FNN-3300 Three-dimensional Electronic Compass

1.Product Features

(1) Three-axis magnetoresistive sensor measures Earth's magnetic field. Biaxial tilt angle compensation.

(2) High-speed and high-precision A / D conversion. The accuracy of magnetic field measurement is 100μGuass.

(3) Employs temperature sensor to internally compensate for temperature-induced drift.

(4) Embedded microprocessors calculate the angle between sensor and Magnetic North.Output is RS232 data format, also can choose RS485.

(5) Provides simple and effective commands of Calibration for users.

(6) Have the ability to calibrate zero-angle.

(7) Waterproof and non-magnetic house.

(8) Operating temperature is -40℃to+85℃. Storage temperature is -55℃to+100℃.

(9) Weight 0.4kg.

2.Product Applications

Electronic compass FNN-3300 can be widely used in aviation navigation, radar communications, microwave directional, offshore platform control, antenna mounting, unmanned aerial vehicles and robots automatic control, traffic vehicle detection.

3.Main parameters (RT test)

Characteristic		Condition	Min	Typical	Max	unit
Supply voltage		Direct-current	9	12	15	V
Working current		Supply voltage = 12V	55	60	65	mA
Settling Time				5		sec
inclination	**Measuring range**			±60		º
	Accuracy	Measuring range±15°		±0.15	±0.2	º
		Measuring range±30°		±0.25	±0.3	º
		Measuring range±45°		±0.3	±0.5	º

		Measuring range±60°		±0.5	±1	º
	Resolution			±0.02		º
	Linear	Measuring range±60º		±0.8	±1.8	%
	Repeatability			±0.08		º
	stability	Interval 24 hours		±0.1		º
	Thermal zero drift	Temperature range: -40 ℃ -85 ℃		±0.004	0.005	º/℃
	Cross-axis sensitivity error			±2	±3	%
position	**Field range**	Ambient magnetic field environment	-2		2	Gauss
	Accuracy	Tilt angle is less than 5°		±1	±1.5	º
		Tilt angle is less than 30°		±2.5	±3.5	º
	Resolution			±0.2		º
	Linear			1	1.5	%
	Repeatability			±0.4		º
	stability	Interval 24 hours		±0.8		º
	Thermal zero drift	Temperature range: -40 ℃ -85 ℃		0.03	0.05	°/℃
	Maximum magnetic interference[+1]				20	Gauss
Data update rate		Output continuous output	3	7	12	Hz
Baud Rate		RS232、RS485、RS422、TTL		9600		Baud
Communication parameters		RS232、RS485、RS422、TTL	9600，n，8，1			
storage temperature		Ambient temperature	-50		90	℃
Operating temperature		Ambient temperature	-40		85	℃
Protection class		Package（AGCS、AHDL）[*2]		IP55		
weight		Package（AGCS、AHDL）[*2]	260	265	270	g

	Uncased（PCBH、PCBI）*2	15	20	25	g
size	Package（AGCS）*2	Length: 100 Width: 76 Height: 40			mm
	Package（AHDL）*2	Length: 59 Width: 31 Height: 22			mm
	Uncased（PCBH）*2	Length: 64 Width: 51 Height: 18			mm
	Uncased（PCBI）*2	Length: 55 Width: 40 Height: 18			mm

Note: The work will not be damaged in the magnetic field inside the magnetic field sensor, for the normal operating range of less than ± 2 gauss products at 20 Gauss magnetic field environment can reflect the change, if you have to use the compass in such conditions We need to explain the product and factory special treatment.

Pin	23 2 interface		485 interface		422 interface	
	Color Line	label	Color Line	label	Color Line	label
1	black	GND	black	GND	black	GND
2	red	+12V	red	+12V	red	+12V
3					white	Y
4					green	Z
5	blue	RXI	blue	B	blue	B
6	yellow	TXO	yellow	A	yellow	A