User Guide

Product Introduction

The vibration sensor adopts the original imported sensor, built-in 5 batteries, can be continuously measured, stable data, high precision, strong anti-interference ability, long service life.

Use Case Scenarios

Suitable for environmental equipment rooms, airports, railway stations, commercial building control, family homes, office buildings, schools, conference rooms, shopping malls, hotels, gymnasiums, cinemas, libraries and other places.

Features

1. Real-time monitoring of vibration values.
2. Suspension or stick-on mounting for ease of use.

Product Specifications

Specifications	
Model	UB-VS-N1
Power Supply	3 *AA batteries (4.5V)
Max Current	306mA
Measuring Range	Maximum vibration value: 0 ~ 1000
Working Environment	-40 ~ 60℃, 0 ~ 80%RH
Connector	Audio
Cable Length	3m
Communication Protocol	RS485 Modbus RTU Protocol
RS485 Address	0x41
Baud Rate	1200 bit/s, 2400 bit/s, 4800 bit/s, 9600 bit/s (default), 19200 bit/s

Wiring Instruction

Communication Protocols

1. Communication Basic Parameters

Communication Basic Parameter	
Coding System	8-bit binary
Data Bit	8 bits
Parity Checking Bit	none
Stop Bit	1 bit

Error Checking	CRC Check
Baud Rate	1200 bit/s, 2400 bit/s, 4800 bit/s, 9600 bit/s (default), 19200 bit/s

2. Data Frame Format

The Modbus-RTU communication protocol is used in the following format:

- Initial structure ≥ 4 bytes in time.
- Address code: 1 byte, default 0x41.
- Function code: 1 byte, support function code 0x03 (read only) and 0x06 (read / write).
- Data area: N bytes, 16-bit data, high byte comes first.
- Error check: 16-bit CRC code.
- End structure ≥ 4 bytes of time.

Request					
Slave Address	Function Code	Register Address	No. of Registers	CRC LSB	CRC MSB
1 byte	1 byte	2 bytes	2 bytes	1 byte	1 byte

Response							
Slave Address	Function Code	No. of Bytes	Content 1	Content 1	...	Content n	CRC
1 byte	1 byte	1 byte	2 bytes	2 bytes	...	2 bytes	2 bytes

3. Register Address

Register Address				
Address	Content	Register Length	Function Code	Description of Definitions
0x0000	Battery Voltage	1	03	Unsigned integer data, divided by 100
0x0001	Cumulative Activity Time in Cycle	1	03	Integer
0x0002	Maximum Vibration Value during the Cycle (Default Cycle 60s)	1	03	Integer
0x0003	Cumulative Vibration Value during the Cycle (Default Period 60s)	1	03	Integer
0x0004	Accumulated Activity Time during Runtime (Cleared after Each Acquisition)	2	03	Integer
0x0006	Maximum Vibration Value during Cumulative Runtime (Cleared for Re-collection after Each Acquisition)	2	03	Integer
0x0008	Total Vibration Value during Cumulative Runtime (Cleared after Each Acquisition)	2	03	Integer
0x000A	Accumulated Runtime in Seconds (Clear to Re-collect the Time after Each Acquisition)	2	03	Integer
0x000C	Activity Time during Cumulative Runtime	2	03	Integer
0x000E	Maximum Vibration Value during Cumulative Runtime (Emptied and Re-collected after Each Acquisition)	2	03	Integer
0x0010	Total Vibration Value during Cumulative Runtime (Cleared after Each Acquisition)	2	03	Integer

0x0012	Accumulated Runtime	2	03	Integer
0x0014	X-axis Acceleration	1	03	Signed integer
0x0015	Y-axis Acceleration	1	03	Signed integer
0x0016	Z-axis Acceleration	1	03	Signed integer
0x0017	Total Acceleration	1	03	Signed integer
0x0064	Address	1	03/06	1 ~ 255
0x0065	Baud Rate	1	03/06	1: 4800, 2: 9600, 3:14400, 4: 19200, 5: 38400, 6: 115200

NOTE

1. Do not pull the sensor lead wire, do not drop or hit the sensor violently.
2. Do not expose the sensor to high temperatures or long term exposure to steam, water mist, water curtains or condensation..