

DMU11

Low Cost 6-DOF Precision
MEMS Inertial Measurement Unit

DMU11-21 OEM



Key features

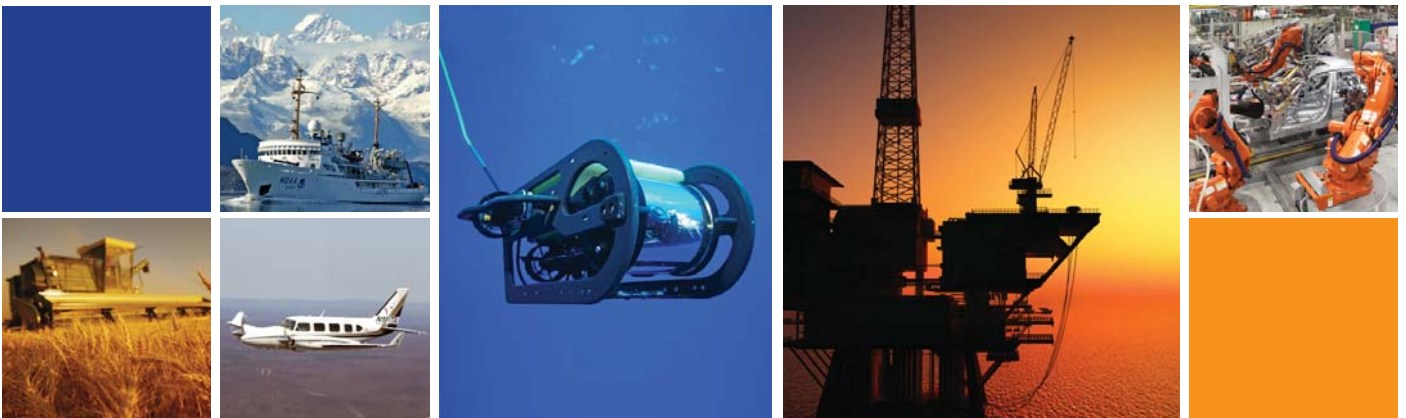
- High performance six degrees of freedom (6-DOF) low cost MEMS IMU
- 7 sensor outputs
 - Angular rate (3x)
 - Linear acceleration (3x)
 - Temperature
- Dynamic Range $\pm 300^\circ/\text{s}$ and $\pm 10\text{g}$
- Bias instability $< 10^\circ/\text{hr}$ and 0.05mg
- Random Walk $< 0.7^\circ/\sqrt{\text{hr}}$ and 0.1m/s
- Small (22 x 22 x 10.6mm)
- User programmable bandwidth
- 3.2 to 5.25V Supply
- Wide operating temperature range -40°C to $+85^\circ\text{C}$
- RS422 digital output
- RoHS compliant

Typical applications

- Machine control
- Antenna and platform stabilisation
- Precision agriculture
- Autonomous vehicles and ROVs
- Attitude measurement systems
- Personal navigation
- GPS aiding

Options

- DMU11 evaluation kit DMU11-21-0100, USB interface, software, cables, connectors and instruction manual. (Ordering P/N DMU11-21-0500)

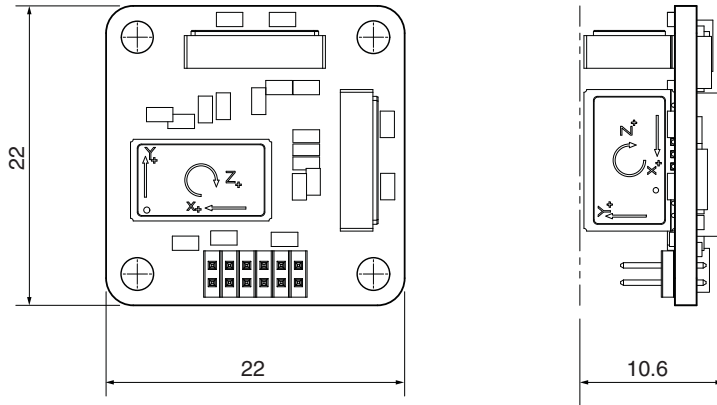


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All dimensions in millimetres



DMU11 EVK Evaluation Kit
(P/N DMU11-21-0500)

Typical Data

Gyroscope Properties

Dynamic range	$\pm 300^\circ/\text{s}$
Scale factor over temp	$\pm 0.1\%$
SF non-linearity	$\pm 0.033\%$
Bias over temp	$\pm 0.25^\circ/\text{s}$
Noise (rms to 100Hz)	0.1 $^\circ/\text{s}$

Accelerometer Properties

Dynamic range	$\pm 10\text{g}$
Scale factor over temp	$\pm 0.1\%$
SF non-linearity ($\pm 8\text{g}$)	$\pm 0.5\%$
Bias over temp	$\pm 2.5\text{mg}$
Noise (rms to 100Hz)	1mg

Misalignment

Over temperature	1.75%
Orthogonality	0.1%

Temperature Sensor Properties

Range	-45 to +100 $^\circ\text{C}$
Accuracy at OT	$\pm 3.0^\circ\text{C}$

IMU Properties

Operating temperature	-40 to +85 $^\circ\text{C}$
Start-up time	< 0.5s
Current	85mA
Supply voltage	3.20 to 5.25V

Silicon Sensing Systems Limited
Clifford Road, Southway,
Plymouth, Devon
PL6 6DE United Kingdom

T +44 (0)1752 723330
F +44 (0)1752 723331
E sales@siliconsensing.com
W siliconsensing.com

Silicon Sensing Systems Japan Limited
1-10 Fuso-Cho,
Amagasaki,
Hyogo 6600891, Japan

T +81 (0)6 6489 5868
F +81 (0)6 6489 5919
E sssj@spp.co.jp
W siliconsensing.com

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DMU11-00-0100-131 Rev 1
DCR No. 710010378

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