

MGS Fan Test Data Acquisition System

Version 5.00

1996-2007.10

User's Manual

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“MGS Fan Test Data Acquisition System” Introduction of Software

The traditional manual method and means to measure the fan parameters such as pressure, temperature, flowrate, etc. feature not only low accuracy, slow speed and poor reliability, but time- and labor-consuming as well. If using the computer-based “MGS Fan Test Data Acquisition System”, the fan parameters such as pressure, temperature, flow, etc. can be measured speedily and accurately. The measuring precision is high; the measured data is reliable and the task like data processing, storage, etc. can be performed automatically. The “MGS Fan Test Data Acquisition System” is able to greatly save human labor, reduce the cost, alleviate labor intensity and improve the labor environment. The heightening of the measuring speed results in decreasing the measuring time and increasing the working efficiency. As a result, the application of “MGS Fan Test Data Acquisition System” will enhance the accuracy and reliability of the measured data, thus providing a powerful guarantee for the research, development, and design of new products. The product can be used in various cases like the development test measurement of new products, normal test measurement of products, research test measurement, etc.

The application of the “MGS Fan Test Data Acquisition System” may get rid of the backward situation of the traditional manual measurement, get into a new era of automatic, smart measurement, and enhance the image and the market competitiveness of an enterprise.

The principal functions of the “MGS Fan Test Data Acquisition System” are as follows:

- 1) To configure the acquisition channel transducer and tested parameter name speedily and flexibly according to the test requirements of the customer;
- 2) To support the automatic acquisition and real-time display functions of parameters to realize automatic acquisition and saving of parameters;
- 3) To support the keyboard entering functions of the non-acquired (manually measured) parameters, realize the entering of the non-acquired parameters, thus providing diversity for the parameter testing methods
- 4) To support the transducer zero-drift compensation function to enhance the measuring accuracy;
- 5) The multiple parameter acquisition function under a single working condition is suited to the case when the flow is measured with the Pitot tube;
- 6) The system is high in measurement accuracy and good in repetition.
- 7) As a graphic interface is used, the operation is simple and convenient in application. There is no need for specialized personnel. Everyone can learn how to use the system.
- 8) To support in an all-round way Windows 98, Windows 2000, and Windows XP;
- 9) The system is up to the newly China National Standard GB/T 1236-2000;
- 10) To support both Chinese and English versions.

The “MGS Fan Test Data Acquisition System” can be used together with the “MGS Fan Test Data Processing System” developed by us. The acquired test data can be directly transmitted to the “MGS Fan Test Data Processing System” to realize the integration of data acquisition and processing.

A complete set of products in the “**MGS Fan Test Data Acquisition System**” can be provided, including system hardware, software and debugging services.

Free MGS Fan software product materials and demonstration version software are provided on request through Email.

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Tel: 86-29- 88501505, 86-29-88506613

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Contents

Chapter 1: Installation of Software “MGS Fan Test Data Acquisition System”	1
I. Installation Environmental Requirements	1
II. Software for installing “MGS Fan Test Data Acquisition System”	1
Chapter 2: Operating Instructions for “MGS Fan Test Data Acquisition System”	4
I. Main Menu	4
II. File sub-menu	7
III. Data Sub-menu	8
IV. Set Sub-menu	10
V. Help Sub-menu	13
VI. Language Sub-menu	15
Chapter 3: Possible Troubles and Trouble Removal	16

Chapter 1: Installation of Software “MGS Fan Test Data Acquisition System”

I. Installation Environmental Requirements

The software is installed in the hard disk for use.

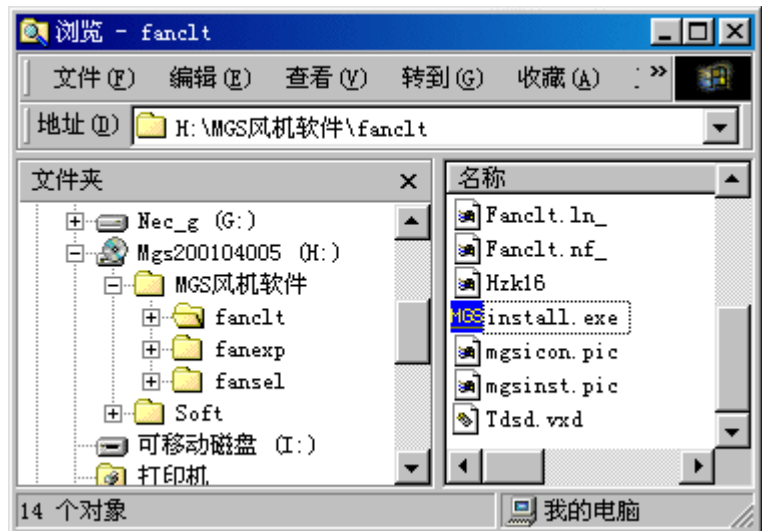
Computer hardware environment:

Computer	Pentium II and Pentium III/IV series computer.
Memory	Not less than 64MB.
Hard disk	Remaining space not less than 128 MB.
Printer	USB interface printer used in the Windows system.
Software nvironment	Win98, Win2000,WinXP, Win2003

II. Software for installing “MGS Fan Test Data Acquisition System”

Put the MGS fan software CD onto the CD driver (in the operational instructions, disk G is regarded as CD disk. During installation, the customer may change the number of the computer CD driver, if the computer CD driver in the diagram is H).

Open the resource manager, find the sub-directory \MGS fan software\FANCLT, and double-click the file **Install.exe**



MGS Fan Test Data Acquisition System

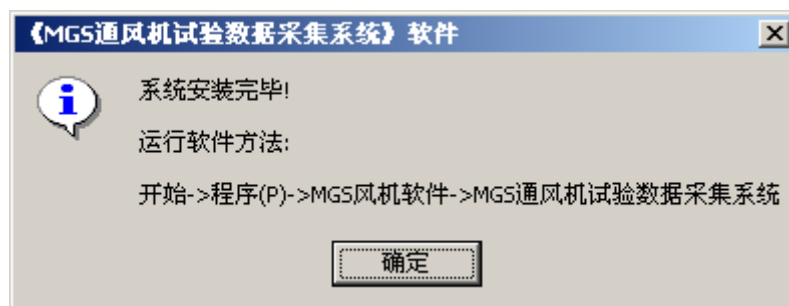


After the software installation interface appears on the screen, single-click the button 'Begin to install', and the system prompts the dialog box 'Input installation objective disk'.



If you want to change the installation objective disk, you can enter the symbol of the installation objective disk after single-clicking the entry '**objective disk**'. Single-click 'OK' button to begin to install the system.

After completing the installation of software, there will be a prompt to show the system installation is finished.



If the installation is OK, the software is installed in the sub-directory **MGSIFANCLT** in the objective disk.

MGS Fan Test Data Acquisition System

III. Operating software “MGS Fan Test Data Acquisition System”

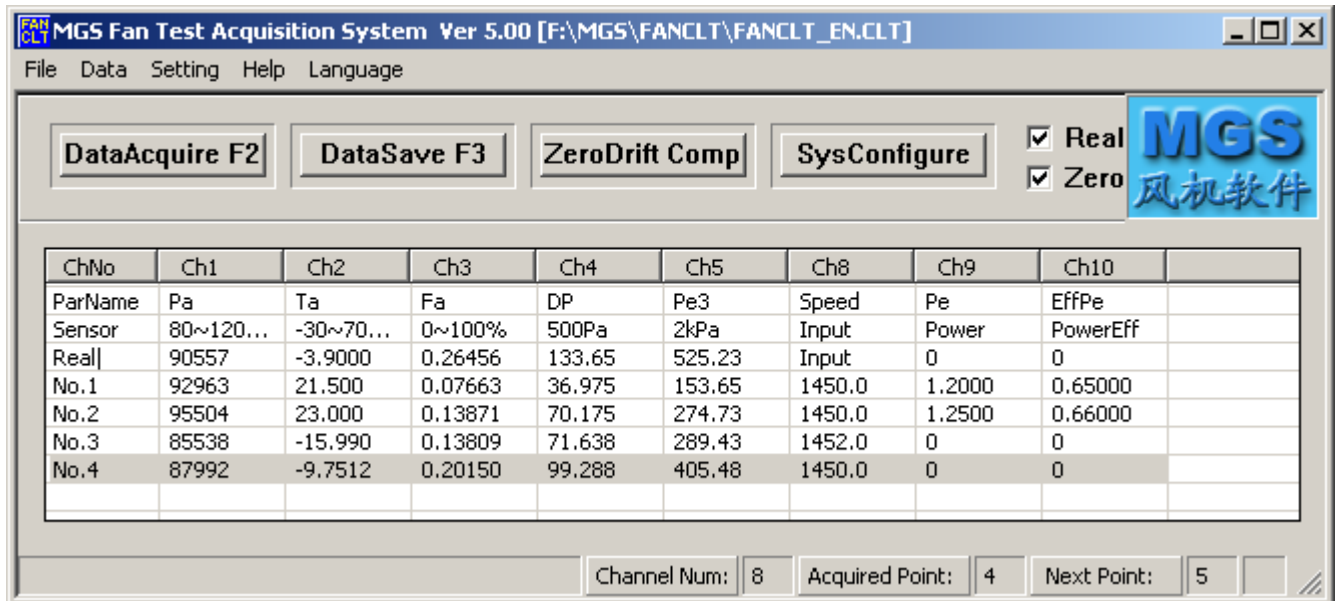
Method One: Single-click the **Start** menu. Move the mouse to Program (P). After the sub menu appears, move the mouse to **“MGS Fan Software”**. After the sub menu appears, move the mouse to **“MGS Fan Test Data Acquisition System”**, and single-click left button of the mouse.

Method Two: Double-click the file **“MGS Fan Software”** from the desktop. Then double-click the rapid icon of **“MGS Fan Test Data Acquisition System”** in the file **“MGS Fan Software”**.

MGS Fan Test Data Acquisition System

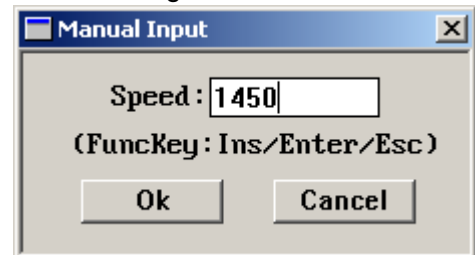
Chapter 2: Operating Instructions for “MGS Fan Test Data Acquisition System”

I. Main Menu



Apart from the pull-down sub menus, the main menu contains the following functions:

1. **“Data Acquire F2”** button: This acquires one data point. After executing this function, it is displayed in the prompt line that the data is being acquired. If the type of the transducer in a certain acquisition channel is keyboard entering, the keyboard entry is displayed at this time and the data can be entered by clicking in the entering item area.
2. **“Data Save F3”** button: This saves the acquired data to the assigned disk file. If the switch for autosave of the applied data configured in the system parameters is in the pressed status, the data will be autosaved to the assigned disk file after the system has acquired the data.
3. **“ZeroDrift Compensation”** button: This acquires zero-drift data. During acquiring the zero-drift data, the acquisition must be carried out under the condition that there is no pressure in the pressure transducer, or the power supply of the tested machine (such as the power supply of the tested fan) is turned off. Otherwise, the inaccuracy of acquired data results.



The **“Zero-drift”** phenomenon is referred to as a phenomenon that the pressure indication of the transducer is not zero under the condition when the pressure transducer is in the zero pressure (gage pressure). The zero-drift compensation means that when the voltage value of the transducer is acquired at the zero pressure, zero-drift revision is made to the transducer in order to enhance the accuracy of measurement.

When making the zero-drift compensation, first, keep the **“Zero-drift”** switch button in the main menu in the pressed status, and then cause the pressure input of the pressure transducer to be zero (gage pressure), or turn off the power supply of the tested machine (such as the power supply of the tested fan), and then press the **“Zero-drift”** switch button to acquire the zero-drift compensation data of the pressure transducer. At this time, the dialog box **“Acquire Zero-drift Compensation Data”** is

MGS Fan Test Data Acquisition System

displayed on the screen:

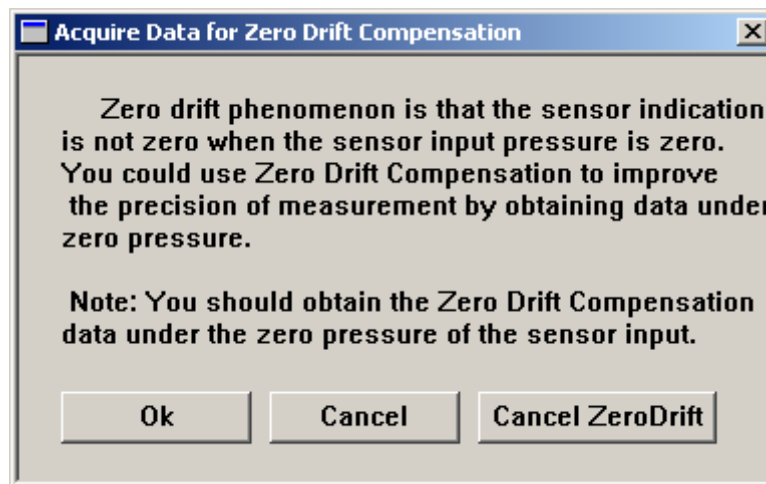
“Ok” button: Acquire the zero-drift compensation data of the pressure transducer.

“Cancel ” button: Retract the operation of zero-drift compensation button in the main menu and return to the main menu. This means that no zero-drift compensation data is acquired, and the application of the zero-drift compensation function is not canceled either.

“Cancel zero-drift compensation” button: Zero-drift compensation data is not acquired, and the zero-drift compensation function is canceled.

In the test, if the zero-drift compensation function is used, but the zero-drift compensation button is not employed to acquire the zero-drift compensation data, the system will use the zero-drift compensation data acquired previously. This case is suited to the situation when the time interval between several tests is not long. If several tests are conducted in the same day at different time, it is possible to acquire the zero-drift compensation data during the first test, and use such data in the subsequent tests without acquiring additional zero-drift compensation data.

In the test, if the zero-drift value of a certain transducer exceeds the accuracy requirements, it is recommended that the transducer should be calibrated again to enhance the measuring accuracy.



4. **“System Configure”** button: The function is as that of **“Acquisition system configuration”** in the sub menu.
5. **“Real-time Display”** Item: When pressing the button of the switch, the system is able to display the acquired data in a real-time, dynamic way.
6. **“Zero-drift compensation”** Item: When pressing the button of the switch, the zero-drift compensation function is used as the system is acquiring data. See zero-drift compensation for details.
7. **“Acquisition channel number”** Item: This displays the total number of channels for current data acquisition.
8. **“Acquired point number”** Item: This displays the number of the current acquired testing data points.
9. **“Current acquisition point”** Item: This displays the position where the next acquired data is stored. When the **“Current acquisition point”** points to a previous data point, it is possible to cancel the data acquired at that point, and acquire the data at that point again.
10. **“Power acquisition status”** Item: When displaying the hollow or solid square alternately, this means that the system has acquired the power of the three-phase AC. When displaying the hollow or solid circle alternately, this means that the system has acquired the power of the single-phase AC.

MGS Fan Test Data Acquisition System

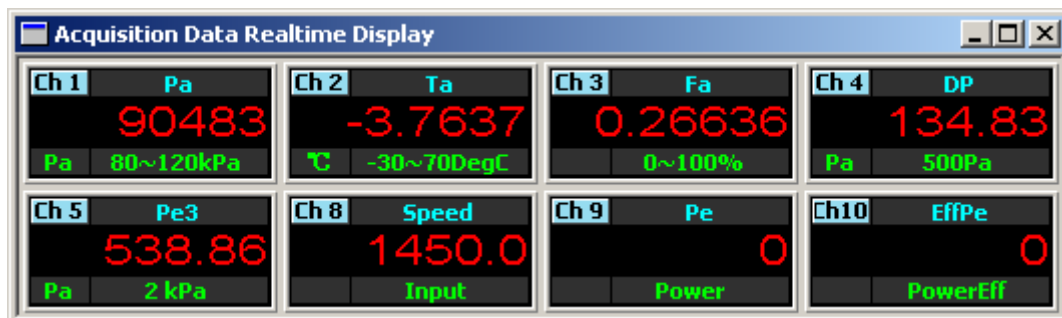
When displaying ?, ? alternately, this means that there are errors in the power information the system has acquired.

11. **“Acquired data list”** Item : This displays the list of the acquired data.
 - 1) **“Channel number”** Item : This displays the number of the channels used.
 - 2) **“Parameter name”** Item : This displays the name of parameters of the channel.
 - 3) **“Transducer”** Item : This displays the type of the transducer used in the channel. The deployment of channel number, parameter name and transducer can be revised in the **“Acquisition system setup”**.
 - 4) **“Real time”** line: The system displays the acquired data in a real-time, dynamic way.
12. **“Prompt”** status line: This displays the prompt of the system.
13. **“Acquired data used for system configuration”** function: Right click the mouse at the upper-right corner in the main interface to choose the “acquired data document used for system configuration” so that the system can be configured with the current acquired file.

Acquisition File for System Configuration
Realtime Displaying Acquisition Data

14. **“Acquired data real-time display”** function: Right click the mouse in the area of upper-right corner in the main menu to choose **“Acquired data real-time display”**,

The dialog box of the **“Acquired data real-time display”** is separated into five areas: upper-left corner/upper-right corner/lower-left corner/lower-right corner/central display area with the function of each area as shown in the following:



- The upper-right corner is the area to display the channel number where the display mode of the channel, which displays the measuring range of the transducer/instantaneous acquired value/average voltage value/instantaneous voltage value, can be changed separately.
- The upper-right corner displays the name of the parameters of the channel.
- The lower-left corner displays the unit for the name of the parameters of the channel.
- The display contents of the lower-right corner is determined depending on the display mode. They may be the measuring range of the transducer of the channel/instantaneous acquired value/ average voltage value/instantaneous voltage value.
- The central display area displays the average value of the parameters of the channel.

Sensor Range
Instant Paramet
Average Voltage
Instant Voltage
Record One F2
Save Data F3
Hide Main Off
TopMost Off
Large Frame Off

When right clicking the mouse, it is able to change the display mode:

- 1) To display transducer measuring range: This sets all channels to the transducer measuring range display mode.
- 2) To display parameters (instantaneous): This sets all channels to the transducer instantaneous

MGS Fan Test Data Acquisition System

parameter display mode.

3) To display voltage (average): This sets all channels to the transducer average voltage display mode.

4) This sets all channels to the transducer instantaneous voltage display mode.

5) Acquire data F2: This acquires one data point.

6) Save data F3: This saves acquired data.

7) Hide main interface Off: This displays/hides main interface.

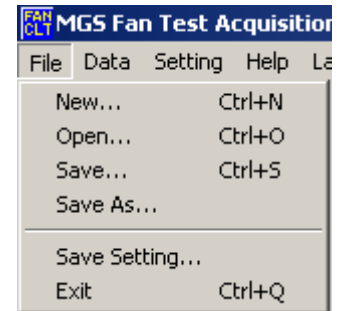
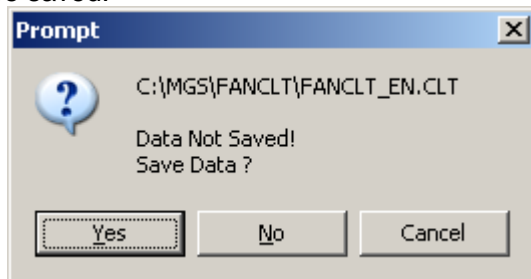
8) Set interface to top Off: This sets the dialog box to topmost status On/Off.

9) Big meter box Off: This sets small and big meter boxes.

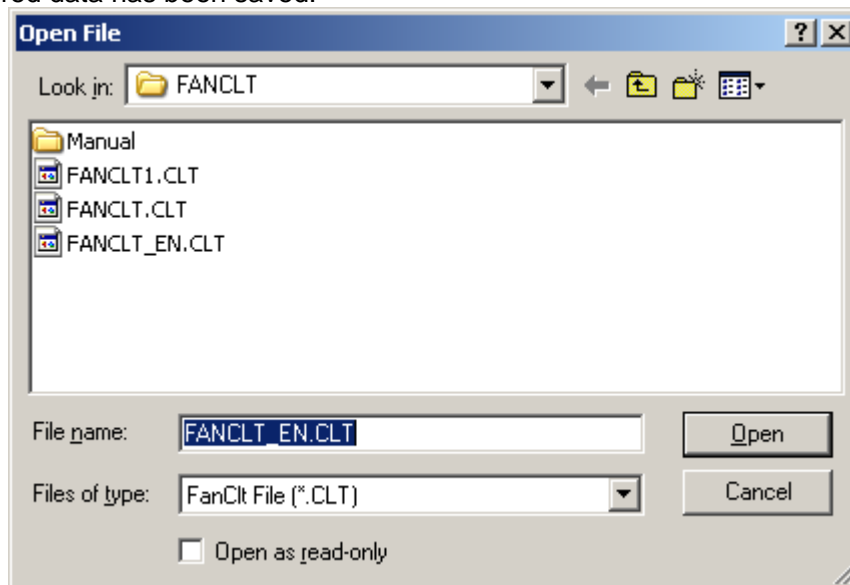
II. File sub-menu

The pull-down “file” sub-menu includes the following functions:

1. **New file:** Set new data acquisition file. After choosing the functions of this menu, the “Prompt” dialog box will be displayed before displaying “**New file**” if the current acquired data is not saved, prompting the customer that the current acquired data is not saved and asking if the acquired data should be saved.

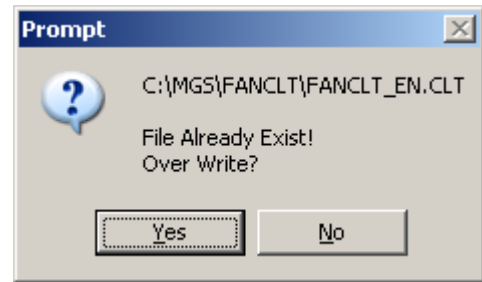


After choosing the functions of this mean, the “**New file**” dialog box will be directly displayed if the current acquired data has been saved.

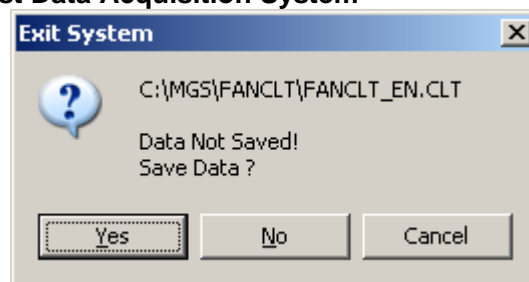


MGS Fan Test Data Acquisition System

When clicking the file name, sub-directory, file type area, it is possible to enter or revise the contents of the designated contents; when single-clicking the designated entry in the file area, it is possible to choose the designated file; when single-clicking the designated entry in the directory area, it is possible to change the sub-directory or driver, The confirm button confirms new operations for the file. The cancel button cancel new operations for the file. After confirming the new operation of the file, “prompt” is displayed if the file has existed already, prompting that the file has already existed and if the file should be overwritten.



2. **Open file:** This opens the set data acquisition file. The operating method is the similar to the “New File”. If the current acquired data file is not saved, “Prompt” will be displayed before displaying the menu of “Open file”, prompting the customer that the current acquired data file is not saved and if the file should be overwritten.
3. **Save file:** This saves the acquired date into the file. If the data is not changed, this function will not be performed; if the data is changed, data saving will be displayed in the prompt line.
4. **Save file as:** The function is to save the acquired data into another designated file. The operating method is the similar to the “New File”.
5. **Save setting:** This preserves the parameters set by the data acquisition system. If the data is not changed, this function will not be performed.
6. **Exit:** This quits the “MGS Fan Test Data Acquisition System”

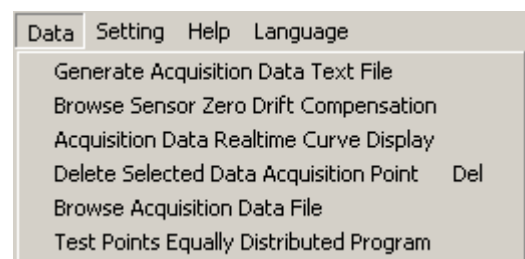


III. Data Sub-menu

The pull-down “Data” sub-menu includes the following functions:

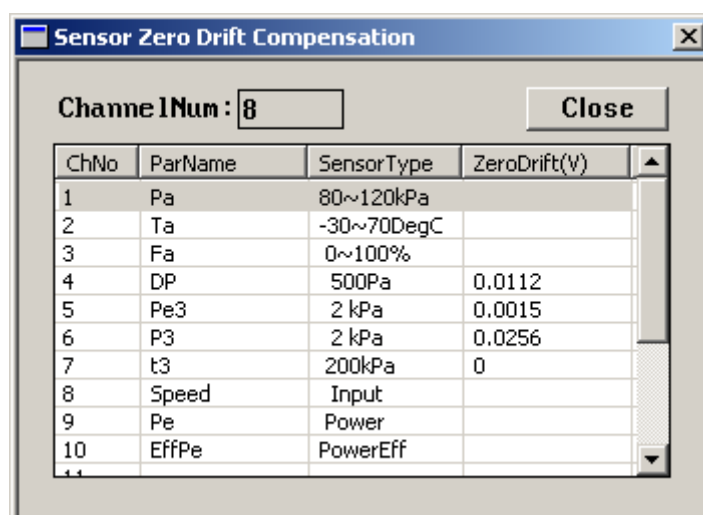
1. **Generate acquired data text file:** The acquired data is outputted to the file in a text format. The filename is the same as the acquired filename and the filename extension is TXT. For example:

When the acquired filename is **FANCLT.CLT**, the corresponding filename in the text format will be **FANCLT.CLT.TXT**.

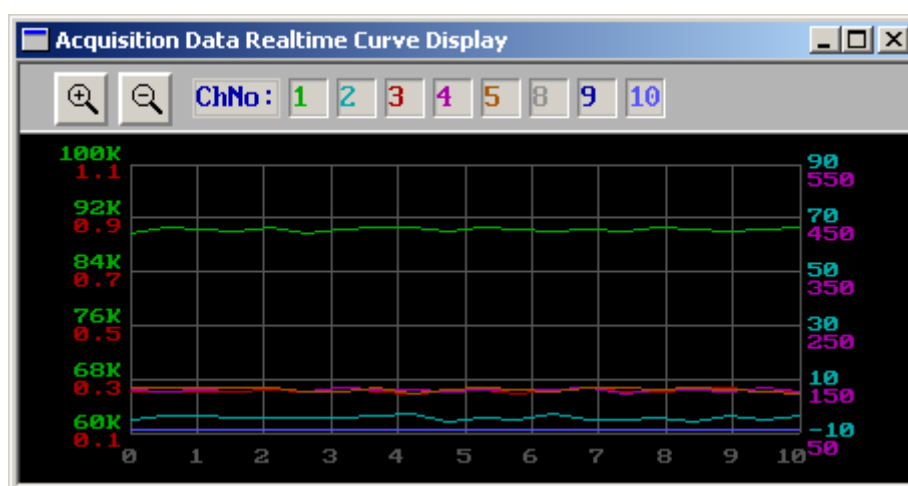


2. **Browse transducer zero-drift compensation data:** This displays the current zero-drift ompensation data in all channels.

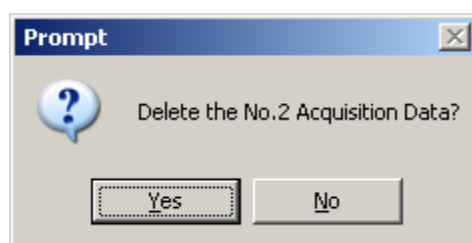
MGS Fan Test Data Acquisition System



3. **Open real-time display window:** This opens real-time display window.



4. **Delete an acquisition point:** To delete a data acquisition point designated in the acquisition data list. First, from the acquisition data list, choose the data of an acquisition point to be deleted, and then click the function “**Delete an acquisition point**” from the “**Data**” sub-menu (or press the Del key), the system prompting if the data acquired at the xxth point is to be deleted. Single-click “Yes” or “No”.



5. **Browse acquired file data:** This opens/views acquired file data.

MGS Fan Test Data Acquisition System

Browse Acquisition Data File

File Name:

ChannelNum: PointNum: Date: Time:

ChNo	Ch1	Ch2	Ch3	Ch4	Ch5	Ch6	Ch7	Ch8
ParName	Pa	Ta	Fa	DP	Pe3	P3	t3	Speed
Sensor	80~120...	-30~70...	0~100%	500Pa	2kPa	2kPa	200kPa	Input
No.1	92963.0	21.500	0.07663	36.975	153.65	1450.0	1.2000	0.65000
No.2	95503.5	23.000	0.13871	70.175	274.73	1450.0	1.2500	0.66000
No.3	85537.5	-15.990	0.13809	71.638	289.43	1452.0	0.0	0.0
No.4	87913.5	-10.087	0.20266	102.94	409.61	1450.0	0.0	0.0

6. **Acquired point equipartition program:** This is used to make equal division of test points during test.

- 1) Test point number: This sets the number of test points.
- 2) Flow equal division mode: The equal division can be chosen according to flowrate or pressure.
- 3) Start /End pressure: This sets the start pressure and end pressure during test.
- 4) Test point serial number: This sets the serial number of the test points to be inquired currently.
 “<<”/”>>”: To change the serial number of the test points.
- 5) Test pressure: This displays the pressure of the test points to be inquired currently.

Test Points Equally Distributed Program

Test Points Equal Distributed

Point Num: Equ By Flowrate

Start P:

End P:

Test No:

Test P: ☐ Topmost

IV. Set Sub-menu

Setting the pull-down sub-menu including the following functions:

1. **Set system parameters:** This sets system parameters
 - 1.1 “Autosave” group box: The autosave function can be set in the group box.
 - 1.2 “Set Data” switch button: When the switch button is in the pressed status, the set parameters of the system can be automatically preserved after the set parameters are changed.

Setting Help Language

Setting System Parameter

Configure Acquisition System

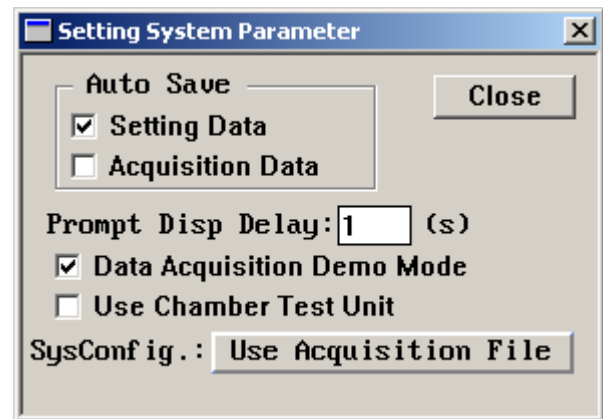
Initial RS232 Port

MGS Fan Test Data Acquisition System

1.3 **“Acquired Data”** switch button: When the switch button is in the pressed status, the acquired data can be automatically preserved. When the newly-created file and the open file are operating, the acquired data is automatically preserved if the current acquired data document is not saved.

1.4 **“Prompt display time delay”** Item: The parameter controls the prompt to display the display time on the screen.

1.5 **“Data acquisition demonstration mode”** Item: When there is no acquisition, the system can provide simulation data for the user to study the software.



1.6 **“Use air chamber testing rig”** button: When the switch is in the pressed status, the air chamber testing rig is used. According to the test mode used, choose one of the four modes: A-type air admission test, A-type air exit test, B-type air exit test, and C-type air admission test. When the switch is in the upspring status, the rig is converted to a wind pipe testing rig. With the wind pipe test, choose one of the four types from the B-type air exit test, C-type air admission test, D-type air admission and exit test (C-type) according to the testing mode applied.

1.7 **“System setting”** option: You can choose the option to use the system setting file, or the acquired data file. When it is set to use the mode of the acquired data documents, the system opens an acquired file, and the system configuration is recovered to the system used when the file was acquired. Otherwise, the system setting will not change with the opening of the acquired file.

1.8 **“Close”** button: This closes the dialog box **“Set system parameters”**.

2. **Set system parameters:** This sets the data acquisition system parameters.

2.1 **“Acquisition card model”** Item: This displays the current acquisition card model used.

2.2 **“Real-time display speed”** Item: This parameter controls the real-time display speed when the data is acquired.

2.3 **“Acquisition channel number”** Item: This displays the acquisition channel number of the current system configuration.

2.4 **“Repeated acquisition times”** Item: This parameter controls the repeated acquisition times, the maximal value being 128. The acquisition amount of a certain channel is the average value under the repeated acquisition times.

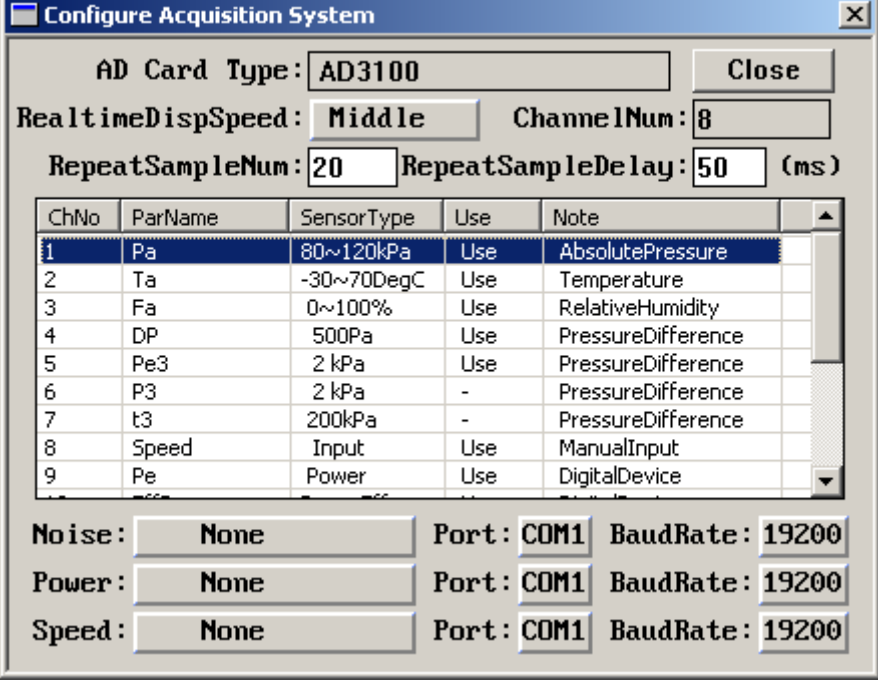
2.5 **“Repeated sampling times”** Item: This parameter controls time delay value (millisecond) after an acquisition during the repeated acquisition, the default value is 1.0.

2.6 **“Close”** button: This closes the dialog box **“Set system parameters”**

2.7 **“Channel, parameter name, transducer type, application and notes”** list box: The group box can choose the data parameter name for each channel, and the transducer type. First, from the **“Channel”** list, choose the channel to be set, and then double-click the revisable parameter name in the **“Parameter name”** entry, or right-click the mouse to choose a name from the parameter name list. If the parameter name is up to the specification, you can realize automatic identification of the measured parameters. In the **“Transducer type”** entry, you can set the requirement that the transducer type coincides with the transducer type actually connected. Of the option, **“Transducer absence”** item means that the channel is not connected to the transducer—that is, the channel is

MGS Fan Test Data Acquisition System

not acquired; the **“Manual input”** item means that the parameters from the channel are to be measured manually, and then inputted into the acquisition system. By single- or double-clicking the **“Transducer type”**, you can select a transducer type from the **“Transducer type”** list. Double-click the **“Application”** entry to revise the parameter name, or right-click the mouse to choose a name from **“Parameter name”** list. The **“notes”** list displays the interpretation of the transducer type.



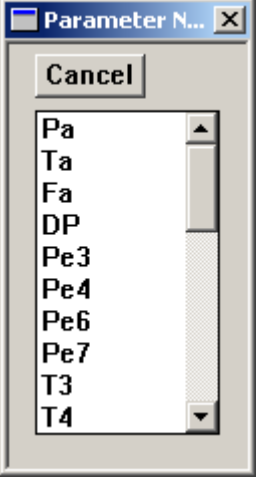
The **Configure Acquisition System** dialog box contains the following fields and controls:

- AD Card Type:** AD3100
- Close** button
- RealtimeDispSpeed:** Middle
- ChannelNum:** 8
- RepeatSampleNum:** 20
- RepeatSampleDelay:** 50 (ms)
- Table:**

ChNo	ParName	SensorType	Use	Note
1	Pa	80~120kPa	Use	AbsolutePressure
2	Ta	-30~70DegC	Use	Temperature
3	Fa	0~100%	Use	RelativeHumidity
4	DP	500Pa	Use	PressureDifference
5	Pe3	2 kPa	Use	PressureDifference
6	P3	2 kPa	-	PressureDifference
7	t3	200kPa	-	PressureDifference
8	Speed	Input	Use	ManualInput
9	Pe	Power	Use	DigitalDevice

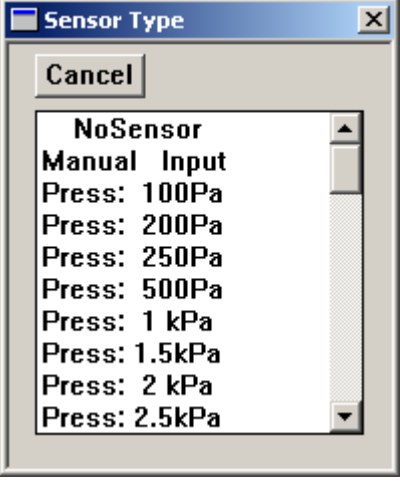
Below the table are three groups of settings:

- Noise:** None
- Port:** COM1
- BaudRate:** 19200
- Power:** None
- Port:** COM1
- BaudRate:** 19200
- Speed:** None
- Port:** COM1
- BaudRate:** 19200



Parameter Name dialog box showing a list of parameter names:

- Pa
- Ta
- Fa
- DP
- Pe3
- Pe4
- Pe6
- Pe7
- T3
- T4



Sensor Type dialog box showing a list of sensor types:

- NoSensor
- Manual Input
- Press: 100Pa
- Press: 200Pa
- Press: 250Pa
- Press: 500Pa
- Press: 1 kPa
- Press: 1.5kPa
- Press: 2 kPa
- Press: 2.5kPa

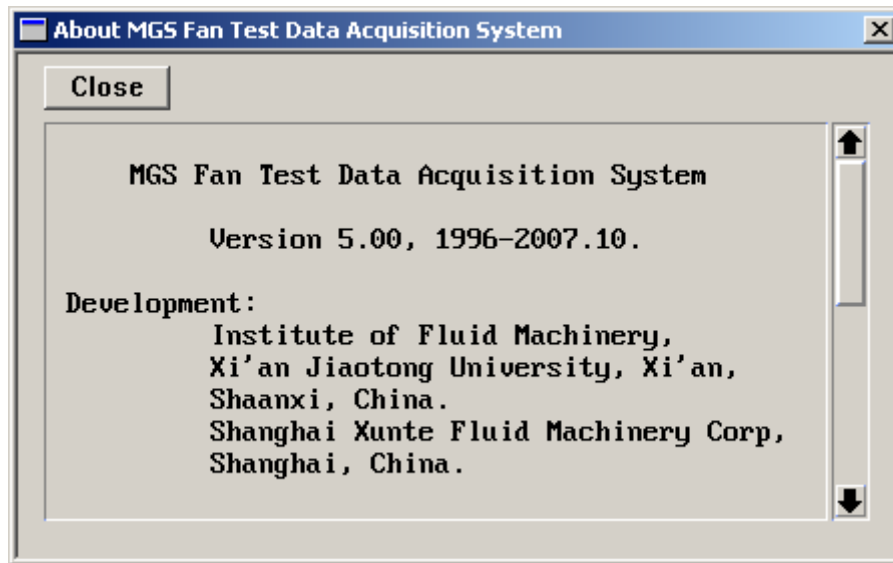
- 2.8 **“Noise, rotational speed and power”** setting: If the equipment makes acquisition with RS232, you can set corresponding equipment type, the port used and baud rate.
3. **Initialize RS232:** the RS232 equipment acquisition may stop midway due to interference during operation, and you can use this function to initialize RS232 again and recover the RS232 function.

MGS Fan Test Data Acquisition System

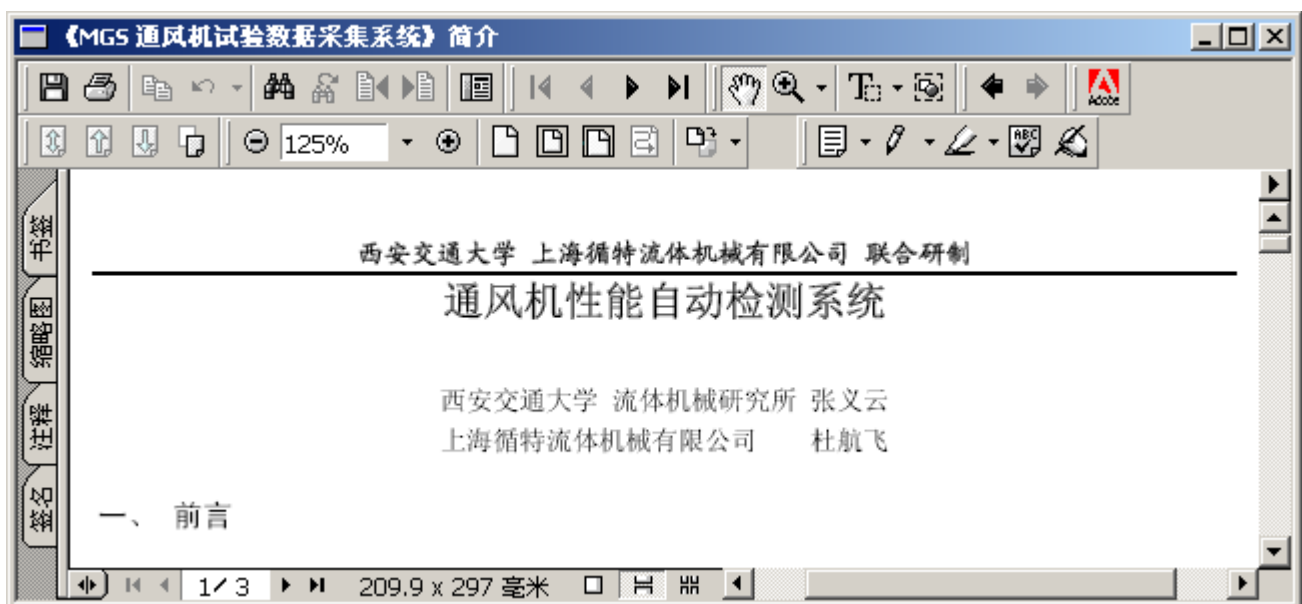
V. Help Sub-menu

The pull-down “**Help**” sub-menu contains the following functions:

1. About the “**MGS Fan Test Data Acquisition System**”: This displays the information about the development of software version.

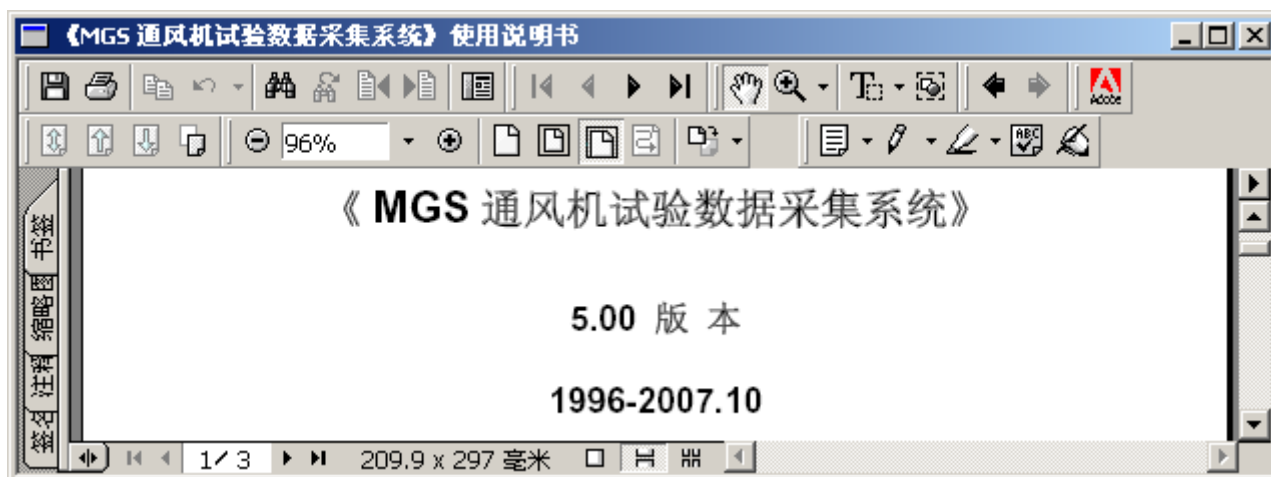


2. Introduction to “**MGS Fan Test Data Acquisition System**”.



3. **User's Manual** : This displays the software User's Manual.

MGS Fan Test Data Acquisition System



4. **About the software development agency:** This displays the information about the software developer.

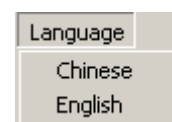


5. **Introduction to software developer:** The displays Introduction to software developer (omitted)
6. **Fan Software website (www.fansoft.cn) :** Get access to the fan soft website.

VI. Language Sub-menu

The pull-down **Language** Sub-menu includes the following functions:

1. **Chinese:** This provides the Chinese version.
2. **English:** This provides the English version.



If the language setting is changed, the system will be prompted “quitted from the software and run the software again”.



Chapter 3: Possible Troubles and Trouble Removal

1. **Trouble:** The screen color is abnormal, or the background color is not identical.

Tackling method: Set the monitor color to 24-bit true color.

2. **Trouble:** After finishing the installation of software, no “MGS Fan Software” icon can be found out on the computer desktop, or no “**MGS Fan Test Data Acquisition System**” icon can be found from the “MGS Fan Software” file.

Tackling method: If there is no “MGS Fan Software” icon on the computer desktop, right-click the mouse in the blank space on the desktop of the computer -> new file (W) -> file (F), enter “MGS Fan Software”, and press carriage return. If there is an “MGS Fan Software” icon on the computer desktop, double-click the “MGS Fan Software” icon to open the file, in the blank space of the file, right-click the mouse -> new file (W) -> file (F), speedy form (S), enter 'C:\MGS\FANCLT\FANCLT.EXE' in the commands bar, single-click “next”, enter “**MGS Fan Test Data Acquisition System**” in the chosen name box of the speedy mode (S), and single-click finishing. If the software is installed on Disk C, enter 'D:\MGS\FANCLT\FANCLT.EXE' in the commands bar, and follow the procedure on the analogy of the above.

3. **Trouble:** The pressure is not measured accurately.

Tackling methods:

- 1) Check to see if the measured pressure is matched with the range of the pressure transducer used.
- 2) Check to see if the inaccurate zero-drift compensation data is used. Close/open the power supply of the measured fan and acquire the zero-drift compensation data again.
- 3) Check the pressure transducer used for its calibration date. If the calibration date has exceeded half a year or the pressure transducer has not been calibrated for a year, make calibration.
- 4) Check to see if there are any air leaks or in the connecting pipe or there is any water in the pipe.

If there any other troubles, please write down or print out the trouble, microcomputer configuration, software operating environment (such the operating system version, etc.), file directory in the software sub-directory, etc and mail the information to the following address:

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Configuration Table of Acquisition System

Appendix I : Configuration Table of Acquisition System

SN:

No	Channel Name	Sensor Type	Channel No	Notes
1	Absolute Pressure	80~120 KPa	1	
2	Temperature	-30~70 Deg	2	Exterior
3	Relative Humidity	100%	3	Exterior
4	Pressure Difference	500Pa	4	
5	Pressure Difference	1 KPa	5	
6	Pressure Difference	2 KPa	6	
7	Pressure Difference	5 KPa	7	
8	Exterior Sensor		8	Reserve
9	Rotation Speed	RS232/Com3	9	
10	Noise	RS232/Com1	10	
11	Motor Power	RS232/Com2	11	
12	Motor Efficiency		12	
13	Exterior Sensor		13	Reserve
14	Vibration1		14	Reserve
15	Vibration2		15	Reserve

Appendix III: Setting Rotation Speed

1. Setting Rotation Speed

- Initialization of rotation speed(Return to default /leave factory setting)

Operation No	Operation	Meter Display	Operation	Meter Display
1	Press P	Pro <> 0	Press	9
2	Press P	Code <> 55	Press	66
3	Press P	INItAL , Then Display Pro <> 0		
4	Press P	Quit Setting		

Notes: if the setting of rotation speed is not correct, you may return setting to default(leave factory), then continue setting.

- Turn setting from rps to rpm(default is rps)

Operation No	Operation	Meter Display	Operation	Meter Display
1	Press P	Pro <> 0	Press	1
2	Press P	dECPNt <> 0		
3	Press P	round <> 1		
4	Press P	Lo_udt <> 1.0		
5	Press P	Hi_udt <> 2.0		
6	Press P	SCALE <> NO	Press	Yes
7	Press P	dSP 1 <> 10,000	Press	600,000
8	Press P	rAtE 1 <> 0.0	Press	SEgt <> 1
			Press	2
9	Press P	SCALE <> NO	Press	Yes
10	Press P	dSP 2 <> 0	Press	600,000
11	Press P	rAtE 2 <> 0.0		
11	Press P	Pro <> 0		
12	Press P	End Quit setting		

Notes: <> means display

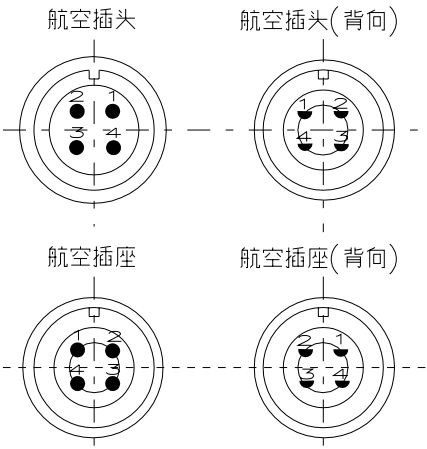
2. Rotation Speed Pin

Solt	Function	Solt	Function
1	220V Power	1	
2		2	
3		3	
4		4	
5	12V DC Signal Input	5	
6		6	
7		7	
8	GND	8	
9		9	
10		10	Analog Signal -
11		11	Analog Signal +
12			
13			

3. Rotation Speed Sensor Pin

Speed Hookup	Aeronautic Pin	Sensor Line Color	Sensor Line Color
5(12V DC)	1	Red	Coffee color
7(GND)	2	Blue	Blue
6(Signal Input)	3	White	Balck
	4	(Empty)	

4. Aeronautic Pin/Solt



MicroGraphic Software

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