

## ZCC211S-JQR Electronic Compass

### General Description



ZCC211S-JQR is a plane digital module with low cost. It sends data via RS485. It features high accuracy and stable performance. Output baud rate is 9600bp/s.

### Features

Small size = 46\*36\*20mm  
Ease of cooperation with touch-tone  
Light weight.  
Ease of integration  
High accuracy

### Applications

Hand held instrument and meter  
Navigation and position of robot  
Sail system  
Autopilot on ship  
Antenna position  
GPS  
Aeromodelling position

### Order Info: ZCC211S-JQR

### Specifications:

Characteristic	Value	Units	Remarks
Measuring range	0°~360°	°	Compass placed horizontally
Display resolution	1	°	
Accuracy	2	°	
Response frequency	25	Hz	
Baud rate	9600	Bp/s	
Repeatability	<1	°	
Voltage	5v	VDC	
Operating current	<30	mA	
Operating temperature	-40 -- 85	°C	
Storage temperature	45 -- 125	°C	
Size		mm	

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**Communication protocol (Default baud:9600bp/s)**

Format:

It consists of 11 byte. ASCII

Byte1: \$(0x24)

Byte2: H(0x48)

Byte3: ,(0x2C)

Byte4: hundreds digit of angle

Byte5: tens digit of angle

Byte6: units digit of angle

Byte7: \*(0x2A)

Byte8: First parity bit

Byte9: Second parity bit

Byte10: 0x0D (ENTER)

Byte11: 0x0A (New line)

Attention: Single byte transmitting format :one start bit, eight data bits,  
one stop bit.

System enters into mode angle output itself.

At this mode, blue indicator shines often.

- Calibration: press the button calibration till the blue indicator shines(>2s)

Now blue indicator shines

- After finish the calibration, press calibration again to close calibration and system enter into angle output.
- Reset button direction reset. Take direction showed by arrow as 0°, then measure relatively .

**Size and connection:** (Units: mm)

Outline size:46\*36\*22

Connection:

Red ——— anode

Black ——— cathode

Blue ——— Signal output

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## Technical Terms

### **Calibration**

It's also called hard iron compensation. All digital compasses must be calibrated before used. Once hard iron conditions change, the magnetic field conditions will be changed too. At this time angle information counted by the compass will be inaccurate. In order to remove the influence, it's necessary to calibrate the compass.

### **Calibrating Methods and Functions**

When magnetic field is changed, angle information counted by compass will be inaccurate. This time it is necessary to calibrate the compass to remove the influence .Methods: rotate the compass two circles slowly, equably and flatly, fast not allowed. One cycle needs more than one minute. Then send “r” command to finish calibration.

Specifications subject to change without notice!