KCU-42

WI-FI Remote Communication Module
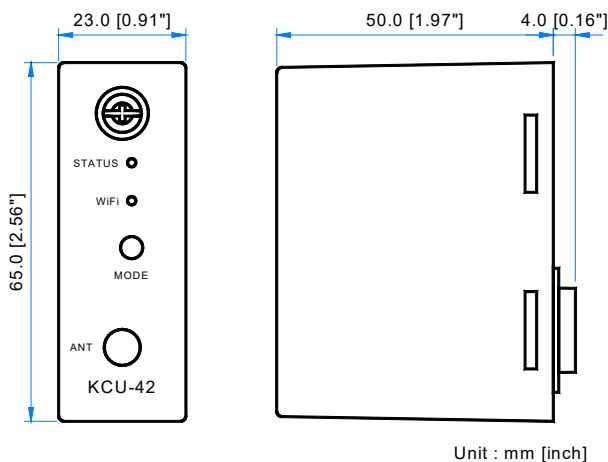## *Hardware Installation Manual*

ISO 9001
ETC

SECTION 1 : SUMMARY

KCU-42 Wireless Network Communication Module (Wi-Fi Module), when paired with Kutai smart control units, allows users to perform remote monitoring, configuration, and operation of the control unit via PC, tablet, or smartphone by downloading the free app.
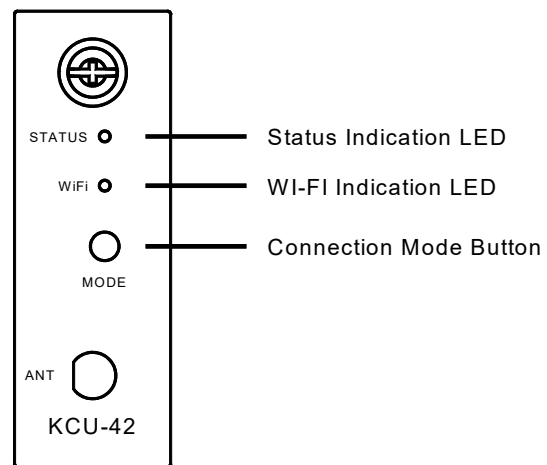
- Wi-Fi login credentials can be configured using Kutai's free KTool App.
- All data transmissions are secured using dual encryption/decryption algorithms. (Primary Key and Session Key)
- Allows one operator and up to seven viewers to connect to the KCU-42 at the same time.
- Complies with IEEE 802.11 b/g/n standards
- Internal communication module certified by FCC (USA), IC (Canada), CE (EU), WFA (Wi-Fi Alliance), TELEC (Japan), and SRRC (China)

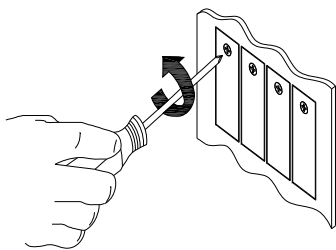# SECTION 2 : Outline Drawing

2.1 Dimensions

Unit : mm [inch]

2.2 External Overview

Status Indication LED
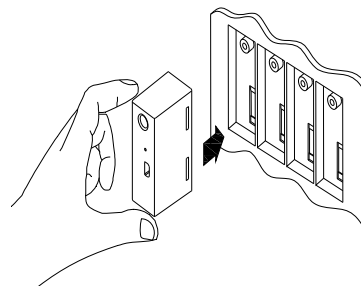WI-FI Indication LED
Connection Mode Button
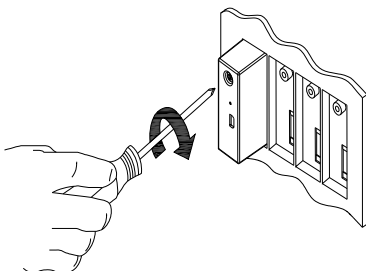
SECTION 3 : INSTALLATION

Before installation, disconnect power to the controller. Then insert the KCU-42 into the expansion slot on the back of the controller following the steps below.

Step 1: Remove the expansion slot cover from the controller

Step 2: Insert the KCU module into the controller's expansion slot

Step 3: Tighten the mounting screws.

SECTION 4 : Wi-Fi ROUTER SETTING

Step 1:
Open the **App Store** (for iOS) or **Google Play** (for Android) on your mobile device and download the free **KTool** application.

Step 2:
For iOS devices, first connect the mobile device to the Wi-Fi network used by the KCU-42. This step is not required for Android devices.

Step 3:
Restore normal power to the controller. At this point, the **STATUS** red LED on the KCU-42 module will begin flashing, indicating successful communication between the module and the controller.

Step 4:
Press and hold the **MODE** button on the KCU-42 module. Release the button once the **Wi-Fi** indicator LED begins flashing alternately in red and green. This indicates that the module has entered Bluetooth setup mode.
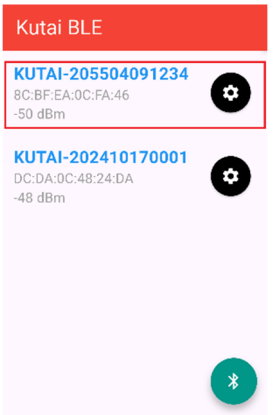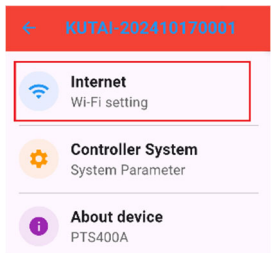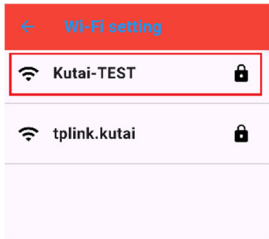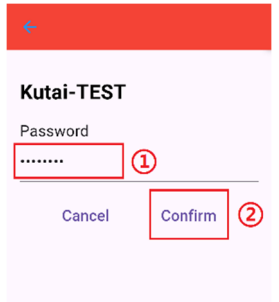
Step 5:
Press the **MODE** button on the KCU-42 module again. Wait until the **STATUS** LED turns solid green, indicating that Bluetooth is now enabled and ready for connection.

Step 6:
Enable the Bluetooth function on your mobile device.

Step 7
Open the **KTool app** on your mobile device and follow the on-screen instructions to set the Wi-Fi password.

Step7.1 : **7.1.1** Launch the *KTool* App **7.1.2** From the device list, tap the serial number of the device you wish to configure. **Note:** Tap 🔵 to re-scan for nearby Bluetooth devices.	**Step 7.2** : Tap *Internet Wi-Fi setting*.
Step 7.3 : Select the Wi-Fi network used by the KCU-42. For iOS devices, the screen will automatically proceed to **Step 7.4**. **Note: Only 2.4GHz Wi-Fi networks will be displayed in the list.**	**Step 7.4** : **7.4.1.** Enter the Wi-Fi password **7.4.2.** Tap *Confirm.* **7.4.3.** Wi-Fi credentials setup is now complete.

SECTION 5 : KCU-42 LED INDICATOR DESCRIPTION

STATUS LED Indicator

Indicator Status	Status Description
🔴⚪ Flashing Red	Communicating with the controller
🔴🟢 Alternating Red and Green	Red LED indicates communication with the controller is in progress. Green LED indicates that the Bluetooth function is enabled.

Wi-Fi LED Indicator

Indicator Status	Status Description
🔴 Solid Red	Wi-Fi is not configured or IP address not obtained 1. Check whether the Wi-Fi network is functioning properly. 2. Ensure that the Wi-Fi router password entered is correct. 3. Power off the Wi-Fi router and restart it. 4. If the issue persists, replace the KCU-42 module or contact an authorized distributor for assistance
⚫ Off for an extended time	Unable to connect to the server; no internet access 1. Check whether the Wi-Fi network has internet access. 2. Power off the Wi-Fi router and restart it. 3. Remove the KCU-42 module and reinsert it into the controller's expansion slot. 4. If the issue persists, replace the KCU-42 module or contact an authorized distributor for assistance
🔴⚪ Flashing Red	Data received from the server
🟢⚪ Flashing Green	Data sent to the server
🔴🟢 Alternating Red and Green	Setup mode active

Indicator Status	Status Description
⚫ No LED indicators are lit	1. Check whether the control unit is properly powered and functioning. If the power is normal but there is still no response, the issue may be due to poor contact at the expansion slot. 2. Remove the KCU-42 module and reinsert it into the controller's expansion slot. 3. If the issue persists, replace the KCU-42 module or contact an authorized distributor for assistance

SECTION 6: SPECIFICATION

6.1 KCU-42 Specification

Power Input	5 Vdc
Power Consumption	< 1.5 watt
Operating Temperature	-20 − +60 ˚C
Storage Temperature	-30 − +70 ˚C
Relative Humidity	Max. 95%
Vibration	3.0 Gs @ 100 − 2K Hz
Weight	42 g +/- 2% 0.093 lb +/-2%

6.2 Antenna Specification

Wireless Standards	802.11b / 802.11g / 802.11n
Bluetooth	(Bluetooth LE): Bluetooth 5
Frequency Range	2402 – 2480 MHz
Antenna Gain	5 dBi
Antenna Impedance	50 ohms
Typical Range	150 M (Indoor) 250 M (Outdoor)
Connector	SMA Male RS
Antenna Size	200 x 13 mm
Antenna Weight	68g +/-2% 0.15 lb +/-2%
Cable Length	1.5 M (Standard) 2 M / 3 M (Optional)
Mounting Method	Magnetic Mounts

※Note:
KUTAI reserves the right to introduce new models or modify control unit settings without prior notice. Users may visit the company website at any time to access the latest updates and revisions.