



User Manual

M2

MID POWER

4T4R Digital Radios
37dBm Output Power
Outdoor Rated

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General

The M2RU components are designed for maximum safety and reliability when they are installed, used, and maintained by trained and qualified technicians in accordance with the procedures and instructions contained in this manual. To ensure the safe operation of your system, always follow the safety and operational recommendations in this manual.

Warnings

- M2RU is not a consumer product. Please install and use M2RU in accordance with the instructions.
- Before installing or modifying any M2RU equipment, read and fully understand the entire instructions in this guide.
- Only qualified personnel are authorized to install and maintain the M2RU.
- Changes or modifications to the M2RU equipment not expressly approved by the manufacturer could void the product warranty and the user's authority to operate the equipment.
- Follow Electro Static Discharge precautions to avoid any damage to PCB, PSU, etc.
- Keep equipment powered-off during installing or modifying.
- Low path loss cables connected to antennas are highly recommended.
- This is NOT a CONSUMER device. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC License to operate this device. Unauthorized use may result in significant forfeiture penalties, including penalties in excess of \$100,000 for each continuing violation.
- This is NOT a CONSUMER device. It is designed for installation by an installer approved by an ISSED licensee. You MUST have an ISSED LICENCE or the express consent of an ISSED licensee to operate this device.
- To comply with FCC RF exposure compliance requirements, each individual antenna used for this transmitter must be installed to provide a separation distance greater than 100cm or more from all persons during normal operation and must not be co-located with any other antenna for meeting RF exposure requirements.
- Antenna gain should not exceed 6 dBi.

Note: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

Note: Only authorized person can enter the area where the antenna is installed. And the person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Awareness of the potential for RF exposure in a workplace or similar environment can be provided through specific training as part of a RF safety program

NOTE: This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Site Considerations

- M2RU complies with FCC RF exposure limits for an uncontrolled environment.
- The system delay should be taken into consideration when there are neighboring BTS sites with overlapping in coverage.
- Pick an ideal easy-to-reach location for installation convenience.
- Verify that there is a minimum of a 50cm radius of space around M2RU system equipment for the convenience of maintenance and on-site inspection.

Environmental

Humidity and temperature have adverse effects on the reliability of the M2RU system. Therefore, it is highly recommended to install the equipment in locations with stable humidity, temperature, and ventilating.

The equipment has to operate within the following humidity level and temperature range:

Maximum humidity: 100%

Temperature range: -40 to 55°C

Warning Marks

The warning marks on the equipment shell should be kept clean, readable and identifiable.



ALWAYS disconnect all lines and power connections before servicing or disassembling this equipment.



NEVER touch the surface after the devices power on.



For performance and safety reasons, **NEVER** disassemble and remodel the devices.

Preparation

Unpacking and Inspection

Unpack and inspect the packages as follows:

1. Open the shipping packages carefully for each unit from the protective packing sponge.
2. Ensure that all equipment and accessories have been delivered.
3. Ensure that all equipment and accessories have no damage. If there is any damage, contact your Mavenir service agent.

Tools

Electric drill, cross head screwdriver, side cutters, ladder, and other tools are needed for M2RU installation which is not offered from Mavenir for now. Customers to provide these tools themselves.



Drilling Machine



Pen



Allen Wrench T5



Combination
Spanner 17mm



Nut M10 and M12

Installation of the M2RU

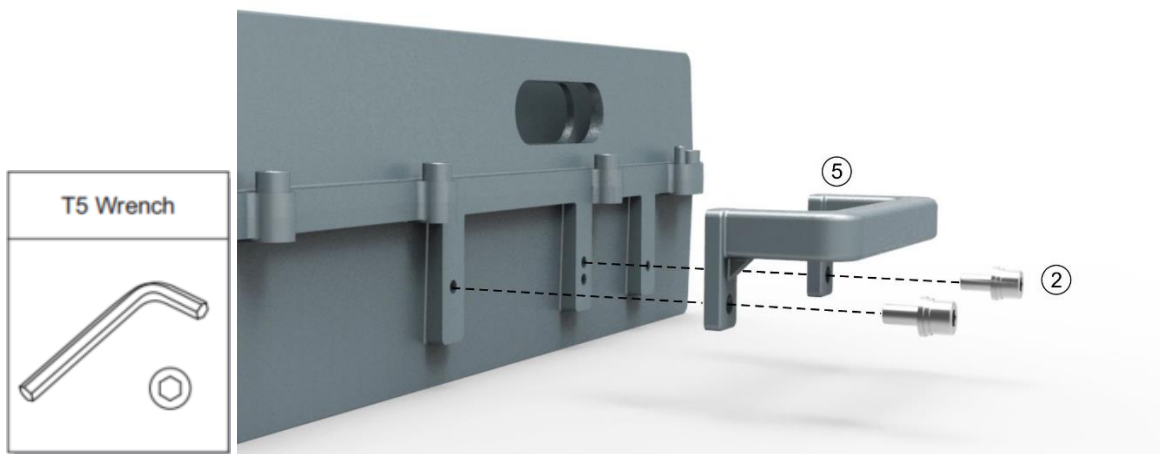
M2RU Accessories

M2RU Accessories List		① Nut M10	② Screw M6×14	③ Flat Washer M10	④ Spring Washer M10
					
⑤ Handle	⑥ Expansion Bolt M10×90	⑦ Optical Transceiver A11200801841 Optical Transceiver A11200801831			
					
⑧ HPRU Mounting Bracket I	⑨ HPRU Mounting Bracket II	⑩ Nut M12			
					
⑪ Flat Washer M12	⑫ Spring Washer M12	⑬ Bolt M12			
					
⑭ DC Power Lead 2m	⑮ Ground Wire 2m				
					

Figure 1. M2 Accessories

Wall Installation (Back on the Wall)

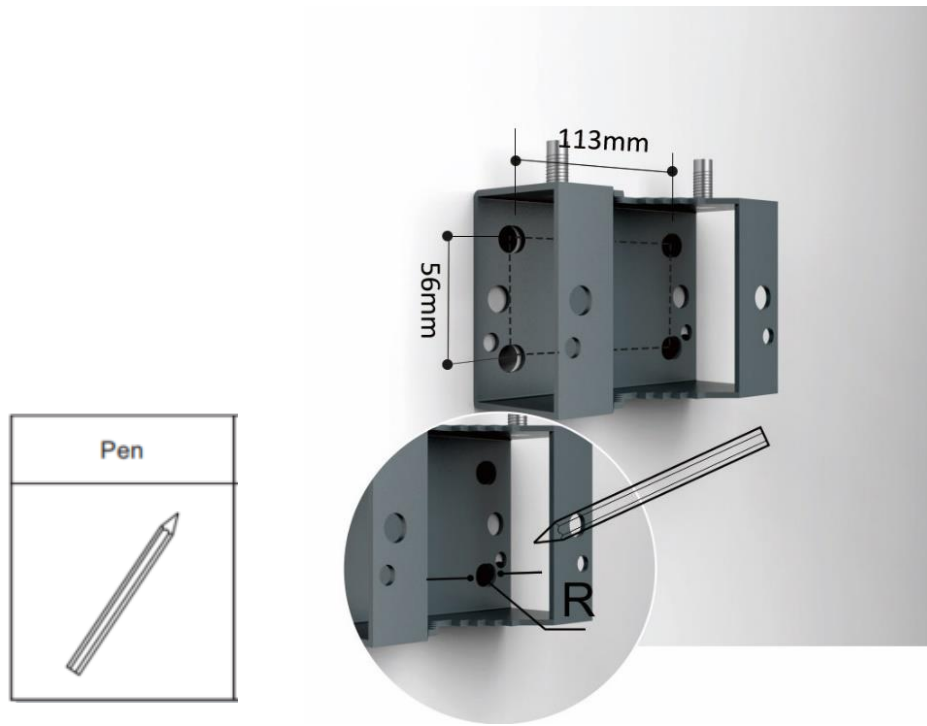
1. Attach and fasten the handle to the side of M2RU with screws M6×14 using T5 Wrench.



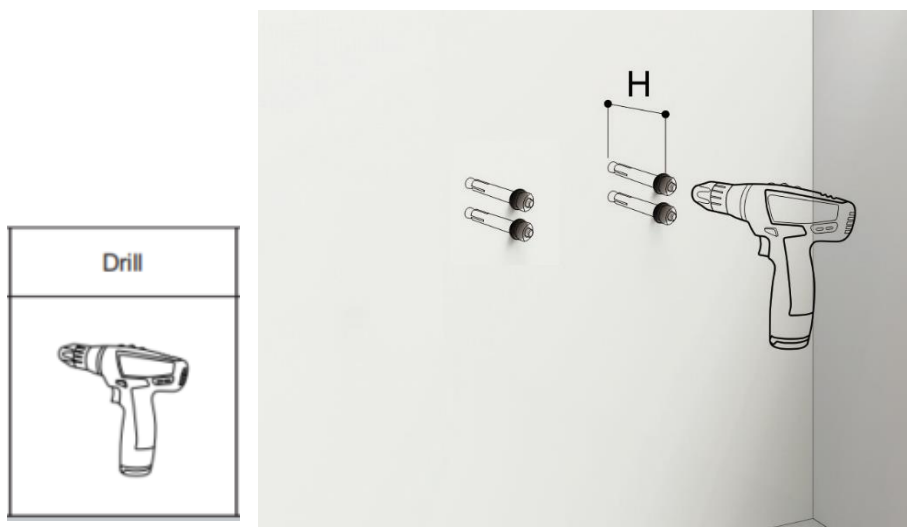
2. Attach and fasten the Bracket I to the back of M2RU with screws M6×14 using T5 Wrench.



3. Mark the position of the drilling holes in the mounting Bracket II. Note: $R=13\text{mm}$.

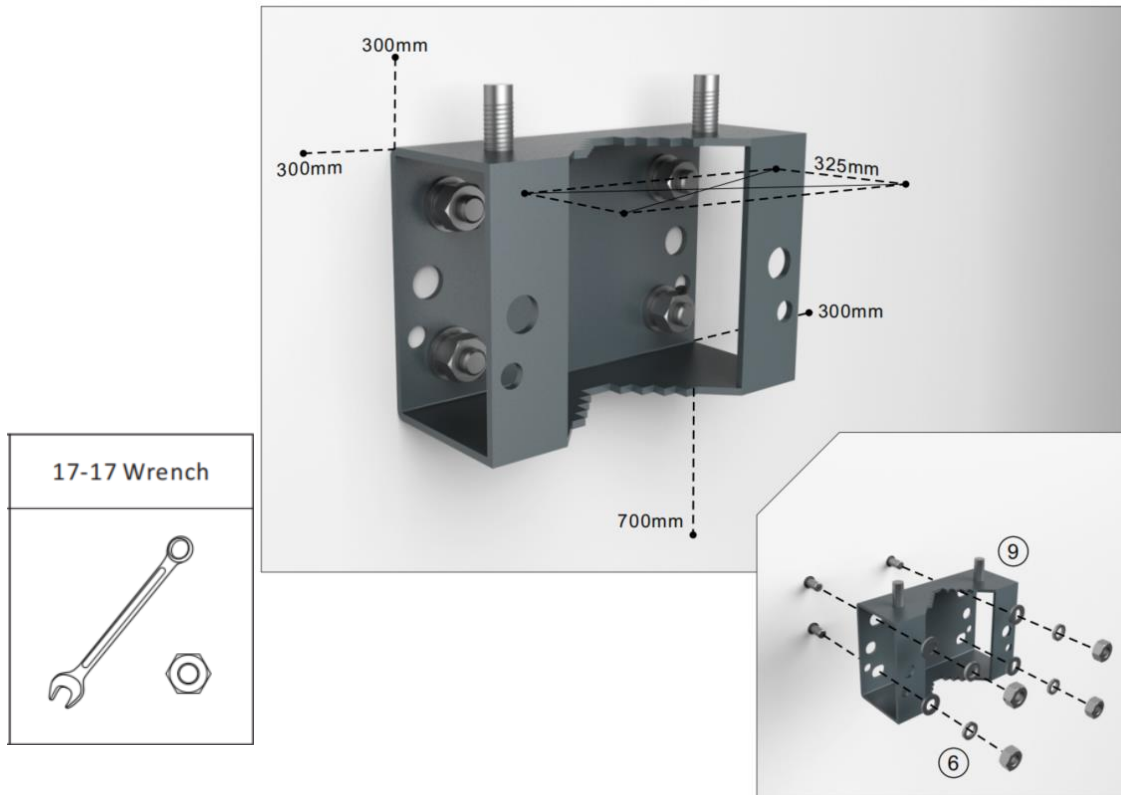


4. Drill 4 holes at the marked positions. Note: $H=70\text{mm}$

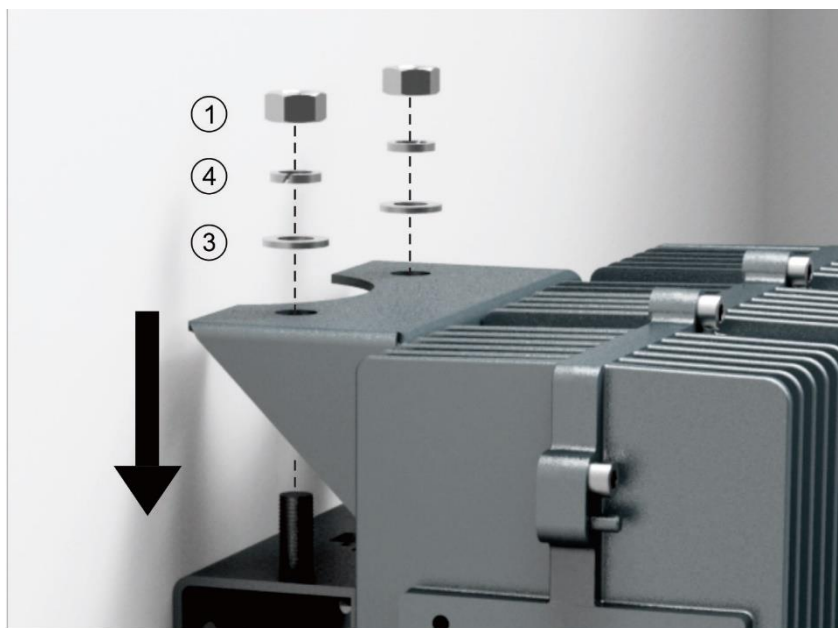


5. Attach the dowels, expansion screws or the like and fasten the Bracket II to the wall.

Tips: use Bracket II as a reference to control each devices' separation distance before hanging and locking M2RU up.



6. Hang the M2RU on the mounting bracket II and fasten with nuts M10.



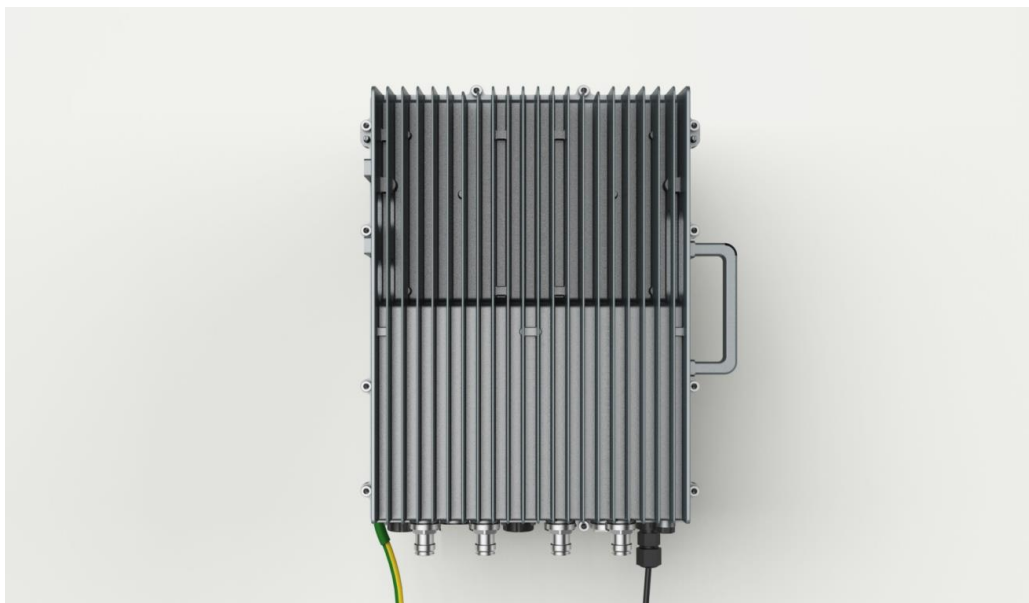
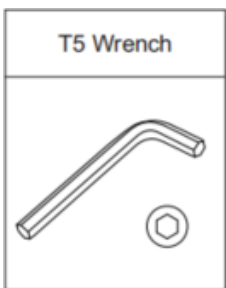
7. Fasten the Bracket I and II with screws M6×14.



8. Connect and lock the power cable at the M2RU rear side



9. Connect and screw the ground cable at the M2RU's left side



Wall Installation (Side on the Wall)



1. Attach and fasten the handle to the side of M2RU with screws M6×14 using T5 Wrench.

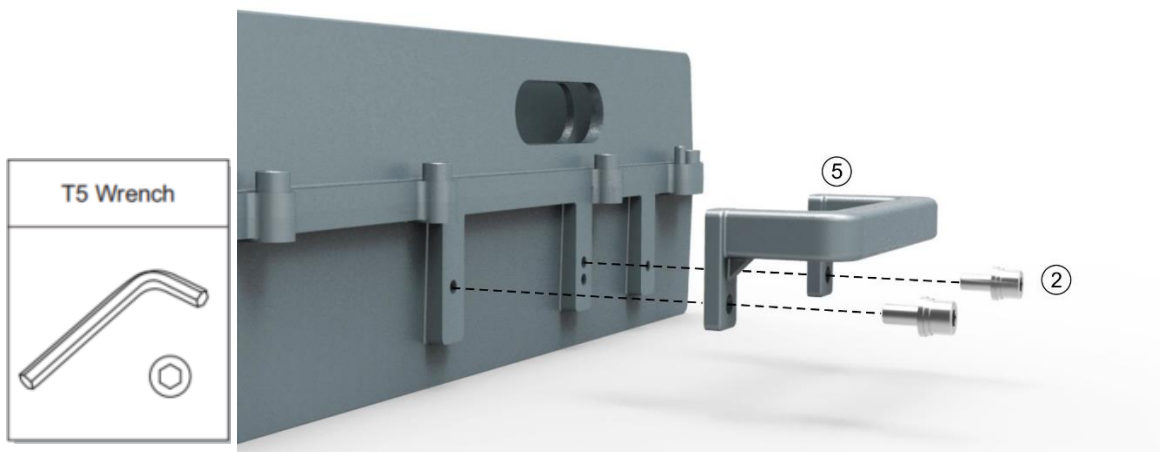
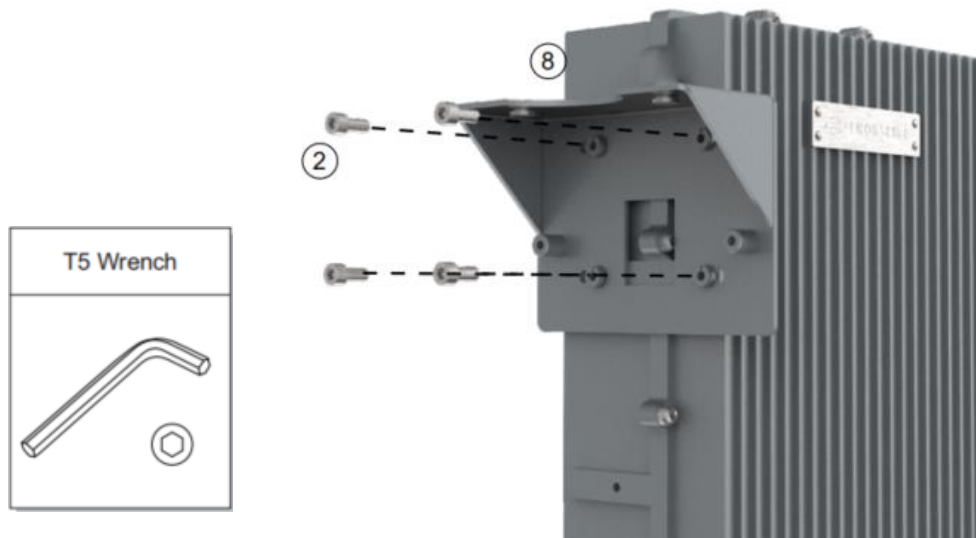
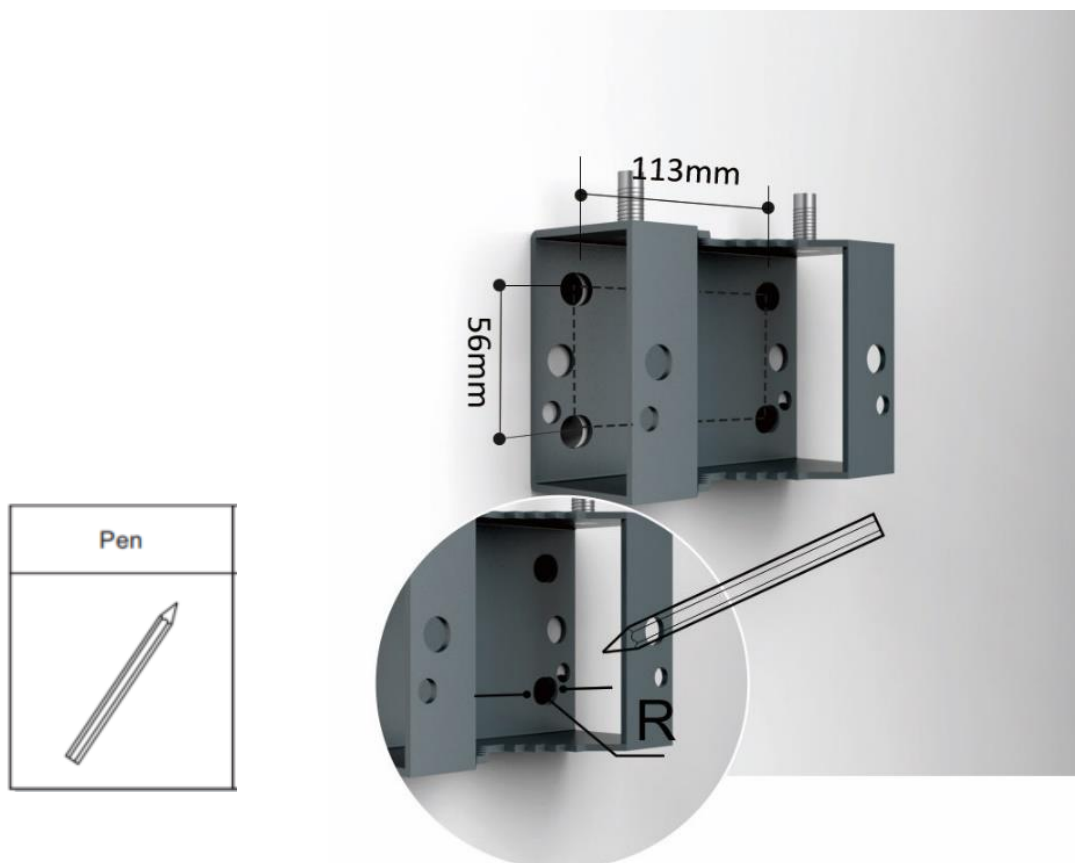


Figure 2.

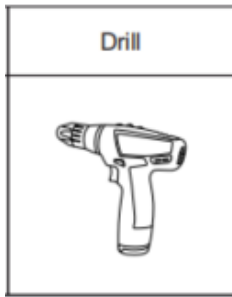
2. Attach and fasten the Bracket I to the left side of M2RU with screws M6×14 using T5 Wrench.



3. Mark the position of the drilling holes in the mounting Bracket II. Note: R=13mm.

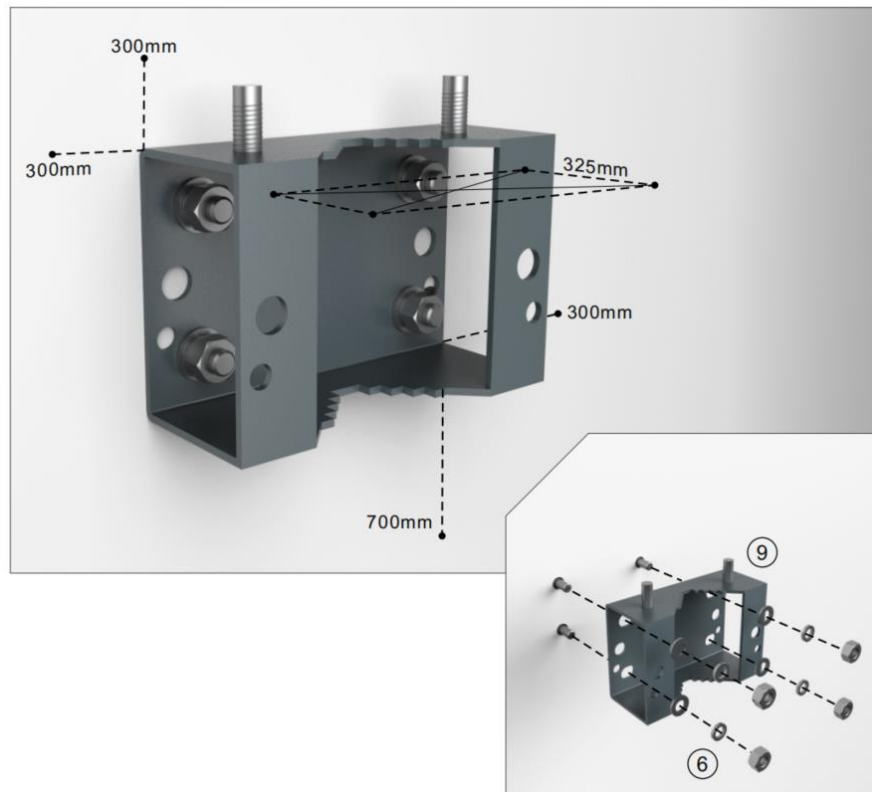
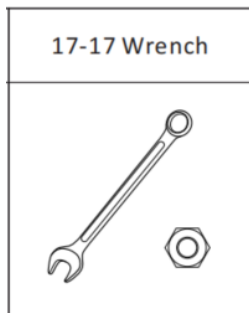


4. Drill 4 holes at the marked positions. Note: H=70mm.

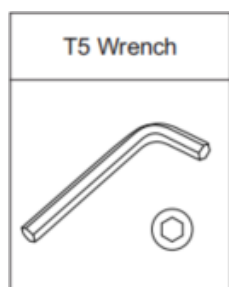


5. Attach the dowels, expansion screws or the like and fasten the Bracket II to the wall.

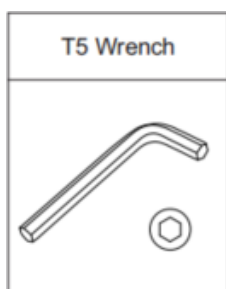
Tips: use Bracket II as a reference to control each devices' separation distance before hanging and locking M2RU up.



6. Hang the M2RU on the mounting bracket II and fasten with nuts M10.



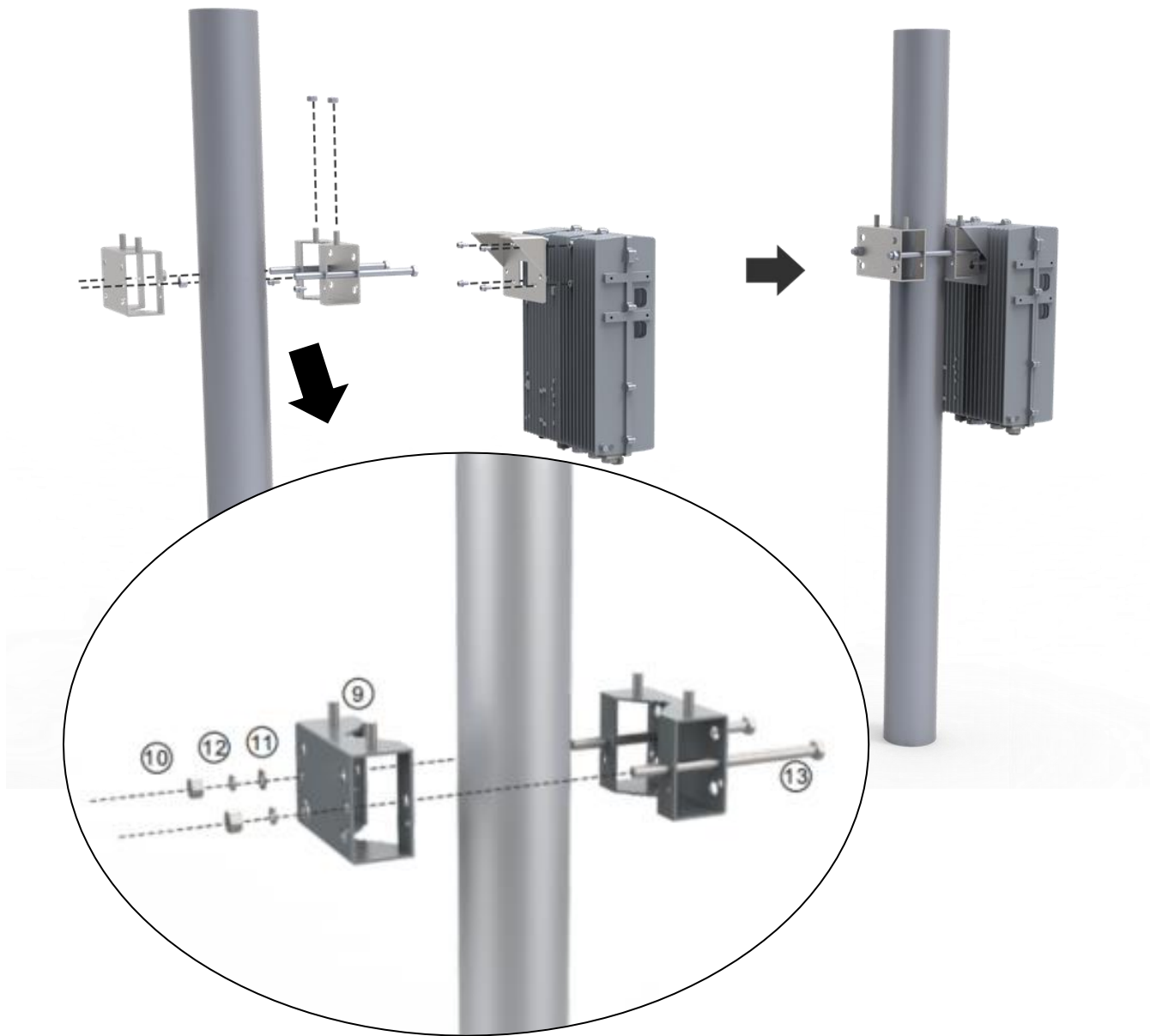
7. Fasten the Bracket I and II with screws M6×14.



Pole Installation

1. Install the handle and Bracket I to the back of M2RU.
2. Install the bracket II and Bracket III to the pole.
3. Hang the M2RU on the mounting bracket and fasten with nuts M10.
4. Connect the ground cable and power cable.

Note: The diameter of Pole shall not be over 110mm or less than 55mm.



M2RU Mounting Dimension Spacing

