Power Analyzer

Instructions

Attentions:

1. Avoid in contact with flammable, alkaline and acidic substances.
2. Avoid direct contact with water.
3. Do not reverse the polarity of the electrical supply input, it may damage the device.
4. Keep the product away from magnetic field such as iron, nichrome, battery and motor should not be placed within 25mm. This is to assure the measuring accuracy of the device.
5. Extra attention: Any signal made by wireless or telecom device during analyzing process may cause discrepancy to the sample result.

Summary

This device specializes in testing the output performance of the power cell as well as the rotational speed of the brushless motor. It can perform real time monitoring, sampling, recording and analyzing. With the help of the analyzing software, users can observe the change in output electric current, voltage, rotational speed of the motor in a certain time interval, so that they can assess the cell capacity and motor combinations and hence make evaluation. Owing to its small size and light weight, users can obtain a live and actual sample data in its voyage, in order to choose the best cell and motor combination. The device can work stably and shows a clear and accurate result. It is mainly used for RC Plane, boat and car and scientific research of power cell monitor, analysis and configuration.

Attachment to the device: a USB Module (RS232), a USB data bus, a package of analyzing software. See pic1
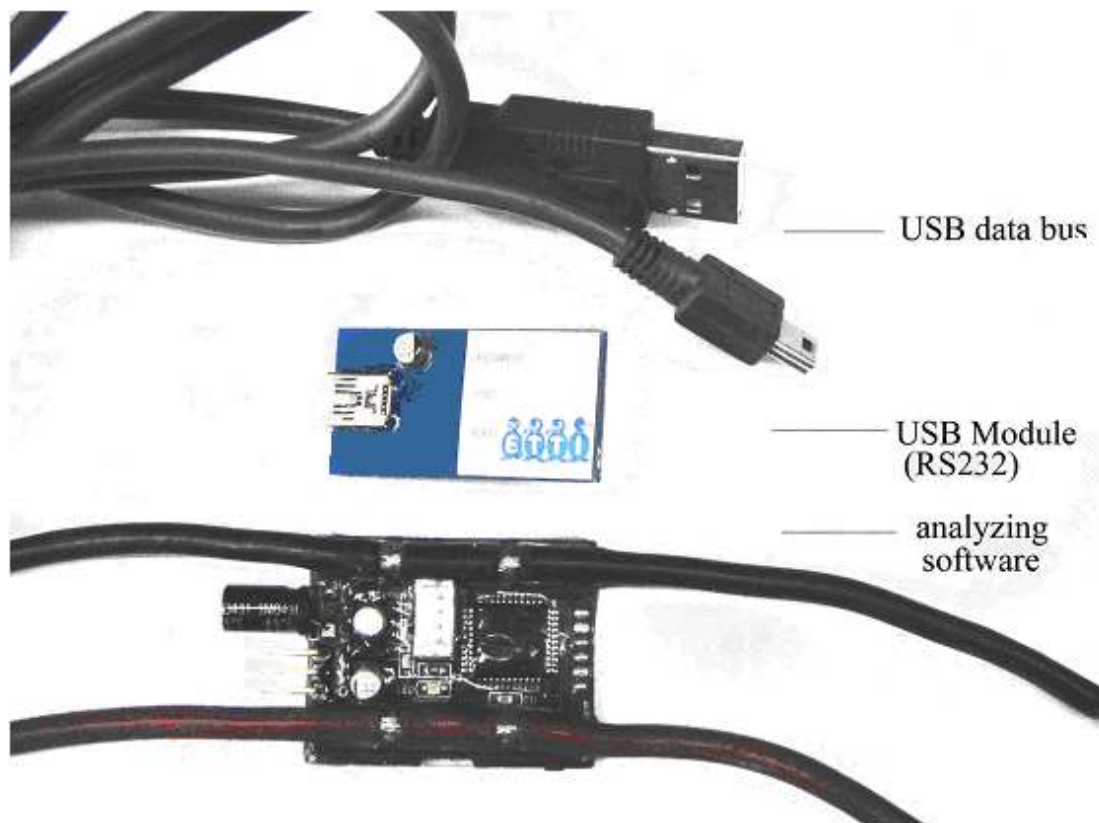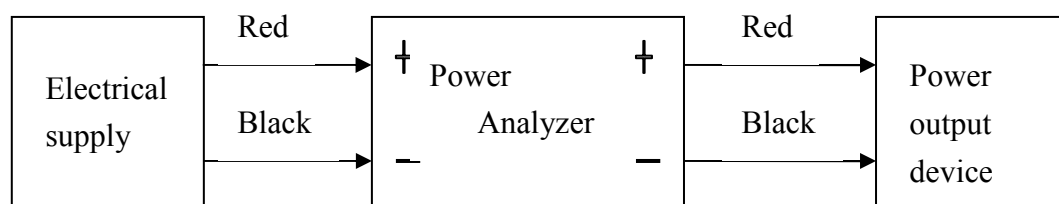
Pic 1

Installation of USB driver

The USB driver must be installed to the computer in order to enable data communication between the power analyzer and the computer.

Details of the Installation of the USB driver are clearly included in the CD.

Connections:

- Assemble the device on the equipment that is going to be checked, connect it in between the electrical supply and the equipment. (Please follow the label on the device for the input and output direction, reverse connection of the polarity may cause permanent damage to the device.)
- Please see Pic 2 for the connection method (Joint method is used 採用連接方式)

Electrical supply	Red →	+ Power	Red →	Power
	Black →	Analyzer	Black →	output
		− +		device
		−		

Pic 2

The selected leading wire should match the cross sectional area of the working current.

Usage

Instruction of indicator condition:
- See the indicator in Pic 1, besides the data interface.
- Sample awaiting status: Flashes alternatively in 1 second
- Sampling status: Flashes quickly
- Complete sampling: Lasting bright

Connection to data bus:
- Connect the Power analyzer and the USB with the help of D/A module and the data bus.
- Electricity must be supplied during data exchange.

Setting:

Through the software setting (Open the software, see Pic 3, software setting interface)
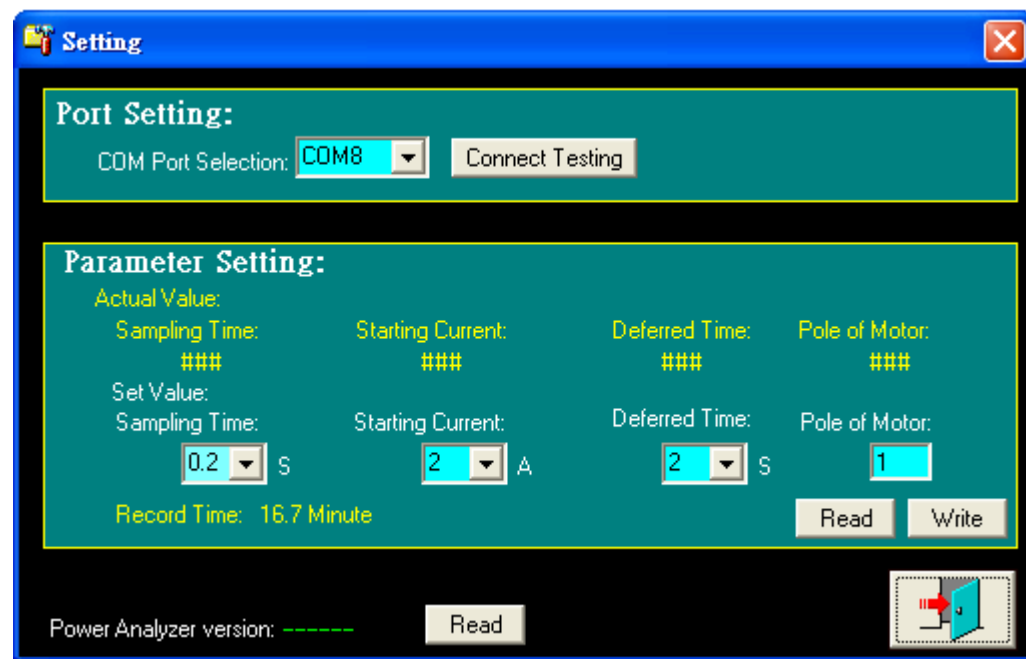
Pic 3

1. Serial port selection

Set COM1~COM15 to choose the data interface of the computer. (when several serial ports are in use.)

Firstly, check the serial port setting of the computer: Control>System>Hardware>Driver>(COM 和 LPT), find the serial number for the connectable COM, choose the corresponding COM serial port in the [Serial port setting] and test its communication status.

2. Setting of sampling time interval

Sampling time interval 0.1s ->Total recording time lasts for 8.3 minutes

Sampling time interval 0.2s ->Total recording time lasts for 16.7 minutes

Sampling time interval 0.3s ->Total recording time lasts for 25 minutes

Sampling time interval 0.4s ->Total recording time lasts for 33.3 minutes

Sampling time interval 0.5s ->Total recording time lasts for 41.7 minutes

Sampling time interval 0.6s ->Total recording time lasts for 50 minutes

Sampling time interval 0.7s ->Total recording time lasts for 58.3 minutes

Sampling time interval 0.8s ->Total recording time lasts for 66.7 minutes

Sampling time interval 0.9s ->Total recording time lasts for 75 minutes

Sampling time interval 1s ->Total recording time lasts for 83.3 minutes

3. Setting of the operating electric current

User can set the operating electric current ranging from 1A to 10A.

4. Deferred starting, time setting:

Set the deferred starting time after the operating electric current has reached the required value, ranging from 1 second to 10 seconds.

5. Setting of pole of motor

Setting of the pole of motor to test the accurate rotational speed of the motor.

Recording

Electrifying: Open the electrical supply when the device is connected.

History clearance: See pic 1, press and hold the button for 3 seconds to clear the last record. The device cannot execute new sampling when the last history is not cleared.

Setting of the operating electric current: Export an electric current which is equal or greater than that of the start up value, the analyzer will start recording after the preset deferred starting time, the indicator will flash quickly. Sampling process should be completed as a whole, no interruption is allowed.

Completion of sampling process: The indicator lasts lighting up.

Downloading

Connect the data wire after downloading is completed. See the record analysis interface in pic 4
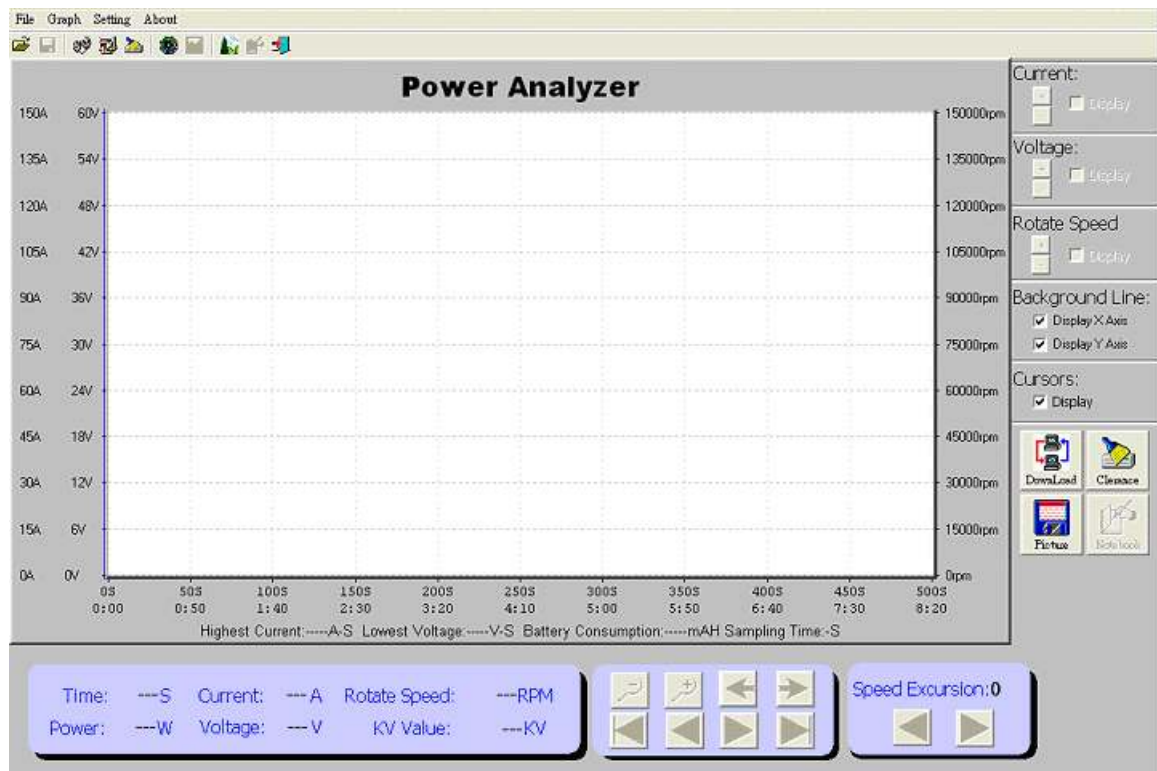
Pic 4

Voltage: Blue line

Voltage displaying range ratio: 30V / 60V

Electric current: Red line

Electric current displaying range ratio: 25A / 50A / 100A / 150A , for observation and analysis

Rotational speed: Green line

Specifications

Working voltage: 6~60V

Testing current: 0~150A

Electric current sampling A/D dissolution: 10bit

Electric current dissolution: 0.2A

Voltage dissolution: 0.1V

Size(exclude wires and cables): 31mm×48mm×11mm

Weight: about 30g

Attachment

Portable LCD Operation Panel

User can equip the product if in need. See the following

Pic 5

Software of the operation panel:

Connect the Power analyzer with the device using the data wire, after the power analyzer has electrified, the LCD operation panel shows the software version of the Portable LCD operation Panel. It will then enter the following options:

1. Peak Value (Peak value)

Lowest voltage / highest electric current / Used(battery Consumption) / Used power

2. Data History (Complete set of data history)

3. Data clearance (Deletion of data)

4. Instant Value (real time value)

    Voltage / Electric current / Power / Rotational speed

5. Parameter Set (Setting of parameter)

    Sampling Interval   (Sampling interval)

    Startup Amp   (Initial electric current)

    Sampling Defer.   Defer. = Deferment   (Deferred sampling)

    Pole of motor   (Pole of brushless motor)

    Write Data   (Input of data)

6. Read PA Version   (Read the software version of the power analyzer)