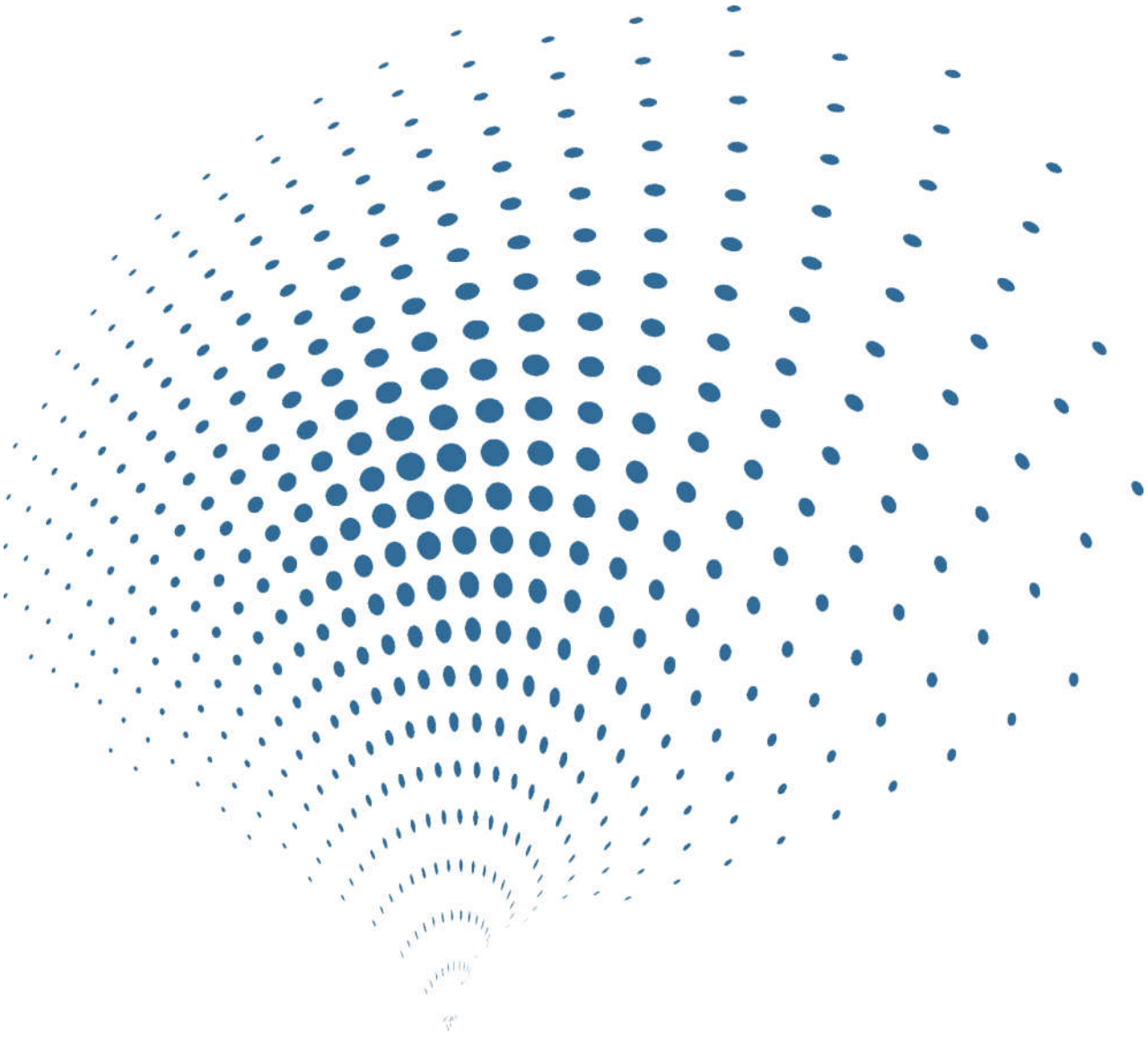
Vigor Technology



SST810 Dynamic Inclinometer

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SST810 Dynamic Inclinometer

Features

- No drift, dynamic tilt measuring
- Lowest cost, high performance
- Built in MEMS triaxial accelerometer and triaxial gyroscope
- Dynamic accuracy ±0.5°, optional ±1° or ±0.1°
- Highest refresh rate 400Hz
- Autonomous working, do not need any external auxiliary
- Mounted wherever needed

Descriptions

SST810 dynamic inclinometer is specially designed for motion application, which is an inertial product with highest 400Hz update rate.

The traditional inclinometer on the market is designed on accelerometer and electrolyte principles. In dynamic motion such as rapid movement vehicle and vessel, the measurement result will be affected by extra axial acceleration and centripetal acceleration, so that valid angle measurement data can't identify effectively, and accuracy is unable to guarantee. SST810 adopts advanced inertial navigation technology to exactly measure dynamic pitch/roll tilt angle for long time, without aiding of GPS.

Applications

- Ship
- Robot
- dynamic GPS assist
- Engineering machinery
- Weapon platform
- Power line monitoring, etc.
- Rail transportation
- Photoelectric platform
- Automotive
- Robot

Referenced Standards

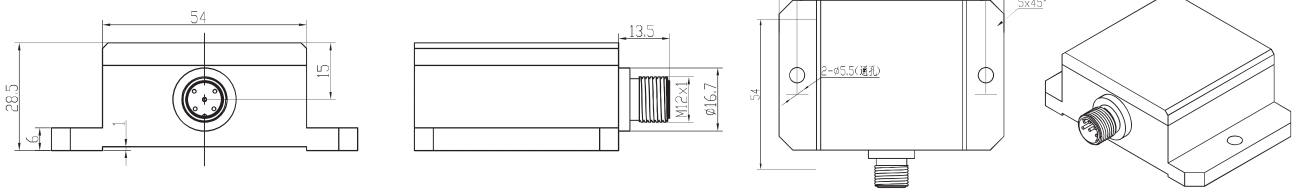
- GB/T 191 SJ 20873 General requirements for Inclinometer & levelmeter (China)
- GBT 18459 Methods for Calculation the Main static performance specifications for transducers(China)
- JJF 1059 Evaluation and Express of Uncertainty in Measurement(China)
- JJF 1094 Evaluation of the Characteristics of Measuring Instruments(China)
- JJF 1116 Calibration Specification for Linear Accelerometer used precision Centrifuger(China)
- QJ 2318 The test method of gyro & accelerometer(China)
- GJB 2786A General Requirements for Military Software Development(China)
- GJB 2884 General Specification for Three-Axis angular motion simulator(China)
- EN61000-4-11 Voltage dips &Voltage variations
- MIL-HDBD-338B
- ISO 5348 IDT
- MIL-STD-810F-501.4
- MIL-STD-810F-502.4
- MIL-STD-810F-503.4
- MIL-STD-810F-506.4
- MIL-STD-810F-510.4
- MIL-STD-810F-514.5
- MIL-STD-810F-516.5
- IEC60529 IP
- EN61000 -4-2 ESD
- EN61000-4-3 RS
- MIL-STD-810F-507.4
- EN61000-4-4 EFT
- EN61000-4-5 SURGE
- EN61000-4-6 CS
- EN61000-4-8 PFMF
- ISTA-2A

Performances

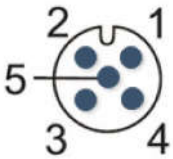
Table 1 Specifications

Roll/pitch range	±180°/±90°
Resolution	0.05°(optional 1° or 0.01°)
Response frequency	DC~800Hz
Accuracy	≤±0.5°, dynamic(optional ≤±1° or ±0.1°)
	≤±0.05°, static (optional ≤±0.1° or ±0.01°)
Refresh data	Adjustable 0.5-50Hz, optional max 400Hz
Angular velocity range	≤±300°/s (max ≤2000°/s)
Acceleration range	≤±5g (max ≤±16g)
Power supply	9~36VDC
Power consumption	< 1W
Output interface	RS232, RS485, RS422, CAN2.0, CANopen, Ethernet
Output data	Roll & pitch angle data , optional triaxial acceleration and triaxial angular velocity data
Operation temperature range	-40～85℃
Storage temperature range	-40~85℃
MTBF	≥100000 h/times
Shock	1000g@1ms,three-axis, half- sine
Protection	IP67
Connecting	M12, 5-pin
Dimensions	81x54x28.5mm
Weight	240g (without connector and cable)

Dimensions (mm)



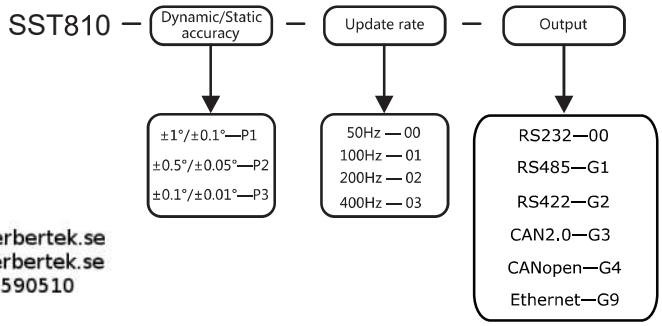
Wiring



M12 connector socket
(Male head view from outside)

Pin	Wire color	RS232	RS485	CAN
1	Red	Power+	Power+	Power+
2	Black	Power-	Power-	Power-
3	Blue	TXD	A	CAN-H
4	Brown	RXD	B	CAN-L
5	Green	Signal GND	Signal GND	CAN-GND

Ordering



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