UBIFAST CONFIGURATION TOOL
INSTALLATION LEAFLET

Thank you for purchasing our UBIFAST Configuration Tool. The UBIFAST Configuration Tool is used to configure the parameters of POSITAL's IXARC programmable encoders through a simple browser based programming interface. Please read this leaflet thoroughly and carefully before installation and using the device.

UBIFAST Configuration Tool Includes

- UBIFAST Configuration Tool
- Terminal block adapter to connect encoders with cable exit or to build your own connecting cables
- 12 VDC Power Adapter, Input 100 to 240V AC, 47 to 63Hz and interchangeable plugs for Europe, UK, US, India, Brazil, China, Argentina, Australia, Korea

Safety Notes

Recommended to use power adapter provided by POSITAL. In case of replacement, check for compatible supplies with same voltage and current rating (12 V / 1 A)

Do not remove the Micro-SD card or the Wi-Fi USB Adapter from the configuration box

Do not connect or disconnect the encoder when device is under power

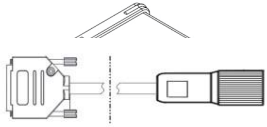
Do not connect any other devices to unused USB or RJ45 ports on the Configuration Tool

Do not close browser or webpage when configuration is in progress

UBIFAST CONFIGURATION TOOL
INSTALLATION LEAFLET

Encoder Connection to the UBIFAST Configuration Tool

- Adapter cable for encoders with standard POSITAL Pin assignment and connector
- Terminal block adapter to connect encoders with cable exit or to build your own connecting cables



UBIFAST Configuartion Tool | Adapter Cable | Terminal Block

Accessories

Encoder Output	Encoder Connector	Ordering Number
UCD-IP	M12 5 Pin	10028946
	M12 8 Pin	10028947
	M23 12 Pin	10030239
	MIL 6 Pin	10031630
	MIL 7 Pin	10031631
	MIL 10 Pin	10031632
UCD-SHP UCD-STP	M23 12 Pin	10026479
	M23 16 Pin	10026481
UCD-AxxPx-PPPP	M12 5 Pin	10047619
All	Terminal Block	10049743

Pin Configuration and Wiring for Terminal Block

Warning

The following table is the wiring scheme for the cable versions of our encoders. If you use an encoder with connector you need to use a connecting cable with open wire ends on one side to connect to the Ubifast terminal block. Please check the wiring scheme of this connecting cable you are using. The product will not operate properly if there is an improper connection.

Pin Number	Wiring for Analog	Wiring for SSI / SSI + Incremental	Wiring for Incremental
Switch	*ANA*	*INC or ANA*	*INC*
1	Do not connect	Data -	Do not connect
2	Do not connect	Clock -	Do not connect
5	Sensor Power Supply (12VDC)	Sensor Power Supply (12VDC)	Sensor Power Supply (12VDC)
6	Set2	Do not connect	Do not connect
7	Do not connect	Do not connect	Z
8	Set1	Do not connect	Do not connect
9	Do not connect	Data +	Do not connect
10	Do not connect	Clock +	Do not connect
12	GND - Sensor Ground	GND - Sensor Ground	GND - Sensor Ground

NOTE

Please make sure the correct switch position is selected for both the switches (1 and 2) based on the type of encoder being used. Not Doing So shall result in Damage of the encoder.

Diagnostic LEDs

Color	State	Description
Yellow	Solid	Power to UBIFAST Tool is ON
Yellow	Blink	UBIFAST Wi-Fi Hotspot Ready
Green	Solid	Programming of Device in Progress

Sequence of Operation

- Prepare/start WiFi-enabled device like smartphone, tablet, laptop or computer
- Connect encoder to the UBIFAST Configuration Tool
- Connect the power supply to the UBIFAST Configuration Tool, it will automatically start when the power is applied
- Once powered-on, wait for the YEL- LOW LED to start blinking, this can take up to 50 s
- Enable Wi-Fi on your device (smartphone, tablet, laptop or computer) and connect to the configuration hotspot **"POSITAL Configuration Tool"** with password **"ubifast14"**
- Once connected, open a web browser and go to ubifast.fraba/WebApp/ (Bookmark this link for easier access later on)
- Main navigation page will open and you can begin the configuration

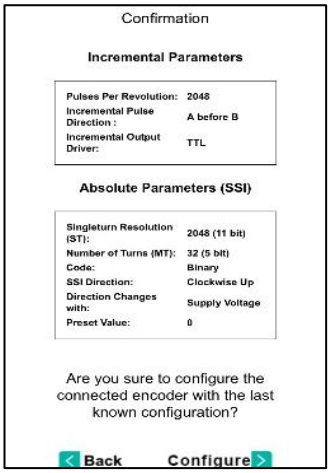
Notes and Warnings

- The UBIFAST Configuration Tool can be used to program Analog, Incremental only and Hybrid (SSI + Incremental) encoders. The encoder type is automatically detected by the UBIFAST Configuration Tool and the programmable parameters in the subsequent steps are displayed accordingly
- The serial number (SN) of the encoder connected is always displayed on TOP of the screen
- The current encoder parameters are displayed automatically. They can be changed as

shown in the following sections

- Use the < Back and Next > keys to navigate through the user interface
- Do not use the standard back, next and reload buttons available in the web browser
- WARNING: Do not disconnect the encoder until the configuration process is completed
- During configuration the encoder is powered by the Configuration Tool. After successful configuration, the encoder can be unplugged.
- When connecting the POSITAL Wi-Fi hotspot, it is recommended to disconnect the device from any other internet sources like LAN network or Cellular Data networks
- After 3 minutes of inactivity the UBIFAST box shall time out and the programming needs to be restarted from the beginning. The message “Session has timed out“ is displayed
- Only one user at a time can access the UBIFAST programming Interface. Another user will see the message “Device is used by another user”
- If a user doesn’t complete the programming, another user can start the programming after the time out of 3 minutes. The same user who didn’t complete the programming can reconnect to the UBIFAST programming Interface and complete the configuration within these 3 minutes
- WARNING: Please wait at least 1 minutes after last configuration before turning off Power to the UBIFAST tool.
- POSITAL strongly recommends sending all new configurations via e-mail, to ensure data protection and warranty for the encoder
- Please contact your regional POSITAL office or local sales partners for any technical questions
- Kindly register for our POSITAL newsletter to get the latest news on any software updates or product releases

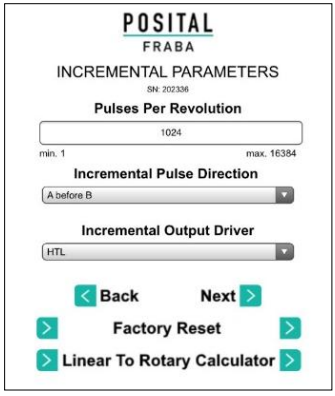
Step 1: Selection of Manual or Auto Configure



- On the start page you have a choice of starting a new configuration (manual configuration) or replicating an existing configuration
- When Auto Configure is selected the UBIFAST checks for the last know configuration (within 24 hrs) stored on the same UBIFAST device for the same encoder type
- Parameter Values are preset from this saved configuration
- You just need to press Configure to complete configuration

Step 2

1. For Incremental encoders (UCD-IPxx) or SSI + Incremental (UCD-SHxxP/UCD-STxxP) the following incremental parameters are programmable

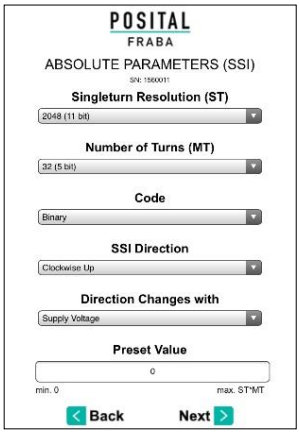


Configure:

- Pulses Per Revolution (PPR) – Any value between 1 and 16384 pulses
- Incremental Pulse Direction – Choose „A before B“ or „B before A“ (Refer to encoder datasheet for more details)
- Incremental Output Driver – Choose the Incremental Output Driver HTL/TTL

2. For SSI only (UCD-S1xxP) or for SSI + Incremental (UCD-SHxxP/UCD-STxxP) the following absolute parameters are programmable

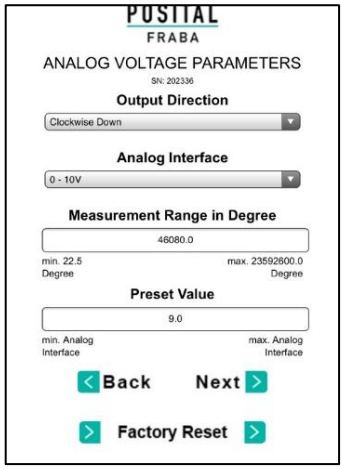
Absolute Parameters (SSI)



Configure:

- Single Turn Resolution – 256 step s (8bit) to 65536 steps (16 bit)
- Number of Turns – 1 turn (Single-turn) to 65536 turns (16bit Multi-turn)
- Code – Binary or Gray Code Output
- SSI Direction – Clockwise up or Clockwise down
- Direction Changes with – Supply Voltage or GND
- Preset Value – 0 to maximum resolution (dependent on the configured resolution and number of turns)

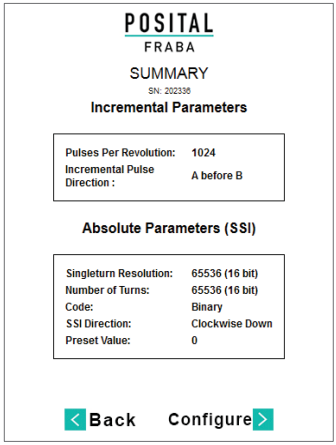
3. For Analog Programmable the following parameters are programmable



Configure:

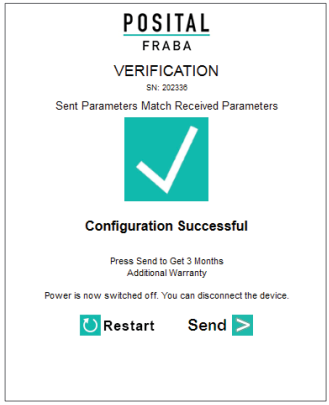
- Output Direction – Clockwise Up or Clockwise Down
- Analog Interface
  - 0-10V or 0.5-9.5V
  - 0-5V or 0.5-4.5V
  - 4-20mA
- Measurement Range in Degree Min – 22.5 degree to Max 23592600 degree
- Preset Value (only for UCD-Ax1Px-) – Min Analog Value to Max Analog Value

Step 3: Summary



- Verify the Incremental and Absolute parameters to be configured
- Press „Configure“ to start programming the encoder
- It is recommended to write the programmed parameters on the blank field provided on the encoder label

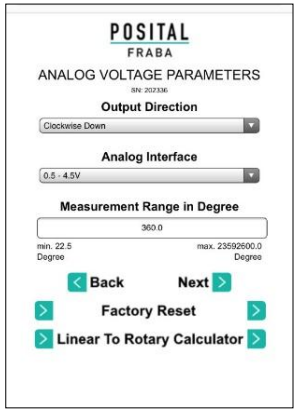
Step 4: Verification / Completion

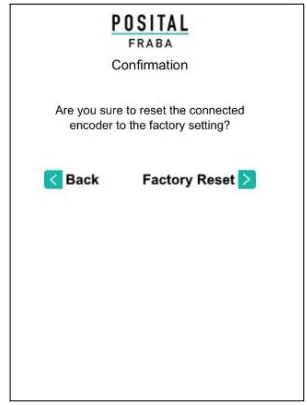


- Verify configuration status
- If successful
  - Press “Send” to draft an email to be sent to POSITAL - on availability of Internet on the device being used. (Note: The data is confidential and stored in our secure database)
  - Press “Restart” to go to main page, close the browser and power OFF the device
- If configuration unsuccessful
  - Re-check the wiring and connections
  - Press “Restart” and start once again from Step-1 to re-configure the encoder

Resetting to Factory Defaults

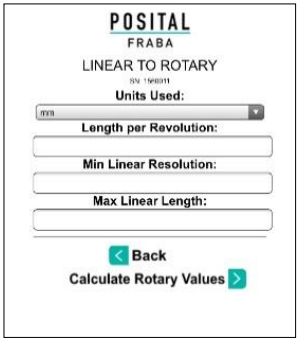
For Incremental and Analog encoders (Produced after September 2018) you can reset the device to Factory Default Values





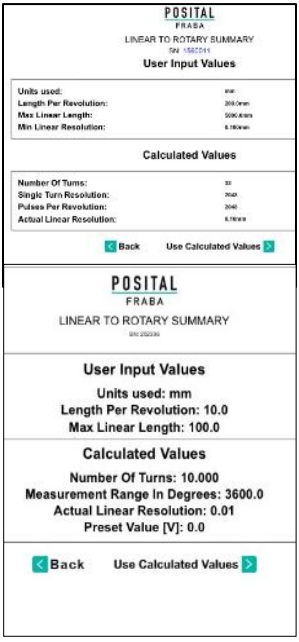
Linear to Rotary Converter

All Configurable Devices now has a Linear to Rotary Converter



User Input Values (Depends on Encoder Interface)

- Units Used: Select between mm or inch
- Length per Revolutions: Input based on Mechanical setup of Customer (In case POSITAL LINARIX products used please refer to datasheet to find the values)
- Max Linear Length: Input based on Mechanical setup of Customer
- Min Linear Resolution: Input based on application



Calculated Values

- Number of Turns
- Single Turn Resolution (SSI + Inc)
- Pulse Per Revolution (SSI +Inc/ Inc)
- Measurement Range in Degrees (Analog)
- Actual Linear Resolution: Calculated Value Based on the Achievable Rotary Resolution of the device used.

NOTE : It is always not possible to have Min Linear Resolution same as Actual Linear Resolution

UBIFAST CONFIGURATION TOOL
INSTALLATION LEAFLET

User Notes