S6000U

Multifunctional Smart Sensor

INTRODUCTION

The Robustel **S6000U** is a multifunctional smart sensor device designed for seamless, non-intrusive installation across 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. This device provides accurate environmental information to assist businesses in comprehensive monitoring and management of their equipment deployment environments.

Developed on an embedded real-time system, the S6000U utilizes the Modbus protocol over serial ports to transmit the collected data. It also supports local configuration and management of alarm threshold parameters, addressing diverse environmental sensing needs with a single device.

Robustel is a leading global provider of industrial IoT/M2M hardware and solutions. Since its establishment in 2010 in Guangzhou, China, Robustel has focused on the design and manufacture of industrial cellular routers, gateways, modems, cloud platforms, and end-to-end solutions. To support global operations in over 100 countries and regions, Robustel has established 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, providing a cost-effective solution to reduce deployment costs

➢ Support for the Modbus protocol, enabling seamless software integration for system integrators

➢ Pre-configured alarm threshold parameters for early risk detection and accident prevention

➢ Non-intrusive installation for easy deployment and maintenance

APPLICATION EXAMPLE

Industrial Equipment Operation Monitoring

Elevator Car Operation Monitoring

Production Environment Monitoring

Environmental Monitoring of Power Distribution Rooms

Electrical Cabinet Environmental Monitoring

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	±10 Pa

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	±5 dB

Accelero-meter

Range	-2 g ~ +2 g
Accuracy	±0.4 m/s2 (Typical)
Resolution	16 bit

Tilt

Range	0° ~ 90°
Accuracy	±2°

ToF

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

Serial Port

Number of ports	1 x RS-485
Connector	4-pin 3.5 mm female terminal (shares the same connector as the power supply)
Baud rate	9600/38400/57600/115200 bps
Signal definition	A, B
Data transfer protocols	Modbus

LED

Number of indicators	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 port)
Input voltage	9 ~ 24 V DC
Signal definition	VIN, GND

Physical Characteristics

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

Regulatory and Type Approvals

Environmental	RoHS2.0, WEEE

ORDERING INFORMATION

Model	Order Code	Package Contains		Country /Region	Certification
S6000U	A014600002	Standard Package	1 x S6000U Sensor (B Code: B014600001) 1 x 3M Viscose 1 x 4-pin Terminal Block	Global	CE FCC UKCA RCM
	A014600003	Standard Package with PSU	1 x S6000U Sensor (B Code: B014600001) 1 x 3M Viscose 1 x 4-pin Terminal Block 1 x 12 W Global Power Adapter		

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