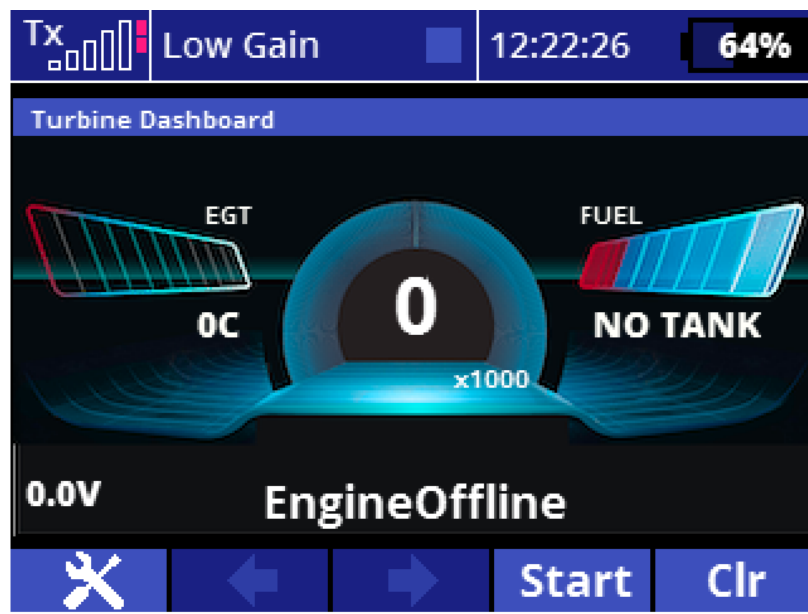


Turbine Dashboard

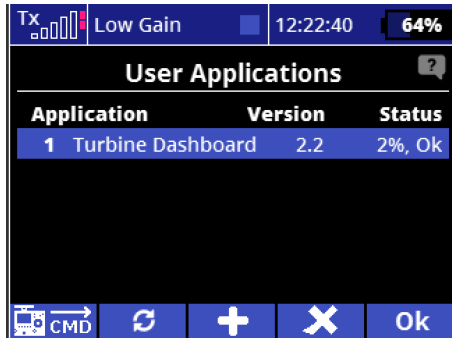


Version history	
2.0	Initial release with modern UI
2.1	Added support for Kingtech Turboprop engines
2.3	Added support for Xicoy turbines + bug fixes
2.4	Change RPM graphics to optimize load time + bug fixes
2.5	Changes EGT + Fuel graphics to minimize load time + bug fixes

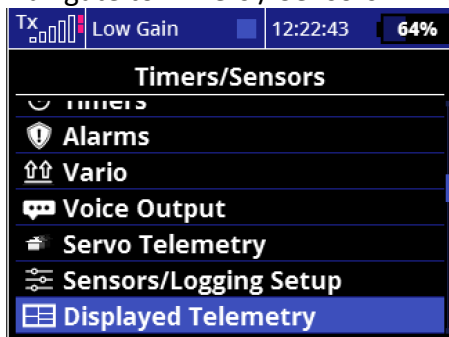
INSTALL

To install the app, copy the Turbine Dashboard (Tur-dash.lc) file and the complete Dashboard folder to the Apps folder on your transmitter.
Disconnect the USB cable.

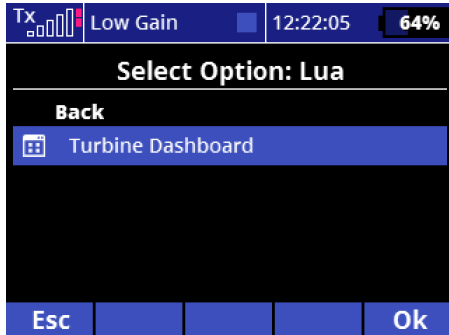
Navigate to Applications -> User Applications.
Use the + symbol to select the Tur-dash app.



After the app is installed, you need to add the LUA app to your Dashboard.
 Navigate to Timers / Sensors -> Displayed Telemetry.



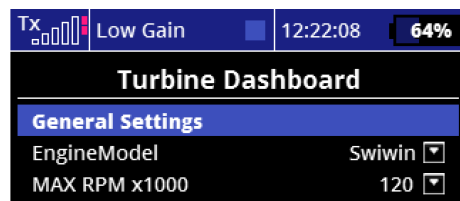
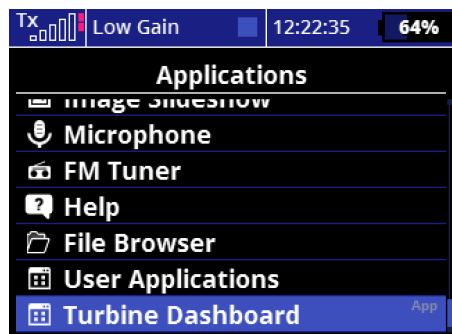
Add -> Lua -> Turbine Dashboard.



The Dashboard should now show up and is ready to be configured.

Configuration:

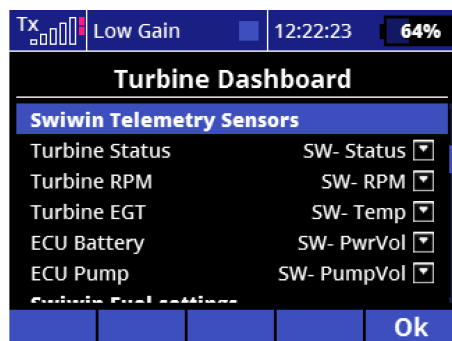
Navigate to Applications -> Turbine Dashboard.



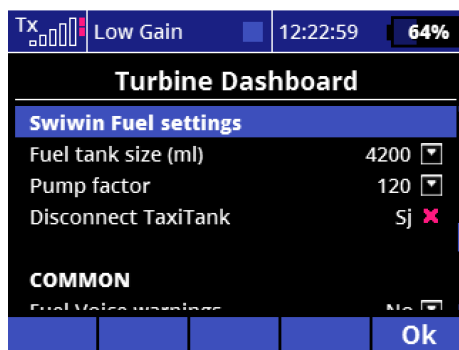
Turbine Dashboard Config		
Engine Model	Swiwin / Kingtech	Choose Turbine Manufacturer. Swiwin is created to understand telemetry natively from Swiwin ECU. Kingtech requires Vspeak telemetry adapter.
Max RPM	In thousands.	Select Max RPM, to set scale for gauge + pump factor for Swiwin.

SWIWIN CONFIGURATION

Swiwin telemetry port need to be connected from the telemetry port on the ECU, and to the telemetry port on your receiver using a servo male to male cable.

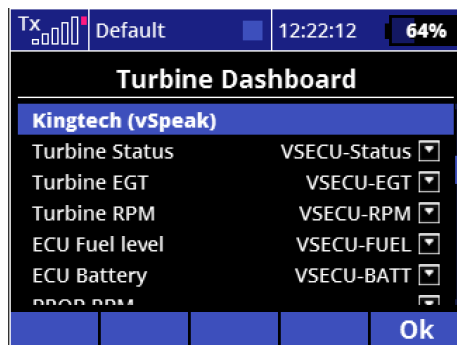


Swiwin Telemetry Sensors		
Turbine Status	SW-Status	The telemetry value from Swiwin for engine status.
Turbine RPM	SW-RPM	Turbine RPM
Turbine-EGT	SW-EGT	Temperature in Celsius
ECU Battery	SW-PwrVol	Configured for 3S LiPo
ECU-Pump	SW-PumpVol	Voltage for Swiwin brushless pump



Swiwin Fuel Settings		
Fuel tank Size	100 ml – 9999ml	Type in the total of consumable fuel in your model (Exclusive UAT)
Pump Factor	50 – 150 (Default 100)	<p>All pumps are different. Also, fuel flow / resistance is different from model to model. The Fuel consumption algorithm is based on calculated / measured consumption from a selection of Swiwin engines. To calibrate the fuel consumption, fly a flight based on the flight time you are comfortable with. After landing measure the total fuel consumption, you have used based on measurements on your tanks / weight.</p> <p>EXAMPLE:</p> <p>If you have used 2000ml, and the Dashboard is showing that consumption have consumed 1800ml, that means you need to add 11% more consumption to the algorithm. Change the pump factor to 111 and try again.</p> <p>During the fuel calibration process, the Debug mode might be helpful.</p>
Disconnect TaxiTank	Select a switch for Taxi tank	While on the ground with Taxi tank connected, you don't want the Fuel consumption calculator to start calculating. Enable the selected switch, and the App will be in "Taxi mode" and showing fuel tank full. As soon as you disable Taxi mode, the fuel consumption will start counting down fuel level.

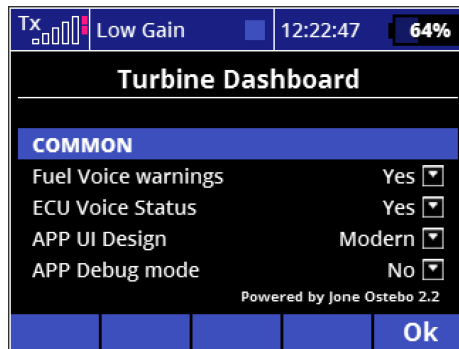
KINGTECH CONFIG

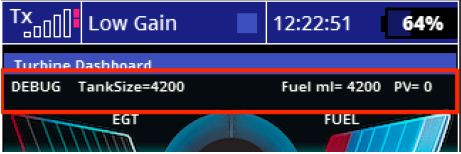


Kingtech Turbines don't have telemetry builtin to the ECU, and require an external telemetry adapter. I chose to integrate with VSpeak instead of Kingtech adapter, and the app will NOT work with Kingtech adapter.

Kingtech Telemetry Sensors		
Turbine Status	VSECU-Status	The telemetry value from VSpeak for engine status.
Turbine EGT	VSECU-EGT	Temperature in Celsius
Turbine-RPM	VSECU-RPM	RPM need to be configured x1 from Vspeak
ECU Fuel level	VSECU-FUEL	Tank size and fuel consumption as reported from VSpeak
ECU Battery	VSECU-BATT	ECU Battery. Voltage as reported from Kingtech ECU. Calibrated for Li-Fe batteries.
PROP RPM	VSECU-RPM2	RPM2 reported for propeller RPM when using Kingtech TP turbines. PROP RPM will show in lower right corner of the Dashboard. This is only supported in Modern UI.

COMMON CONFIG



Swiwin Fuel Settings	
Fuel Voice warnings	<p>If enabled, the app will play notifications for the listed fuel levels.</p> <ul style="list-style-type: none"> • 50% • 40% • 30% • 20% • 10% • EMPTY
ECU Voice Status	<p>All pumps are different. Also, fuel flow / resistance is different from model to model.</p> <p>The Fuel consumption algorithm is based on calculated / measured consumption from a selection of Swiwin engines. To calibrate the fuel consumption, fly a flight based on the flight time you are comfortable with. After landing measure, the total fuel consumption, you have used based on measurements on your tanks / weight. If you have used 2000ml, and the Dashboard is showing that consumption have consumed 1800ml, that means you need to add 11% more consumption to the algorithm. Change the pump factor to 111 and try again.</p> <p>During the fuel calibration process, the Debug mode might be helpful.</p>
App UI Design	Choose between the default Modern Design, and the Classic design.
App Debug mode	<p>Enable Debug mode fuel detailed fuel visibility. Debug mode get reset on every restart. Debug mode is only available on Modern Design.</p>  <p>DEMO mode:</p>

	<p>Trottle (Stick #4): Simulate RPM</p> <p>Slider #5: Simulate Fuel Gauge</p> <p>Slider # 6 : Simulate EGT Gauge</p> <p>Potmeter #7: Change turbine status</p> <p>Elevator (Stick #2): Simulate ECU battery voltage.</p>
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