoMonitorLight, EcoMonitorPlus).
(Note) For the definition of the pollution degree, refer to EN 61010-1.

⚠ CAUTION	·For safety reasons, the installation, connection, use, and maintenance of this instrument should be carried out correctly by a person with specialized skills in areas such as electrical work and electrical wiring. ·This unit is the open type device, which are designed to be housed within another device for prevention of electric shock. House this unit within the device such as the control panel before use. (Indoor use) ·To prevent persons with little knowledge about electric equipment from electric shock, panel must be taken either following measure. - Lock the panel so that only those who get an education about electric equipment and have sufficient knowledge can unlock. - Shut off power supply automatically by opening the panel. - Use a control panel of IP2X or higher to protect against electric shock.

1.2 Installation and Wiring Precautions

⚠ DANGER	·Do not touch the terminals or other energized part. It may cause electric shock, a fire, a failure, a malfunction etc.
⚠ WARNING	■ Common precautions for all product ·Work under the electric outage condition. Do not do hot-line work. Failure to do so may cause electric shock, a fire, a failure etc. ·Check the Wiring Diagram carefully before making any connections. Failure to do so may cause electric shock, a fire, a failure etc.
	■ Precautions for EMU4-CM-C ·Strip the wires with proper length. Overlong stripping length may cause short to next wire. Shorter stripping length may cause contact failure. ·After wiring, confirm whether there is a wiring forgetting and a faulty wiring. Failure to do so may cause electric shock, a fire, a failure etc. ·After tightening the screws, be sure to check all the screws tightened. Loose screw may cause electric shock, a fire, a failure etc.
⚠ CAUTION	■ Common precautions for all product ·When bringing the units into close contact, be careful not to let any foreign matter get in between. ·Take care not to allow any foreign objects, such as chips and wire pieces into this unit. Failure to do so may cause electric shock, a failure of the unit, a fire etc. ·Do not touch the conductive parts or electronic parts of this unit directly. It may cause an electric shock accident, injury, equipment failure or malfunction.
	■ Precautions for EMU4-CM-C, EMU4-CM-CIFB, EMU4-CM-TSN ·In order to prevent short circuits and ground faults caused by falling metal pieces, cover exposed charging parts with taping or insulating tubes. ·Do not pull on the wire while it is connected to this device. It may cause equipment failure or malfunction. Also, if you pull it too hard, it may cause electric shock or fire due to damage to the wire.

1.3 Matters concerning the precaution before use

⚠ DANGER	■ Common precautions for all product ·Do not touch the terminals or other energized part. It may cause electric shock, a fire, a failure, a malfunction etc.
	■ Precautions for EMU4-LM ·Work under the electric outage condition when connecting battery. Failure to do so may cause electric shock, a failure of the unit, a fire etc.
⚠ CAUTION	·Check that active bare wire and so on does not exist around the product. If any bare wire exists, stop the operation immediately, and take an appropriate action such as isolation protection.

1.4 Precautions for Use

Use the device according to the usage described in this instruction manual for this unit. If this equipment is used in the usage not specified in this instruction manual, the protective functions may be impaired.

⚠ DANGER	■ Common precautions for all product ·Do not disassemble or modify this unit. It may cause electric shock, a fire, a failure, a malfunction etc. ·Do not touch the terminals or other energized part. It may cause electric shock, a fire, a failure, a malfunction etc.
	■ Precautions for EMU4-LM ·Work under the electric outage condition when connecting battery. Failure to do so may cause electric shock, a failure of the unit, a fire etc.
⚠ CAUTION	·Check that active bare wire and so on does not exist around the product. If any bare wire exists, stop the operation immediately, and take an appropriate action such as isolation protection.

1.5 Precautions for case of failure or abnormality

In the event of a failure or an abnormality, contact your dealer, the Mitsubishi Electric System Service Desk.

⚠ DANGER	·Do not touch the terminals or other energized part. It may cause electric shock, a fire, a failure, a malfunction etc.
⚠ WARNING	·If an abnormal sound, bad-smelling smoke, fever break out from this unit, switch it off promptly and do not use it.
⚠ CAUTION	■ Precautions for EMU4-CM-C ·Do not touch the following switches directly with your hands, as there is a risk of electric shock in the event of a single failure. Use an insulated tool when operating these switches. RESET switch, STATION switch, B RATE switch, VER. Switch ■ Precautions for EMU4-LM ·The following instructions must be followed to maintain the safety: To prevent the risk of electric shock in the event of a single failure, ensure safety by either turning off the power supply or using appropriate protective equipment. 1) Turn off the power supply before inserting or removing the SD card. 2) If handling while the device is energized is unavoidable, you must wear insulated gloves and hold only the plastic (insulated) part of the SD card. Do not touch the SD card slot or internal components directly with your hands, and ensure that even with gloves, you do not come into contact with the metallic terminals of the card.

1.6 Maintenance Precautions

For details on maintenance, see “3. Care” and ”4. Maintenance” in the instruction manual.

⚠ DANGER	·Do not touch the terminals or other energized part. It may cause electric shock, a fire, a failure, a malfunction etc.
⚠ WARNING	·Work under the electric outage condition. Do not do hot-line work. Failure to do so may cause electric shock, a fire, a failure etc.

1.7 Storage Precautions

For information on storage, please refer to “User’s Manual”. For long-time storage, avoid the following places.

·Places the Ambient temperature exceeds the range -10 to +60˚C.
·Places the average daily temperature exceeds +35˚C.
·Places the Relative humidity exceeds the range 30 to 85% or places with dewfall.
·Dirt, corrosive gas(Note), saline and oil smoke exist.
·Place exposed to strong induction noises, electric fields, magnetic fields.
·Vibration and impact exceed the specifications.
·Places exposed to rain or water drop.
·Places exposed to direct sunlight.
·Places exposed to UV rays for long time.
·Places metal fragments or conductive substance are flying.

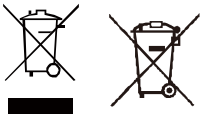
(Note)Gas that attacks metals and plastics(Such as sulfur dioxide, ammonia, hydrogen sulfide)

⚠ DANGER	·Do not touch the terminals or other energized part. It may cause electric shock, a fire, a failure, a malfunction etc.
⚠ WARNING	·Work under the electric outage condition. Do not do hot-line work. Failure to do so may cause electric shock, a fire, a failure etc.
⚠ CAUTION	■ Precautions for EMU4-LM ·Lithium batteries may have electric charge. Store them separately so as not to touch other metal, otherwise evolution of heat, burst or ignition may occur.

1.8 Disposal Precautions

·When disposing of this unit, treat it as industrial waste.
EMU4-LM contains a lithium battery. Lithium batteries are disposed of according to the local regulation.
·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 upper right is printed on the packaging of the unit.
·The symbol (1) indicates that batteries need to be disposed of separately from other wastes.
·The symbols shown in the figure on the right are as follows:
(1), (2): EU Battery Regulation (EU 2023/1542)
(3): The two-dimensional code is a link to the Mitsubishi Electric Global Website.
For battery information, please refer to the TECHNICAL BULLETIN(PMM-YE-0003) on the Mitsubishi Electric Global Website.

(1) (2) (3) Battery Information



⚠ CAUTION	■ Precautions for EMU4-LM ·Lithium batteries may have electric charge. Store them separately so as not to touch other metal, otherwise evolution of heat, burst or ignition may occur.

2. Package names and numbers

This following items for this device and included in package. Check that no items are missing.

Items	Quantity				
	EMU4 -LM	EMU4 -CM-C	EMU4 -CM-CIFB	EMU4 -CM-TSN	EMU4 -CM-MT
Unit	1	1	1	1	1
Before using the instrument (This instructions)	1	1	1	1	1
Battery (Model : EMU4-BT) ＊Included in the battery box	1	-	-	-	-
Connector for CC-Link communication ＊Included in the Unit	-	1	-	-	-

3. Care

Care as follows.
(1)If the surface of this equipment is dirty with dust, wipe it with a dry cloth each time.
(2)Do not let a chemical cloth remain on the surface for an extended period of time nor wipe the surface with thinner or benzene. Cause deformation.

4. Maintenance

Maintenance as follows.

Daily maintenance	Periodical maintenance
(1) No damage on this unit (2) No abnormal noise, smell or heat (3) No abnormal with LED indicators	Please maintenance every year the listed below. (1) No damage on this unit (2) No cable disconnection, or looseness with installation and wire connection

5. Contained harmful substances

(1)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。

(2)产品中有害物质的名称及含量
本产品中所含有的 10 种有害物质的名称、含有信息及含有部件如下表所示。

产品中有害物质的名称及含有的信息表（Model : EMU4-LM）

部件名称	有害物质									
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸二正丁酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)	邻苯二甲酸丁苄酯 (BBP)	邻苯二甲酸二(2-乙基)己酯 (DEHP)
基板	×	○	○	○	○	○	○	○	○	○
箱子	○	○	○	○	○	○	○	○	○	○
铭牌	○	○	○	○	○	○	○	○	○	○
电池	○	○	○	○	○	○	○	○	○	○
接线	○	○	○	○	○	○	○	○	○	○
接线皮	○	○	○	○	○	○	○	○	○	○

产品中有害物质的名称及含有的信息表（Model : EMU4-CM-C, EMU4-CM-CIFB, EMU4-CM-TSN, EMU4-CM-MT）

部件名称	有害物质									
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸二正丁酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)	邻苯二甲酸丁苄酯 (BBP)	邻苯二甲酸二(2-乙基)己酯 (DEHP)
基板	×	○	○	○	○	○	○	○	○	○
箱子	○	○	○	○	○	○	○	○	○	○
铭牌	○	○	○	○	○	○	○	○	○	○

注 1：○：表示该有害物质在该部件所有均质材料中的含量均不超出电器电子产品有害物质限制使用国家标准要求。
×：表示该有害物质至少在该部件的某一均质材料中的含量超出电器电子产品有害物质限制使用国家标准要求。
注 2：以上未列出的部件，表明其有害物质含量均不超出电器电子产品有害物质限制使用国家标准要求。

6. Warranty

Please refer to “User’s Manual” about warranty.

7. Trademarks of other companies

MODBUS is a trademark of Schneider Electric USA Inc.
Other company and product names herein are trademarks or registered trademarks of their respective owners.
In the text, trademark symbols such as “TM” and “®” may not be written.

8. Customer Service

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BUILDING, 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

Please refer to our website for service network.
Our website address: https://www.mitsubishielectric.com/fa/