



MEMS Inertial Devices and Systems

Inertial Navigation System

BS-NU12-M-D6EC

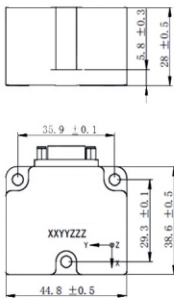
- ◇ Based on MEMS Process
- ◇ High accuracy gyros 10°/h
- ◇ Compensated for over temperature
- ◇ Low power, small size
- ◇ Fully calibrated for parameters of each axis of sensors
- ◇ Robust for vibration & shock

| Parameter | BS-NU12-M-D6EC | |
|--------------------|------------------------------------|-----------------------------------|
| Heading | Range | -180 ° ~ + 180 ° |
| | Accuracy | ≤0.2 ° |
| Attitude | Range : Roll, Pitch | -180 ° ~ + 180 ° , -75 ° ~ + 75 ° |
| | Dynamic Accuracy | ≤0.3 ° |
| Gyroscope | Range : X,Y,Z | ±450 °/s |
| | Angular Random Walk | ≤0.2 °/√h |
| | Bias Stability (1s smoothing) | ≤10 °/h |
| | Bias Repeatability | ≤10 °/h |
| | Scale Factor Non-linearity | ≤50 ppm |
| Accelerometer | Range : X,Y,Z | ±10 g |
| | Bias | ≤5 mg |
| | Bias Stability (1σ) | ≤ 0.2 mg |
| | Bias Repeatability | ≤ 0.2 mg |
| | Scale Factor Non-linearity(in ±1g) | ≤150 ppm |
| System Performance | Input Voltage | 5±0.2 V |
| | Power consumption | ≤2 W |
| | Interface | RS422 |
| | Data Rate | 200 Hz (Extendable to 500 Hz) |
| | Baud Rate | 115200 Default Value |
| | Size | 44.8 mm× 38.6 mm× 28 mm |
| | Weight | <75 g |
| | Operating Temp. | -45 ~ + 85°C |
| | Storing Temp. | -50 ~ + 85 °C |

◇ Applications

Integrated Navigation Systems & Inertial Guidance Systems Flight Control & Guidance Systems
 Attitude Heading Reference Systems (AHRS) Stabilization of Antennas, Cameras & Platforms

◇ Structure (unit:mm)



Top view

Side view

| No. | Pin Name | Definition |
|-------|---------------|------------------------------|
| 1 | +5V | Power |
| 2 | GND | Power ground |
| 3 | RS422_TX_P | RS422 Transmit Positive |
| 4 | RS422_TX_N | RS422 Transmit Negative |
| 5 | RS422_RX_P | RS422 Receive Positive |
| 6 | RS422_RX_N | RS422 Receive Negative |
| 7 | AUX_RS232_TXA | Extened serial port output A |
| 8 | AUX_RS232_RXA | Extened serial port input A |
| 9 | SGND | Signal ground |
| 10-15 | N/A | Reserved |

Definition