



**KANOMAX**  
*The Ultimate Measurements*

# Multi-Channel Anemomaster

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MODEL 1580

User's Manual



## List of Components

### ■ Multi-Channel Anemomaster

Item	Model	Function
Multi-Channel Anemomaster main unit	1580-0G	Up to 12-probe data integration Communicates with PC software
Multi-Channel Anemomaster software	1580-40	Measurement start and stop on PC Measured value display on PC Data management on PC
Multi-Channel Anemomaster User's Manual	-	User's Manual for Multi-Channel Anemomaster
USB cable	-	Connects the PC and Multi-Channel Anemomaster Main Unit
AC adapter (90W)	1580-10	Exclusive AC adapter (90W)
Rubber cap	-	Dust protective cap for Connecting Connector

### ■ Analog Unit

Item	Model	Function
Multi-Channel Anemomaster PRO analog unit	1592-0G	Analog value output
Analog unit setup guide	-	Introducing the process from the unit setting to measurement.
Connecting clip	-	Clip to fix connected units (x 2)
Rubber cap	-	Dust protective cap for Connecting Connector (x2)
Dividing terminal block	-	Terminal block for analog output

■ Probe

Item	Model	Function
UNI-directional air velocity probe (Flat)	0972-00	Digital output of air velocity values
UNI-directional air velocity probe (φ9)	0973-00	Digital output of air velocity values
Omni-directional air velocity probe (Needle)	0975-00	Digital output of air velocity values
Omni-directional air velocity probe (100 mm)	0975-09	Digital output of air velocity values
Omni-directional air velocity probe (410 mm)	0975-10	Digital output of air velocity values
Heat-resistant air velocity probe (Mini, straight type)	0976-03	Digital output of air velocity values
Heat-resistant air velocity probe (Mini, articulating type)	0976-04	Digital output of air velocity values
Heat-resistant air velocity (Mini, straight, temperature-compensation sensor independent type)	0976-07	Digital output of air velocity values
Heat-resistant air velocity probe VT (Mini, straight, temperature-compensation sensor independent type)	0976-05	Digital output of air velocity value and temperature
Air velocity probe (Mini, straight type)	0976-13	Digital output of air velocity values
Air velocity probe (Mini, articulating type)	0976-14	Digital output of air velocity values
Air velocity (Mini, straight, temperature-compensation sensor independent type)	0976-17	Digital output of air velocity values
Air velocity probe VT (Mini, straight, temperature-compensation sensor independent type)	0976-15	Digital output of air velocity value and temperature
Omni-directional air velocity probe VT	0975-21	Digital output of air velocity value and temperature
Omni-directional air velocity probe VTH	0975-31	Digital output of air velocity value, temperature, and humidity

■ Optional Accessories

Item		Model	Function
Standard cable	0.5 m	1580-30	Connects the Multi-Channel Anemomaster Main Unit and probe(s)
	2.0 m	1580-31	
	5.0 m	1580-32	
	10.0 m	1580-33	
	20.0 m	1580-34	
	40.0 m	1580-35	
AC adapter (90W)		1580-10	Exclusive AC adapter (90W)
DC power cable		1580-37	Exclusive cable for DC power supply
Unit fixing clip		-	Clip to fix connected units
Probe fixing jig		1580-90	Anchoring the probe

# Important Safety Information

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The symbols for the warnings used in this manual are defined below:

## Description of Symbols

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### **Warning**

Warnings in this classification indicate risks that may result in serious injury or death if not observed.



### **Caution**

Warnings in this classification indicate risks that may result in injury or damage to the surrounding objects if not observed.

### **Notice**

Warnings in this classification indicate risks of damage to the product that may void the product warranty if not observed.

## Description of Symbols

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This symbol indicates a condition that requires caution (including warning). The subject of each caution is illustrated inside the triangle (e.g. the high temperature caution symbol is shown on the left).



This symbol indicates a prohibition. Do not take the prohibited action shown inside or near this symbol (e.g. the disassembly prohibition symbol is shown on the left).



This symbol indicates a mandatory action. A specific action is given near the symbol.



## Warning

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(Forbidden) Do not use the AC adapter other than the provided one with the instrument.

Using an inappropriate adapter may damage the instrument.  
It may generate heat and cause fire and/or an accident(s).



(Forbidden) Always keep the probe away from areas where flammable gas is present.

Failure to do so may cause fire and/or explosion because the probe is heating.



(Proper Handling) Handle the instrument properly in accordance with the instructions provided in this manual.

Failure to do so may cause electric shock, fire, and/or sensor damage.



(Caution) If abnormal noise, smell, or smoke is observed, or if liquid has entered the instrument, turn off the power immediately, remove the batteries or pull out the plug.

Failure to observe the above may cause electric shock, fire, and/or damage.  
Please contact your local distributor or Kanomax service center for repair.



## Caution

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(Proper Handling) Pull out the plug when the instrument is not in use.

Failure to do so may cause electric shock, fire hazard, and/or circuit damage.

## Notice

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(Forbidden) Do not use or keep the instrument in hot, humid, and/or dusty environment. Do not expose the instrument to direct sunlight for a prolonged period of time.

The instrument may not function properly out of the specified operational temperature range.



(Forbidden) Do not subject the instrument to strong impact.

Dropping and/or hitting the instrument may cause damage and malfunction.



(Forbidden) Do not wipe the instrument with volatile solvent.

The body may deform and/or deteriorate. Use soft dry cloth to remove stains. If stains persist, soak the cloth in neutral detergent and wipe the instrument with the cloth.



(Forbidden) Do not use the instrument in areas where vapor is present.

Touching a water droplet to the air flow element can affect the amount of the heat dissipation. This may cause an inaccurate measurement and/or damage to the element.



(Forbidden) This instrument is designed to be used in the clean air flow without dusts and/or foreign substances.

Touching or hitting the air flow element with a foreign substance may cause damage to the element.

Dust and/or foreign substances adhered to the air flow element can hinder the accurate measurement.



(Forbidden) Do not apply an excessive force to the sensor.

If the sensor is deformed, not only maintaining the accuracy is impossible but also the element may be broken.



(Forbidden) Do not disassemble, modify, or attempt to repair the instrument.

Failure to observe the above may result in a short circuit and/or a malfunction.



(Forbidden) Do not allow static electrical discharge to the instrument.

Failure to observe the above may affect the measurement value and cause damage to the instrument circuit.



(Proper Handling) Regularly check that the tip of the probe is clean.

Dust and/or foreign substances adhered to the air flow element can hinder the accurate measurement.

To remove dust, blow it off with a blower brush for cameras or lightly rinse with water and dry it well.

※Be sure to turn the power off to the main unit before cleaning the air flow element.

※Never dry the probe by heat. (Failure to observe this may cause damage to the probe.)



(Forbidden) If the instrument and the probe have been stored in a cold place, do not bring the instrument to a warm place to make a sudden temperature change.

Even when the instrument is used in the specified operating temperature and humidity, a sudden temperature change may cause condensation. Condensation on the sensor may cause inaccurate measurements. If condensation occurs in the metal part of the sensor, it becomes rusty which may cause damage to the probe.





(Proper Handling) When storing the instrument, keep it in a place with an ambient temperature of -10 to 60°C and no condensation.



(Forbidden) Do not dispose of the instrument as household waste. Please note that the disposal of the instrument and batteries should be in line with your local or national legislations. For details, please consult with your local distributor.

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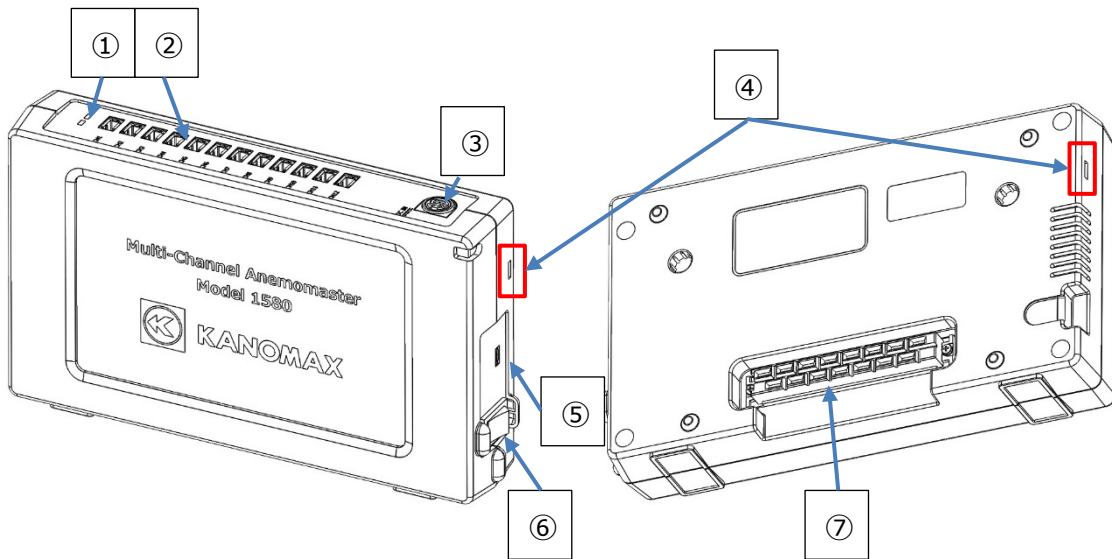
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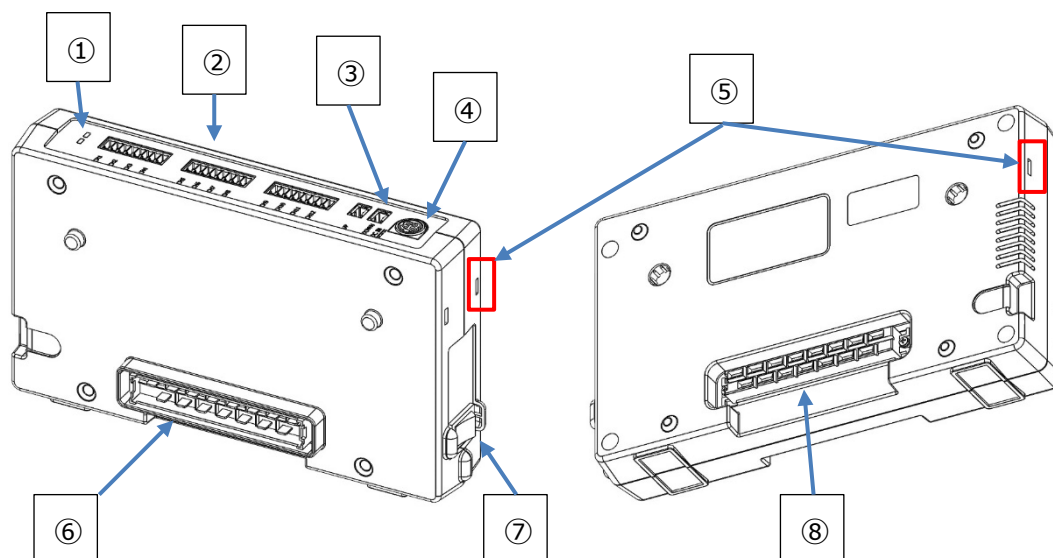
# 1. Part Names and Functions

## 1. Multi-Channel Anemomaster Main Unit (Model 1580-0G)



Name	Function
① LED (Blue/Red)	Displays the status of the main unit
② Probe-to-probe communication terminal (1 to 12 CH)	Communicates with the probe in the RS-485 method
③ DC power supply terminal	Supplies power through the exclusive AC adapter
④ Insertion port for unit fixing clip	Insert the fixing clip into this port to connect the units
⑤ Micro USB terminal	Communicates with PC software
⑥ Power switch	Turns the power ON/OFF to the main unit
⑦ Connecting Connector (Socket)	Communicates with the analog unit (Model: 1592-00) of the Multi-Channel Anemomaster PRO in the RS-485 method, and supplies power

## 2. Multi-Channel Anemomaster PRO Analog Unit (Model 1592-0G)



Name	Function
① LED (Blue/Red)	Displays the status of the main unit
② Analog output terminal (1 to 12 CH)	Output an analog value set up in the Multi-Channel Anemomaster Connects to CH to be used in the dividing terminal block (accessory), and wire to the output.
③ Unit-to-unit communication terminal (UP/DOWN)	Communicates with another unit in the RS-485 method
④ DC Power supply terminal	Supplies power through the exclusive AC adapter
⑤ Insertion port for the unit fixing clip	Insert the fixing clip into the insertion port to connect the units
⑥ Connecting connector (Plug)	Communicates with another unit in the RS-485 method and supplies power
⑦ Power switch	Turns the power ON/OFF to the main unit
⑧ Connecting connector (Socket)	Communicates with another unit in the RS-485 method and supplies power

## 2. Getting Ready to Measure

### System configuration

This system uses multiple units, cables and power supply devices combined as shown below. This chapter explains how to configure them to get ready to measurements.

- Multi-Channel Anemomaster Main Unit

The main unit integrates up to 12-probe data and communicates with the PC software and the analog unit (Model: 1592-0G).

- Probe

The probes are equipped with the air velocity sensor to detect air velocity. Some probes are also possible to detect temperature and humidity.

The probe connects to the Multi-Channel Anemomaster Main Unit.

- AC adapter

The 90W AC adapter (the accessory of the main unit) is prepared. The adapter is used to supply power to the above unit.

Aside from the AC adapter, power can be supplied using the DC power cable (as options).

- Multi-Channel Anemomaster PC software

This software is used to start/stop measurement, display/save measured data, and set up the analog output.

- Multi-Channel Anemomaster PRO Analog Unit (Model: 1592-0G)

When measured data is output via analog output, up to 3 Analog Unit can be connected. When analog output is not necessary, the unit is not needed.



Wrong connections can cause malfunction and/or damage. Prior to turn the power ON, read this User's Manual carefully, configure each instrument in the following sequence.

1. Connect the probe fixing jig
2. Connect the probe
3. Connect the power cable
4. Connect the analog unit
5. Connect the analog output
6. Install the PC software
7. Connect the PC

## Connecting the probe fixing jig

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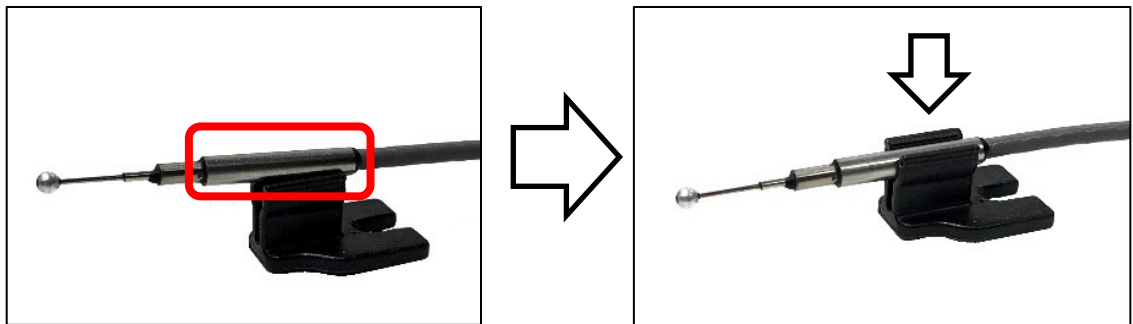
- Only the probes 0976-03 and 0976-04, 0976-13, 0976-14 can be used to anchor the probes with the probe fixing jig. Do not use any other probe. Otherwise, malfunction or damage may occur.

How to mount/remove the probe to/from the fixing jig, follow the procedure below.

When mounting/removing the probe, do not allow the sensor of the probe to touch the probe fixing jig or surrounding objects. Do not touch the sensor of the probe with your hand. Otherwise, malfunction or damage may occur.

### ■ Mounting the probe

Place the part of the probe, which is in the red frame as the figure below, on the probe fixing jig and push the probe until you feel a click.

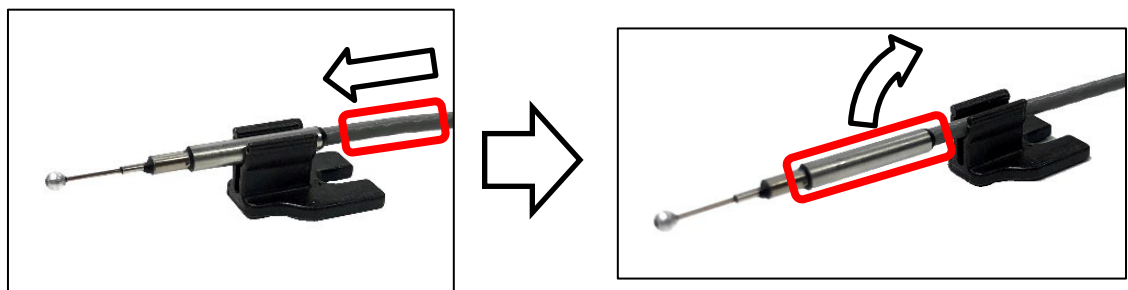


### ■ Removing the probe

Hold the part of the cable, which is in the red frame as the figure below, and move the holding part of the cable in the direction of the probe sensor (left photo). After that, hold the part of the probe, which is in the red frame, and pull up the holding part from the probe fixing jig to remove (right photo).

The mounting angle can change due to the probe tension.

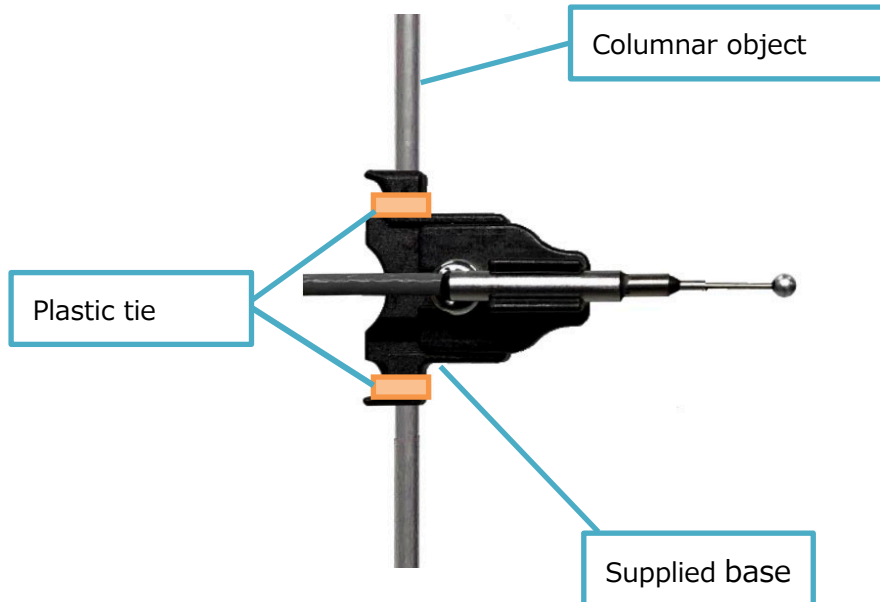
If its angle changes, adjust the mounting angle if needed.





To mount the probe fixing jig to a setting place, use a sticky tape such as an adhesion tape as a double-faced tape.

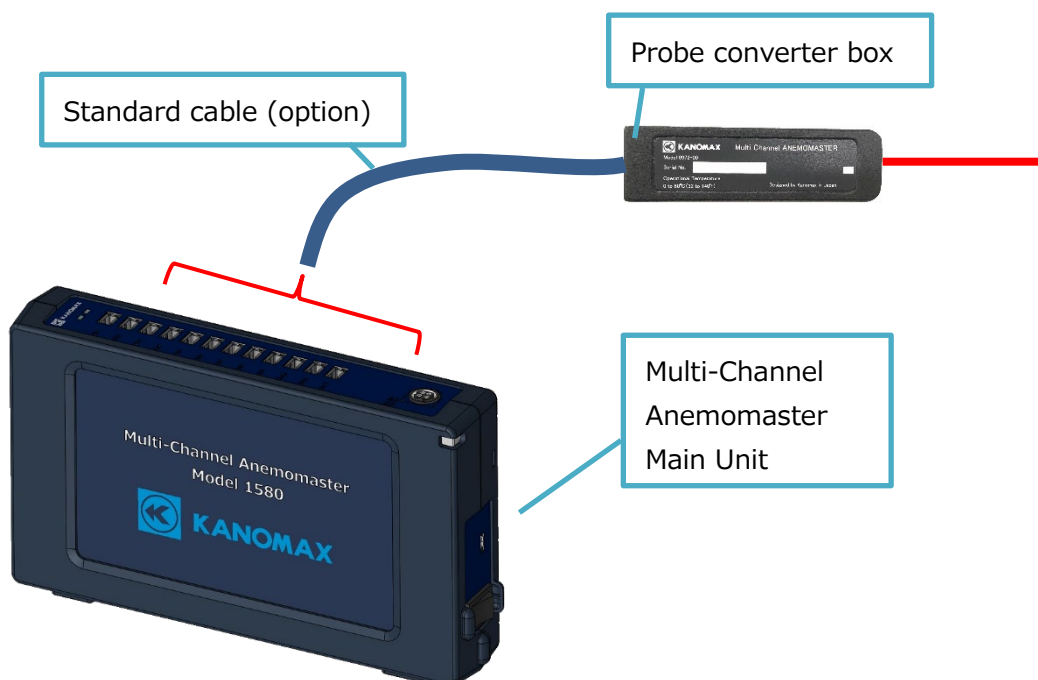
To mount the probe fixing jig to a columnar object, as the figure shows below, attach the supplied base to the probe fixing jig and fix them with such a band as a plastic tie.



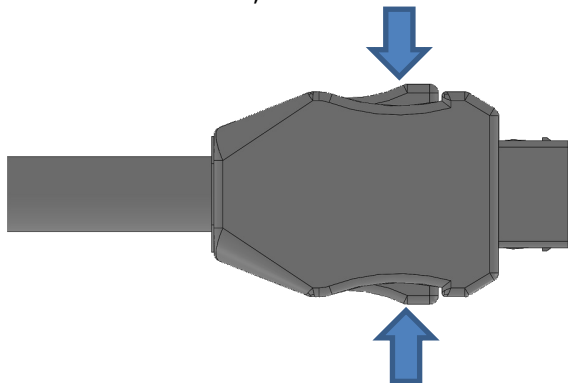
### Connecting the probe

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- For the probe-to-hub unit connection, connect the probe connector (CH1 to CH12) of the hub unit and the connector of the probe converter box with the standard cable (option). Be sure to insert the cable until you can hear a click sound so as to make a normal communication.



To disconnect the standard cable (option), as the figure shows below, push and hold the release buttons, and remove the cable from the connector.

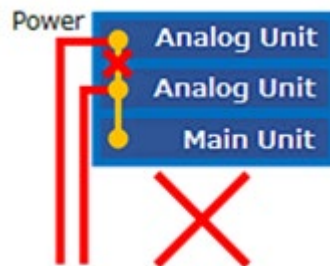


### Connecting the power source

- Be sure to supply power to the unit with the 90W AC adapter (the accessory of the main unit). Do not use any AC adapter and/or cable other than the accessories of the main unit and designated options. Otherwise, malfunction and/or damage may occur.
- When the units are connected with the connecting connector, power is also shared among the units. This means that power is supplied from every connected unit. Be sure to connect the power to the one unit only. Do not connect any other power connector to any other unit.



- If multiple units are supplied power simultaneously, electrical collision occurs inside the units. Malfunction and/or damage may occur not only in the unit, but also other connected power source devices. This is dangerous. Do not supply power to the multiple units.

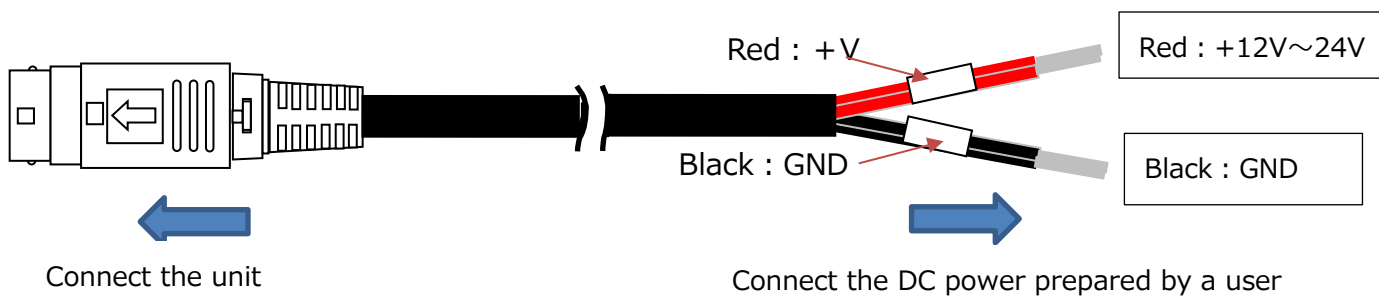


When connecting the AC adapter to the unit, as the figure shows below, the orientation of the AC adapter should be the same with the solid-lined figure of the DC power supply terminal on the unit. Be sure to insert the AC adapter in the right orientation until you feel a click.



The orientations should be matched.

- **Supplying power using the DC power cable (option)**  
Power can be supplied using the DC power cable (option) if you don't use the AC adapter. However, the DC power cable sold separately is needed to be prepared by a user. (DC power: 12 to 24 V)

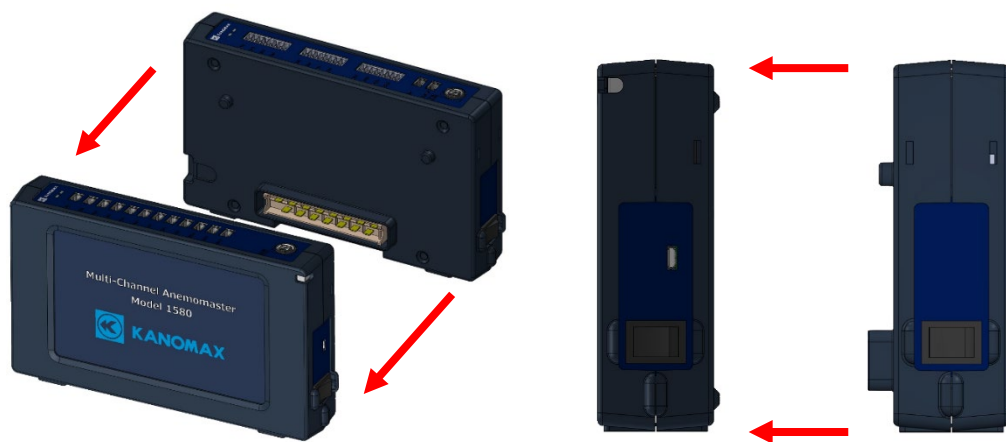


## Connecting the analog unit

- By connecting the analog unit (Model: 1592-0G) of the Multi-Channel Anemomaster PRO, the analog output of measurement data from a connected probe becomes possible. Up to 3 analog units can be connected.

Using the connecting connector, connect the Multi-Channel Anemomaster Main Unit and the analog unit. Be sure to insert each unit as far as it will go.

Be sure to turn off the power to the Multi-Channel Anemomaster Main Unit and connected analog unit(s) and remove the AC adapter before changing the number of the connected analog(s). Changing the unit connection while turning the power on may cause failure and/or breakage.



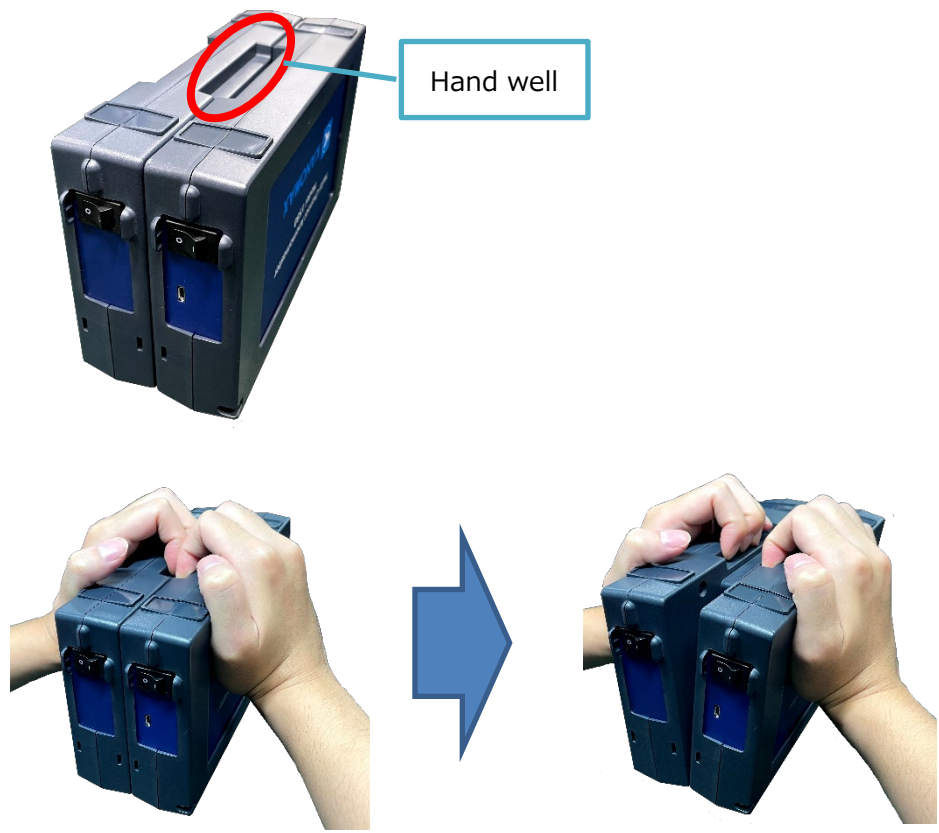
Using the unit fixing clip (option), units can be connected firmly.

As the figure below, insert the clip into each insertion port of adjacent units.

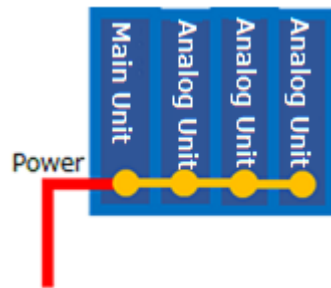
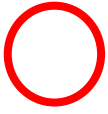
To disconnect the connected units, remove this clip first.



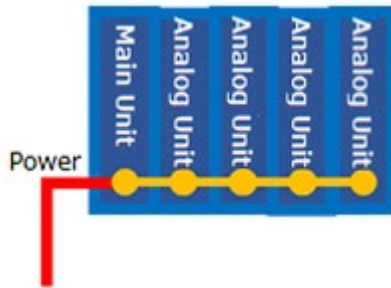
To disconnect the connected units, put your fingers in the hand well at the bottom face of the units, and pull the units outward.



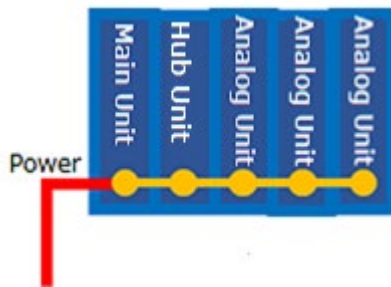
- Up to 3 analog units can be connected.



- Do not connect 4 analog units or more. If 4 analog units or more are connected, analog output is not performed.



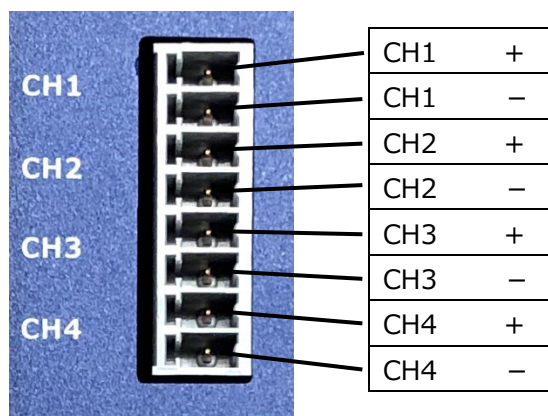
- Connect the analog unit(s) only. If anything other than the analog unit(s) is connected, analog output is not performed.



## Connecting the analog output

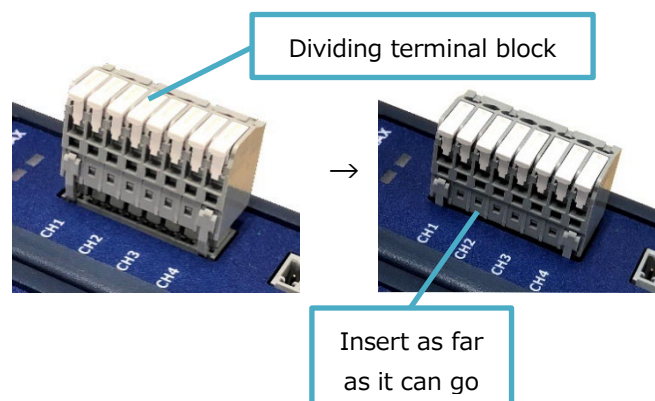
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- As to connection between the analog unit and the output, connect the dividing terminal block (accessory) to the analog unit, and wire to the output. Be sure to turn off the power to the analog unit during this step. Otherwise, malfunction and/or damage may occur.
- As to the pin layout of each CH on the analog output terminal, refer to the figure below.



※ The pin layout for CH5 to 8 and CH9 to 12 are the same with the above.


- When connecting the dividing terminal block to the analog output terminal, be sure to insert the block as far as it can go.  
Wire to the output such as a data logger from the dividing terminal block.






- Output value can be set on the analog setup screen of the main unit connected.  
For details, refer to **4. User Interface > Main unit > analog setup screen.**

Output voltage range: 0 to 5 V

Output current range: 4 to 20 mA

1) Prior to the software setup, exit other programs. Open the folder  on the CD and

select  or  according to your Windows 10 version.

Double click the setup file  to display the dialog box as shown in Figure 2-1.

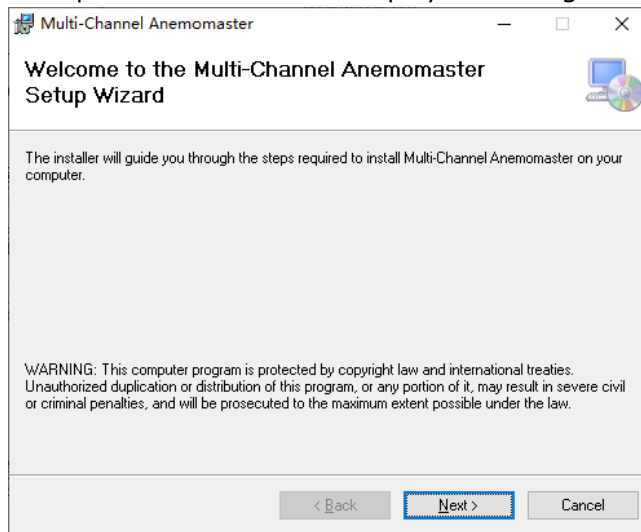


Figure 2-1 Initial Setup Dialog Box

2) Click the **(N)** button to display the dialog box as shown in Figure 2-2. The default location to install is the C drive. To install into a different drive or a folder, click "Browse..." and choose the required location.

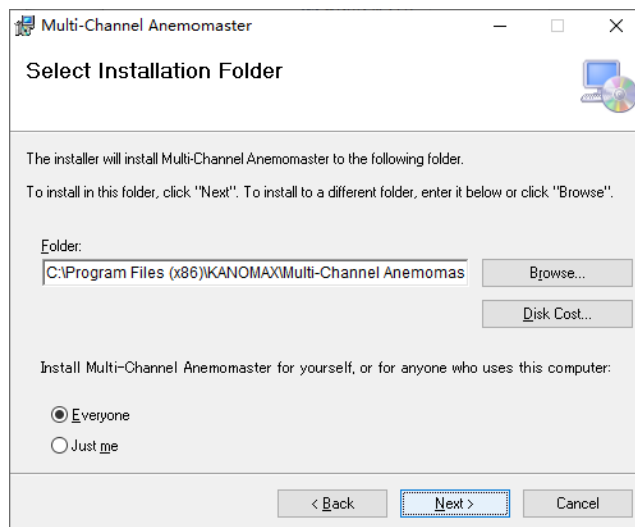


Figure 2-2 Select Installation Folder Dialog Box



3) Click the **(N)** button to display the dialog box as shown in Figure 2-3.

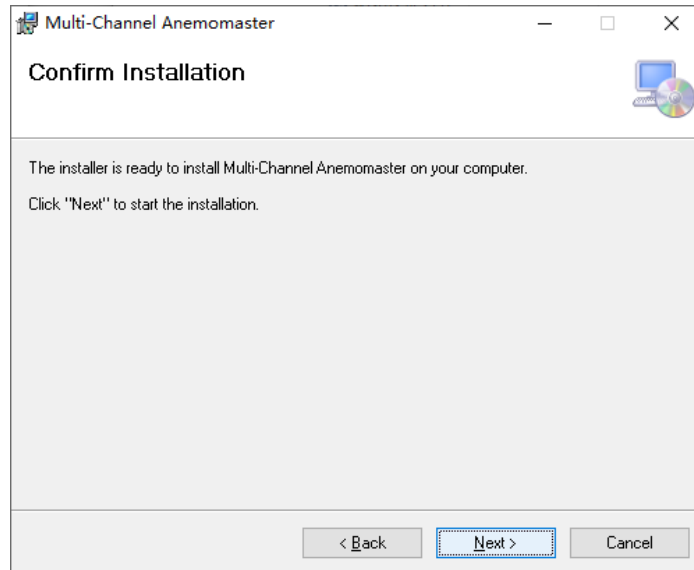


Figure 2-3 Confirmation Installation Dialog Box

4) Click the **(N)** button to display the dialog box as shown in Figure 2-4.

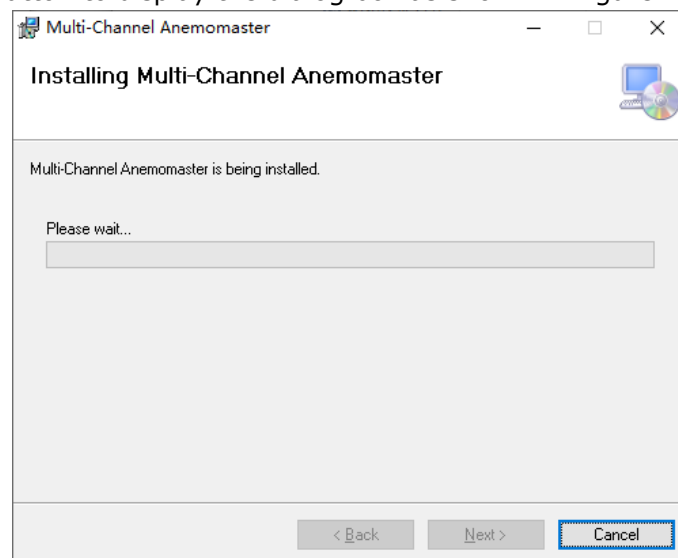


Figure 2-4 Installation progress Dialog Box

5) When the installation is completed, the dialog box as shown in Figure 2-5 will appear.

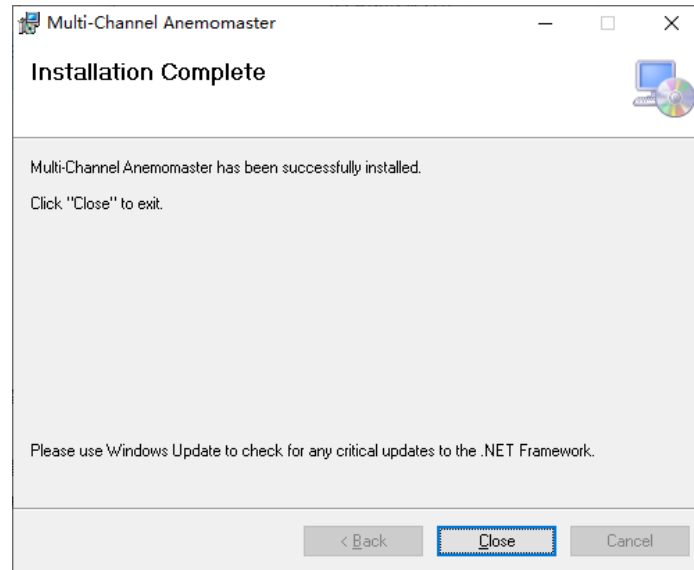


Figure 2-5 Installation Complete Dialog Box

6) Click the **(C)** button to complete the setup.

#### Connecting the PC

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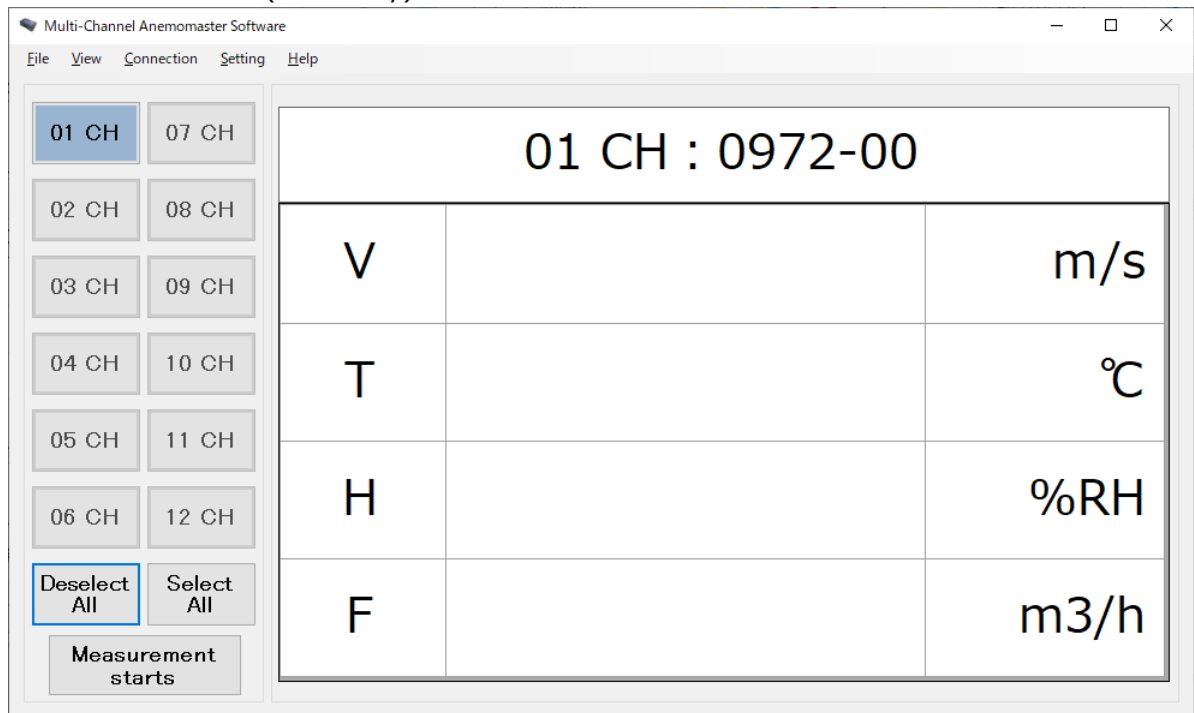
- Using the USB cable as the accessory of the main unit, set up as below.



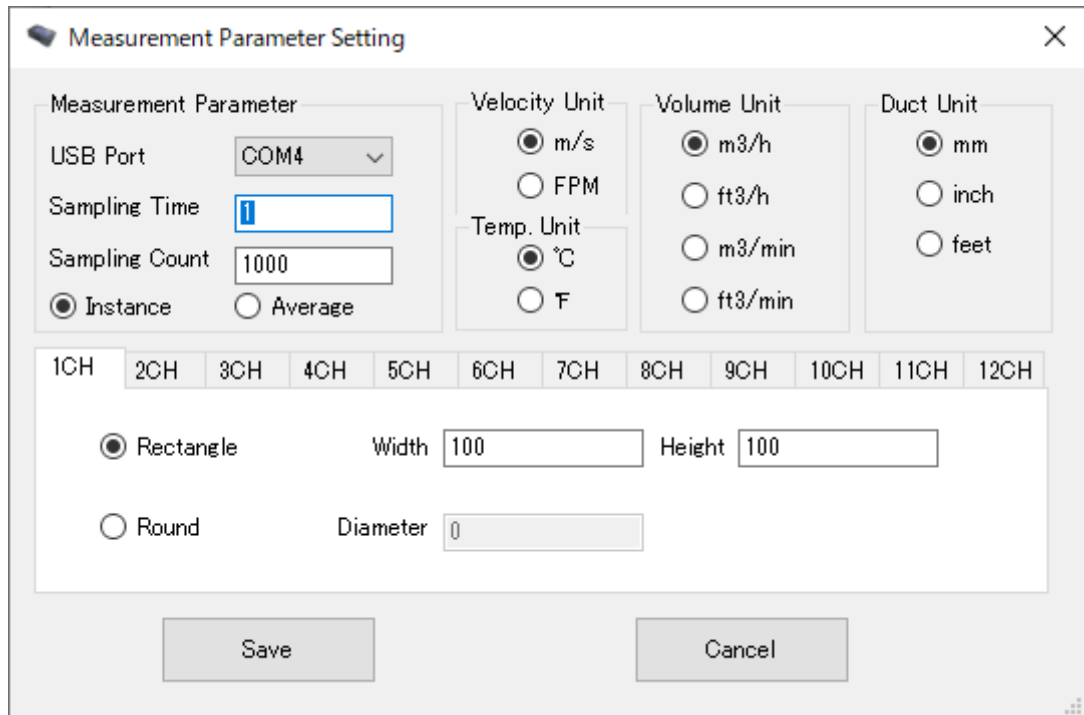
### 3. Overall Flow

#### Measurement

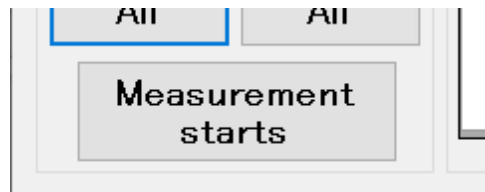
- Connect necessary appliances to measure such as the analog unit(s), the probe(s) and the AC adapter to the Multi-Channel Anemomaster Main Unit, and turn the power on to the main unit.
- Connect the PC installed the PC software and the Multi-Channel Anemomaster Main Unit with the USB cable (accessory) to start the PC software.



- On the measurement setting of the PC software, set up each parameter necessity to measure and click the **Save** button to connect.



- Click the start measurement button to start measurement in accordance with your setting.



- Measurement is finished when the set number of measurement is completed or the stop measurement button is tapped.
- Click the **Save** button on the menu to save measurement data in any required directory you like.

## Error

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- The self-diagnostic function can detect the following critical error. If the error occurs, measurement cannot be started.

Source voltage error	Power voltage supplied to the connected unit is lower/higher than the specified value. For further information, please refer to <b><u>2. Getting Ready to Measure &gt; Connecting the power source.</u></b>
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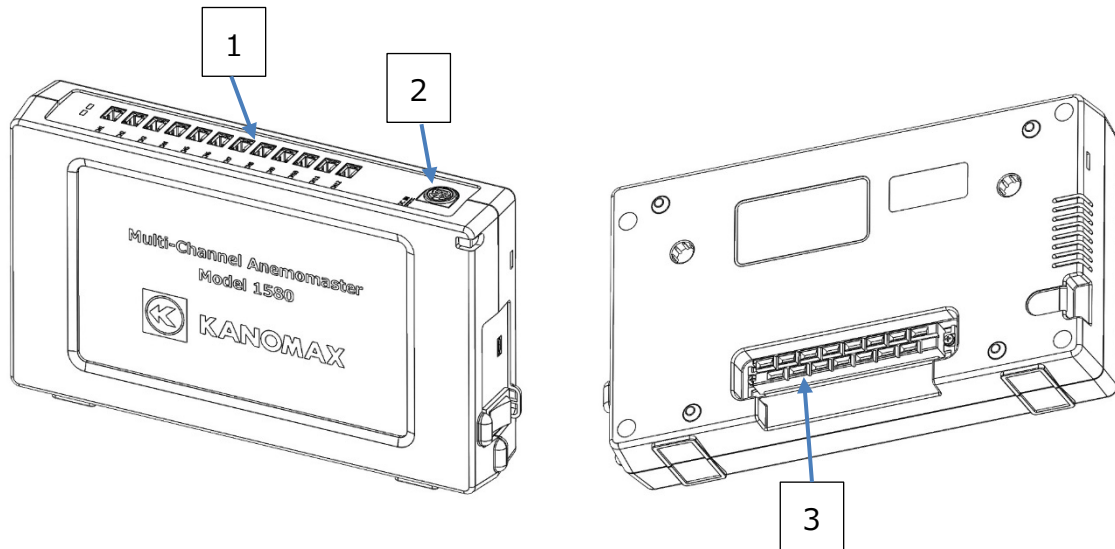
- The self-diagnostic function can detect the following partial error(s). Even if the error occurs, measurement can start, but accurate measurement data may not be obtained.

Probe connection error	No response from the probe connected to the hub unit. For further information, please refer to <b><u>4. User Interface &gt; Multi-Channel Anemomaster Main Unit &gt; LED display.</u></b>
Analog output error	Error in the analog output of the analog unit. For further information, <b><u>4. User Interface &gt; Multi-Channel Anemomaster Main Unit &gt; LED display.</u></b>
The number in connected units error	The number of connected units is bigger than the specified number in connected units or the hub unit is connected. If so, the analog output is not performed. For further information, please refer to <b><u>2. Getting Ready to Measure &gt; Connecting the analog unit.</u></b>

## 4. User Interface

### Multi-Channel Anemomaster Main Unit (Model: 1580-0G)

#### Connection




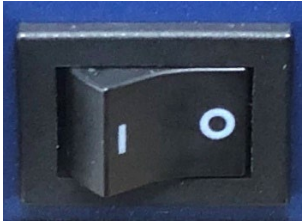
No.	Name	How to connect
1	Unit-to-unit communication terminal (1 to 12 CH)	Using the standard cable (option), connect to the probe exchange BOX of the probe to be connected. The available standard cable (option) can be selected from 0.5 m, 2.0 m, 5.0 m, 10.0 m, 20.0 m and 40.0 m.
2	DC power supply	Using the AC adapter (the accessory of the main unit), connect the AC adapter to the DC power supply. For further information, please refer to <b>2. Getting Ready to Measure &gt; Connecting the power source.</b>
3	Connecting connector (Socket)	Connect this connector to the Connecting connector (Plug) of the analog unit of the Multi-Channel Anemomaster Pro. For further information, please refer to <b>2. Getting Ready to Measure &gt; Connecting the analog unit.</b>

## Power ON/OFF

To turn the power ON/OFF, use the power switch on the side of the unit.

Prior to using the power switch, make sure that the AC adapter (90W) is connected to the analog unit which is connected using the connecting connector, or to the Multi-Channel Anemomaster Main Unit. Otherwise, malfunction or damage may occur.

Regarding the power switch, refer to the list below.

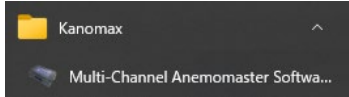
Power switch	ON	OFF
Power switch status		

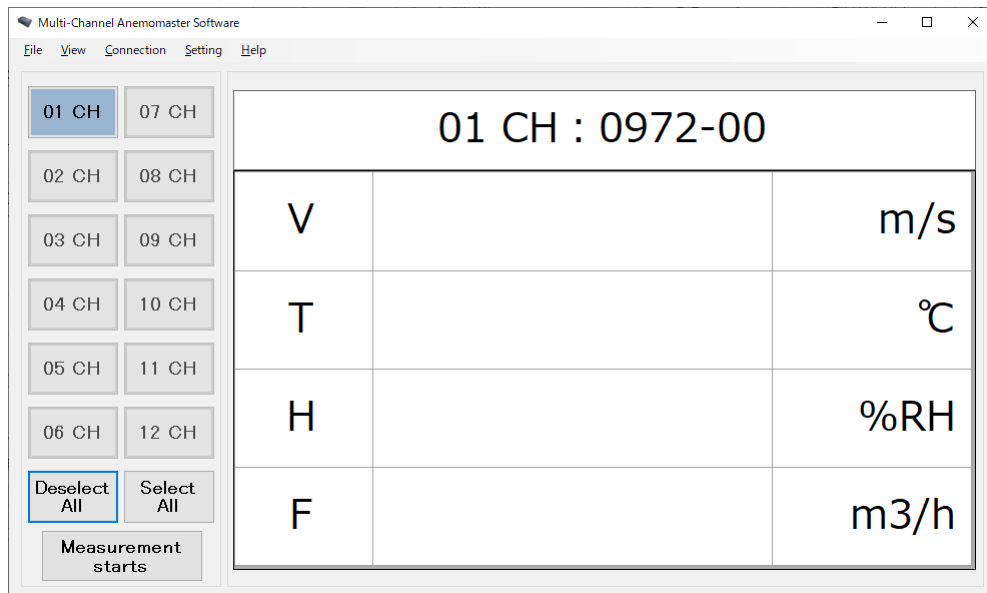
## LED display

LED	Status	Description	Solution
LED (Blue)	ON	Normal operation	-
	OFF	When the LED (red) is ON, power voltage abnormality or any other abnormality occurred.	Check the connection method.
		When the LED (red) is OFF, the power is OFF.	Turn the power ON.
LED (Red)	ON	Power voltage abnormality or any other abnormality occurred.	Check the connection method.
	Flashing	The connection with another unit was disconnected.	Turn the power OFF, and check the connection.
	OFF	When the LED (blue) is ON, operation is proper.	-
		When the LED (blue) is OFF, the power is turned OFF.	Turn the power ON.

## Multi-Channel Anemomaster PC Software (Model: 1580-40)

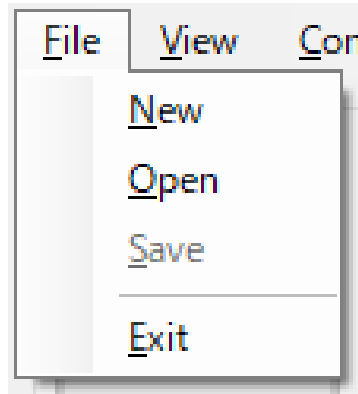
Main screen

Click the icon  on the start-menu to start the software.



File

Use this menu to clear data, save a data file and close the application.



- **New**

Click the **New** on the file menu to delete displayed measurement data.

- **Save**

Click the **Save** on the file menu to save the measurement data/measurement parameters in two kinds of formats: numeric value data (\*\_R.csv) and the statistics data (\*\_S.csv)

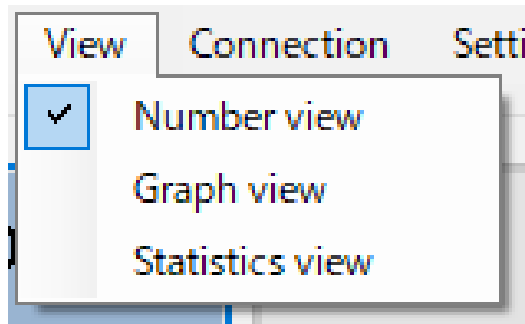
- **Exit**

Click the **Exit** on the file menu to exit the Software. This button is not allowed to use during measurement.



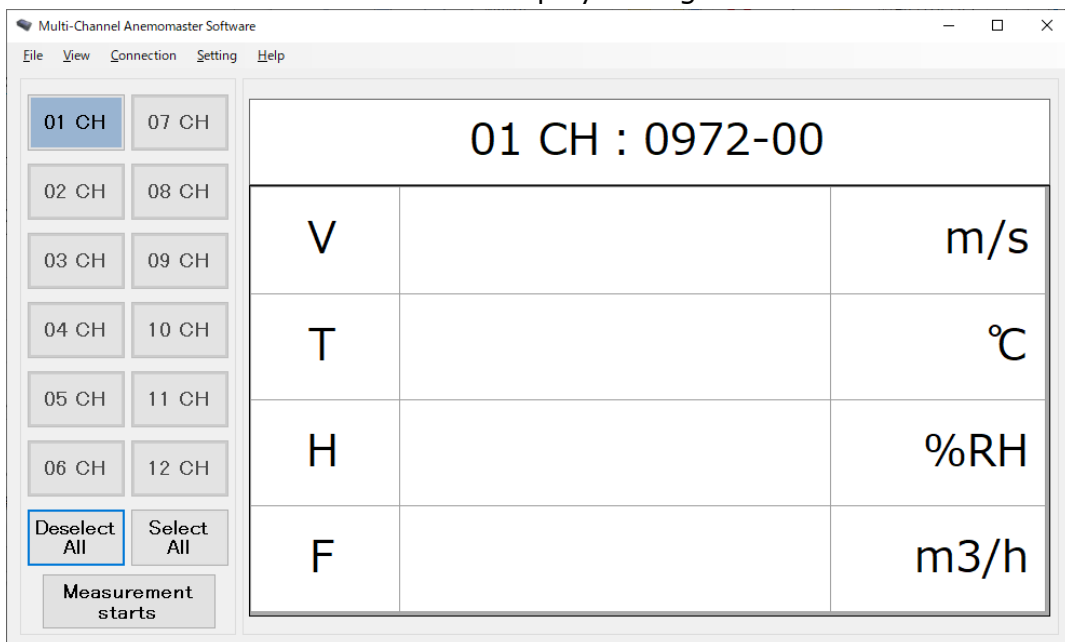
## View

The display style of measurement data can be selected from the Number, Graph or Statistics views.



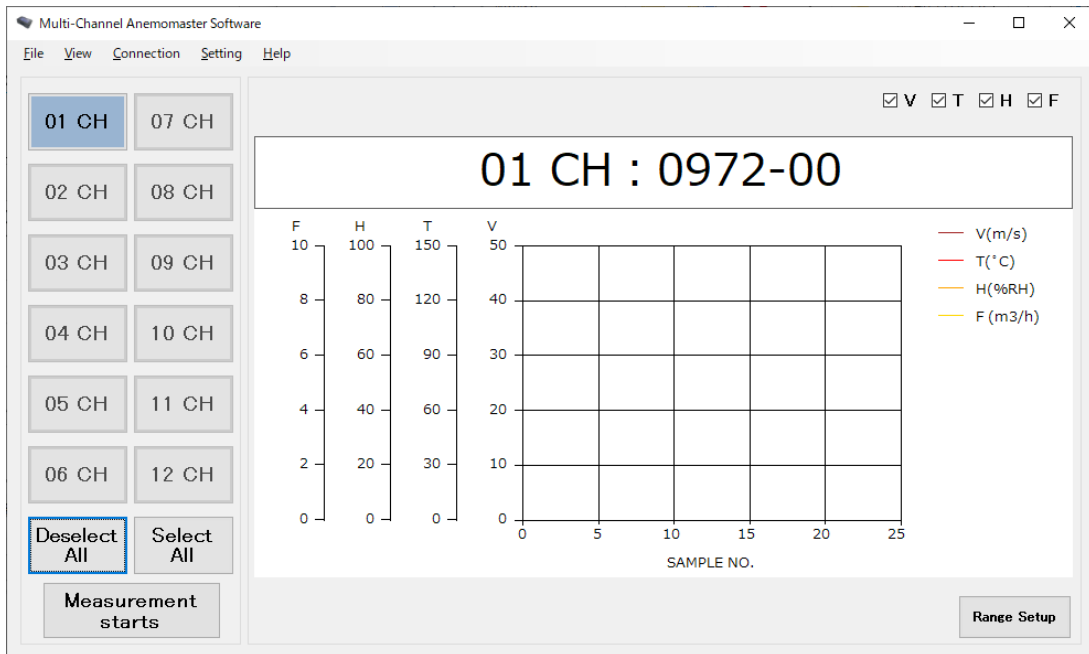
- **Number view**

Click the **Number view** button to display the figure below.



- **Graph view**

Click the **Graph view** button to display the figure below.



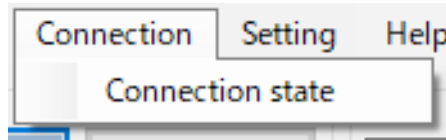
- **Statistics view**

Click the **Statistics view** button to display the figure below.

	value	Max	Min	Ave	dev	
V						m/s
T						°C
H						%RH
F						m3/h

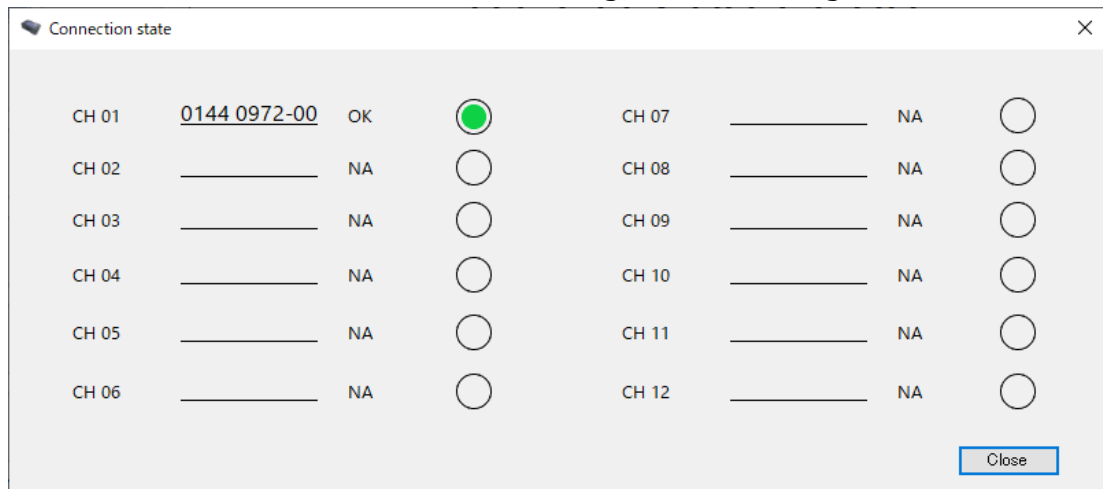
## Connection

The connection status of probe connected to the Multi-Channel Anemomaster Main Unit is displayed on this menu.



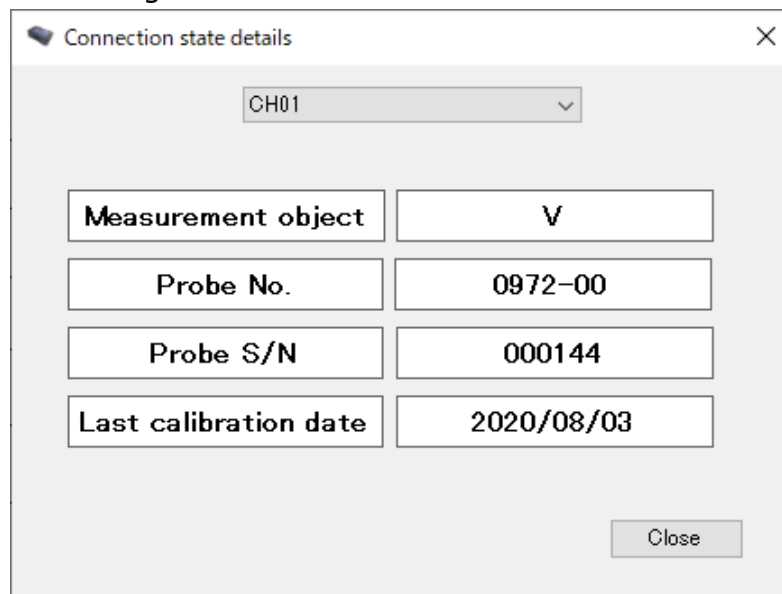
- **Connection status**

By clicking the **Connection status** button on the connection menu, probes' connection status can be checked at a first glance on the figure below.



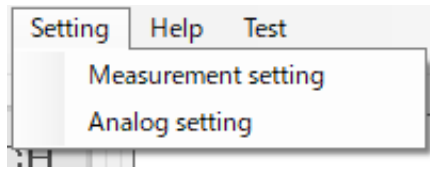
## Details of connection status

Click a probe number on the **Connection status** to check the detailed connection status of probes as the figure shows below.



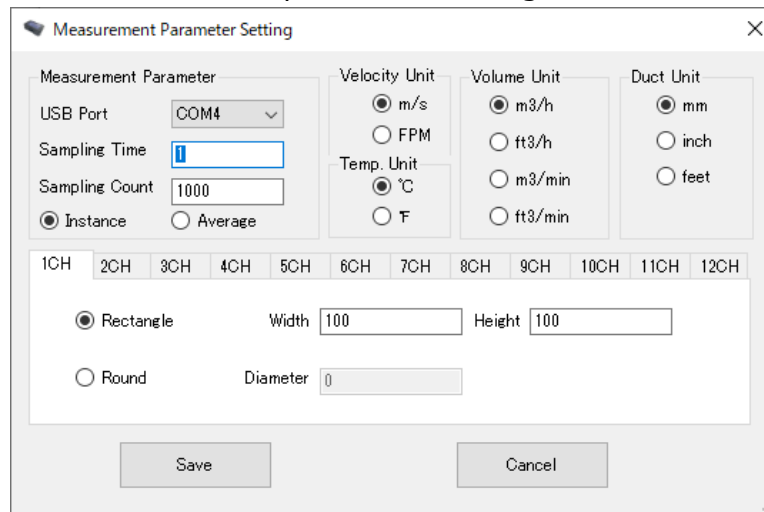
## Setting

Set the measurement parameters/the main unit connection and the analog output on this menu.



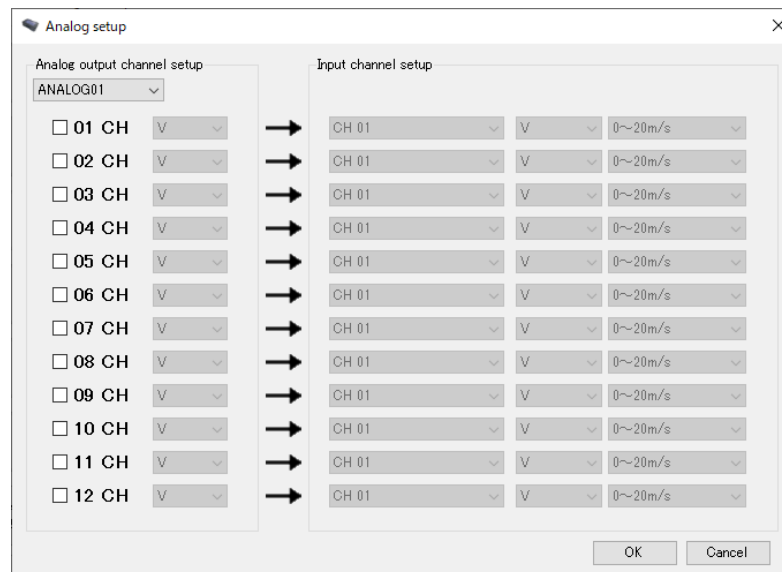
- **Measurement Setting**

By clicking the **Measurement setting** button on the setting menu, the connection of the measurement parameter setting/the main unit can be set.



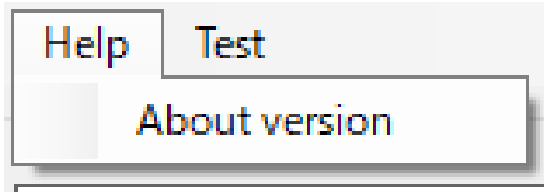
- **Analog setting**

By clicking the **Analog setting** button, the setting for the analog output of the analog unit can be set.



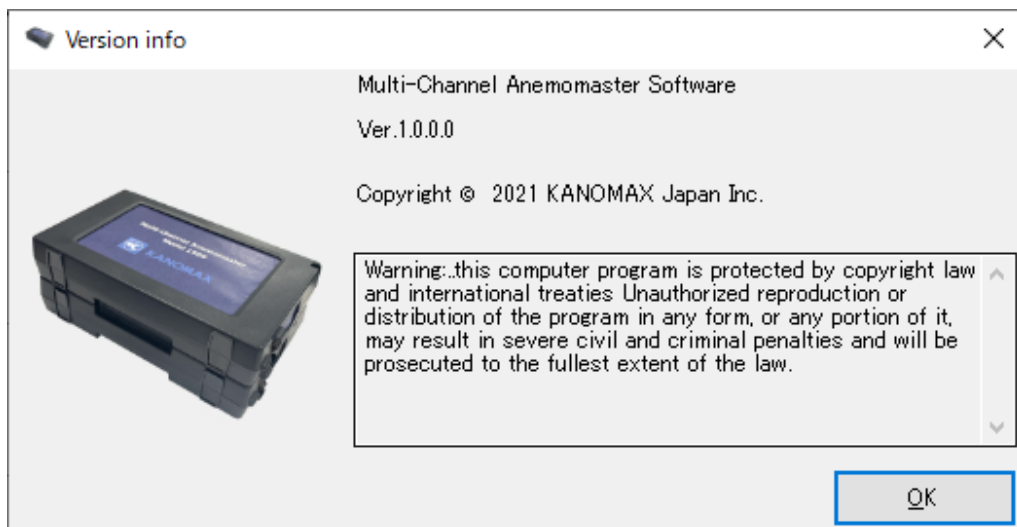
## Help

The name of the software and version information are displayed on this menu.



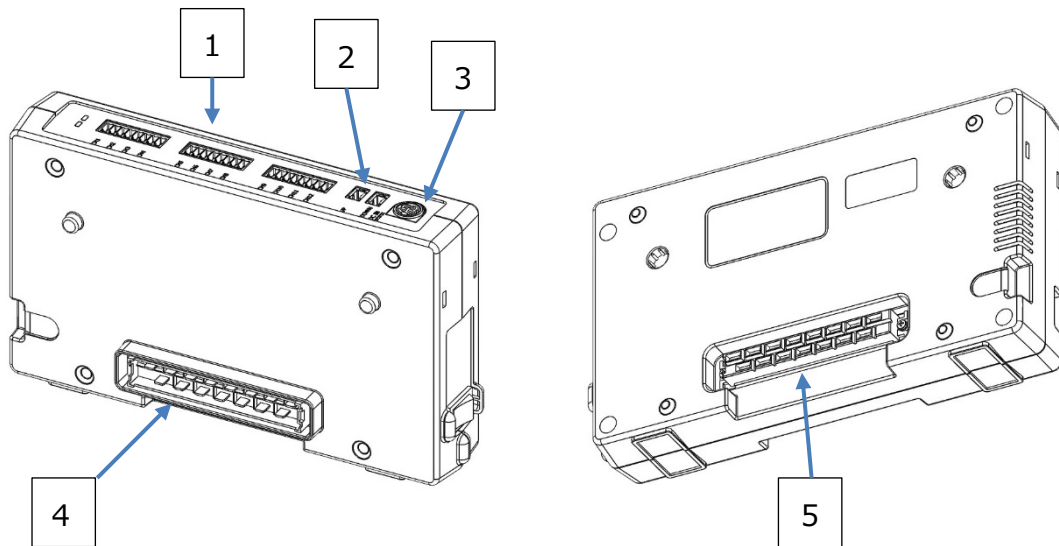
- **Version information**

By clicking the **About version** on the help menu, various information such as the name of the Software and the version information can be checked.



## Multi-Channel Anemomaster PRO Analog Unit (Model: 1592-0G)

### Connection



No.	Name	How to connect
1	Analog output terminal (1 to 12 CH)	Using the dividing terminal block (accessory), connect this terminal to a device to be connected such as a data logger. For details, refer to <b>2. Getting Ready to Measure &gt; Connecting the analog output.</b>
2	Unit-to-unit communication terminal	UP
		Using the standard cable (option), connect this terminal (UP) to another analog unit (DOWN). For details, refer to <b>2. Getting Ready to Measure &gt; Connecting the analog unit.</b> The available standard cable (option) can be selected from 0.5 m, 2.0 m, 5.0 m, 10.0 m, 20.0 m and 40.0 m. If the connecting connector (plug) has already been used to connect to another unit, do not use this terminal.



		DOWN	<p>Using the standard cable (option), connect this terminal (DOWN) to another analog unit (UP). For details, refer to <b>2. Getting Ready to Measure &gt; Connecting the analog unit.</b></p> <p>The available standard cable (option) can be selected from 0.5 m, 2.0 m, 5.0 m, 10.0 m, 20.0 m and 40.0 m.</p> <p>If the connecting connector (socket) has already been used to connect to another unit, do not use this terminal.</p>
3	DC power source terminal		<p>Connect this terminal using the AC adapter of the accessory of the main unit.</p> <p>For details, refer to <b>2. Getting Ready to Measure &gt; Connecting the power source.</b></p>
4	Connecting connector (Plug)		<p>Connect this connector to the connecting connector (socket) of another unit.</p> <p>If the unit-to-unit communication terminal (UP) has already been used to connect to another unit, do not use this connector.</p>
5	Connecting connector (Socket)		<p>Connect this connector to the connecting connector (plug) of another analog unit.</p> <p>If the unit-to-unit communication terminal (DOWN) has already been used to connect to another unit, do not use this connector.</p>

### Power ON/OFF

To turn the power ON/OFF, use the power switch on the side of the unit.

Prior to using the power switch, make sure that the AC adapter (90W) is connected to another unit which is connected using the connecting connector. Otherwise, malfunction and/or damage may occur.

Regarding the power switch, refer to the list below.

Power switch	ON	OFF
Power switch status		

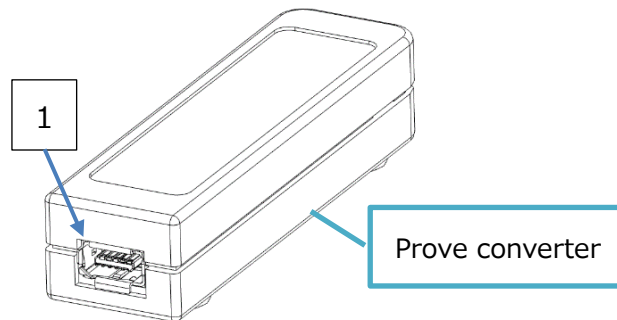
## LED display

LED status		Description	Solution
LED (Blue)	ON	Proper operation	-
	OFF	When the LED (red) is ON, power voltage abnormality or any other abnormality occurred.	Check the connection method.
		When the LED (red) is OFF, the power is OFF.	Turn the power ON.
LED (Red)	ON	Power voltage abnormality or any other abnormality occurred.	Check the connection method.
	Flashing fast	Error related to the analog output occurred.	Refer to <b>2. Getting Ready to Measure &gt; Connecting the analog output.</b>
	Flashing slow	The unit connection with another unit is disconnected.	Turn the power OFF, and check the connection.
	OFF	When the LED (blue) is ON, operation is proper.	-
		When the LED (blue) is OFF, the power is turned OFF.	Turn the power ON.



## Probe

### Connection



No.	Name	How to connect
1	Hub unit-to-unit communication terminal	Using the standard cable (option), connect this terminal to the probe-to-probe terminal of the Multi-Channel Anemomaster Main Unit The available standard cable (option) can be selected from 0.5 m, 2.0 m, 5.0 m, 10.0 m, 20.0 m and 40.0 m.

### Power ON/OFF

Power is supplied from the connected Multi-Channel Anemomaster Main Unit.

By turning the power on to the connected Multi-Channel Anemomaster Main Unit, the power of the probe is turned on.

The power of the probe is turned off when the power of the connected Multi-Channel Anemomaster Main Unit is turned off, or the AC adapter of the power source is disconnected.

## LED display

LED status		Description	Solution
LED (Green)	ON	Proper operation	-
	Flashing	Measurement range exceeds.	-
	OFF	The power is turned OFF.	Turn ON the power to the Multi-Channel Anemomaster Main Unit.
LED (Red)	ON	Error occurred in the built-in CPU.	Turn off the power, and turn ON the power. If LED (red) is still ON, please contact your distributor or Kanomax service center.
	Flashing	Power voltage is decreasing.	Check the AC adapter (90 W) connection on the main unit.
	OFF	When LED (green) is ON, operation is proper.	-
When LED (green) is OFF, the power is turned OFF.		Turn ON the power to the Multi-Channel Anemomaster Main Unit.	

## Probe Cleaning

Dust such as fine/soot particles or machine oil adhered to the air flow element can change the heat dissipation (the amount of heat taken away). This can affect the reading of air velocity. Probes with a wire mesh or a filter cannot read an accurate measurement value when they are clogged with such substances as dust.

Once the probe is used in a contaminated environment and the probe and the mesh became dirty, immediate cleaning of the probe and the mesh is recommended.

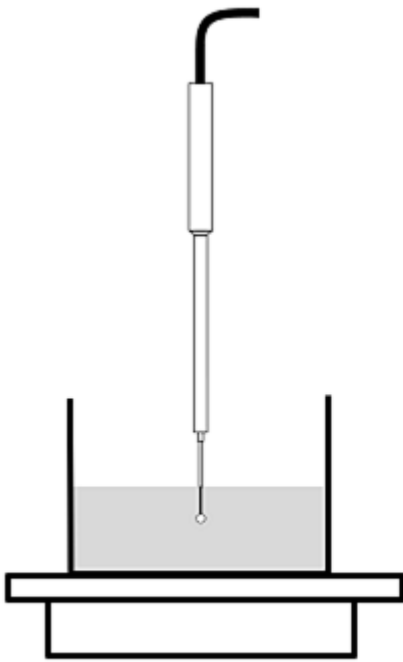
### How to clean the probe

Clean the air flow sensor with an **ultrasonic cleaning machine for 10 to 20 seconds**. Soaking the probe element in the machine for too a long time may cause the breakage of the coating on the element.

Use normal water to clean the element. Another method of cleaning the element is that pour neutral detergent diluted with water into a container and gently wave the element in the liquid.

#### ! Caution !

- ! ) Do not connect anything to the communication terminal of the hub-to-hub unit while cleaning.
- ! ) After cleaning, dry the element completely. Only when it is dried out, connect to the hub unit.
- ! ) Do not clean the probe equipped with the humidity sensor (Model 0975-31) using alcohol. The humidity sensor is susceptible to an organic solvent including alcohol, thus the sensor is broken easily if it is exposed to the solvent. Do not use alcohol. If the humidity sensor has been used in an alcohol atmosphere or soaked in alcohol, the sensor needs replacing. Even if the sensor works, the replacement is necessary. If condensation forms on the sensor or the sensor touches water, leave the sensor under an atmosphere of 40%RH or less at least one day to dry the sensor completely.
- ! ) Do not clean the temperature sensor and the temperature compensation sensor.



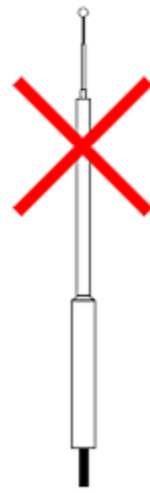
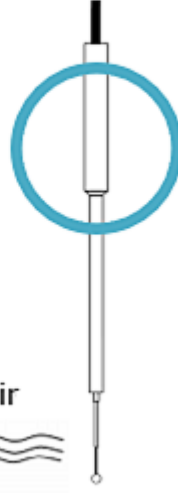
Clean the sensor part in an ultrasonic cleaning machine for 10 to 20 seconds.



Dry with cold air



Until the sensor is dried out, do not turn up the sensor. Failure to do so may cause damage to the sensor because water droplet comes into the sensor.



## Specifications

### ■ Multi-Channel Anemomaster Main Unit

Product name		Multi-Channel Anemomaster Main Unit
Model		1580-0G
Connectable unit		Multi-Channel Anemomaster PRO Analog Unit (Model 1592-0G)
Connectable probe		<p>Model 0972-00: UNI-directional air velocity probe (Flat)</p> <p>Model 0973-00: UNI-directional air velocity probe (φ9)</p> <p>Model 0975-00: Omni-directional air velocity probe (Needle)</p> <p>Model 0975-09: Omni-directional air velocity probe (100 mm)</p> <p>Model 0975-10: Omni-directional air velocity probe (410 mm)</p> <p>Model 0976-03: Heat-resistant air velocity probe (Mini, straight type)</p> <p>Model 0976-04: Heat-resistant air velocity probe (Mini, articulating type)</p> <p>Model 0976-07: Heat-resistant air velocity probe (Mini, straight, temperature-compensation-sensor independent type)</p> <p>Model 0976-05: Heat-resistant air velocity probe VT (Straight, temperature-compensation-sensor independent type)</p> <p>Model 0976-13: Air velocity probe (Mini, straight type)</p> <p>Model 0976-14: Air velocity probe (Mini, articulating type)</p> <p>Model 0976-17: Air velocity probe (Mini, straight, temperature-compensation-sensor independent type)</p> <p>Model 0976-15: Air velocity probe VT (Straight, temperature-compensation-sensor independent type)</p> <p>Model 0975-21: Omni-directional air velocity probe VT</p> <p>Model 0975-31: Omni-directional air velocity probe VTH</p>
Communication function	Probe-to-probe	RS485 communication (Standard cable)
	Unit-to-unit	RS485 communication (Connecting connector)
Power source		AC adapter (90W)
Operating environment		5 to 40°C, 0 to 85%RH with no condensation
Storage environment		-10 to 60°C, 0 to 90%RH with no condensation
Dimension		W 220.0 × D 130.4 × H 40.8 mm
Weight		0.6 kgs.
Accessories		90W AC adapter, Software CD, User's Manual USB cable, Rubber cap
Warranty period		One year from date of purchase

■ Multi-Channel Anemomaster PRO Analog Unit

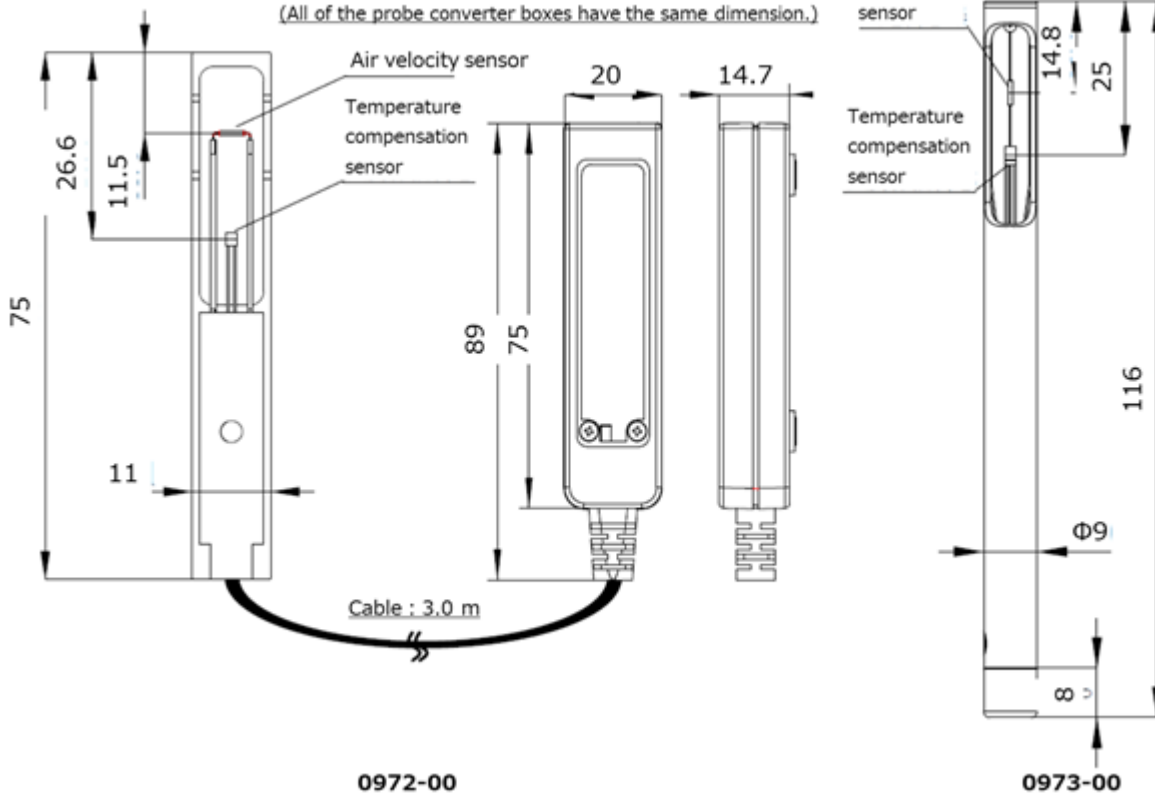
Product name		Multi-Channel Anemomaster PRO Analog Unit	
Model		1592-0G	
Connectable unit		Multi-Channel Anemomaster Main Unit (Model 1580-0G)	
Communication function	Unit-to-unit		RS485 communication (Standard cable)
Analog output	Voltage output	Range	0 to 5 V
		Output resistance	1 k $\Omega$
	Current output	Range	4 to 20 mA
		Load resistance	250 $\Omega$
Power source		AC adaper (90 W)	
Operating environment		5 to 40°C, 0 to 85%RH with no condensation	
Storage environment		-10 to 60°C, 0 to 90%RH with no condensation	
Dimension		W 220.0 × D 130.3 × H 40.8 mm	
Weight		0.44 kgs.	
Accessories		Setup guide, Unit fixing clip (x 2), Rubber cap (x 2), Dividing terminal block (x 3)	
Warranty period		One year from date of purchase	

■ Probe

Model	Measurement range	Measurement accuracy	Operational temperature range	Temperature compensation range/accuracy
	Velocity/Temperature/Humidity	Velocity/Temperature/Humidity		
0972-00	0.01 to 50.0 [m/s]	(Velocity) ±2% of reading or ±0.02 m/s, whichever is the greater.	0 to 100°C	0 to 100°C ±5% of reading
0973-00				
0975-00	0.01 to 25.0 [m/s]			
0975-09	0.01 to 50.0 [m/s]			
0975-10				
0976-03	0.01 to 30.0 [m/s]	(Velocity) ±3% of reading or ±0.02 m/s, whichever is the greater.	0 to 120°C	0 to 120°C ±5% of reading
0976-04				
0976-07				
0976-13			0 to 100°C	0 to 100°C ± 5% of reading
0976-14				
0976-17				
0976-05	0.01 to 30.0 [m/s] 0 to 120 [°C]	(Velocity) ±3% of reading or ±0.02 m/s, whichever is the greater. (Temperature) ±0.5°C	0 to 120°C	0 to 120°C ± 5% of reading
0976-15	0.01 to 30.0 [m/s] 0 to 100 [°C]	(Velocity) ±3% of reading or ±0.02 m/s, whichever is the greater. (Temperature) ±0.5°C	0 to 100°C	0 to 100°C ± 5% of reading
0975-21	0.01 to 25.0 [m/s] 0 to 100 [°C]	(Velocity) ±2% of reading or ±0.02 m/s, whichever is the greater. (Temperature) ±0.5°C	0 to 100°C	0 to 100°C ±5% of reading
0975-31	0.01 to 25.0 [m/s] 0 to 60 [°C] 5 to 95 [%RH]	(Velocity) ±2% of reading or ±0.02 m/s, whichever is the greater (Temperature) ±0.5°C (Humidity) 5 to 80%RH: ±3%RH 80 to 95%RH: ±5%RH	0 to 100°C	0 to 100°C ±5% of reading

### Probe Converter Box

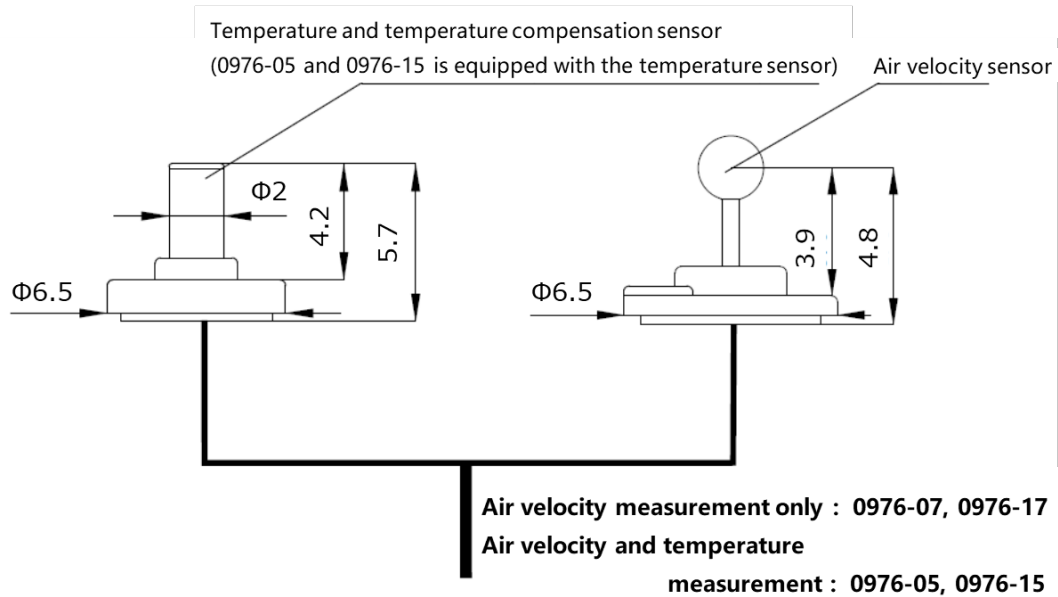
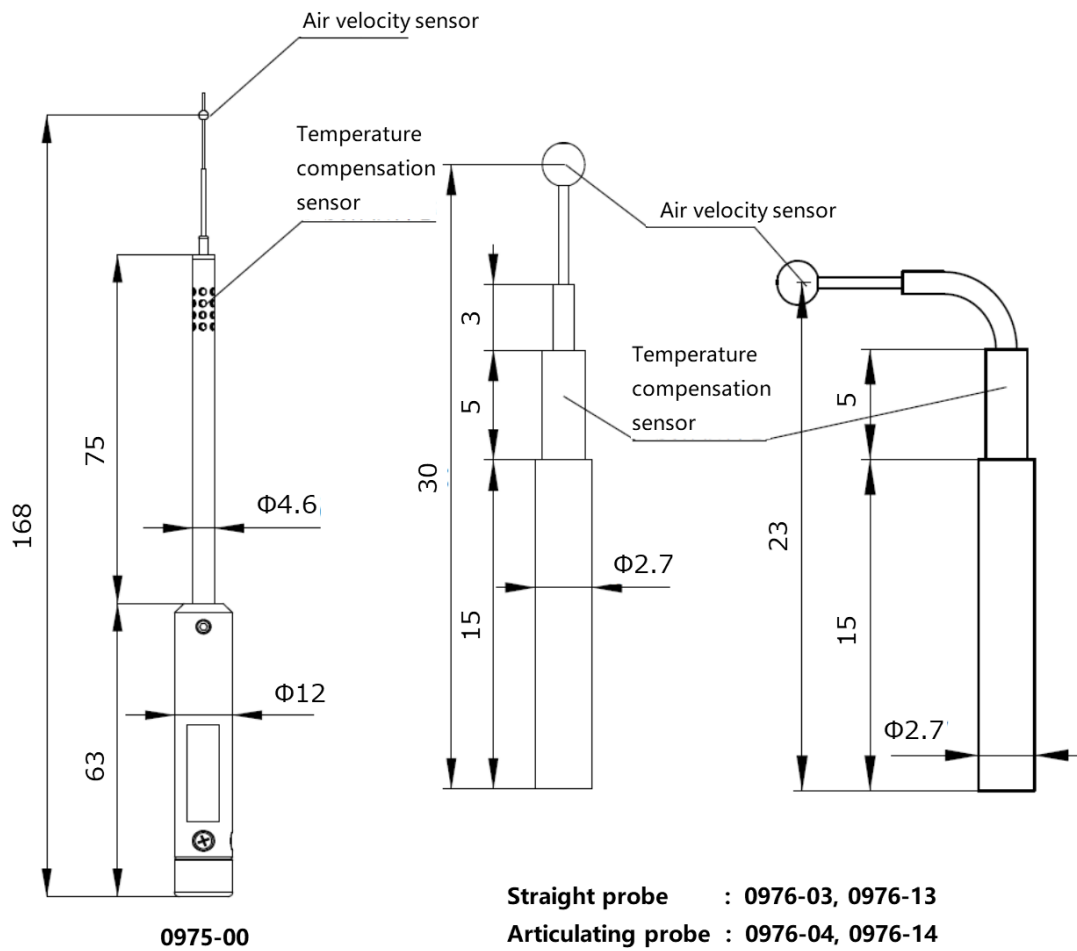
(All of the probe converter boxes have the same dimension.)

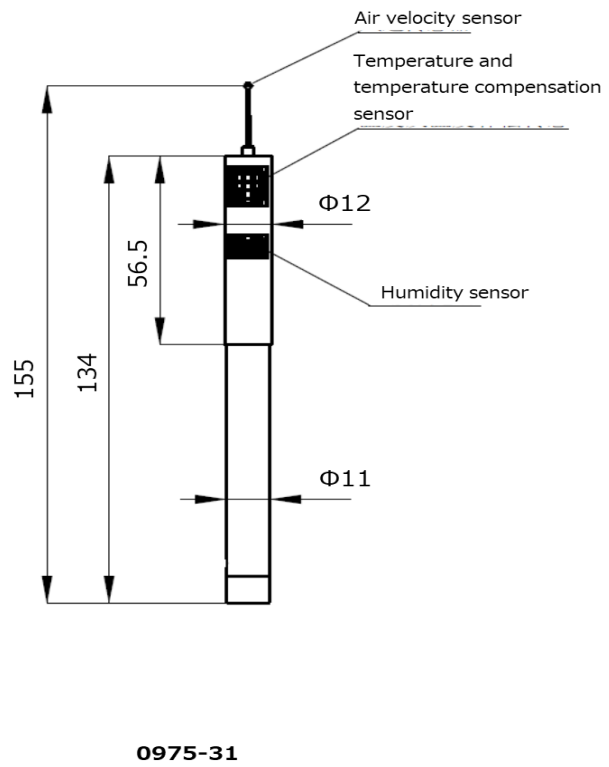
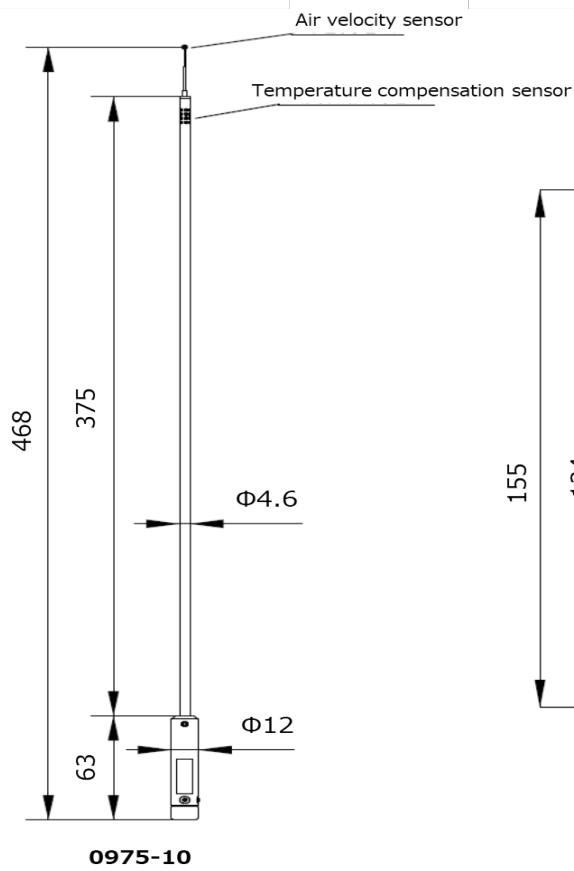
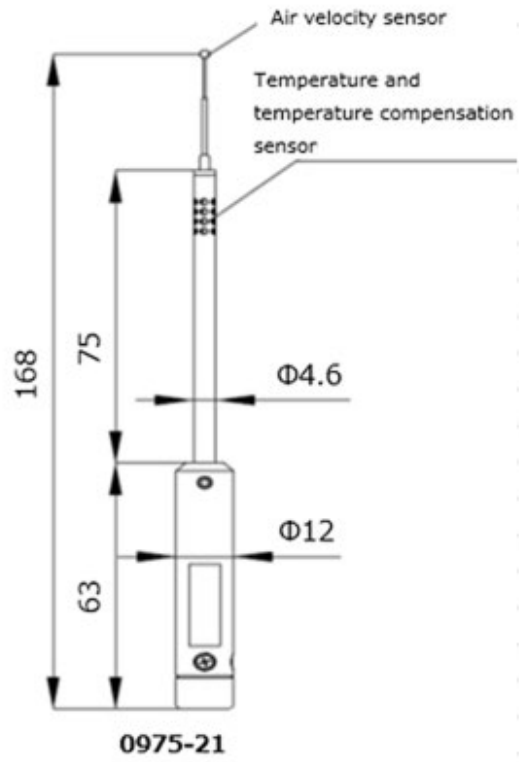
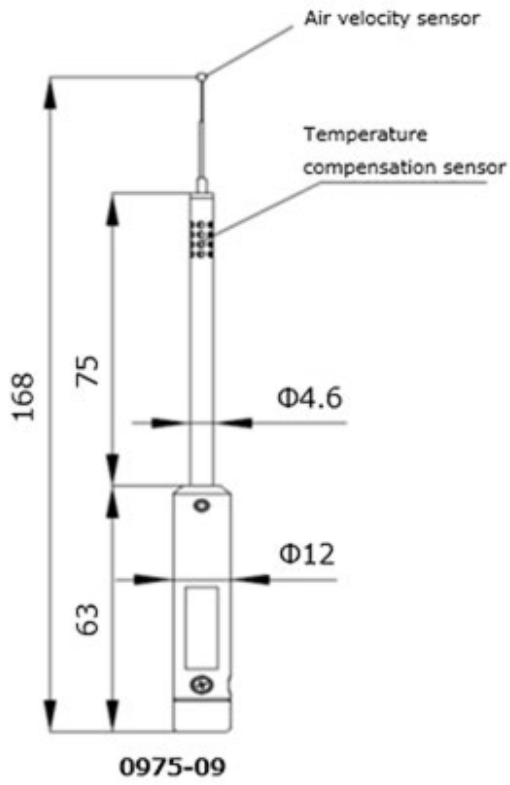


0972-00

0973-00







■ Standard cable

Model	1580-30	1580-31	1580-32	1580-33	1580-34	1580-35
Length ± tolerances	0.5 m +0.05,-0	2.0 m +0.1,-0	5.0 m +0.2,-0	10.0 m +0.3,-0	20.0 m +0.5,-0	40.0 m +1.0,-0
Operating environment	0 to 60°C, 5 to 95%RH with no condensation					
Storage environment	-10 to 60°C, 0 to 95%RH with no condensation					
Connector type	IX61G-A-10P HIROSE One-touch connector with lock					
Warranty period	One year from date of purchase					

■ AC adapter

Model	1580-10
Output power	90 W
Operating environment	5 to 40°C, 2 to 95%RH with no condensation
Storage environment	-10 to 60°C, 0 to 90%RH with no condensation
Warranty period	One year from date of purchase

■ DC power cable

Model	1580-37
Length	2.0 m +50 mm, -0 mm
Supply voltage	12V to 24V
Current capacity	Maximum 6.25 A
Operating environment	5 to 40°C, 2 to 95%RH with no condensation
Storage environment	-10 to 60°C, 0 to 90%RH with no condensation
Warranty period	One year from date of purchase

■ Probe fixing jig

Model	1580-90
Probe available	Model 0976-03: Heat-resistant air velocity probe (Mini, straight type) Model 0976-04: Heat-resistant air velocity probe (Mini, articulating type) Model 0976-13: Air velocity probe (Mini, straight type) Model 0976-14: Air velocity probe (Mini, articulating type)
Operating environment	0 to 150°C with no condensation
Storage environment	-10 to 60°C, 0 to 90%RH with no condensation
Warranty period	One year from date of purchasing

## 6. Troubleshooting

Symptom	Possible cause(s)/Solution(s)	Reference page
The power is turned on, but the LED (Blue) fails to light.	The AC adapter may not be properly connected. → Check the AC adapter or the power cord.	P.20
Reading is abnormal.	The probe element is dirty. → Clean the probe according to the instruction.	P.46
	The probe is broken. → Contact your local distributor or KANOMAX service center for repair.	P.57
No measured value appears.	The message "----" is displayed. → The probe is not connected properly. "----" is also displayed in CH for which the probe is not connected.	P.12, P.25
	The reading of temperature or humidity is displayed as "----". → The connected probe is not likely to suitable. Check the connected probe and consider if the probe needs changing.	P.50
	The error message "****" is displayed. → The measurable range is exceeded. Check each connected probe and consider if the probe needs changing.	P.50
	The error message " <b>S-ERROR</b> " is displayed. → The probe sensor is faulty. Please contact your local distributor or KANOMAX service center for repair.	P.57
	The error message " <b>H-ERROR</b> " is displayed. → Hardware between the Multi-Channel Anemomaster Main Unit and the probe is faulty. Please contact your local distributor or KANOMAX service center for repair.	P.57
	The error message " <b>P-ERROR</b> " is displayed. → Power supply to the probe is faulty. Please contact your local distributor or KANOMAX service center for repair.	P.57

## 7. Warranty and After-Sales Service

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The limited warranty set below is given by KANOMAX USA, Inc. (hereafter referred to as "KUI") with respect to this instrument, its attachment parts including standard accessories (hereafter referred to as "PRODUCT") that you have purchased. PRODUCT you have purchased shall be the only one that the limited warranty stated herein applies to.

Your PRODUCT, when delivered to you in new condition in its original container, is warranted against defects in materials or workmanship as follows: for a period of one (1) years from the date of original purchase, defective parts or a defective PRODUCT returned to KUI, as applicable, and proven to be defective upon inspection, will be exchanged for a new or comparable rebuilt parts, or a refurbished PRODUCT as determined by KUI. Warranty for such replacements shall not extend the original warranty period of the defective PRODUCT.

To obtain service under this warranty, you must notify Kanomax USA, Inc. on or before the expiration of the warranty period to obtain directions for returning the defective product. You are responsible for all return shipping charges to the authorized Kanomax service center.

This limited warranty covers all defects encountered in normal use of the PRODUCT, and does not apply to the following cases:

- (1) Use of parts or supplies other than the PRODUCT sold by KUI, which cause damage to the PRODUCT or cause abnormally frequent service calls or service problems.
- (2) If any PRODUCT has its serial number or date altered or removed.
- (3) Loss or damage to the PRODUCT due to abuse, mishandling, improper packaging by the owner, alteration, accident, electrical current fluctuations, failure to follow operating, maintenance or environmental instructions prescribed in the PRODUCT's instruction manual provided by KUI, or service performed by other than KUI.

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## 8. Contact Information

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□ U.S.A.

KANOMAX USA, INC.  
219 US Hwy 206, Andover, New Jersey 07821 U.S.A.  
TEL: (800)-247-8887 / (973)-786-6386  
FAX: (973)-786-7586  
URL: <http://www.kanomax-usa.com/>  
E-Mail: [sales@kanomax-usa.com](mailto:sales@kanomax-usa.com)

□ JAPAN

KANOMAX JAPAN INC.  
2-1 Shimizu, Suita City, Osaka 565-0805, Japan  
TEL: 81-6-6877-0183  
FAX: 81-6-6879-5570  
URL: <http://www.kanomax.co.jp>  
E-Mail: [sales@kanomax.co.jp](mailto:sales@kanomax.co.jp)

□ CHINA

Shenyang Kano Scientific Instrument Co., Ltd.  
TEL: 86-24-23846440  
FAX: 86-24-23898417  
URL: <http://www.kanomax.com.cn/>  
E-mail: [sales@kanomax.com.cn](mailto:sales@kanomax.com.cn)

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