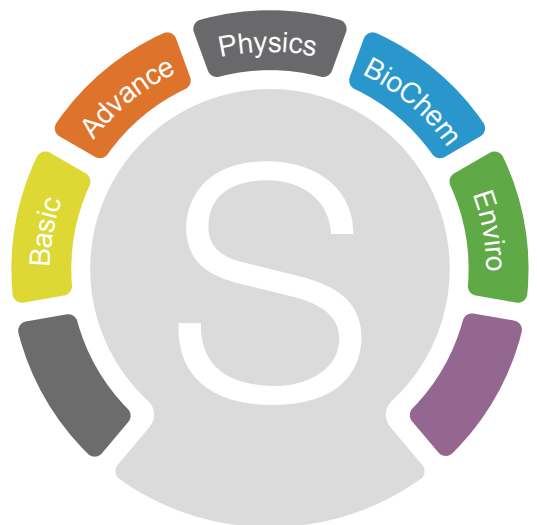
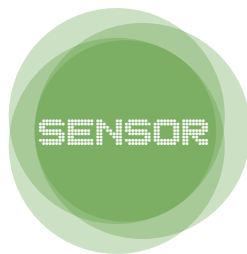


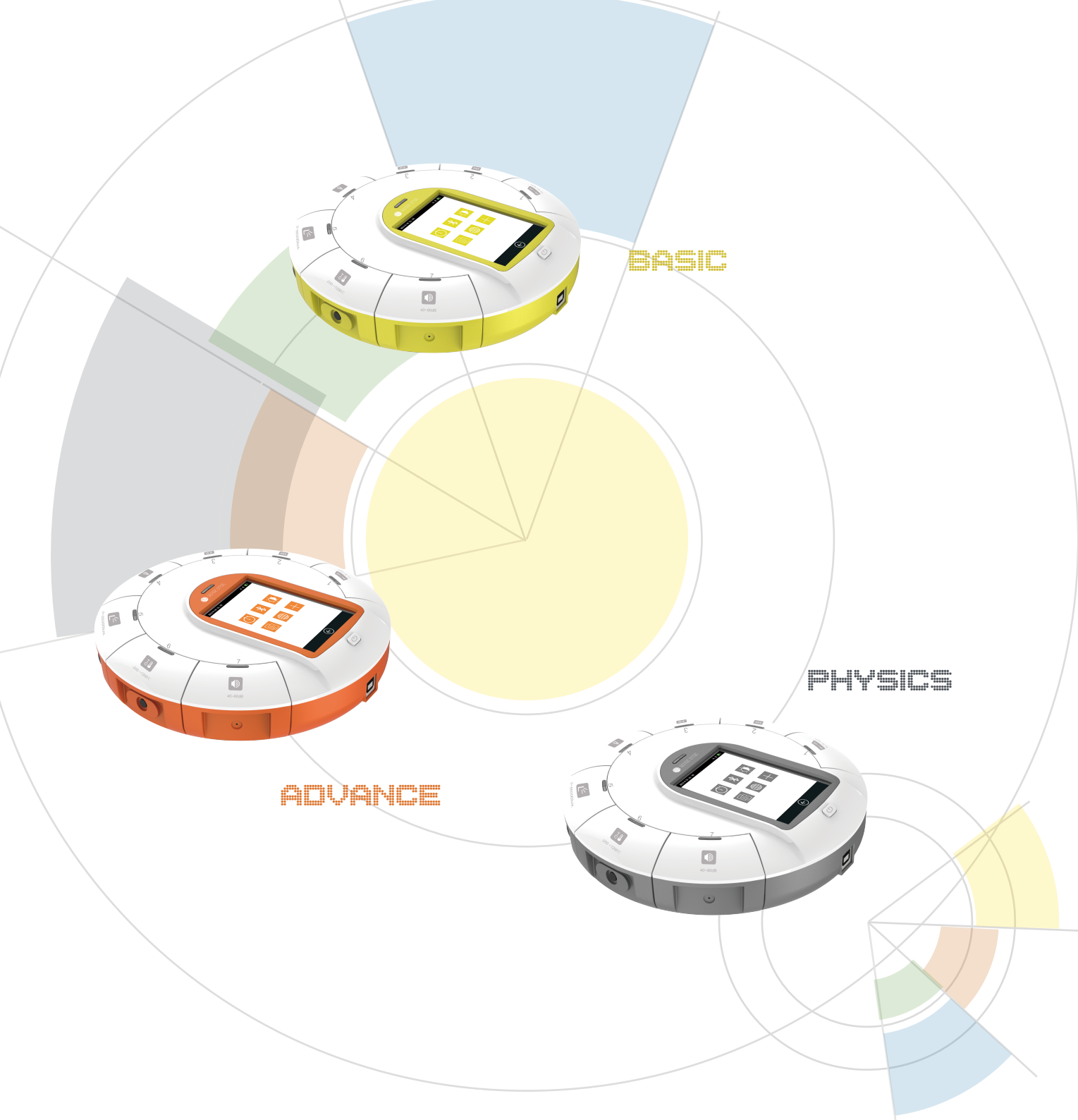
One Disc One World



All-in-One



JIANGSU SWR SCIENCE & TECHNOLOGY CO., LTD.





BIOCHEMISTRY



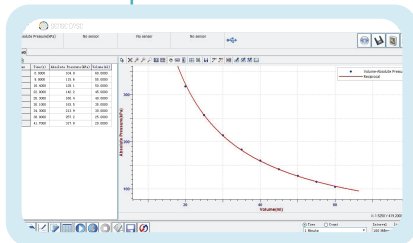
ENVIRONMENT

GenesDise Software

Windows & Android & iOS

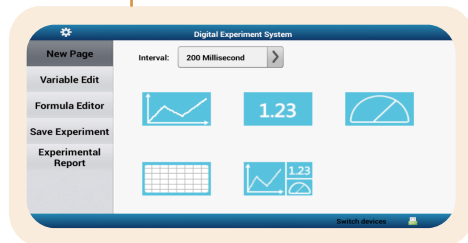
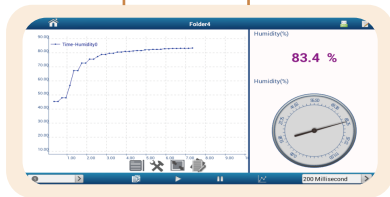
Provide a wealth of default experiment template
Multiple loose-leaf folder display, can be preset display style
Complete statistics and data fitting function
Saving experimental settings to generate experimental template
Saving experiment result, and generating playback file
The unique operation interface, allowing you to operate more easily

Data Analysis Software for .Windows



- Easy to user-define "My Experiment"
- Compatibility is enhanced
- New interface, new experience
- User-oriented graphical design platform
- Built-in an extensive worksheet
- CCD mode and sound mode
- Multiple languages

Data Analysis Software for Android



- Data analysis software for Android is a kind of natural science experiment platform, which is developed basing on the Android operating system, mainly applied to the measurement on experimental data, analysis of experimental data and process of verification on experimental principle. Combined with sensors, can test nearly all physical, chemical and biological data, suitable for digital experimental teaching in primary school, middle and high school.

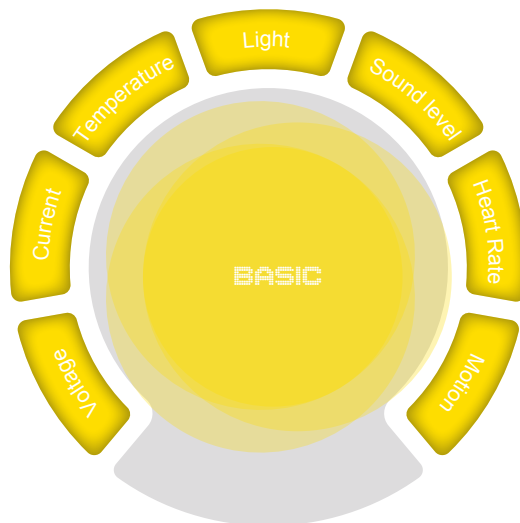
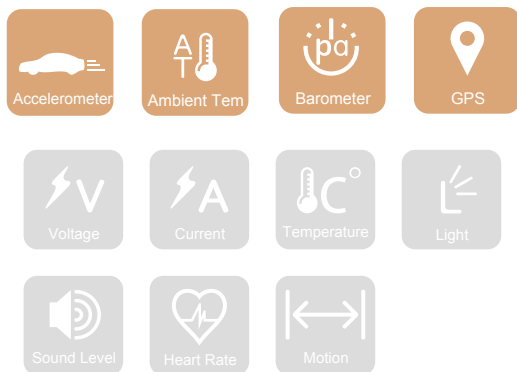
Data Analysis Software for iOS



- Data analysis software for iOS is a powerful experiment data processing software for teaching, which is developpe d basing on the IOS operating system, mainly applied to the measurement on experimental data, analysis of experimental data and process of verification on experimental principle. Combined with sensors, can test nearly all physical, chemical and biological data, suitable for natural science experimental teaching in primary school, middle school, university and other colleges.



BASIC



Basic

SenseDisc®Basic is mainly applied to early, well-understood scientific exploration. Equipped with a wireless connection and small sensor modules, to create a cable-free, succinct experimental environment for students to explore the scientific world.

Built-in sensors

Accelerometer (3 Axis), Ambient temperature, Barometer, GPS, Air pressure, Current, Motion, Temperature, Light, Voltage, Sound level, Heart rate and etc.





S0001

Range: -30V~+30V
Accuracy: $\pm 2\%$

Voltage Sensor

Voltage sensor is used to measure the electric potential difference at both ends of the electrical equipments or circuits, after the circuit of voltage sensor transferring the voltage it collects, then it can realize the measurement. The voltage sensor can be used in the DC circuit and low voltage AC circuit.

Typical Experiment



- Measure the VA characteristic curve of conductor
- Ohm's Law
- Serial-parallel circuit of resistance
- Electromagnetic induction phenomena
- LC oscillation



S0009

Range: $-40^{\circ}\text{C} \sim +135^{\circ}\text{C}$
Accuracy: $\pm 0.5^{\circ}\text{C}$

Temperature Sensor

Temperature sensor adopts the NTC electronic temperature sensing element, when the ambient temperature changes, the NTC resistance changes accordingly. Normally the temperature needs no zero calibration and with relatively higher stability; therefore, the temperature sensor is rather popular in the low-middle temperature measurements.

Typical Experiment



- Cooling water naturally
- Liquid's evaporation cooling
- Work-to-internal energy conversion
- Study the thermoelectricity phenomena
- The convex lens convergence effect

Current Sensor

Current sensor is used to measure the current in circuit. When current is passing the sampling resistance, it will form a tiny electric potential difference at both ends of the resistance; after enlarging the circuit, it can be available to measure the current accurately in DC circuit or low voltage AC circuit.

Typical Experiment



- Measure the electrodynamic potential and internal resistance of battery
- Measure the VA characteristic curve of small bulb, diode, conductor
- Ohm's Law
- Serial-parallel circuit of resistance



S0005

Range: $-1\text{A} \sim +1\text{A}$
Accuracy: $\pm 2\%$

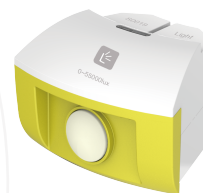
Light Sensor

Light sensor uses the silicon photoelectric cell as the sensing element; it can convert the light intensity into a voltage signal, keeping a direct proportion. For the sensor, the effective light spectrum is in a range of 380nm and 730nm, it is an ideal intensity sensor for visible light.

Typical Experiment



- Study the relation between illumination intensity and distance
- Study the diffraction, interference, polarization of light



S0019

Range: $0 \sim 55000\text{lux}$
Accuracy: $\pm 5\%$

Sound Level Sensor

Sound sensor not only can measure the strength of sound (dB) within two measuring ranges, but also be used to measure the wave form (mV) of sound directly. With a frequency response rate, so that the sound sensor can measure sound speed and catch sound's wave form.



S0021

Range: 40~92dB
Accuracy: ± 4 dB



Typical Experiment

- Measure the level of sound intensity
- Measure the environmental intensity of noise
- Measure the velocity of sound in the air
- Synthesis of sound wave
- Resonance of sound wave

Heart Rate Sensor

Heart rate sensor is an experiment device used to detect the heart rate of human body. Simple and safe operation, can real-time measure the human heart rate value.



S1024

Range: 0~200bpm
Accuracy: ± 1

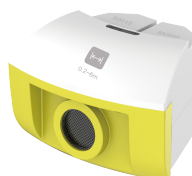


Typical Experiment

- Test on human heart rate

Motion Sensor

Motion sensor is a sonar equipment emitting ultrasonic pulse, it receives signal through the reflection of object, and then measure the time T when the high frequency sound wave goes around between the object and sensor; in accordance with the speed of sound in air, i.e. V , it can calculate the distance between the object and the sensor, i.e.: $d = V \cdot T / 2$.



S0015

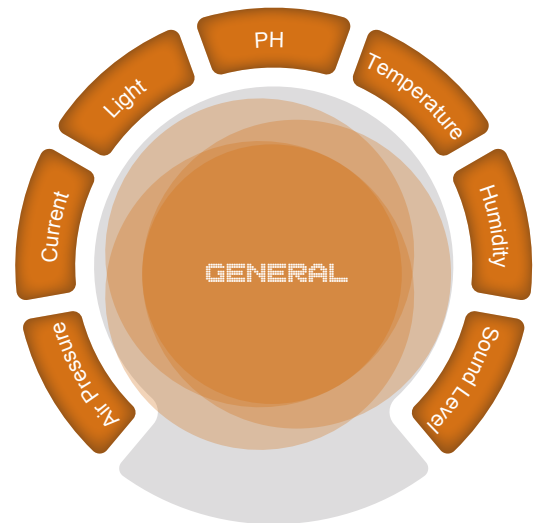
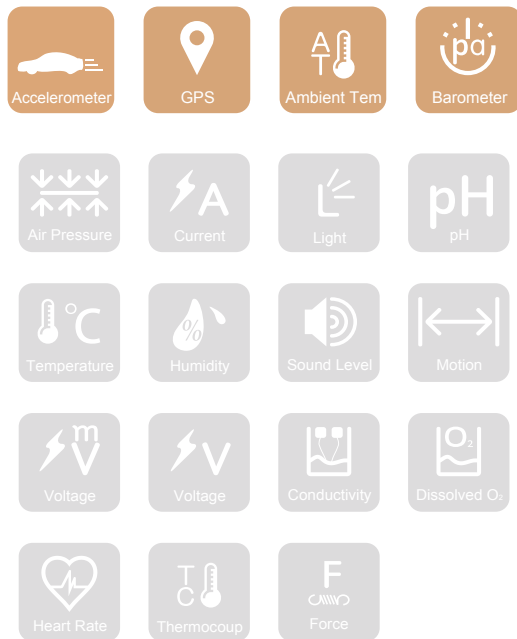
Range: 20~600cm
Accuracy: $\pm 2\%$



Typical Experiment

- Explore the simple harmonic motion
- Forced vibration
- Uniform linear motion, uniform variable rectilinear motion

ADVANCE



ADVANCE

SenseDisc®Advan supports Standalone Mode, Windows, iPad, Mac (come soon) platforms. 3.5' TFT 480*320 touchscreen can real-time display the measuring data, 12-bit perfectly show the process of data analysis and processing. The max. sampling speed can reach 100000/s.

Built-in sensors

Accelerometer (3 Axis), GPS, Ambient temperature, Barometer, Air pressure, Current, Motion, Temperature, Light, Voltage, Sound level, Conductivity, Dissolved oxygen, Heart rate, pH, Relative humidity, Thermocouple, Force and etc.





S0024

Range: 0~400kPa
Accuracy: $\pm 6\text{kPa}$

Air Pressure Sensor

Air pressure sensor is used to measure the absolute pressure of air, it is connected with the exterior air under measurement by a hose at the front side, whereas the hose and the sealed vacuum reference cavity inside the sensor forms a pressure difference; after the pressure difference is converted into a voltage signal, its output voltage forms a direct proportion to the absolute pressure.

Typical Experiment

- Boyle's Law
- Charles' Law
- Study the relation between liquid boiling point and pressure



S0005

Range: $-1\text{A} \sim +1\text{A}$
Accuracy: $\pm 2\%$

Current Sensor

Current sensor is used to measure the current in circuit. When current is passing the sampling resistance, it will form a tiny electric potential difference at both ends of the resistance; after enlarging the circuit, it can be available to measure the current accurately in DC circuit or low voltage AC circuit.

Typical Experiment

- Measure the electrodynamic potential and internal resistance of battery
- Measure the VA characteristic curve of small bulb, diode, conductor
- Ohm's Law
- Serial-parallel circuit of resistance



S0019

Range: 0~55000lux
Accuracy: $\pm 5\%$

Light Sensor

Light sensor uses the silicon photoelectric cell as the sensing element; it can convert the light intensity into a voltage signal, keeping a direct proportion. For the sensor, the effective light spectrum is in a range of 380nm and 730nm, it is an ideal intensity sensor for visible light.

Typical Experiment

- Study the relation between illumination intensity and distance
- Study the diffraction, interference, polarization of light



S1002

Range: 0~14
Accuracy: $\pm 0.2\text{pH}$

pH Sensor

The pH electrode composes of an internal reference electrode and an glass electrode. It is mainly used to measure the hydrogen ion concentration of a solution and show the pH value of the solution.

Typical Experiment

- Acid-base neutralization titration
- pH value of different solutions
- Acidity of phenol
- Mechanism of organism for maintaining pH stability
- Study on impact of pH value on pectinase activity





S0009

Range: $-40^{\circ}\text{C} \sim +135^{\circ}\text{C}$
Accuracy: $\pm 0.5^{\circ}\text{C}$

Temperature Sensor

Temperature sensor adopts the NTC electronic temperature sensing element, when the ambient temperature changes, the NTC resistance changes accordingly. Normally the temperature needs no zero calibration and with relatively higher stability; therefore, the temperature sensor is rather popular in the low-middle temperature measurements.

Typical Experiment



- Cooling water naturally
- Liquid's evaporation cooling
- Work-to-internal energy conversion
- Study the thermoelectricity phenomena
- The convex lens convergence effect



S1008

Range: $0 \sim 100\%$
Accuracy: ± 4
($10\% \sim 90\% \text{RH}$)

Relative Humidity Sensor

The relative humidity sensor is designed based on the sensitive humidity prototype, namely a polymer capacitance, and its capacitance will vary with the environmental humidity. The humidity sensor is designed to monitor the relative humidity of air.

Typical Experiment



- Measurement on the change of environmental humidity
- Hygroscopicity of the concentrated sulfuric acid
- Design and make an ecological cylinder and observe its stability



S0021

Range: $40 \sim 92 \text{dB}$
Accuracy: $\pm 4 \text{dB}$

Sound Level Sensor

The sound sensor not only can measure the strength of sound (dB) within two measuring ranges, but also be used to measure the wave form (mV) of sound directly. With a frequency response rate, so that the sound sensor can measure sound speed and catch sound's wave form.

Typical Experiment



- Measure the level of sound intensity
- Measure the environmental intensity of noise
- Measure the velocity of sound in the air
- Synthesis of sound wave
- Resonance of sound wave



S0015

Range: $20 \sim 600 \text{cm}$
Accuracy: $\pm 2\%$

Motion Sensor

Motion sensor is a sonar equipment emitting ultrasonic pulse, it receives signal through the reflection of object, and then measure the time T when the high frequency sound wave goes around between the object and sensor; in accordance with the speed of sound in air, i.e. V, it can calculate the distance between the object and the sensor, i.e.: $d = V \cdot T / 2$.

Typical Experiment



- Explore the simple harmonic motion
- Forced vibration
- Uniform linear motion, uniform variable rectilinear motion

Voltage Sensor

mV sensor is used to measure the electric potential difference at both ends of electric equipment or circuit. After dividing the voltage collected by the circuit of the micro voltage sensor, it is then allowed to measure the mV in DC circuit or low-voltage AC circuit.



S0002

Range: -500mV~500mV
Accuracy: $\pm 2\%$



Typical Experiment

- Lenz's Law
- Electromagnetic induction
- Faraday's law of electromagnetic induction

Voltage Sensor

Voltage sensor is used to measure the electric potential difference at both ends of the electrical equipments or circuits, after the circuit of voltage sensor transferring the voltage it collects, then it can realize the measurement. The voltage sensor can be used in the DC circuit and low voltage AC circuit.



S0001

Range: -30V~+30V
Accuracy: $\pm 2\%$



Typical Experiment

- Measure the VA characteristic curve of conductor
- Ohm's Law
- Serial-parallel circuit of resistance
- Electromagnetic induction phenomena
- LC oscillation

Conductivity Sensor

The conductivity sensor is used to measure the conductivity of solution and its change. It could't distinguish the category of solution's ions, but can determine the total ionic concentration of solution.



S1003

Range: 0~20000 μ S/cm
Accuracy: $\pm 4\%$



Typical Experiment

- Comparison on the conductivity of different water
- Reaction of phenol and saturated bromine water
- Study on the purity of drinking water
- Relation between cell size and material transport

Dissolved Oxygen Sensor

The probe of the dissolved oxygen sensor works as per the polarogram measurement principle. The probe electrode composes of the anode, cathode and membrane. When is usage, immerse the electrode into the solution and apply the electric potential between the anode and the cathode to generate the electrochemical reaction.



S1005

Range: 0~20mg/L
Accuracy: ± 0.1 mg/L



Typical Experiment

- Study the breathing way of saccharomycetes
- Study the dissolved oxygen of different water
- Factors that affect plant photosynthesis

Heart Rate Sensor

Heart rate sensor is an experiment device used to detect the heart rate of human body. Simple and safe operation, can real-time measure the human heart rate value.

Range: 0~200bpm
Accuracy: ± 1

Typical Experiment

- Test on human heart rate



S1024

Thermocouple Sensor

The thermocouple sensor can be used to measure higher temperature. In the physical and chemical experiment of middle school (detecting the melting point of crystal and temperature of chemical reaction), it can measure the temperature of flame directly, there is no need to worry about whether the cable could be damaged by high temperature.

Range: -200~1200℃
Accuracy: ± 6 (-200~0℃) ± 3 (0~200℃)
 ± 6 (200~1200℃)

Typical Experiment

- Study on the melting point of crystal
- Measurement on temperature of flame
- Liquid cooling via evaporation
- Study on the thermoelectricity phenomenon
- Study on temperature change law when a solid melts



S0013

Force Sensor

Force sensor has adopted a resistance strain member to convert the force into the voltage message. When the strain member is in use, the resistance value of the metal filament varies with the change of its shape; inside the sensor, fixed on a metal cross girder structure, when the metal hook is under a force, the metal cross girder will deform, thus the resistance attaching onto the cross girder deforms accordingly, where the resistance value changes too.

Range: -50N~+50N
Accuracy: $\pm 0.06N$

Typical Experiment

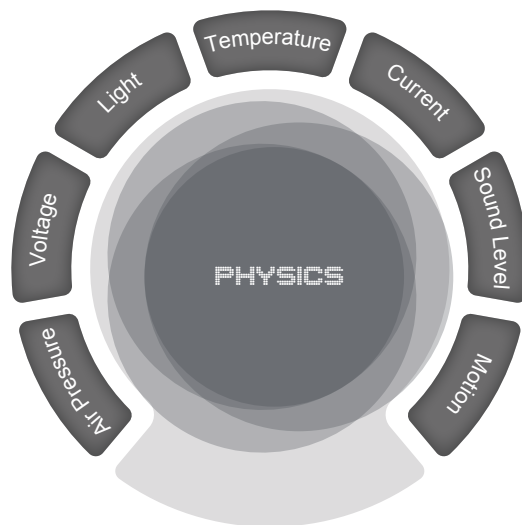
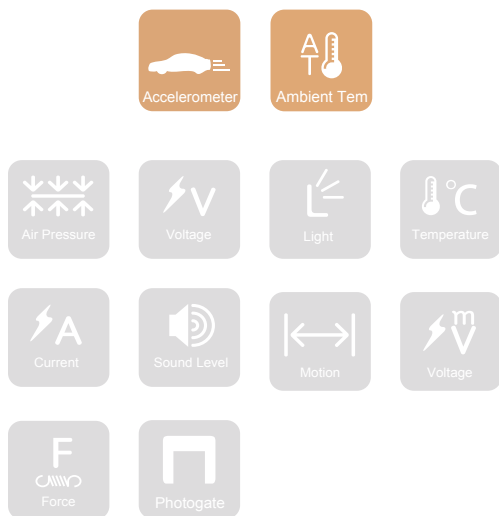
- Hooke's Law
- Newton's Third Law
- Theorem of momentum
- Explore the simple harmonic motion
- Overweight and weightlessness
- Archimedes' Law



S0014



PHYSICS



Physics

SenseDisc®Phys sets the functions of data collection, data record, data analysis and processing in one, compact size is easy to carry. SenseDisc®Phys can be available for indoor and outdoor science exploration, visually demonstrate the teaching experiment and facilitate students' understanding of physics concepts. It is an important tool to help us explore the physics.

Built-in sensors

Accelerometer (3 Axis), Ambient Temperature, Air pressure, Current, Motion, Temperature, Light, Voltage, Sound level, Force, Photogate, Micro voltage and etc.





S0024

Range: 0~400kPa
Accuracy: ± 6 kPa

Air Pressure Sensor

Air pressure sensor is used to measure the absolute pressure of air, it is connected with the exterior air under measurement by a hose at the front side, whereas the hose and the sealed vacuum reference cavity inside the sensor forms a pressure difference; after the pressure difference is converted into a voltage signal, its output voltage forms a direct proportion to the absolute pressure.

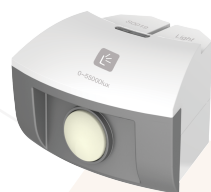


S0001

Range: -30V~+30V
Accuracy: $\pm 2\%$

Voltage Sensor

Voltage sensor is used to measure the electric potential difference at both ends of the electrical equipments or circuits, after the circuit of voltage sensor transferring the voltage it collects, then it can realize the measurement. The voltage sensor can be used in the DC circuit and low voltage AC circuit.



S0019

Range: 0~55000lux
Accuracy: $\pm 5\%$

Light Sensor

Light sensor uses the silicon photoelectric cell as the sensing element; it can convert the light intensity into a voltage signal, keeping a direct proportion. For the sensor, the effective light spectrum is in a range of 380nm and 730nm, it is an ideal intensity sensor for visible light.

Typical Experiment



- Boyle's Law
- Charles' Law
- Study the relation between liquid boiling point and pressure

Typical Experiment



- Measure the VA characteristic curve of conductor
- Ohm's Law
- Serial-parallel circuit of resistance
- Electromagnetic induction phenomena
- LC oscillation

Typical Experiment



- Study the relation between illumination intensity and distance
- Study the diffraction, interference, polarization of light

Temperature Sensor

Temperature sensor adopts the NTC electronic temperature sensing element, when the ambient temperature changes, the NTC resistance changes accordingly. Normally the temperature needs no zero calibration and with relatively higher stability; therefore, the temperature sensor is rather popular in the low-middle temperature measurements.

Range: $-40^{\circ}\text{C} \sim +135^{\circ}\text{C}$
Accuracy: $\pm 0.5^{\circ}\text{C}$

Typical Experiment

- Cooling water naturally
- Liquid's evaporation cooling
- Work-to-internal energy conversion
- Study the thermoelectricity phenomena
- The convex lens convergence effect



S0009



Current Sensor

Current sensor is used to measure the current in circuit. When current is passing the sampling resistance, it will form a tiny electric potential difference at both ends of the resistance; after enlarging the circuit, it can be available to measure the current accurately in DC circuit or low voltage AC circuit.

Typical Experiment

- Measure the electrodynamic potential and internal resistance of battery
- Measure the VA characteristic curve of small bulb, diode, conductor
- Ohm's Law
- Serial-parallel circuit of resistance

Range: $-1\text{A} \sim +1\text{A}$
Accuracy: $\pm 2\%$



S0005

Sound Level Sensor

Sound sensor not only can measure the strength of sound (dB) within two measuring ranges, but also be used to measure the wave form (mV) of sound directly. With a frequency response rate, so that the sound sensor can measure sound speed and catch sound's wave form.

Range: 40~92dB

Accuracy: ± 4 dB



Typical Experiment

- Measure the level of sound intensity
- Measure the environmental intensity of noise
- Measure the velocity of sound in the air
- Synthesis of sound wave
- Resonance of sound wave



S0021



S0015

Range: 20~600cm

Accuracy: $\pm 2\%$



Typical Experiment

- Explore the simple harmonic motion
- Forced vibration
- Uniform linear motion, uniform variable rectilinear motion

Motion Sensor

Motion sensor is a sonar equipment emitting ultrasonic pulse, it receives signal through the reflection of object, and then measure the time T when the high frequency sound wave goes around between the object and sensor; in accordance with the speed of sound in air, i.e. V , it can calculate the distance between the object and the sensor, i.e.: $d = V \cdot T / 2$.



S0002

Voltage Sensor

mV sensor is used to measure the electric potential difference at both ends of electric equipment or circuit. After dividing the voltage collected by the circuit of the micro voltage sensor, it is then allowed to measure the mV in DC circuit or low-voltage AC circuit.

Range: -500mV~500mV

Accuracy: $\pm 2\%$



Typical Experiment

- Lenz's Law
- Electromagnetic induction
- Faraday's law of electromagnetic induction



S0014

Range: -50N~+50N
Accuracy: $\pm 0.06\text{N}$

Force Sensor



Force sensor has adopted a resistance strain member to convert the force into the voltage message. When the strain member is in use, the resistance value of the metal filament varies with the change of its shape; inside the sensor, fixed on a metal cross girder structure, when the metal hook is under a force, the metal cross girder will deform, thus the resistance attaching onto the cross girder deforms accordingly, where the resistance value changes too.

Typical Experiment

- Hooke's Law
- Newton's Third Law
- Theorem of momentum
- Explore the simple harmonic motion
- Overweight and weightlessness
- Archimedes' Law

Photogate Sensor

In essence, the photogate sensor is a digital-switch sensor, with the infrared emitter and infrared receiver at both ends respectively. If the infrared receiver receives the light beam, the photogate sensor will be in low-voltage (on-state); if the infrared beam is blocked off, and the infrared receiver fails to receive the beam, the photogate sensor will be in high-voltage (off-state).

Typical Experiment



- Newton's Second Law
- Study the pendulum movement
- Theorem of kinetic energy
- Theorem of momentum
- Mechanical Energy Conservation Law
- Study of centripetal force
- Study of Atwood machine

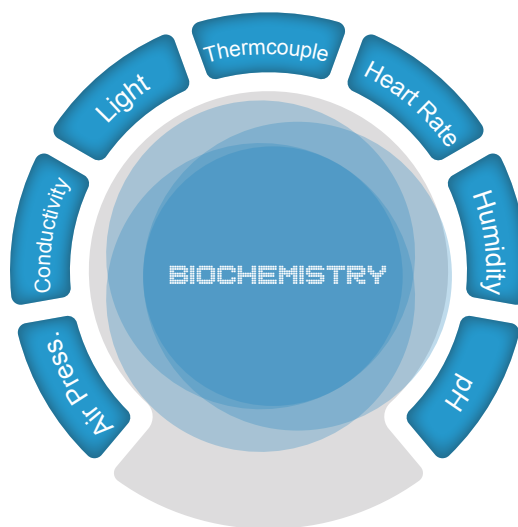


S0016

Range: $0 \sim \infty\text{s}$
Accuracy: 0.01ms



BIOCHEMISTRY



Biochemistry

SenseDisc®Bioch covers two big subjects, biology and chemistry. It can complete many experiments in the two fields. Plug-type sensor modules make it convenient for students to carry out experiment quickly and efficiently.

Built-in sensors

Ambient temperature, Barometer, GPS, Air pressure, Temperature, Light, Conductivity, Dissolved oxygen, Heart rate, pH, Relative humidity, Thermocouple and etc.





S0024

Range: 0~400kPa
Accuracy: $\pm 6\text{kPa}$

Air Pressure Sensor

Air pressure sensor is used to measure the absolute pressure of air, it is connected with the exterior air under measurement by a hose at the front side, whereas the hose and the sealed vacuum reference cavity inside the sensor forms a pressure difference; after the pressure difference is converted into a voltage signal, its output voltage forms a direct proportion to the absolute pressure.

Typical Experiment

- Boyle's Law
- Charles' Law
- Study the relation between liquid boiling point and pressure

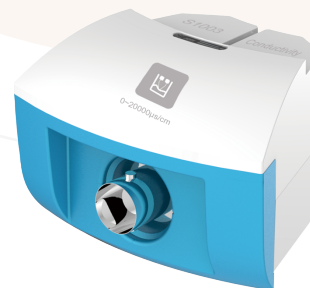
Conductivity Sensor

The conductivity sensor is used to measure the conductivity of solution and its change. It couldn't distinguish the category of solution's ions, but can determine the total ionic concentration of solution.

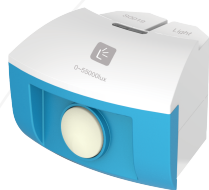
Typical Experiment

- Comparison on the conductivity of different water
- Reaction of phenol and saturated bromine water
- Study on the purity of drinking water
- Relation between cell size and material transport

Range: 0~20000 $\mu\text{s/cm}$
Accuracy: $\pm 4\%$



S1003



S0019

Range: 0~55000lux
Accuracy: $\pm 5\%$

Light Sensor

Light sensor uses the silicon photoelectric cell as the sensing element; it can convert the light intensity into a voltage signal, keeping a direct proportion. For the sensor, the effective light spectrum is in a range of 380nm and 730nm, it is an ideal intensity sensor for visible light.

Typical Experiment

- Study the relation between illumination intensity and distance
- Study the diffraction, interference, polarization of light



Thermocouple Sensor

The thermocouple sensor can be used to measure higher temperature. In the physical and chemical experiment of middle school (detecting the melting point of crystal and temperature of chemical reaction), it can measure the temperature of flame directly, there is no need to worry about whether the cable could be damaged by high temperature.

Range: -200~1200 °C
Accuracy: ± 6 (-200~0 °C) ± 3 (0~200 °C)
 ± 6 (200~1200 °C)

Typical Experiment

- Study on the melting point of crystal
- Measurement on temperature of flame
- Liquid cooling via evaporation
- Study on the thermoelectricity phenomenon
- Study on temperature change law when a solid melts



S0013



S1024

Range: 0~200bpm
Accuracy: ± 1

Heart Rate Sensor

Heart rate sensor is an experiment device used to detect the heart rate of human body. Simple and safe operation, can real-time measure the human heart rate value.

Typical Experiment

- Test on human heart rate





S1008

Range: 0~100%

Accuracy: $\pm 4\%$ (10%~90%RH)

Relative Humidity Sensor

The relative humidity sensor is designed based on the sensitive humidity prototype, namely a polymer capacitance, and its capacitance will vary with the environmental humidity. The humidity sensor is designed to monitor the relative humidity of air.

Typical Experiment

- Measurement on the change of environmental humidity
- Hydroscopicity of the concentrated sulfuric acid
- Design and make an ecological cylinder and observe its stability



pH Sensor

The pH electrode composes of an internal reference electrode and an glass electrode. It is mainly used to measure the hydrogen ion concentration of a solution and show the pH value of the solution.

Typical Experiment

- Acid-base neutralization titration
- pH value of different solutions
- Acidity of phenol
- Mechanism of organism for maintaining pH stability
- Study on impact of pH value on pectinase activity



S1002

Range: 0~14

Accuracy: $\pm 0.2\text{pH}$



S0009

Range: $-40^{\circ}\text{C} \sim +135^{\circ}\text{C}$

Accuracy: $\pm 0.5^{\circ}\text{C}$

Temperature Sensor

Temperature sensor adopts the NTC electronic temperature sensing element, when the ambient temperature changes, the NTC resistance changes accordingly. Normally the temperature needs no zero calibration and with relatively higher stability; therefore, the temperature sensor is rather popular in the low-middle temperature measurements.



Typical Experiment

- Cooling water naturally
- Liquid's evaporation cooling
- Work-to-internal energy conversion
- Study the thermoelectricity phenomena
- The convex lens convergence effect

Dissolved Oxygen Sensor

The probe of the dissolved oxygen sensor works as per the polarogram measurement principle. The probe electrode composes of the anode, cathode and membrane. When is usage, immerse the electrode into the solution and apply the electric potential between the anode and the cathode to generate the electrochemical reaction.

Typical Experiment

- Study the breathing way of saccharomycetes
- Study the dissolved oxygen of different water
- Factors that affect plant photosynthesis

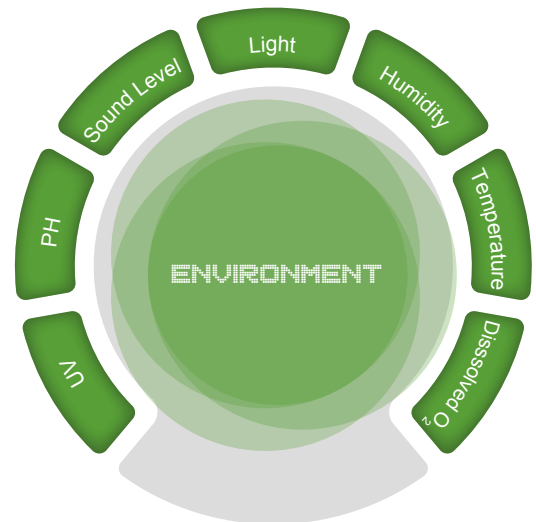


S1005

Range: $0 \sim 20\text{mg/L}$

Accuracy: $\pm 0.1\text{mg/L}$

ENVIRONMENT



Environment

SenseDisc®Environ, more than 150 hours of battery life, 12-bit sampling resolution make it to be a practical tool under outdoor experiment. Can effectively encourage students to explore the surrounding environment.

Built-in sensors

GPS, Ambient Temperature, Barometer, Temperature, Light, Sound level, Dissolved oxygen, pH, Relative humidity, UV and etc.





UV sensor

UV sensor is an experimental device used for detecting ultraviolet strength, radiation scope during 100nm to 400nm in the electromagnetic spectrum belongs to the ultraviolet wavelength range, UV sensor can transform the received uv intensity into a proportional output voltage signal.

S1040

Range: 0~400W/m²
Accuracy: ±5%

Typical Experiment



- Detect ultraviolet strength in photoelectric effect
- Impact of different intensities of ultraviolet ray on biological survival rate



Sound Level Sensor

Sound sensor not only can measure the strength of sound (dB) within two measuring ranges, but also be used to measure the wave form (mV) of sound directly. With a frequency response rate, so that the sound sensor can measure sound speed and catch sound's wave form.

S0021

Range: 40~92dB
Accuracy: ±4dB

Typical Experiment



- Measure the level of sound intensity
- Measure the environmental intensity of noise
- Measure the velocity of sound in the air
- Synthesis of sound wave
- Resonance of sound wave

pH Sensor

The pH electrode composes of an internal reference electrode and an glass electrode. It is mainly used to measure the hydrogen ion concentration of a solution and show the pH value of the solution.



S1002

Range: 0~14
Accuracy: ±0.2pH

Typical Experiment



- Acid-base neutralization titration
- pH value of different solutions
- Acidity of phenol
- Mechanism of organism for maintaining pH stability
- Study on impact of pH value on pectinase activity

Light Sensor

Light sensor uses the silicon photoelectric cell as the sensing element; it can convert the light intensity into a voltage signal, keeping a direct proportion. For the sensor, the effective light spectrum is in a range of 380nm and 730nm, it is an ideal intensity sensor for visible light.



S0019

Range: 0~55000lux
Accuracy: ±5%

Typical Experiment



- Study the relation between illumination intensity and distance
- Study the diffraction, interference, polarization of light



Relative Humidity Sensor

The relative humidity sensor is designed based on the sensitive humidity prototype, namely a polymer capacitance, and its capacitance will vary with the environmental humidity. The humidity sensor is designed to monitor the relative humidity of air.

S1008

Range: 0~100%
Accuracy: $\pm 4\%$
(10%~90%RH)



Typical Experiment

- Measurement on the change of environmental humidity
- Hygroscopicity of the concentrated sulfuric acid
- Design and make an ecological cylinder and observe its stability



Temperature Sensor

Temperature sensor adopts the NTC electronic temperature sensing element, when the ambient temperature changes, the NTC resistance changes accordingly. Normally the temperature needs no zero calibration and with relatively higher stability; therefore, the temperature sensor is rather popular in the low-middle temperature measurements.

S0009

Range: $-40^{\circ}\text{C} \sim +135^{\circ}\text{C}$
Accuracy: $\pm 0.5^{\circ}\text{C}$



Typical Experiment

- Cooling water naturally
- Liquid's evaporation cooling
- Work-to-internal energy conversion
- Study the thermoelectricity phenomena
- The convex lens convergence effect



Dissolved Oxygen Sensor

The probe of the dissolved oxygen sensor works as per the polarogram measurement principle. The probe electrode composes of the anode, cathode and membrane. When is usage, immerse the electrode into the solution and apply the electric potential between the anode and the cathode to generate the electrochemical reaction.
































S1005

Range: 0~20mg/L
Accuracy: $\pm 0.1\text{mg/L}$



Typical Experiment

- Study the breathing way of saccharomycetes
- Study the dissolved oxygen of different water
- Factors that affect plant photosynthesis

We have...					
	Accelerometer		Photogate		Colorimeter
	Ambient Temperature		Light		Turbidity
	Barometer		Sound Level		CO ₂
	GPS		Air Pressure		Charge
	Voltage		pH		IR Temperature
	Low Voltage		Conductivity		Breath Rate
	Current		Dissolved Oxygen		Rotary
	Temperature		Relative Humidity		G-M
	Thermocouple		Heart Rate		Drop Counter
	Force		UV		
	Motion		Universal Input		

SenseDisc®Data Logger Specifications

Parameter	SenseDisc® Basic	SenseDisc® Advan	SenseDisc® Phys	SenseDisc® Bioch	SenseDisc® Spec.
Picture					
Supported Platforms	Standalone, Windows,iPad,Android, Mac(come soon)	Standalone, Windows,iPad,Android, Mac(come soon)	Standalone, Windows,iPad,Android, Mac(come soon)	Standalone, Windows,iPad,Android, Mac(come soon)	Standalone, Windows,iPad,Android, Mac(come soon)
Built-in Sensors	Accelerometer(3 Axis) GPS Ambient temperature Barometer/Altimeter	Accelerometer(3 Axis) GPS Ambient temperature Barometer/Altimeter	Accelerometer(3 Axis) Ambient temperature	GPS Ambient temperature Barometer/Altimeter	GPS Ambient temperature Barometer/Altimeter
GPS Data Logging	Yes	Yes	Yes	Yes	Yes
Remote Data Collection	Yes	Yes	Yes	Yes	Yes
Max. Sampling Speed	100,000/s	100,000/s	100,000/s	100,000/s	100,000/s
Sampling Resolution	12-bit	12-bit	12-bit	12-bit	12-bit
Internal Data Storage	4M	4M	4M	4M	4M
Battery	1800mAh Lion battery	1800mAh Lion battery	1800mAh Lion battery	1800mAh Lion battery	1800mAh Lion battery
Battery Life	> 150 hours	> 150 hours	> 150 hours	> 150 hours	> 150 hours
Display	3.5' TFT 480*320 touchscreen	3.5' TFT 480*320 touchscreen	3.5' TFT 480*320 touchscreen	3.5' TFT 480*320 touchscreen	3.5' TFT 480*320 touchscreen
Communication	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Wireless Communication	Bluetooth 2.0&4.0	Bluetooth 2.0&4.0	Bluetooth 2.0&4.0	Bluetooth 2.0&4.0	Bluetooth 2.0&4.0
Size	φ=170mm H=46mm	φ=170mm H=46mm	φ=170mm H=46mm	φ=170mm H=46mm	φ=170mm H=46mm
Temperature Range	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C
Standard Compliance	CE, FCC, CCC	CE, FCC, CCC	CE, FCC, CCC	CE, FCC, CCC	CE, FCC, CCC
External Power Supply	100-240V AC/ 5V DC 1A	100-240V AC/ 5V DC 1A	100-240V AC/ 5V DC 1A	100-240V AC/ 5V DC 1A	100-240V AC/ 5V DC 1A
Software	SenseDisc iLab	SenseDisc iLab	SenseDisc iLab	SenseDisc iLab	SenseDisc iLab
Interface for Sensor	7 Lightning (7 sensors)	7 Lightning (17 sensors)	7 Lightning (12 sensors)	7 Lightning (11 sensors)	7 Lightning (7 sensors)



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