

Installation Instructions for the Manifold Electronic Control System

**MSA-3MB (Master)
MSA-3S (Sub)**

Rinnai



NOTE:

- A maximum of 5 hot water units can be manifolded together using 1 MSA-3MB controller pack and up to 3 MSA-3S controller packs.
Suits Models: REU-VM2630WC & REU-VM2632FFUC only.

Installation shall be in accordance with:

- Manufacturer's Installation Instructions
- Current AS/NZS3000, AS/NZS3500 & AS5601
- Local Regulations and Municipal Building Codes

Installation, service and removal by an Authorised Person only.



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Manifold Electronic Control System Components

MSA-3MB - Pack A Manifold Electronic Control System (For wiring Units 1 and 2)

MSA-3MB Parts List	
Part	Qty
Master Communication PCB Assembly	1
Communication Cable Assembly	1
Cable tie bracket	1
Cable ties	4
Instruction sheet	1
Earth screw	1



MSA-3S - Pack B Manifold Electronic Control System (For wiring Units 3, 4, and 5)

MSA-3S Parts List	
Part	Qty
Communication Cable Assembly	1
Cable tie bracket	1
Cable ties	2
Cable clamp	1

Note: 1 MSA-3S is required for each water heater -- Sub Units 3, 4, & 5



240 Volt exposure. Isolate the electrical supply to the appliance and reconfirm with the neon screwdriver or multimeter.

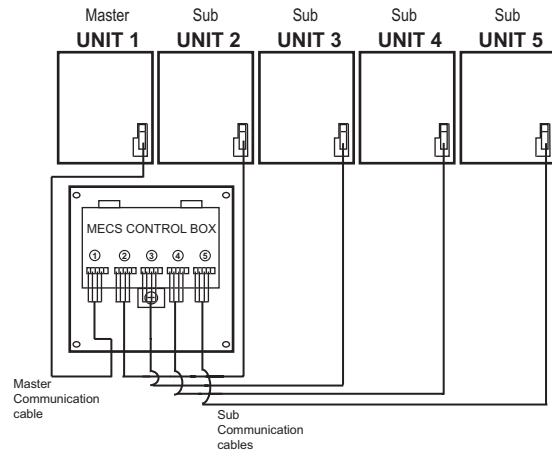
All Installation & Commissioning work must be carried out by an Authorised person.

The front cover panels of each water heater must be removed for MECS installation.

Ingress Protection (IP) Rating: IPX3 (AS1939)

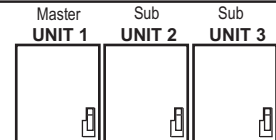
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TYPICAL INSTALLATION



Installation Procedure Units 1 and 2

- 1) Mount the MECS Control box onto the frame mid way below the 1st and 2nd water heater or on wall as required.



MECS Control Box

- 2) NOTE: Master Communication PCB, Master Communication cable for Unit 1 and Sub Communication cable for Unit 2 are pre-assembled. However, if this is not the case follow steps 2- 4.

Remove four (4) cover screws of MECS Control Box.

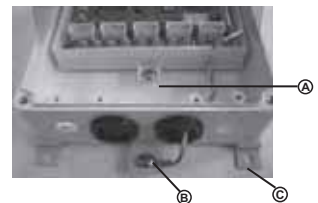


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- 3) Fit the MECS PCB into the control box and secure by screw (A).

Connect earth wire terminal (B) to mounting plate.

Note: Ensure MECS box bracket (C) is earthed to the Master Water Heater.



- 4) Connect the Master Communication cable to socket number 1 on the MECS PCB control box.

Connect the Sub Communication cable to the socket number 2 on the PCB in the MECS control box.

Secure cables with cable clip provided (D).



- 5) Feed the Master Communication cable through the cable inlet grommet on unit number 1.



- 6) Connect the 4 pin connector from Master Communication cable to the 4 pin socket on the PCB in unit number 1.



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Installation Procedure Units 1 and 2

- 7) Attach the cable tie bracket to the bottom of the water heater cabinet using the existing screw. Secure the cable tie through the bracket and around the excess communication cable.



- 8) Feed the Sub communication cable through the cable inlet grommet on unit number 2.



- 9) Connect the 4 pin connector from Sub Communication cable to the 4 pin socket on the PCB in unit number 2.



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- 10) Attach the cable tie bracket to the bottom of the water heater cabinet using the existing screw. Secure the cable tie through the bracket and around the excess communication cable.



Installation Procedure Units 3, 4, and 5

- 11) Repeat steps 7), 8), 9) and 10) for each Sub Communication cable - Units 3, 4, and 5.

Connect each Sub Communication cable to the corresponding socket number on the PCB in the MECS Control Box.

Secure and tighten excess cable inside the appliance with the cable tie provided.



- 12) Place the front cover panels back on each of the water heaters using (4) screws.

Paste the front cover panel on the PCB control box.



- 13) Restore power to the water heaters.

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System Operation

- The MSA-3MB Master Communication PCB has five connection points to enable up to 5 manifolded units to be used together.
- There is an indicator light at each connection point to show that a unit is connected.
- The indicator light shows the current system settings. A continuous light above a connection point shows that this unit is ready and will be one of the first units activated depending on the flow demand.
- A flashing light at intervals of 1.5 seconds above a connection point indicates that this unit is on standby and will activate when and if required.
- The control panel randomly selects 3 units at the ready stage and 2 on standby. The system rotates the ready and standby units after 10 operations.
- The MECS Control PCB calculates the current water flow demand. Flow demands over 10 L/min will activate all three ready units for a period of 10 seconds. At this time adjustments are made in relation to flow demand.
- At maximum flow Unit 4 will activate after the initial 10 second period, for a period of 10 seconds after which time Unit 5 will activate.
- Gas valve modulation of each unit is performed equally via the Master Communication PCB so that no unit is working harder than the next unit. This calculation is performed in relation to water flow.

Water Temperature Controller Installations

Up to 4 Water Controllers can be connected to Master Unit 1. The Main Controller, Bathroom Controller and Secondary Bathroom Controller (MC-91) will provide temperature control to all units. (Refer to Installation Instructions).

Temperature adjustments made on these water controllers will be communicated to each Water Heater resulting in accurate temperature control of each unit. All of these remote water controllers will provide maintenance codes for Unit 1.

One additional Water Controller (MC-91) can be installed on each of Units 2, 3, 4 and 5, to provide maintenance codes for each of these Units, respectively. These Water Controllers will not provide temperature control to the units. Only those Water Controllers connected to Unit 1 will provide temperature control to the manifold system.

One Water Controller can be installed on each of the Units 1, 2, 3, 4 and 5, to provide maintenance codes for each of these units, respectively. The controller connected to Unit 1 will provide temperature control to all of the units in the manifold system.

Note:

When the Water Controllers are used with flow and return systems, they cannot be used to adjust temperature, while water is flowing through the water heaters.

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CONTACT INFORMATION

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*Cost of a local call higher from mobile or public phones.

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