

TMI-Tek

Cloud Controller INSTRUCTION MANUAL

Model : TCC-100BWU



**Manual Ver1.0.0
2016-11-10**

1. Introduction

Thank you very much for purchasing TMI-Tek TCC-100BWU. This operation manual provides information about the TCC-100BWU, including instructions on how to operate it, a description of its functionality, and precautions for handling. Before using the product, read this manual carefully to ensure that you handle it properly. The TCC-100BWU is designed for industrial use and is an auxiliary relay that is used to wirelessly control the heaters and lighting connected to the main relay.

1.1 Safety consideration

The following section provides a list of instructions to observe for safely using the product and avoiding property damage or physical injury to the user and individuals near the product. Do not handle or operate the unit in a manner which is not described in this operation manual.

[Description of markings]

Marking	Explanation
 Warning	Failure to avoid or perform a specific action may result in property damage or minor physical harm to the user.
 Caution	Failure to avoid or perform a specific action may result in death or serious physical injury to the user.

⚠ Caution

a) Do not use this instrument in locations subject to excessively high humidity, direct sunlight, or extreme temperatures (lower than -15°C or higher than 55°C). Doing so can lead to malfunction.

Avoid using the instrument in the following locations:

- Locations with an ambient temperature lower than -15°C or higher than 55°C.
- Locations subject to extreme temperature changes, or where dew accumulates..
- Locations full of corrosive gases and combustible gases.
- Locations containing a large number of conductive materials such as dust, salt, and iron filings, or locations with a significant amount of moisture, oil mists, and organic solvents.
- Locations subject to vibration.
- Locations exposed to direct sunlight.
- Locations exposed to water.
- Locations exposed to oils or chemicals.
- Locations where a strong magnetic field or electric field is generated.

b) Mount the instrument securely. Avoid mounting the instrument in an unstable location, such as an incline or a place subject to significant vibration.

c) Secure the instrument properly to prevent it from vibrating.

d) Do not install in metal areas. It may cause communication failure/disruptions.

e) Please be sure to ventilate properly. Do not block the ventilation area.

f) Please be cautious of the following in regards to the adapter

- Damage to the cables can be the cause of fire and electric shock
- Please do not touch the adapter with wet hands
- Please do not pull on the cable

g) Failure to follow the instructions in this operation manual can result in property damage, serious bodily injury, or even death.

⚠ Warning

- a) When installing, please keep the power separated. It may be the cause of electric shock.
- b) If the instrument is dropped or damaged, switch it off and disconnect the power plug from the receptacle. Continuing to use the instrument after it is dropped may result in fire or electrical shock.
- c) If foreign materials, such as water or oils, enter the instrument, switch off the power immediately and unplug it from the receptacle. Continued use may result in fire or electrical shock.
- d) Make sure to leave sufficient space behind the instrument to allow for instant access to the power plug in case of an emergency.
- e) This instrument is not customer-serviceable. Attempt to service the instrument on your own may result in fire or electrical shock.
- f) Discontinue using the instrument if any of the following problems occur:
 - The instrument generates unusual noises.
 - The instrument produces smoke.
 - The instrument develops problems that are not covered in this manual.
 - The instrument cannot be operated as described in this manual.

1.2 Notes

- a) The information in this document is subject to change without notice for the sake of performance or functional upgrades.
- b) This document may not be reproduced, in whole or in part, without prior approval of the publisher.
- c) This product is not responsible for the failure of surrounding equipments.

1.3 FCC Information

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.

CAUTION : Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

2. Specification

Model		TCC-100BWU
Power supply		12VDC±10% ,3A
Rated load voltage & current ^{※1※2}		250VAC 3A, 30VDC 3A
Current consumption ^{※3}		Max. 100mA
Output Type		1c contact relay output
Applied relay		HR703F[Hankukrelay]
No. of relay points		16
Terminal pitch		5mm
Applied cable	Solid wire	0.2 to 1.5mm ²
	Stranded wire ^{※4}	AWG22~14(0.3 to 2.0mm ²)
Stripped wire length		5~6mm
Environment		Temp: -15 to 55°C, Humi: 35 to 95%RH
Material		Terminal block cover: Polybutylene terephthalate CASE: Polycarbonate
Control method	Wifi	Equipment control via cloud
	BLE	Only system setting
	USB	System setting and system test
Accessory		BC-B40(Wall mounting bracket) Adapter 12VDC 5A(*Options)
Weight ^{※5}		Approx. 767g (approx. 316g)

※1: Please connect to a load using the same power supply. Connecting to a load from a different power supply may cause safety issues.

※2: Relay contact capacity for resistive load.

※3: The current consumption including LED current by one relay.

※4: When using stranded wire, use End Sleeve(ferrule terminal) crimp terminals.

※5: The weight includes packaging. The weight in parentheses is for unit only.

- Relay

1) Coil specification

※ The values are measured at 23°C.

Model	Rated voltage	Must operate voltage	Must release voltage	Rate current	Coil resistance	Power consumption
HR703F	5VDC	Min. 75% of rated voltage	Max. 20% of rated voltage	72mA	70Ω	360mW

2) Contact specification

Maker	Hankukrelay		
Model	HR703F		
Contact	Arrangement		1 Form C(SPDT)
	Material		Ag Alloy
	Resistance(initial)		Max. 100mΩ
Rating	Rate load(resistive load)		10A 250VAC 10A 30VDC
	Max. switching power		2,500VA 300W
	Max. switching voltage		250VAC 110VDC
	Max. switching current		10A
Electrical characteristics	Insulation resistance		Min. 100mΩ(500VDC)
	Dielectric strength	Coil and contacts	2,500VACrms for 1minute
		Open contacts	1,000VACrms for 1minute
	Surge voltage		6,000VAC
	Operate time		Max. 10ms
	Release time		Max. 5ms
Mechanical characteristics	Vibration	Mechanical	1.5mm amplitude at frequency of 10~55Hz
		Malfunction	1.5mm amplitude at frequency of 10~55Hz
	Shock	Mechanical	Min. 10G
		Malfunction	Min. 100G
Life expectancy	Mechanical		Min. 10,000,000 operations
	Electrical		Min. 100,000 operations(10A 250VAC, 30VDC)
Environment	Ambient temp.		-40 to 85°C
	Ambient Humi.		35 to 95%RH
Unit weight		Approx. 9.5g	

※Environment resistance is rated at no freezing or condensation.

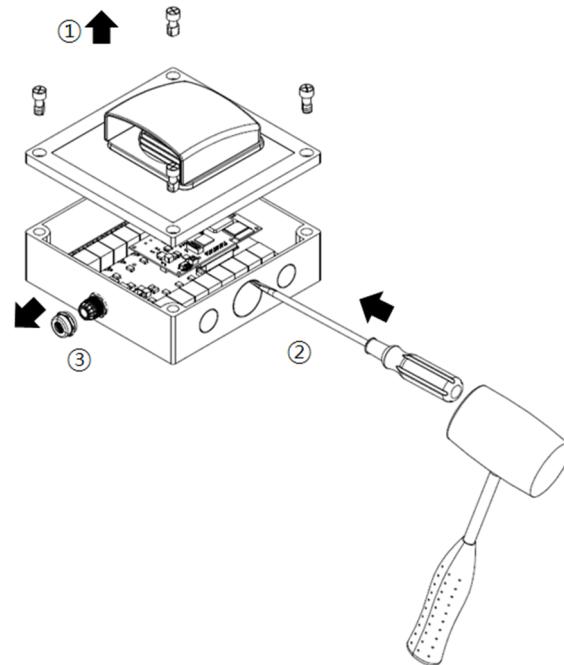
3. Product installation

Install the TCC-100BWU in a stable location that is not exposed to direct sunlight, excessive vibration, or moisture.

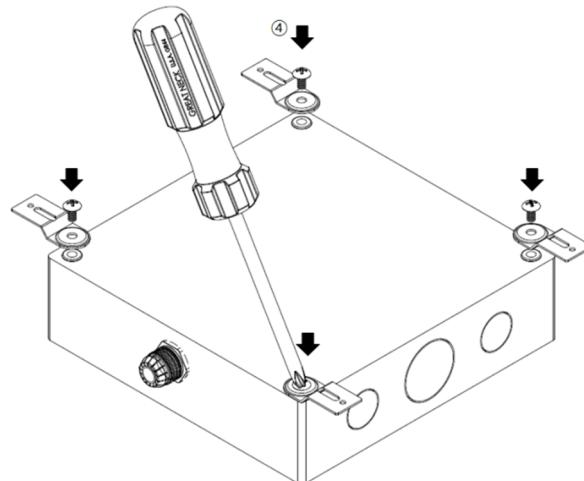
① Please loosen the screw located on the cover.

② Open the knockout using the screwdriver and hammer.

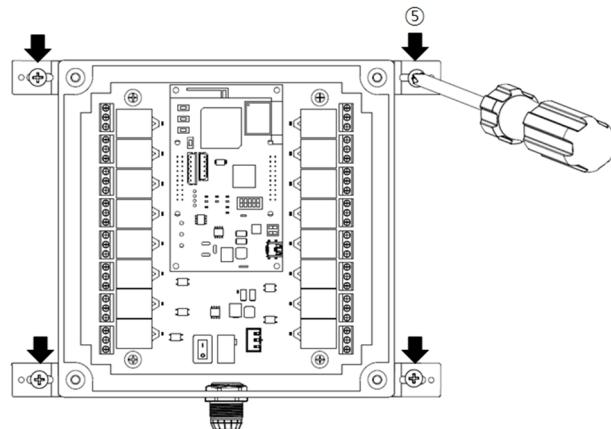
③ Open the pressure dome from cable gland.



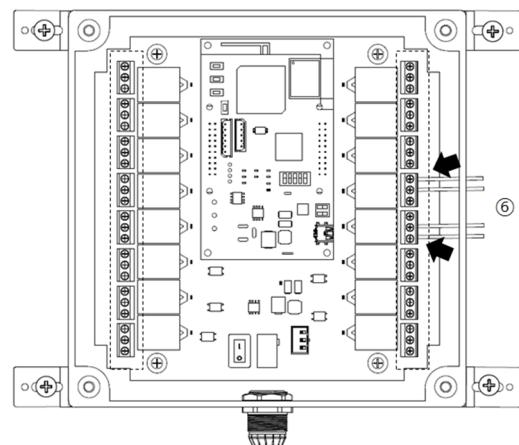
④ Secure the bracket with screws on the bottom of the product.



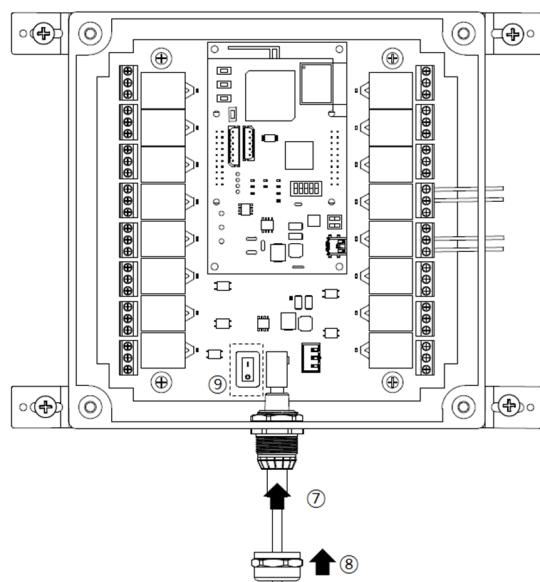
⑤ Use screws to secure the product to the wall.



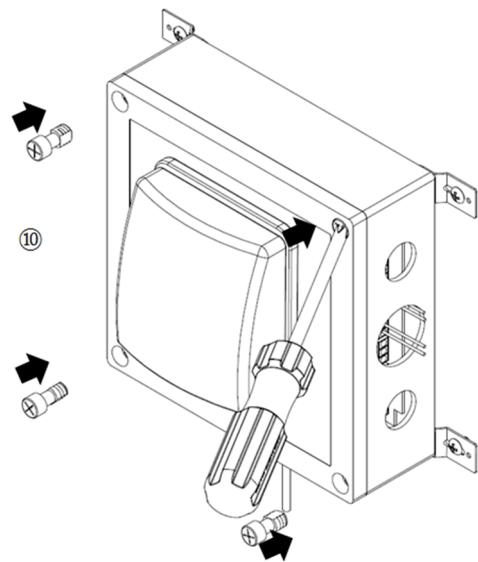
⑥ Connect a wire to the terminals (R1~R16).



⑦ Connect jack to the power socket.
 ⑧ Tighten a pressure dome of cable gland.
 ⑨ Turn on the power.

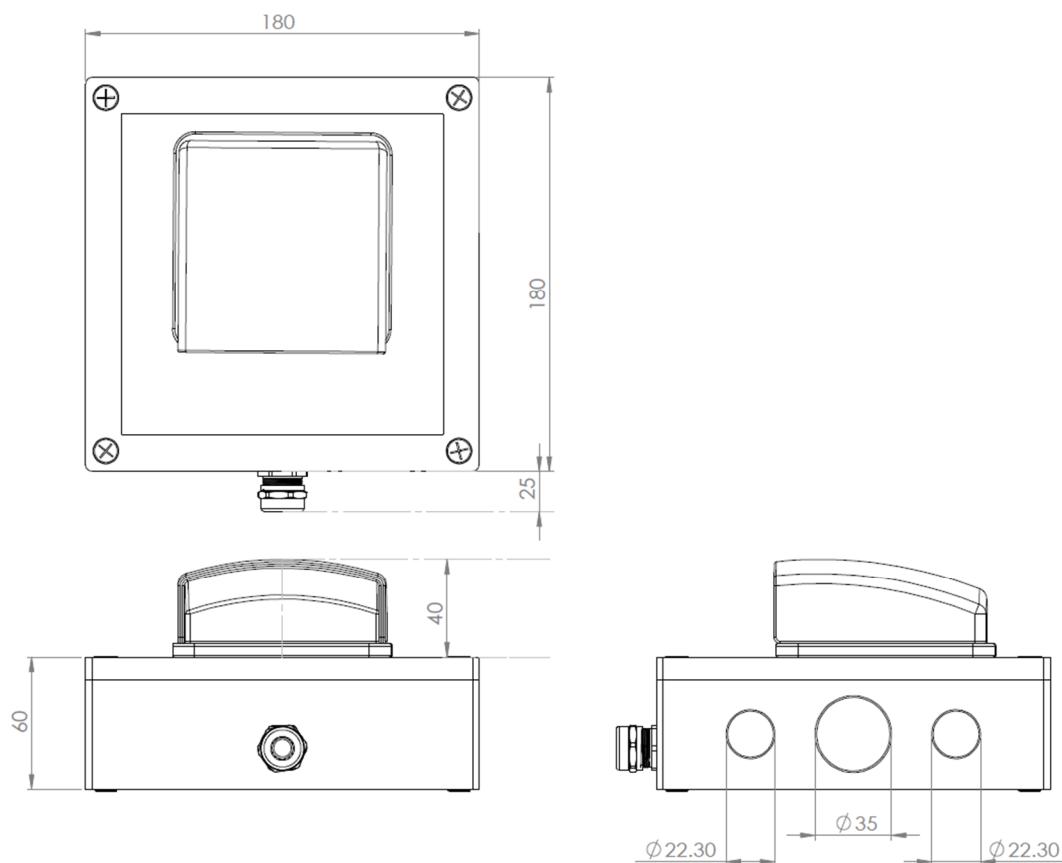


⑩ Close the cover and tighten the screws.

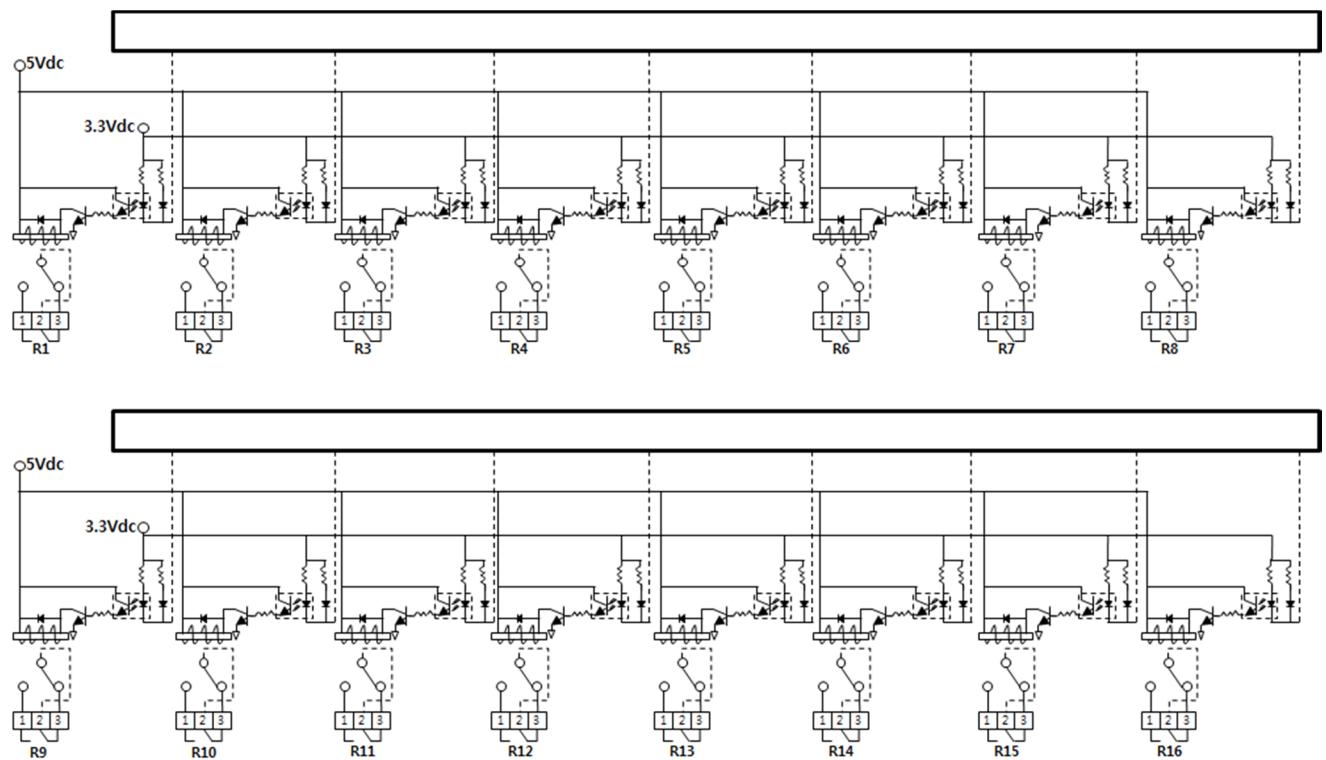


4. Dimensions

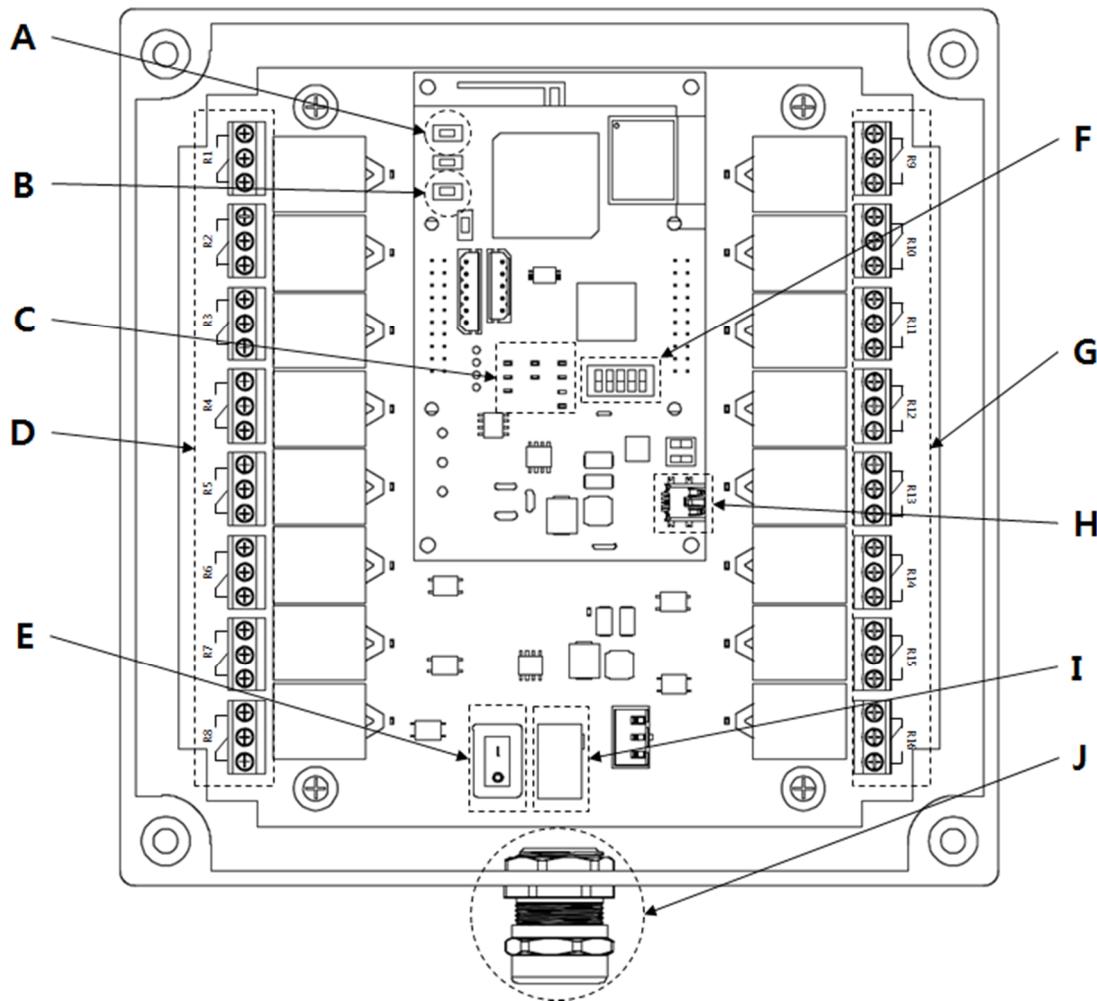
(unit :mm)



5. Wire connection



6. Names of Components.



A	Reboot Switch	Reboot the system.
B	Wifi reboot Switch	Reboot the Wifi module.
C	status lamp	Displays the operating status of the system.
D,G	Terminal block	Connect with external lines.
E	Power switch	Power On/Off switch.
F	Function switch	Switch for setting the functions of the system.
H	USB port	Port for communication with PC.
I	Power connector	Port for powering the system through the adapter.
J	Cable gland	Securing the adapter plug.