KCU-41

WI-FI Remote Communication Module
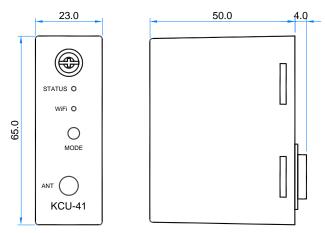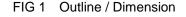## Hardware Installation Manual

ISO 9001
ETC

SECTION 1 : SUMMARY

KCU-41 WI-FI Module is specifically designed for KUTAI's intelligent generator and ATS Control modules. Download the free app for PC, tablet, or smartphone to monitor, control, and configure the controllers remotely.

● Support WPS for easy secured wireless connection.
● Support SoftAP mode for manual configuration of secure password required wireless connection
● All transmitted data use two sets of keys for encrypt / decrypt. (Primary Key and Session Key).
● User-defined connection password privileges. Administrator (1 user) & Viewer (Up to 7 users).
● Complies with IEEE 802.11 b / g / n standards.
● Industry Canada (IC) and FCC Certified.

Unit : mm

FIG 1   Outline / Dimension

SECTION 2 : SPECIFICATION

Module Specifications

Power Input
   5 Vdc

Power Consumption
   < 1.5 watt

Environment
   Operation Temperature   -20 – +70 ˚C
   Storage Temperature   -35 – +85 ˚C
   Relative Humidity   Max. 95%
   Vibration   3 Gs @ 100 – 2K Hz

Dimensions
   65.0 (L) x 23.0 (W) x 54.0 (H) mm
   2.6 (L) x 0.9 (W) x 2.1 (H) inch
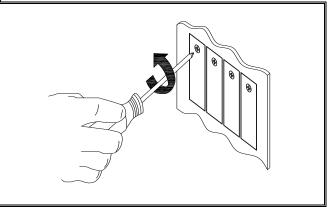
Weight
   46.5 g +/- 2%
   0.095 lb +/-2%

Antenna Specifications

Wireless Standards
   802.11b / 802.11g / 802.11n

Frequency Range
   2.4 – 2.5 GHz

Reception Gain
   5 dBi

Impedance
   50 ohms

Typical Range
   150 M (Indoor)   250 M (Outdoor)

Connector
   SMA Male RS

Size
   200 x 13 mm

Cable Length
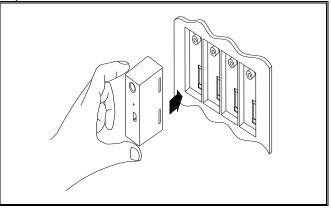   1.5 M (Standard)   2 M / 3 M (Optional)

Mounting Method
   Magnetic Mounts

SECTION 3 : INSTALLATION

Always disconnect the controller's power before installation and follow the step by step instruction to install the KCU-41 into the expansion lot.
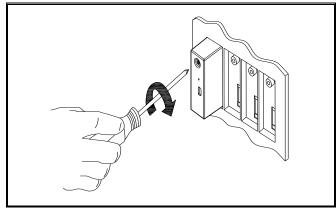
Step 1 : Remove the controller's expansion slot protective cover.

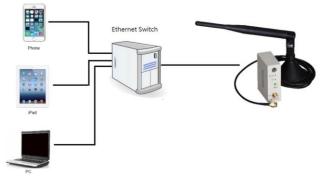Step 2 : Insert KCU-41 module into the controller's expansion slot.

Step 3：Tighten the screw.

ATTENTION
Kutai reserves the right to modify revise the content of the newly developed models and control units. The revised content will be subject to change without notice. Users can click on the company website to obtain the latest amendments at any time.

SECTION 4 : INTERNET CONNECTIVITY

When KCU-41 is connected with the Internet, it'll automatically link to KUTAI communications server and waiting to connect to remote control devices.
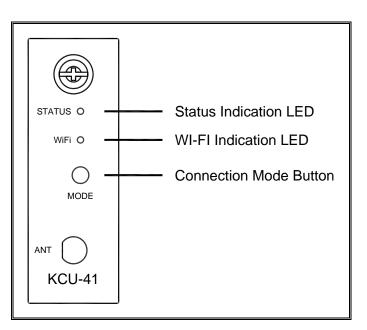
KCU-41 FACTORY SETTINGS	
Connectivity	SoftAP Mode
MAC Address	Marked on Module

SECTION 5 : WI-FI ROUTER SETTING
Make sure the controller is working properly and the KCU-41 module is correctly installed before setting the WI-FI Router.

KCU-41 can be connected to WI-FI Router in two ways：

● WPS：Automatic Connection Setup refer to section 5.1

● SoftAP：Manual Connection Setup refer to section 5.2

5.1   WPS Automatic Connection Setup

Step 1 : Check that the WI-FI router has WPS function with two security protocols : WI-FI Protected Access (WPA) and WI-FI Protected Access II (WPA2).

Step 2 : To enter setup, press and hold "MODE" button until WI-FI LED begins to flash in RED and GREEN.

Step 3 : click "MODE" button once, when LED turn into solid ORANGE, the setting is in WPS mode and click on the "WPS" button on the WI-FI router (Refer to WI-FI router manual for WPS button's instruction), wait for automatic pairing in about 1 minute.

5.2   SoftAP Manual Connection Setup

Step 1：To enter setup, press and hold "**MODE**" button until WI-FI LED begins to flash in RED and GREEN.

Step 2：Double click "MODE" button, when LED turn into solid RED, the setting is in SoftAP mode.

Step 3：Use mobile device (PC, tablet, smartphone) that has WI-FI capability. Search and connect WI-FI hostname KCU-41-xxxxxxxx (MAC Address is shown on the side of KCU-41 module).

Step 4：Launch the browser from your selected mobile device (IE, Chrome, etc.) and enter address : 192.168.1.3 (See FIG 2) and click "Configure Network".

Step 5：Click "Scan For Wireless Network", KCU-41 will display all available WI-FI hostnames found.

Step 6：Select a WI-FI network and enter a password to connect.

> **ATTENTION**
> **If KCU-40 is unable to establish network connection (Automatically / Manually) within 5 minutes in WPS or SoftAP mode, KCU-41 will exit the mode automatically and resume its last successful WI-FI connection.**

FIG 2

SECTION 6 : READING KCU-41 LEDs

STATUS INDICATION LED	WI-FI INDICATION LED	MEANING
Fast blinking red (200ms)	Solid green	Obtaining IP address
Solid orange (500ms)	Solid green	Server connecting
Slow blinking red (1.5s)	Solid green	Server connected
Fast blinking red (200ms)	Solid orange	WPS Mode
OFF	Solid red	Soft AP Mode

SECTION 7 : TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
STATUS & WI-FI Indication LEDs are off	Failed power supply	1. Check if controller is receiving power and operating properly. 2. Check if KCU-41 is properly seated and connected in the controller's expansion slot. 3. Remove KCU-41 and reinstall it in expansion slot again. 4. If problem can not be resolved, please replace KU-41 or contact authorized dealer.
KCU-41 is connected to WI-FI router but STATUS indication LED is solid orange	Unable to connect to server	1. A solid orange STATUS LED means KCU-41 attempts to connect to server without success and unable to connect to internet. 2. Check WI-FI connection. 3. Reset WI-FI router connection. 4. If problem can not be resolved, please replace KU-41 or contact authorized dealer.