

# SENOFEE

ITEM NO: DEM202



## 2D Electronic Compass

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## General Description

DEM202 The two-dimensional electronic compass adopts industrial-grade single-chip microcomputers with high reliability and strong anti-interference ability and The high-precision agnetic sensor and drive chip are composed of integrated hard magnetic interference and soft magnetic interference compensation technology. Can be ordered Customized according to user needs, the electronic compass function can be integrated into various products very conveniently and quickly.

## Specifications

Heading accuracy: 1.2°

Tilt angle accuracy: 0.15°

Anti-vibration performance: >2000g

Store temperature : -55°C~+100°C

Tilt angle resolution: 0.15°

Tilt angle measuring range :±45°

Wide temperature working: -40°C ~ +85°C

Output signal:RS232 , RS485 , TTL , CAN

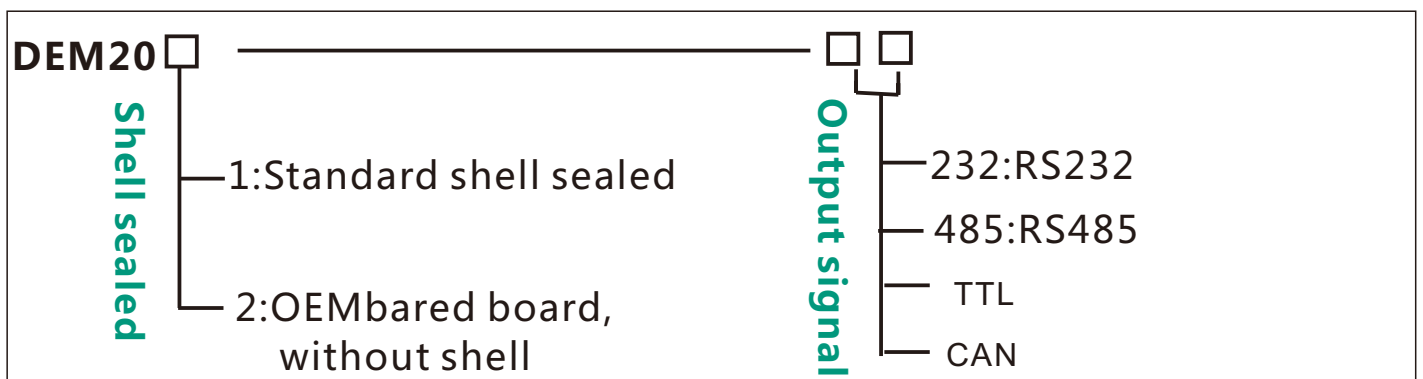
## Applications

- 1: Industrial automatic leveling
- 3: Solar automatic tracking
- 5: Lifting angle control of cranes
- 7: Measuring and mapping instruments

- 2: Medical equipment
- 4: Tower tilt monitoring
- 6: Structural deformation monitoring
- 8: Military equipment automation



## Ordering information



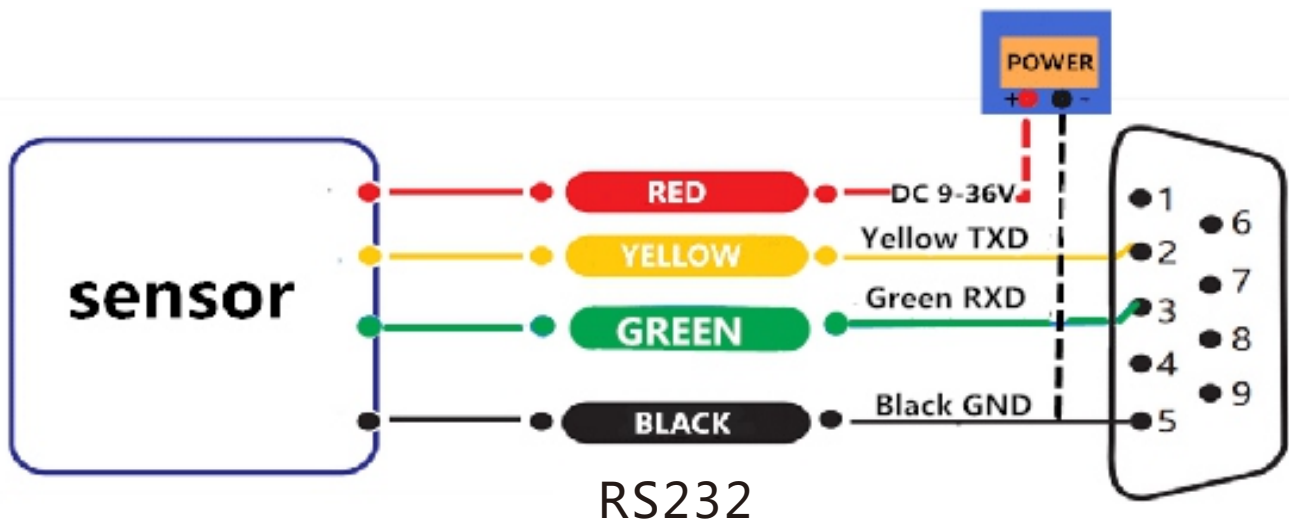
E.g:DEM20 2-232 : standard/ RS232 output

## Electrical parameters

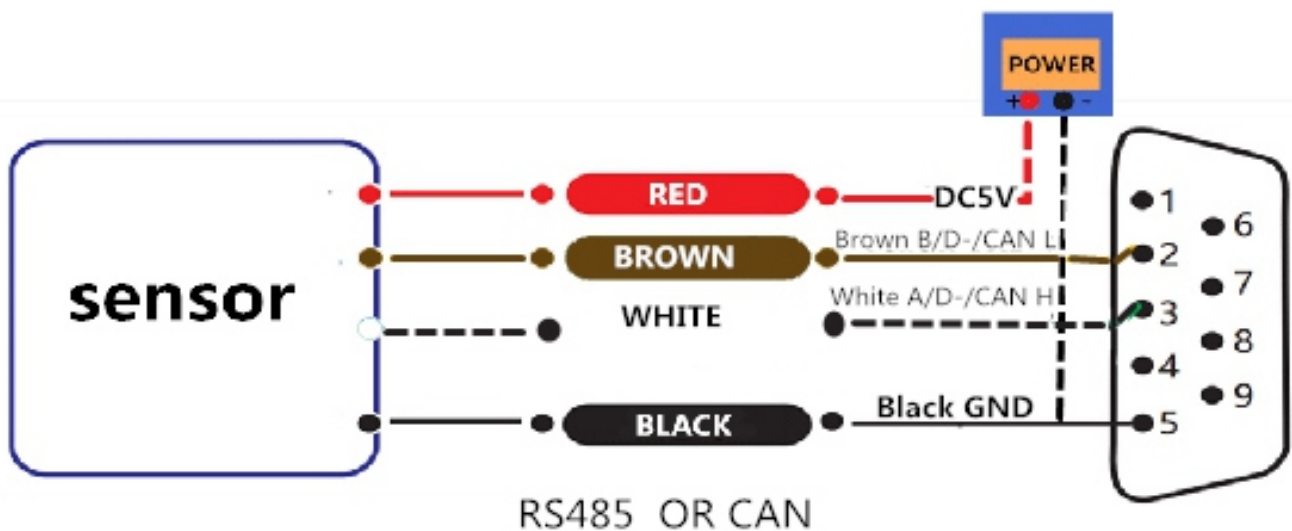
Compass Heading Parameters	Heading accuracy	1.2°[1] ( RMS )
	Resolution	0.3°
	Repeatability	0.3°
Heading	Pitch accuracy	0.15°
	Roll accuracy	0.15°
	Resolution	0.01°
	Compass tilt the best compensation angle range	±40°
Calibration	Hard iron calibration	Yes
	Soft iron calibration	Yes
	Limited tilt user calibration	Yes
Physical features	Dimension	L59 x W37 x H22.6 (mm)
	Weight	100g
	Interface connector	7-pin
Interface features	Start delay	<50MS
	Maximum sample rate	10Hz/S
	Communication rate	2400 to 19200samp0baud
	Output format	Binary high performance protocol
Power	Power supply voltage	( Default ) DC+5V
	Current(Maximum)	40mA
	Ideal mode	35mA
Enviroment	Wide temperature working	-40°C ~ +85°C
	Storage temperature	-45°C--+125°C
	Resistance shock performance	3000g

### Electrical Connection

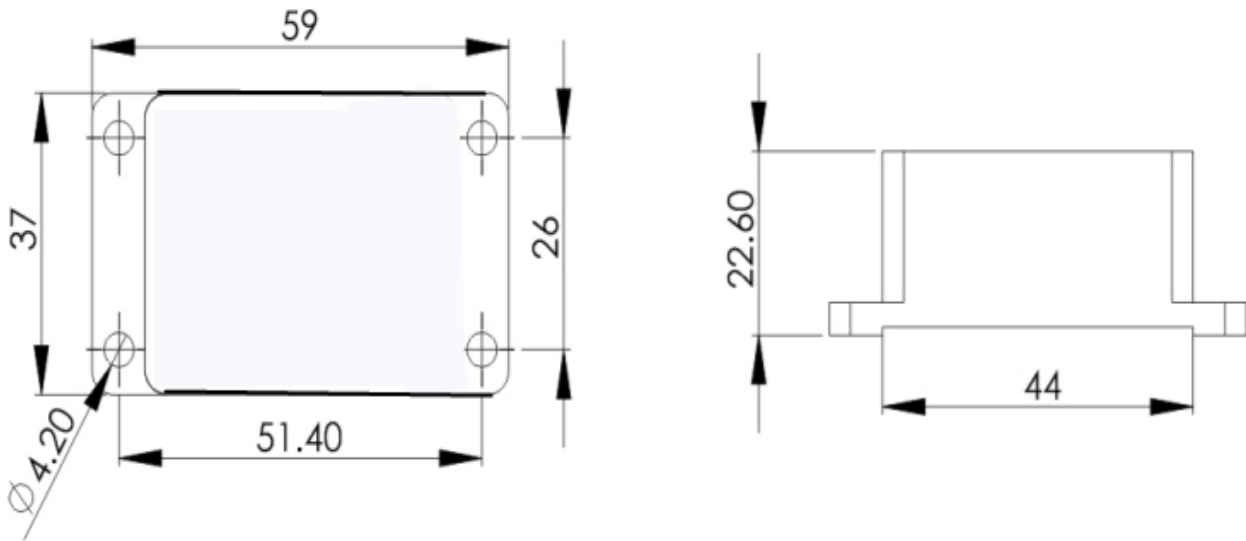
Line color	<b>RED</b>	<b>BLACK</b>	<b>YELLOW</b>	<b>Green</b>
function	DC 9V~36V Power positive	GND Power Negative	RS232(RXD)	RS232(TXD)



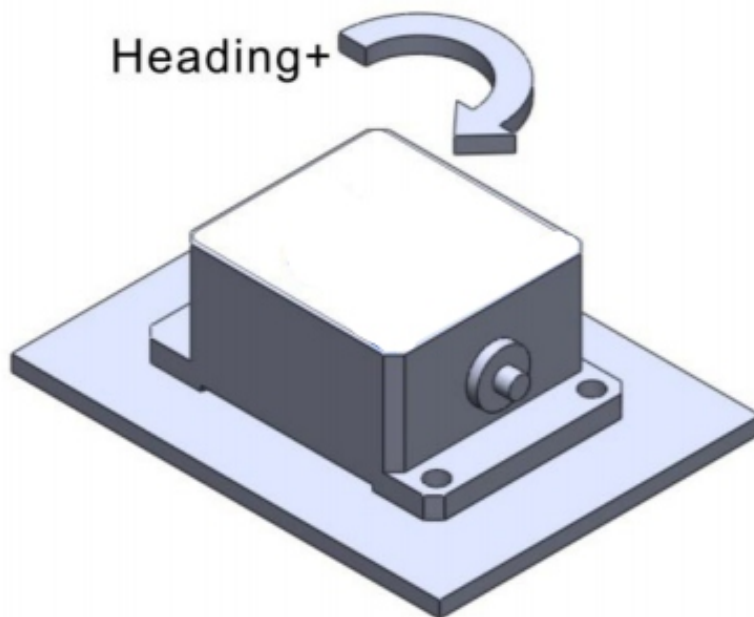
Line color	<b>RED</b>	<b>BLACK</b>	<b>Brown</b>	<b>White</b>
function	DC 9V~36V Power positive	GND Power Negative	RS485 B or CANL	Rs485 A or CANH



## Product size chart



## Measuring direction



## Production installation notes:

Although DEM202 can compensate magnetic interference, users should choose an environment with the least magnetic interference to install and use. Choose to place DEM202 away from iron, nickel, magnets, motors and other magnetic materials as much as possible. If there are these magnets around, please maintain a distance of at least 0.5m. In order to ensure that the product achieves the best measurement effect, a non-magnetic screwdriver and non-ferrous screws. Be sure to strictly avoid magnets, motors and other strong magnetic materials within 10cm of the compass, which may cause the compass to measure. The accuracy is irreversibly decreased. Each DEM202 electronic compass is provided with a 2 meter cable, and the cable length is optional. Although DEM202, it can compensate for magnetic deviation in a stable magnetic environment, but it cannot compensate for changing magnetic interference. For example: a wire with direct current generates a magnetic field, if the direct current changes, the size of the magnetic field will also change. Batteries are another source of interference. The magnetic field environment is different for each installation location. Yes, the user must evaluate the feasibility of installation in this operating environment. The heading accuracy can reach  $1.2^\circ$ , which is beyond doubt after rigorous verification, and the same scientific test method is vital. Our recommended test method is: install the DEM202 electronic compass on a vertically erected aluminum (or other magnetic material) heading accuracy measurement on the rod (rotating rod is perpendicular to the rotating platform, try to avoid large external magnetic field interference).

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