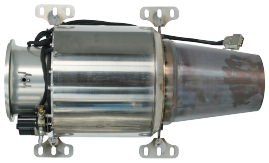
玄云动力
SWIWIN TURBINE

SWIWIN SW1200Pro
Technical specifications

（A/0）

玄云动力
SWIWIN TURBINE

SWIWIN SW1200Pro List of engine accessories

Serial number	Name	Picture specification	Quantity
1	Engine		one
2	ECU（V7）		one
3	GSU		one
4	Power cable		one
5	Signal plug		one
6	Attaching plug		one
7	Serial port tool		one

8	Upgrade tool		one
9	Tubing		5m

玄云动力
SWIWIN TURBINE

Technical parameter

Model	SW1200Pro
Thrust	120kg
Diameter	240mm
Length	542.6mm
Engine weight	14230g
ECU weight	550g
Total weight（including accessories）	15935g
Usage temperature	-40℃~50℃
Supply voltage	DC25V-32V
Starting system	One-button electronic start
Rpm Range	22000-50000
Thrust at idle	12kg
Exhaust Temperature	750℃
Fuel Consumption	2780g/min
SFC	1.36
Fuel	kerosene
Lube oil	3%~5%
Maintenance Interval	25 hours

Engine start parameters

Pump Voltage	3V-4V
RPM Start Up Ramp	100%
Pump Start Up Ramp	1
Glow Plug	12V
Valve	without
Ignition RPM	1200
Preheat RPM	5000
RPM Off Starter	8000

Engine operating parameters

RPM ACC	10
RPM DEC	10
Max RPM	50000
Idle RPM	22000
Minimum speed	20000
Max Temp	900
Low Volt	20V
Restart	close
Restart Glow Plug	Consistent with the voltage of the burner
Pump Limit	24V

Engine cooling parameters

cool	1200rpm

Starting motor parameters

Pop-up time	0.8S
Ejection voltage	3.5V
Run Voltage	4V

Note: All data are measured at standard air pressure.
When the ambient temperature is too high or the oxygen content in the air is low, too fast acceleration and deceleration will easily lead to flameout failure.

Control

1、Throttle signal

The throttle adopts the pulse width (PWM) control mode, the pulse width is 1ms~2ms, 1ms corresponds to the minimum throttle (0%), 2ms corresponds to the maximum throttle (100%), the pulse high level is 3.3V and 5V(3.3V and 5V are available on average), and the pulse low level is 0V.

2、Start switch

The start switch adopts the pulse width (PWM) control mode, the pulse width is 1ms~2ms, 1ms corresponds to off, 2ms corresponds to on, the pulse high level is 3.3V and 5V(3.3V and 5V can be used equally), and the pulse low level is 0V.

3、Telemetry data

① The engine has telemetry function, and data is transmitted through the 232 standard serial port, and the baud rate of the serial port can range from 9600 bps to 57600 bps.

② The data to be measured include but not limited to engine speed, engine throttle, oil pump voltage, engine state and error information.

③ The communication protocol of the data to be measured is open, and detailed communication protocol description documents are provided.

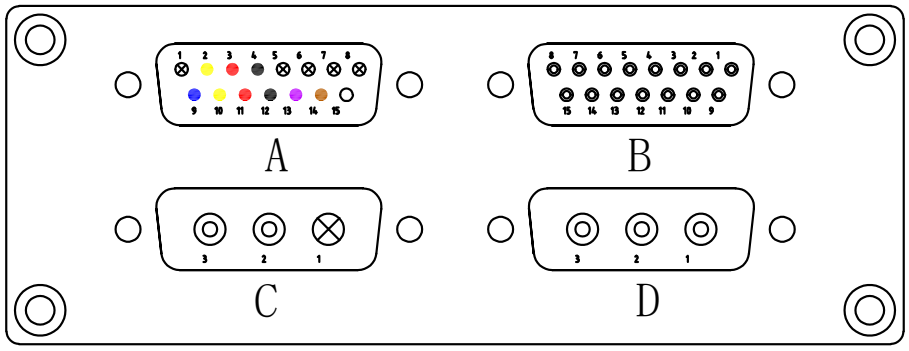
4、Data record

① The engine has the data recording function, which can record the data 1 hours before the engine failure.

② Data records include but are not limited to engine speed, engine throttle, oil pump voltage, engine status and error information.

③ Provide engine data analysis software to facilitate data analysis after flight.

Definition



A:correspondence（RS232)
AMP Male head DB15

2:GSU data (DATA)
3:GSU anode（VCC）
4:GSU negative GND
9:PPM throttle
10:PPM Switch
11:PPM VCC
12:PPM GND
13:RS232 RX
14:RS232 TX
15:RS232 GND
5:RS422 T+
6:RS422 T-
7:RS422 R+
8:RS422 R-

B:Turbojet
AMP Female connector DB15

1、2:oil pump A
3、4:oil pump B
5、6:oil pump C
7:flame 1
8:flame 2
9:flame GND
10:solenoid valve VCC
11:solenoid valve GND
12:rotational speed A
13:rotational speed B
14:temperature transducer A
15:temperature transducer B

C:ECUPower Supply
AMP Male head DB3

1:blank space
2:positive pole(VCC)
3:negative pole（GND）

D:switch on the motor
AMP Female connector DB3

1:switch on the motor A
2:switch on the motor B
3:switch on the motor C

Fuel consumption of each throttle

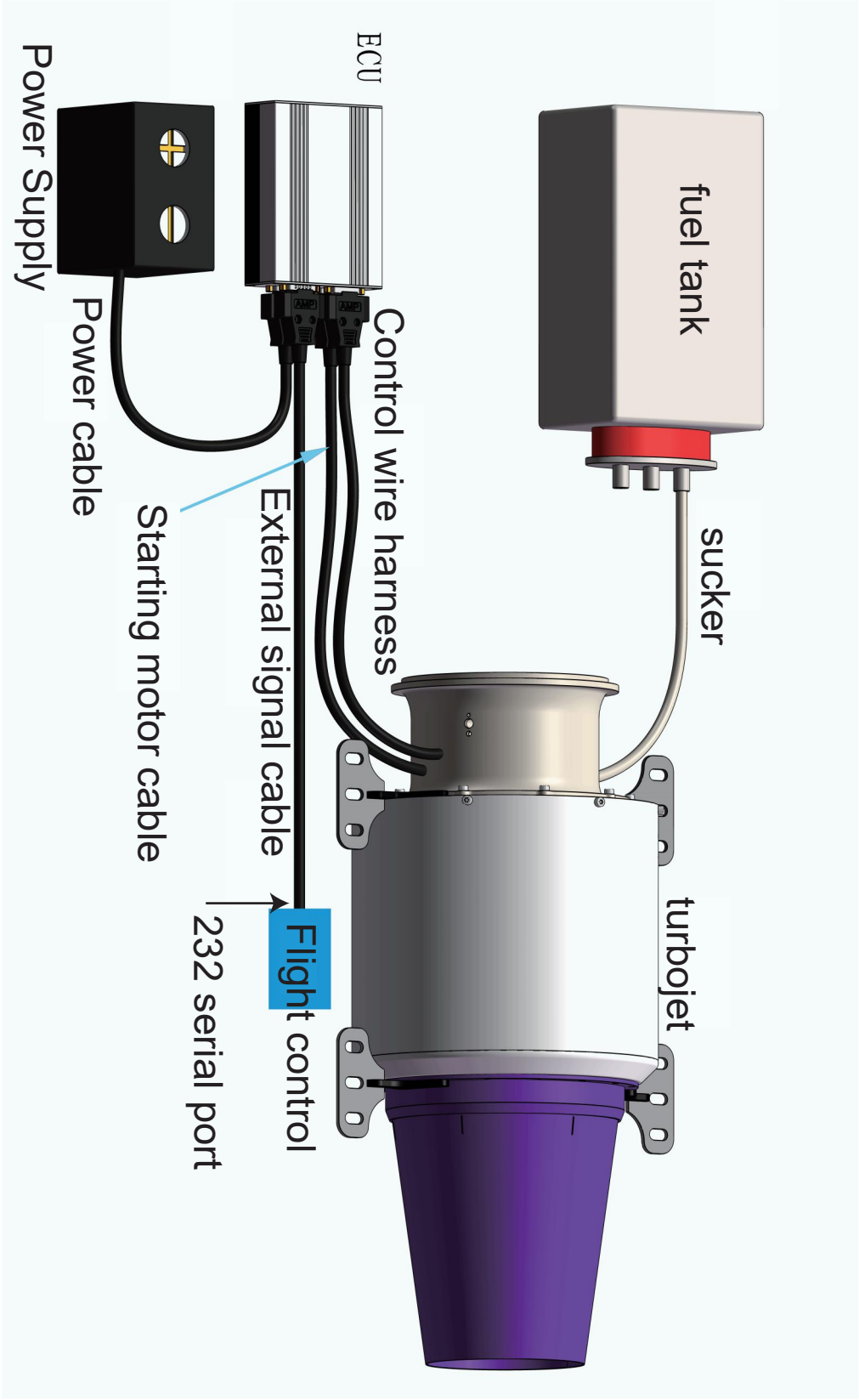
Throttle (%)	RMP (w/min)	Motor power (Kg)	Exhaust temperature (℃)	Minute fuel consumption (g)
0	2.2	12	600	750
10	2.47	15.5	576	840
20	2.75	20.5	575	960
30	3.04	26	564	1070
40	3.31	32.5	560	1180
50	3.6	40	558	1300
60	3.88	51	556	1540
70	4.16	64	580	1710
80	4.44	82	594	2030
90	4.7	103	627	2430
100	5	128	690	2780

Each throttle corresponds to the air mass flow

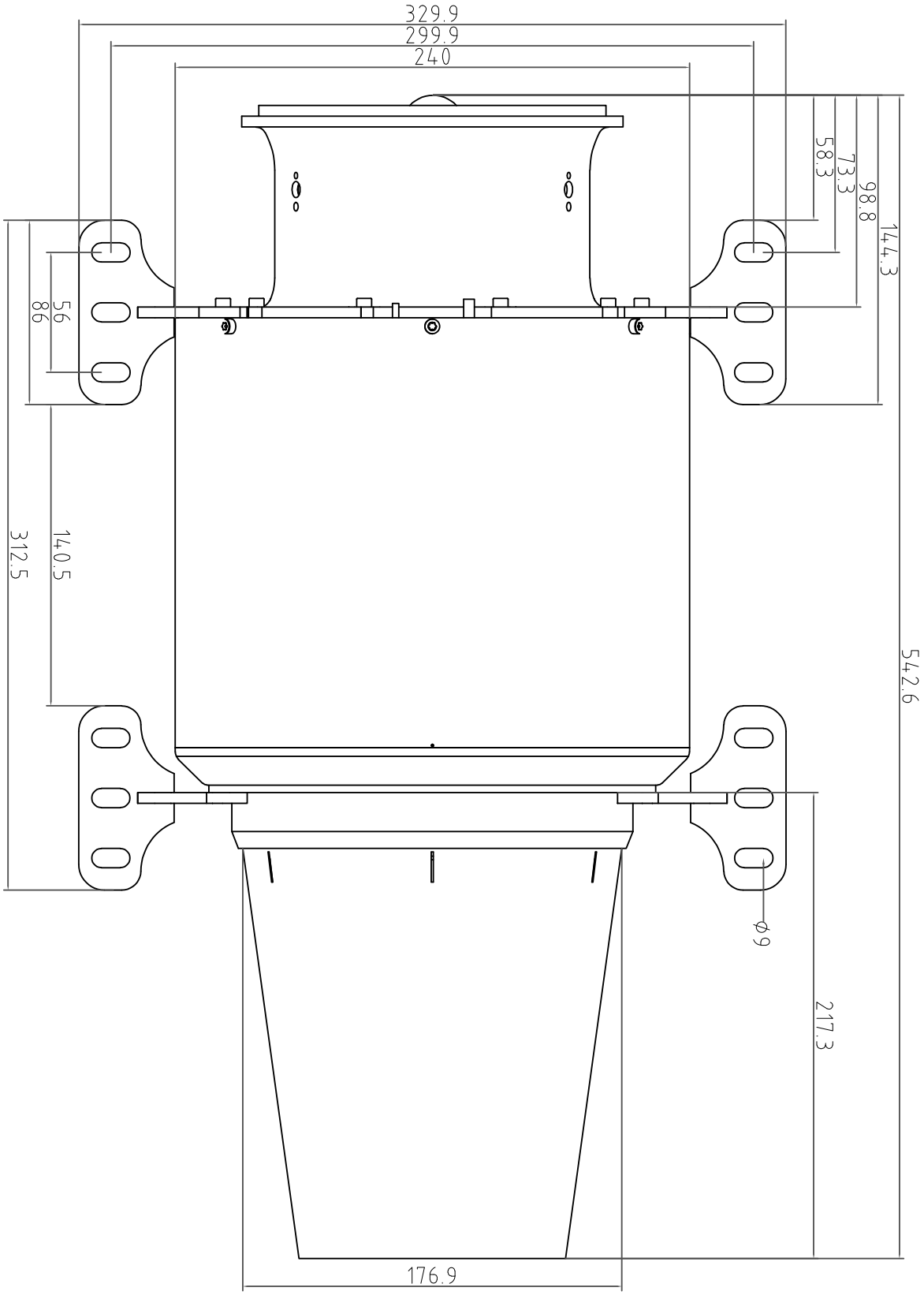
Throttle (%)	RMP (w/min)	Air Input (m^3/min)	Mass Flow Rate (Kg/s)
0	22000	36.19	0.7
10	24700	43.67	0.9
20	27500	50.44	1.0
30	30400	56.69	1.1
40	33100	64.67	1.3
50	36000	72.51	1.5
60	38800	81.67	1.6
70	41600	91.57	1.8
80	44000	102.71	2.1
90	47000	113.96	2.3
100	50000	123.90	2.5

Test condition: Temperature: 11℃ Humidity: 46%
Atmospheric pressure: 1025hpa Altitude: 22m

System connection diagram



Product dimension diagram



Disclaimer

This product is limited to use in entertainment and civil fields such as aerial model toy flying, competitions, performances, firefighting, road drying and cleaning.

Please strictly follow the provisions of the Export Control Law of People's Republic of China (PRC).It is strictly forbidden to modify the product for illegal use.It is strictly prohibited to resell the product to the export restriction country under the law in china.

Otherwise, all consequences will be at your own risk.