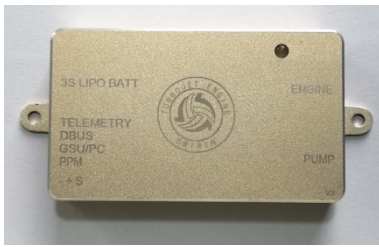


V3 ECU & V4 ECU application

2023/01/20

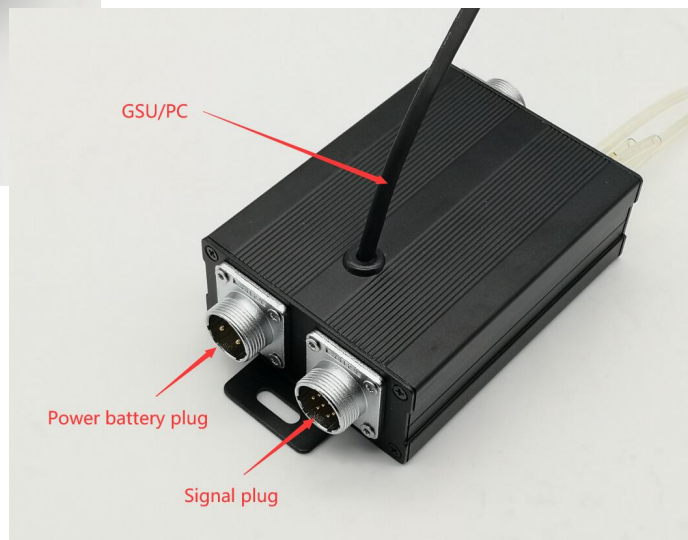
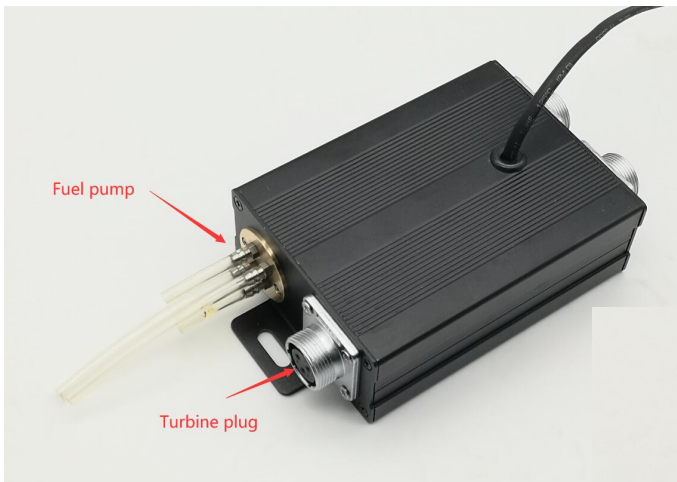


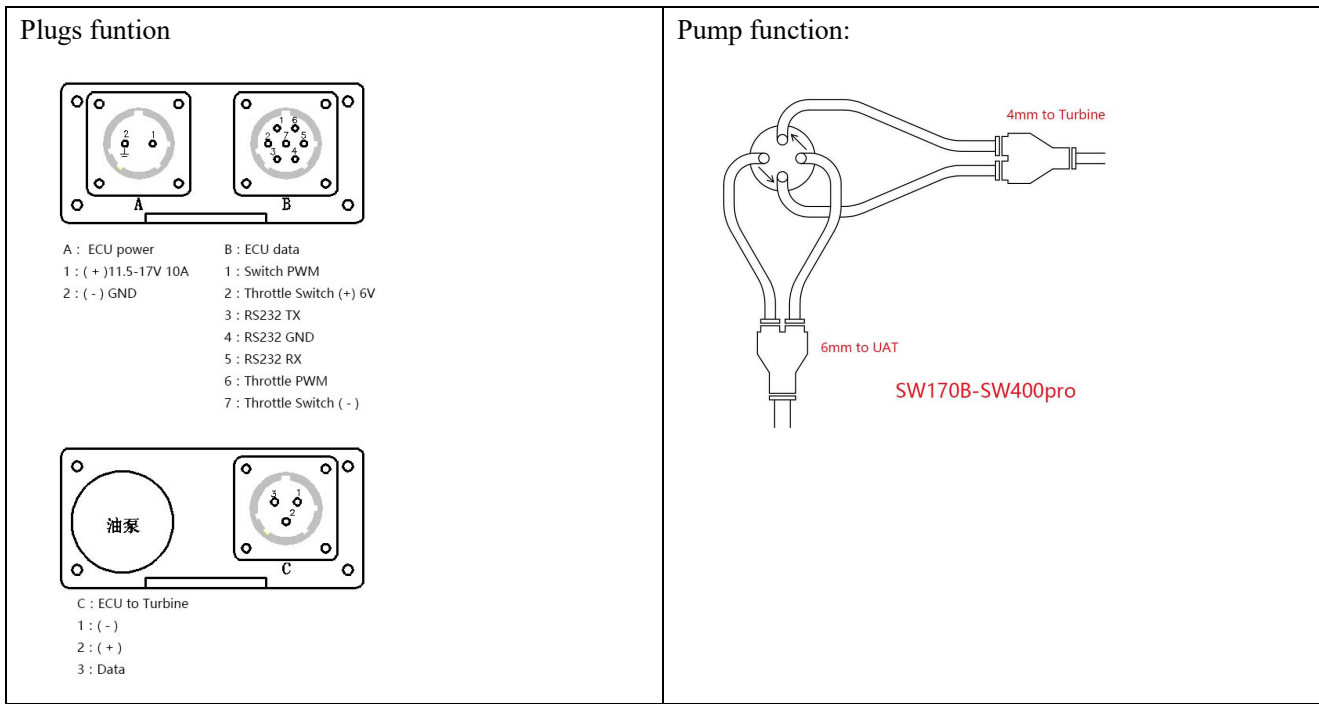
V3 ECU



V4 ECU

	V3 ECU	V4 ECU
Use for	SW60B-SW300B	Recommmend use on SW300pro-SW800pro
Power battery voltage	3S Lipo (11.1V)	4S Lipo(14.8V)
Digital interface	TTL UART	RS-232
Feature	Mini size, external pump, switchable DC pump or Brushless pump Digital I/O : SBUS TTL UART PWM input x1 (Throttle) Weight:41g	Internal brushless pump More control function Powerful MOSFET driver Digital I/O : RS-232 Aviation connection plug PWM input x2(Throttle and Switch) Internal air pressure sensor Weight:366g





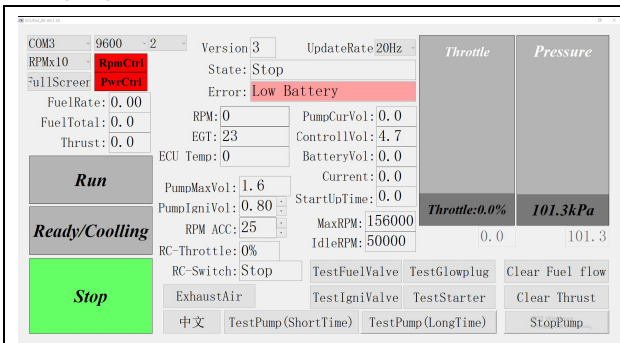
V4 ECU wires:

<p>Signal wire</p> <p>RS-232</p> <p>Switch CH</p> <p>Throttle CH</p>	<p>Signal wire:</p> <p>RS-232: connect to auto pilot or computer</p> <p>PWM Switch CH:use a pwm channel to control turbine startup or stop</p> <p>PWM Throttle CH:use a pwm channel to controle throttle</p> <p>Note:</p> <p>Can use one Throttle CH to control turbine sratup up/throttle/stop</p> <p>Or use one Throttle CH + one 3-step Switch CH to control throttle and startup/stop</p>
<p>Power battery wire</p>	<p>Power battery wire:</p> <p>XT60 yellow plug,</p> <p>We recommend use 4S lipo for pro series turbines</p>
<p>Turbine wire</p>	<p>Turbine wire:</p> <p>Turbine wire wired from turbine or use a XT30 yellow plug connect to turbine</p>

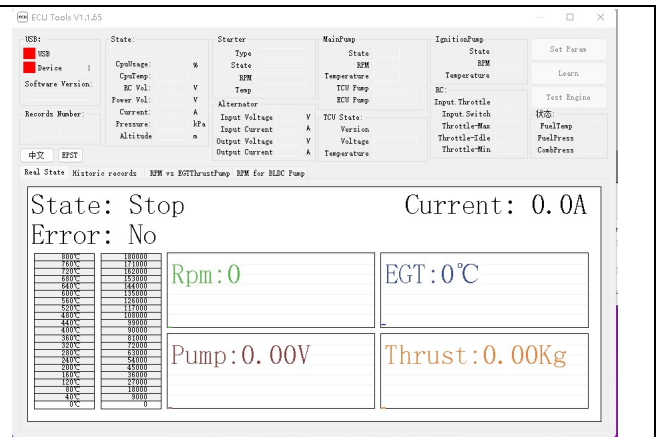


Computer control program:

Language switchable



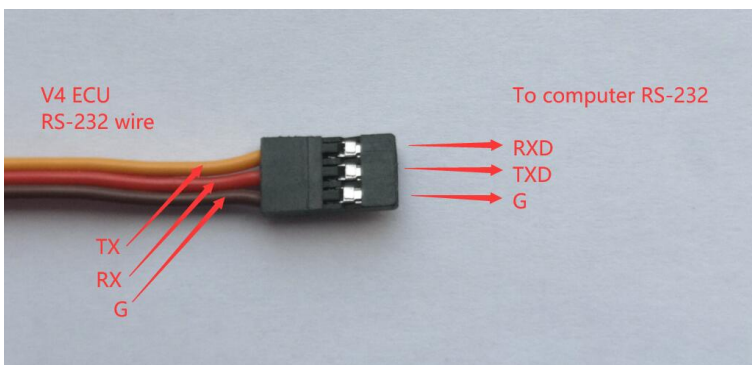
Computer control program:ECUctrl_ZK



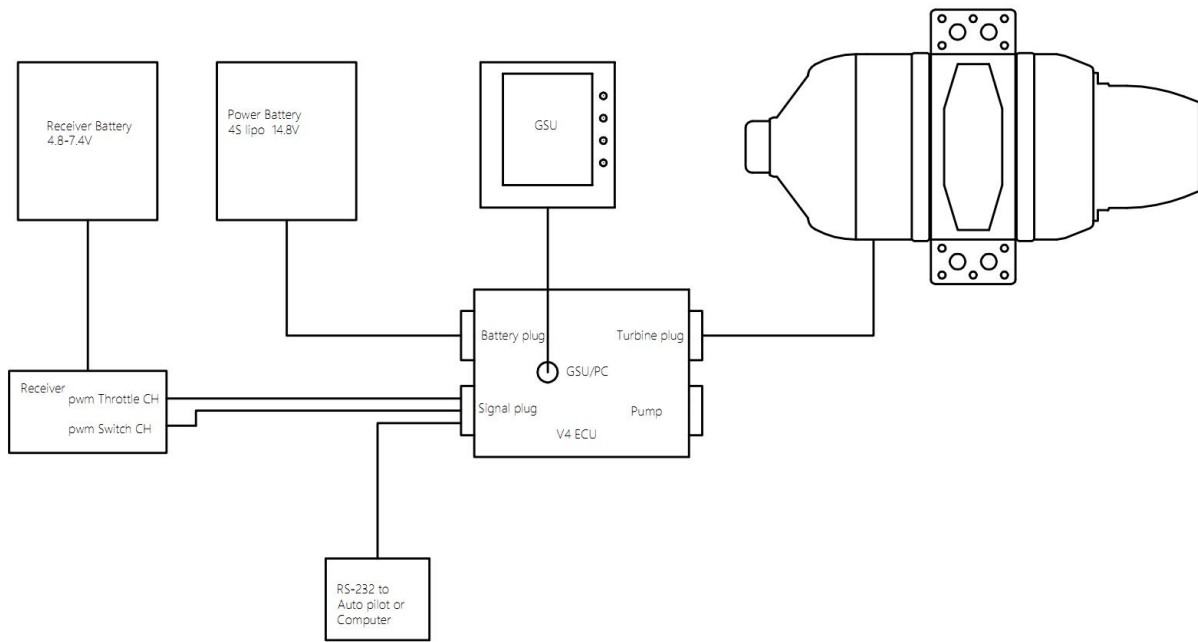
Computer monitor program:ECU Tools

Protocol file: ECU communication protocol - ZK V1.2.doc

RS-232 function:



System function:



GSU error message:

No.	Error message	Description
0	No Error	
1	Time out	1.Temp not increase over 20 sec duing ignition 2.Throttle stick coolong over 60 sec
2	Low Battery	1.Turbine bettery low voltage(setting from GSU) 2.Receiver bettery below 4V
3	GlowPlug Bad	1.no current of glow plug
4	Pump Anomaly	1.Don't detect pump driver(pump,cable,ECU pump driver bad)
5	Starter failure	1.Starter can't increase to ignition rpm
6	RPM Low	1.When ignition:rpm drop down to 50% of ignition rpm 2.When preheat:rpm drop down below ignition rpm 3.When fuel ramp:rpm drop down below preheat rpm 4.When running:rpm drop down below stop rpm
7	RPM Instability	1.when fuel ramp:rpm jumping up and down 2.when fuel ramp:rpm quickly drop down
8	High Temp	1.When ignition:temp over high temp setting 2.When preheat: temp over high temp setting 3.When fuel ramp: temp over high temp setting > 4sec
9	LowTemp	1.When preheat:temp quickly drop down 2.When fuel ramp: temp quickly drop down
10	TempSensorFail	X
11	Gas Valve Bad	X
12	Fuel Valve Bad	X
13	Lost Signal	Lost PPM signal from receiver
14	Starter Temp High	High temp of starter driver
15	Pump Temp High	High temp of pump driver
16	Clutch Failure	X
17	Current overload	ECU detect current overload
18	Engine Offline	ECU can't connect to turbine

Use "USB upgrade pen" to upgrade firmware for ECU/GSU/TCU

