SM5389V

0-5V outdoor aluminum wind speed and direction integrated sensor

User Manual

File Version: V21.6.11

SM5389V using the standard ,easy access to PLC，DCS and other instruments or systems for monitoring wind speed,conductivity state quantities.The internal use of high-precision sensing core and related devices to ensure high reliability and excellent long-term stability,can be customized

RS232,RS485,CAN,4-20mA,DC0~5V\10V,ZIGBEE,Lora,WIFI,GPRS and other output methods.

Technical Parameters

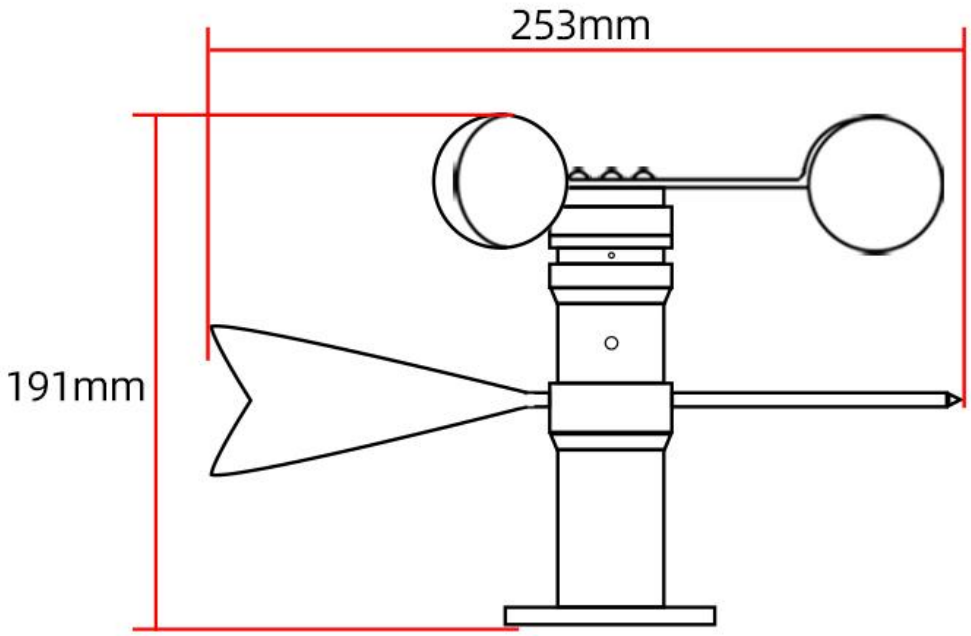
Technical parameter	Parameter value
Brand	SONBEST
Wind speed range	0~30m/s
Start wind	0.2m/s
Wind speed accuracy	±3%
Shell material	aluminum
Wind direction range	0~360°
Wind direction resolution	22.5°
Power	DC12~24V 1A
Running temperature	-40~80°C

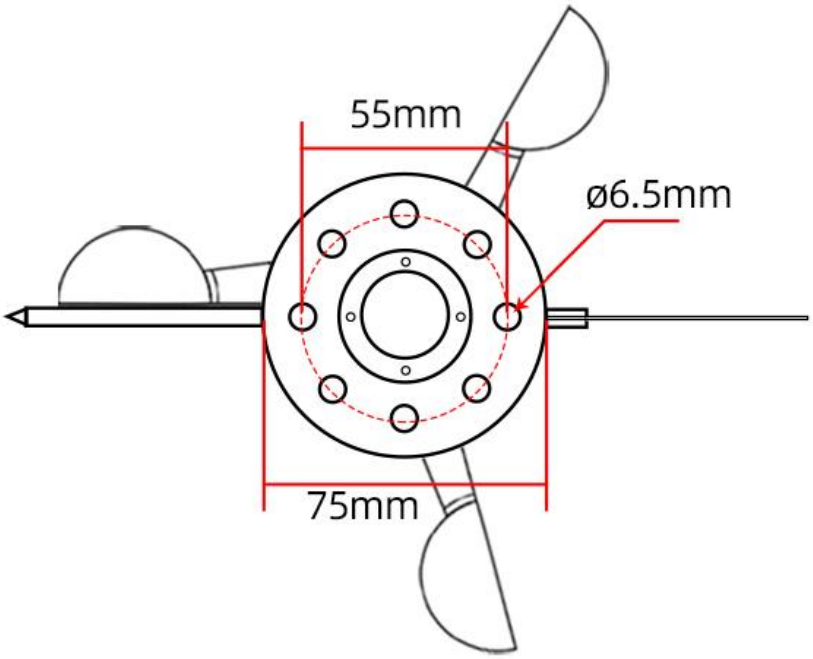
Product Selection

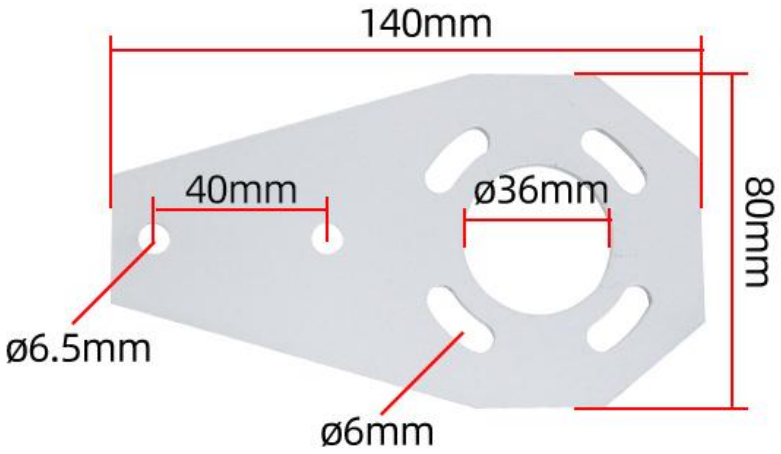
Product DesignDC0-5V,DC0-10VMultiple output methods, the products are divided into the following models depending on the output method.

Product model	output method
SM5389V5	DC0-5V
SM5389V10	DC0-10V

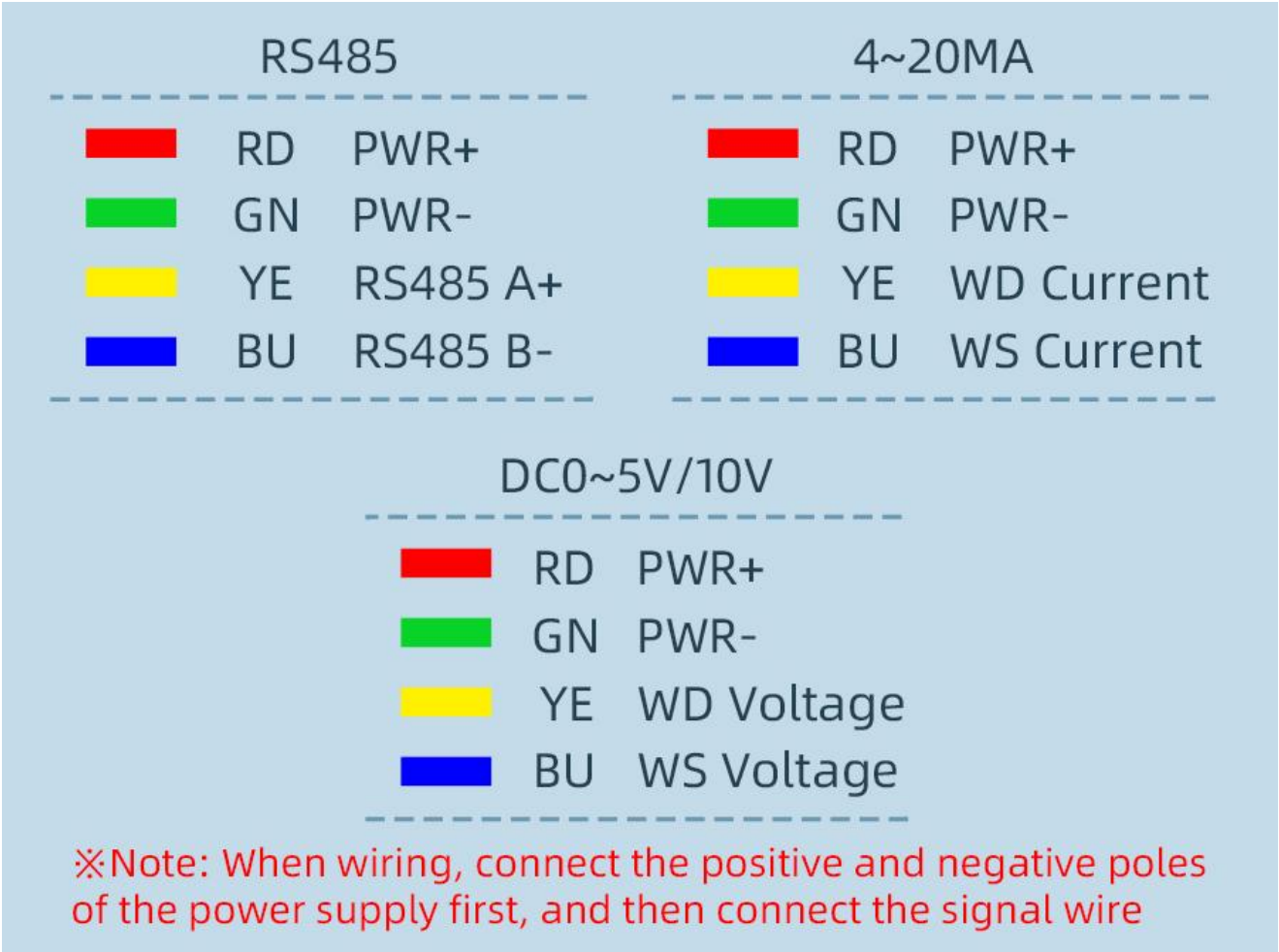
Product Size


253mm
191mm


55mm
ø6.5mm
75mm

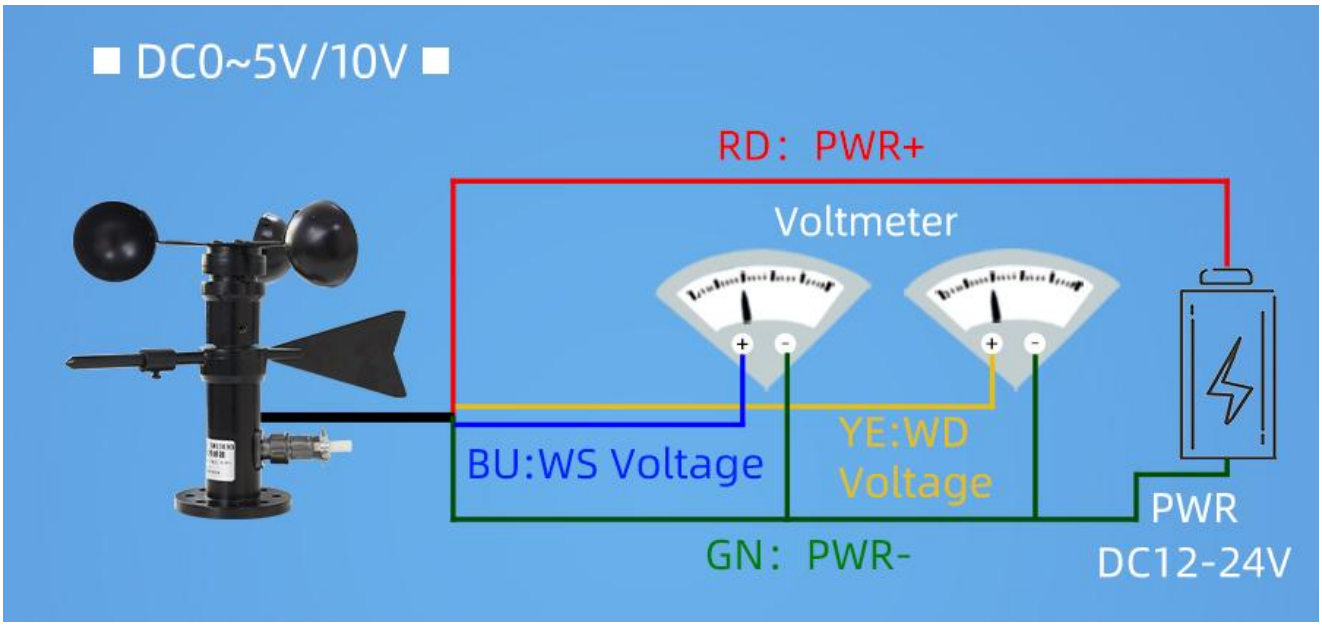


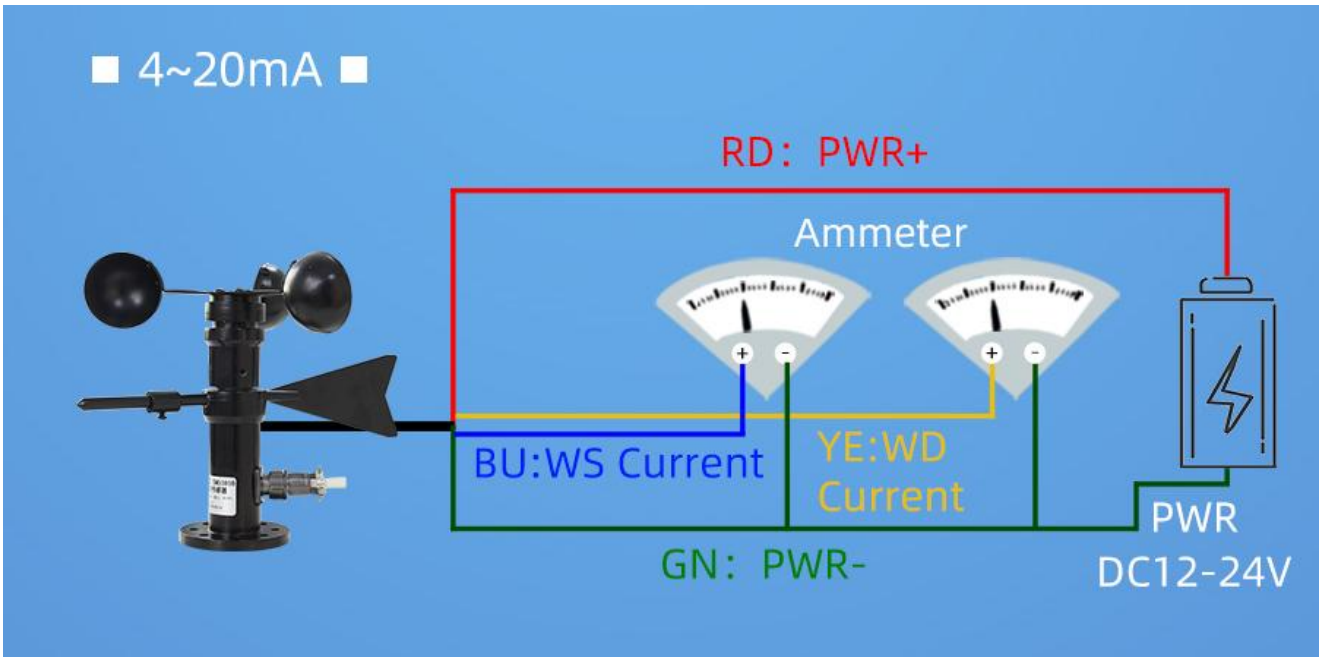
How to wiring?



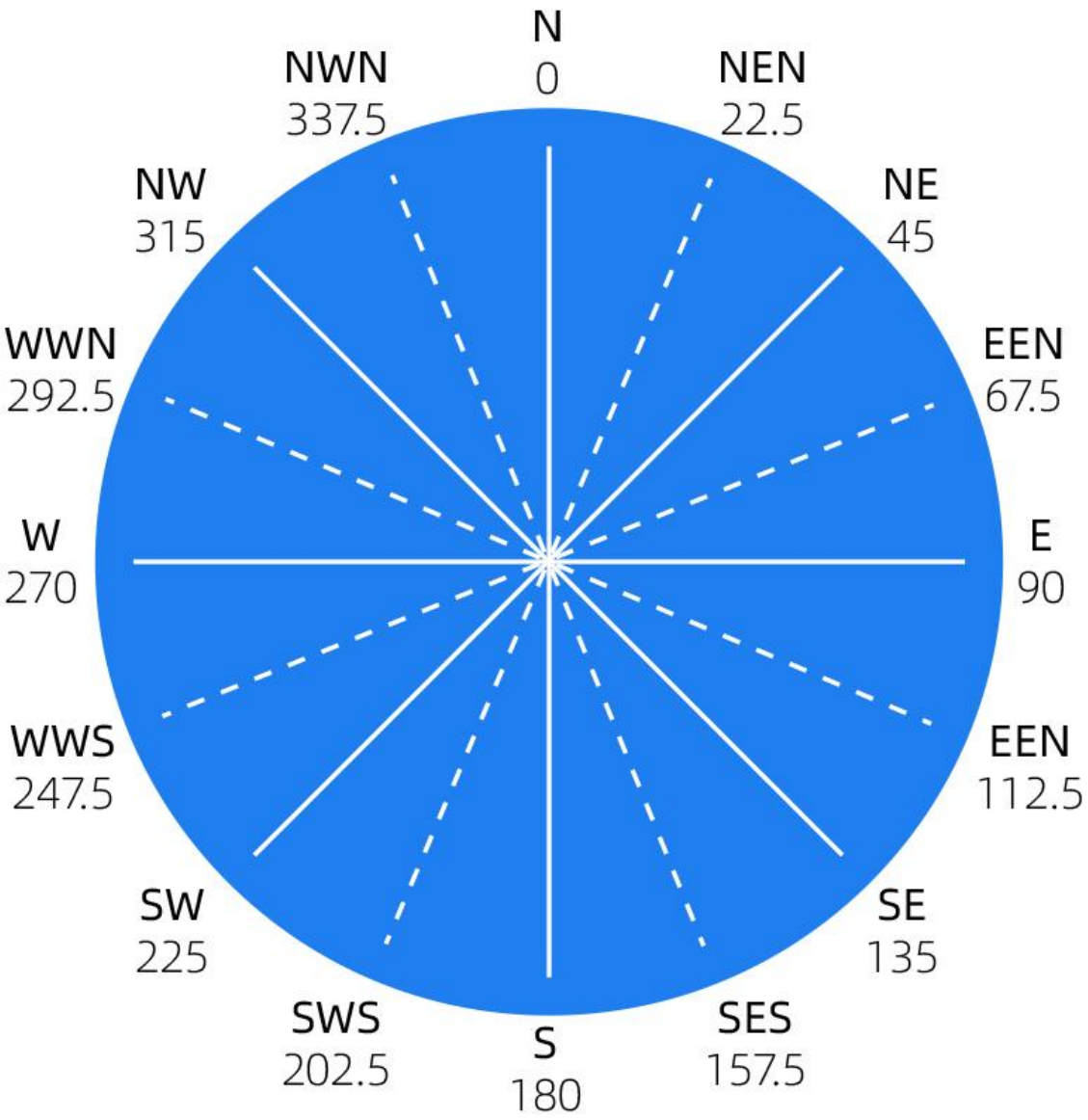
Application solution


■ RS485 ■
RS485 Conversion
Computer


■ DC0~5V/10V ■
RD： PWR+
Voltmeter
BU:WS Voltage
YE:WD Voltage
GN： PWR-
PWR
DC12-24V


■ 4~20mA ■
RD： PWR+
Ammeter
BU:WS Current
YE:WD Current
GN： PWR-
PWR
DC12-24V

16-DIMENSIONAL MAP OF WIND DIRECTION



How to use?

1. wind speed and DC0-5Vvoltage computing relationship

For example, the range is 0~30m/s, the analog output is 0~5V DC0-5Vvoltage signal, wind speed and DC0-5Vvoltage The calculation relationship is as shown in the formula: C = (A2-A1) * (X-B1) / (B2-B1) + A1, where A2 is wind speed range upper limit, A1 is the lower limit of the range, B2 is DC0-5Vvoltage output range upper limit, B1 is the lower limit, X is the currently read wind speed value, and C is the calculated DC0-5Vvoltage value. The list of commonly used values is as follows:

DC0-5Vvoltage(V)	wind speedValue (m/s)	Calculation Process
0	0.0	(30-0)*(0-0)÷(5-0)+0
1	6.0	(30-0)*(1-0)÷(5-0)+0
2	12.0	(30-0)*(2-0)÷(5-0)+0
3	18.0	(30-0)*(3-0)÷(5-0)+0
4	24.0	(30-0)*(4-0)÷(5-0)+0
5	30.0	(30-0)*(5-0)÷(5-0)+0

As shown in the above formula, when measuring 2.5V, current DC0-5Vvoltage is 15m/s。

2. conductivity and DC0-5Vvoltage computing relationship

For example, the range is 0~360°, the analog output is 0~5V DC0-5Vvoltage signal, conductivity and DC0-5Vvoltage The calculation relationship is as shown in the formula: C = (A2-A1) * (X-B1) / (B2-B1) + A1, where A2 is conductivity range upper limit, A1 is the lower limit of the range, B2 is DC0-5Vvoltage output range upper limit, B1 is the lower limit, X is the currently read conductivity value, and C is the calculated DC0-5Vvoltage value. The list of commonly used values is as follows:

DC0-5Vvoltage(V)	conductivityValue (°)	Calculation Process
0	0.0	(360-0)*(0-0)÷(5-0)+0
1	72.0	(360-0)*(1-0)÷(5-0)+0
2	144.0	(360-0)*(2-0)÷(5-0)+0
3	216.0	(360-0)*(3-0)÷(5-0)+0
4	288.0	(360-0)*(4-0)÷(5-0)+0
5	360.0	(360-0)*(5-0)÷(5-0)+0

As shown in the above formula, when measuring 2.5V, current DC0-5Vvoltage is 180° 。

1. wind speed and DC0-10Vvoltage computing relationship

For example, the range is 0~30m/s, the analog output is 0~10V DC0-10Vvoltage signal, wind speed and DC0-10Vvoltage The calculation relationship is as shown in the formula: C = (A2-A1) * (X-B1) / (B2-B1) + A1, where A2 is wind speed range upper limit, A1 is the lower limit of the range, B2 is DC0-10Vvoltage output range upper limit, B1 is the lower limit, X is the currently read wind speed value, and C is the calculated DC0-10Vvoltage value. The list of commonly used values is as follows:

DC0-10Vvoltage(V)	wind speedValue (m/s)	Calculation Process
0	0.0	(30-0)*(0-0)÷(10-0)+0
1	3.0	(30-0)*(1-0)÷(10-0)+0
2	6.0	(30-0)*(2-0)÷(10-0)+0
3	9.0	(30-0)*(3-0)÷(10-0)+0
4	12.0	(30-0)*(4-0)÷(10-0)+0
5	15.0	(30-0)*(5-0)÷(10-0)+0
6	18.0	(30-0)*(6-0)÷(10-0)+0
7	21.0	(30-0)*(7-0)÷(10-0)+0
8	24.0	(30-0)*(8-0)÷(10-0)+0
9	27.0	(30-0)*(9-0)÷(10-0)+0
10	30.0	(30-0)*(10-0)÷(10-0)+0

As shown in the above formula, when measuring 5V, current DC0-10Vvoltage is 15m/s。

2. conductivity and DC0-10Vvoltage computing relationship

For example, the range is 0~360°, the analog output is 0~10V DC0-10Vvoltage signal, conductivity and DC0-10Vvoltage The calculation relationship is as shown in the formula: C = (A2-A1) * (X-B1) / (B2-B1) + A1, where A2 is conductivity range upper limit, A1 is the lower limit of the range, B2 is DC0-10Vvoltage output range upper limit, B1 is the lower limit, X is the currently read conductivity value, and C is the calculated DC0-10Vvoltage value. The list of commonly used values is as follows:

DC0-10Vvoltage(V)	conductivityValue (°)	Calculation Process
0	0.0	(360-0)*(0-0)÷(10-0)+0
1	36.0	(360-0)*(1-0)÷(10-0)+0
2	72.0	(360-0)*(2-0)÷(10-0)+0
3	108.0	(360-0)*(3-0)÷(10-0)+0
4	144.0	(360-0)*(4-0)÷(10-0)+0
5	180.0	(360-0)*(5-0)÷(10-0)+0
6	216.0	(360-0)*(6-0)÷(10-0)+0
7	252.0	(360-0)*(7-0)÷(10-0)+0
8	288.0	(360-0)*(8-0)÷(10-0)+0
9	324.0	(360-0)*(9-0)÷(10-0)+0
10	360.0	(360-0)*(10-0)÷(10-0)+0

As shown in the above formula, when measuring 5V, current DC0-10Vvoltage is 180° 。

Disclaimer

This document provides all information about the product, does not grant any license to intellectual property, does not express or imply, and prohibits any other means of granting any intellectual property rights, such as the statement of sales terms and conditions of this product, other issues. No liability is assumed. Furthermore, our company makes no warranties, express or implied, regarding the sale and use

of this product, including the suitability for the specific use of the product, the marketability or the infringement liability for any patent, copyright or other intellectual property rights, etc. Product specifications and product descriptions may be modified at any time without notice.

Contact Us

Company: Shanghai Sonbest Industrial Co., Ltd
Address:Building 8,No.215 North east road,Baoshan District,Shanghai,China
Web: http://www.sonbest.com
Web: http://www.sonbus.com
SKYPE: soobuu
Email: sale@sonbest.com
Tel: 86-021-51083595 / 66862055 / 66862075 / 66861077