



S6000U

Multifunctional Smart Sensor



INTRODUCTION

Robustel S6000U is a multi-functional smart sensor device designed for seamless, non-intrusive installation in a wide range of industrial applications. It enables real-time collection of on-site environmental data, including temperature, humidity, noise levels, light intensity, air pressure, distance, acceleration, and tilt, offering precise environmental information to assist businesses in comprehensive monitoring and management of their equipment deployment environments.

Developed on an embedded real-time system, **S6000U** utilizes the Modbus protocol over serial ports to report the collected data. It also supports local configuration and management of alarm threshold parameters, meeting various environmental sensing needs with just one device.

Robustel is a leading global industrial IoT/M2M hardware and solution provider. Since its establishment in 2010 in Guangzhou, China, Robustel has been focusing on designing and manufacturing industrial cellular routers, gateways, modems, cloud platforms and E2E solutions. In order to support global business in more than 100+ countries and regions, Robustel has set up local offices in Germany, Australia, the Netherlands, the UK, Japan and Hong Kong.

KEY FEATURES

- An all-in-one sensor capable of collecting multiple on-site environmental data points, offering a cost-effective solution to streamline deployment expenses
- Support for the Modbus protocol, facilitating seamless software integration for system integrator
- Pre-configured alarm threshold parameters for early risk detection and accident prevention
- Non-intrusive installation, easy to deploy and maintain

APPLICATION EXAMPLE



Industrial Equipment Operation Monitoring



Elevator Car Operation Monitoring



Production Environment Monitoring



Environmental Monitoring of Power Distribution Rooms



Electrical Cabinet Environmental Monitoring

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|--------------------------------|----------------------------------|----------------------------------|------------------------------|
| 1 Temperature Detection | 2 Humidity Detection | 3 Air Pressure Monitoring | 4 Light Perception |
| 5 Acoustic Monitoring | 6 Acceleration Monitoring | 7 Tilt Monitoring | 8 Distance Monitoring |

SPECIFICATIONS

On-board Sensors

Temperature

Range	-20~+70°C
Accuracy	± 1.5°C
Resolution	14 bit

Humidity

Range	5%~95% RH (non-condensing)
Accuracy	± 3% RH
Resolution	14 bit

Air Pressure

Range	26000 ~ 126000 Pa
Accuracy	± 10Pa

Digital Light

Range	0 ~ 64000 lux
Light Level*	1/2/3/4/5
Resolution	16 bit

*For more information of light level, please check "S6000U Protocol Instructions Manual".

Acoustic

Range	0 ~ 120 dB SPL
Sensitivity	-26 DBFS (Typical)
Accuracy	± 5dB

Accelerometer

Range	-2g ~ +2g
Accuracy	± 0.4 m/s ² (Typical)
Resolution	16 bit

Tilt

Range	0° ~ 90°
Accuracy	± 2°

ToF

Range	4cm ~ 360cm
Accuracy	± 20mm (Dark Environment)

Serial Interface

Baud Rate	9600/38400/57600/115200 bps
Type	1 x RS-485
Signal definition	A, B
Connector	4-pin 3.5 mm female terminal (shares the same connector as the power supply)
Data Transfer Protocol	Modbus

LED

Number of LEDs	2
LED Indicator Definition	2 Monochrome Indicators: Blue (RUN), Red (ERROR)

Button

Number of buttons	2
Button definition	RST, ISP

Power Supply and Consumption

Connector	4-pin 3.5 mm female terminal (shares the same connector as the serial interface)
Input voltage	9 ~ 24 VDC
Signal definition	VIN, GND

Physical Characteristics

Ingress protection	IP31
Housing & Weight	Plastic (PC+ABS), 30.5g
Fire Protection Rating	UL94 V-0
Dimensions	76*37*21.5 mm
Installations	3M Adhesive Fixation
Operating temperature	-20 ~ +70 °C
Storage temperature	-40 ~ +85 °C
Relative humidity	5 ~ 95% RH (non-condensing)

Regulatory and Approvals

Approval	CE, FCC, UKCA, RCM
Environmental	RoHS2.0, WEEE

ORDERING INFORMATION

Model	PN	Package	Package Information	Certification (*In progress)
S6000U	A014600002	Standard Package	1 x S6000U(B014600001) 1 x 3M Viscose 1 x 4-PIN Terminal Block	CE, FCC, UKCA, RCM
	A014600003	Standard Package with PSU	1 x S6000U(B014600001) 1 x 3M Viscose 1 x 4-PIN Terminal Block 1 x 12W Global Power Adapter	

* For more information about ordering, please contact your Robustel sales representative.