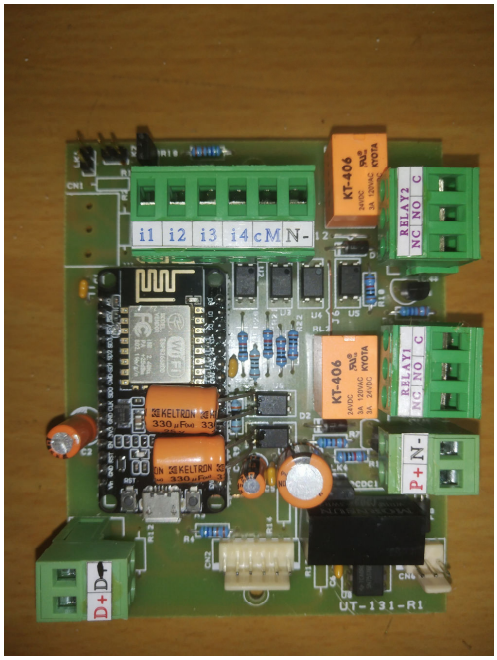
User Guide

Before Power Up

- Make sure that 24V D.C power supply connections are correct.Reverse polarity might damage the product.
- The quality of the D.C power supply needs to be of reasonably good standard. Cheap wall adaptors can damage the product.
- The product has dustproof polypropylene housing suitable for easy WiFi communication. Mounting it inside a metallic enclosurewould severely attenuate the RF communication.
- All connecting wires should pass through the rubber grommets placed on the four walls of the Ulink. This ensures minimum waterand dust ingression.
- Users are encouraged to go through the User Manual thoroughlybefore installing & commissioning the product.

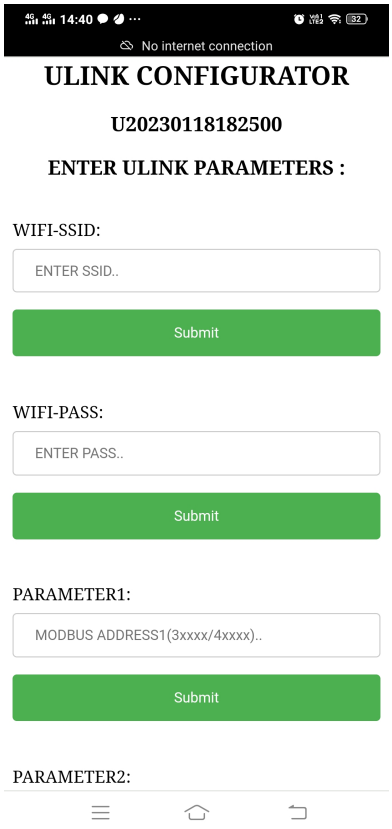
Check & identify the terminals

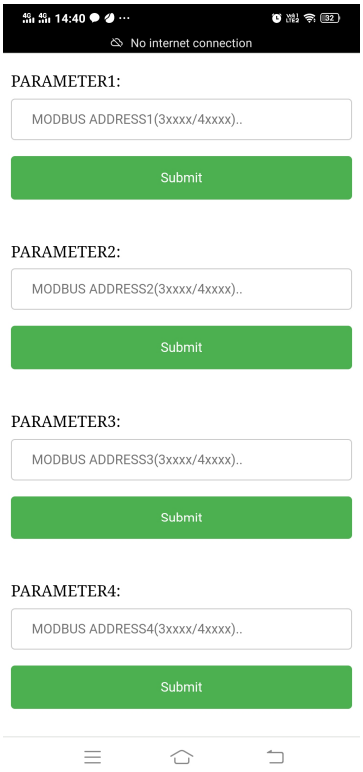
- The terminals marked P+/N- are for the 24V D.C power supply connections
- The terminals marked D+/D- are for RS485 Modbus connection
- The terminals marked RELAY1/RELAY2 are for the relay outputs
- The terminals marked i1/i2/i3/i4/cM/N- are for the four digital inputs.

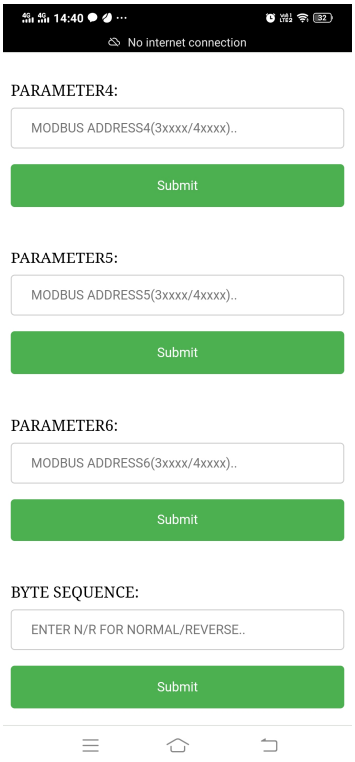


Steps to program Ulink

- Remove the jumper marked LK1 at the top left corner of the board. This puts Ulink in programming mode.
- Connect 24V D.C (±5%) source to P+/N-
- Check whether display is ON
- Use WiFi of mobile phone/Laptop & search for "ULINK"
- Connect to "ULINK" using password "12345678"
- Connect to"192.168.4.1" in any browser
- The following screen should appear in the browser







Programming the parameters

- Enter the SSID of the available WiFi in the text boxes marked "WiFi SSID" & press "Submit" button. The ULink should beep & display "SSID Received". If it doesn't then repeat the same operation once again.
- Once the SSID has been successfully received & acknowledged by Ulink , the display shifts to program mode & shows "PROG"
- In the same fashion , the WiFi password is programmed via the WiFi PASS textbox.
- Now comes the turn of programming the Modbus parameters. Please note that as of now , Ulink can read six float values from input/holding registers of the energy meter/multifunctional electricity meter. For Holding registers , the Modbus addresses are usually of the form 4XXXX or 4XXXXX and for Input registers the Modbus addresses are of the form 3XXXX or 3XXXXX.Consult the energy meter datasheet to get the correct Modbus address of the six parameters to be read by Ulink. Please type the complete address in the six text boxes marked Parameter1 to Parameter6 without omitting the prefix "4"/"3". Some energy meter datasheets omit the prefix "4"/"3" & simply mention "Holding"/"Input" & provide a 4-digit address. In such cases "4"/"3" needs to be prefixed to the 4-digit address to convert it to a 5-digit address. A 5-digit/6-digit address starting with either "4" or "3" is required to be typed into the parameter textbox before submitting to the Ulink. Otherwise "Error-Try Again" message is generated.
- Modbus communication from the slave(Energy Meter) can either be little-endian(Normal) or big-endian(Reverse).The mode should be selected by typing "N"/"R" & submitting it to the Ulink. The default communication mode is normal/"N".

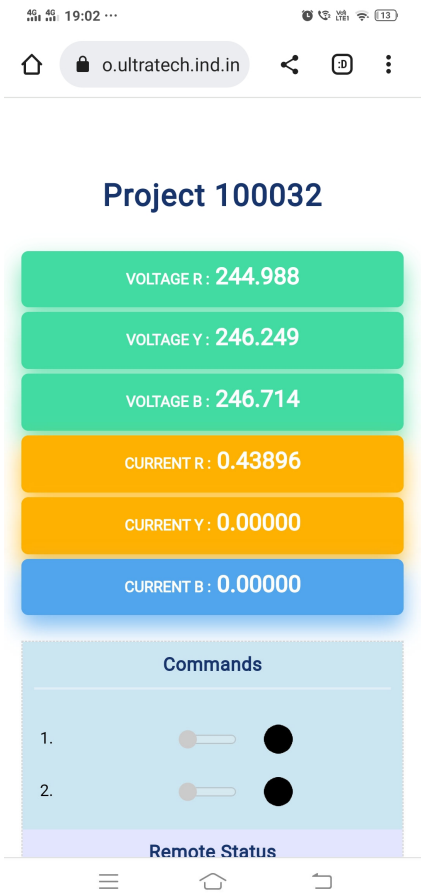
Connecting the Energy Meter

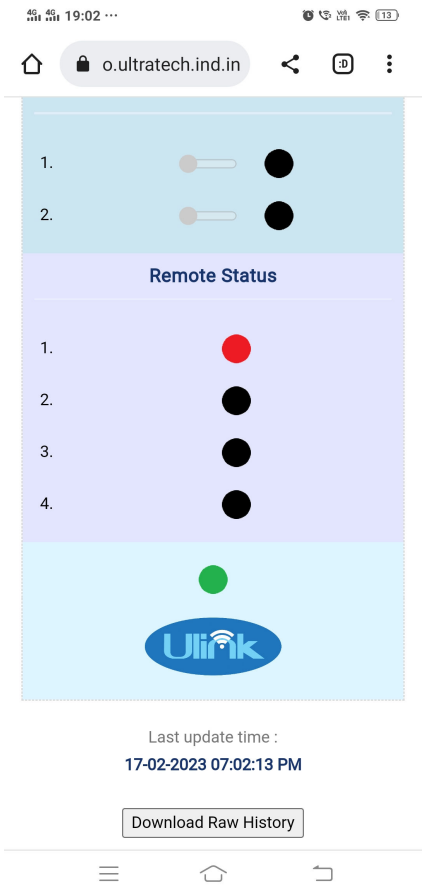
- By default Ulink communicates with Modbus device I.D 1 , baud rate 9600 , no parity & no handshaking. These communication parameters need to be set in the Energy/Multifunction meter that is being setup with Ulink.
- The Energy/Multifunction Meter should be connected to the RS485 terminals marked D+ & D- with the proper polarity.
- The LK1 jumper should be restored on the board that was removed during programming the parameters.
- The 24V power supply should be recycled(turned OFF & then turned ON once again) to put the Ulink in the run mode.

Checking the operational cycle

- If the WiFi credentials are correct then the display should indicate "WIFI_OK" & the WiFi blue LED should glow which indicates that the Ulink has connected to the internet & has started uploading data to the cloud.
- The parameters values as read by the Ulink from the Energy/Multifunction meter are indicated one after another in the scrolling display. The same values are pushed to the cloud @ 10 seconds.
- The availability of the data in the cloud database can be checked by clicking on the URL as obtained from the System Integrator/OEM.
- In case the Ulink module has not been registered in the backend , the WiFi connection goes ON & OFF on a regular basis. In that case the System Integrator/OEM needs to be contacted.

Checking the browser interface by Mobile Phone

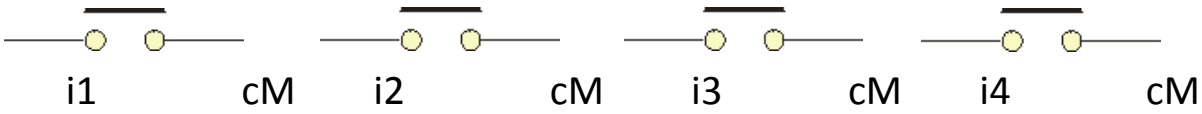




- The System Integrator/OEM shall provide the URL: "https://demo.ultratech.ind.in/ShowDemo?Pcode=xxxx&Ucode=yyyy"
- The URL needs to be copied & pasted on any browser.
- The parameter values as available on the Energy/Multifunction meter and the display of the Ulink should be presented as real time values on the browser screen.
- The default project & the parameter names would be edited by the System Integrator/OEM as per request.

Connecting digital inputs and relay outputs

- Ulink provides 4 optically isolated digital inputs via terminalsi1/i2/i3/i4. Potential free contacts can be connected in the following manner:



- The changeover relay output terminals are marked as "RELAY1" &"RELAY2" and the operational logic can be configured in cloud.