

Technical specification data sheet

Sensors

Sensor	Accelerometers	Gyroscopes	Magnetometers
Range(Dynamic)	±2 g ±4 g ±16 g	±250 °/s ±500 °/s ±2000 °/s	±2 G ±4 G ±8 G
Bias Instability	20 ug	3 °/hr	-
Initial Bias	< 5 mg	< 0.2 °/s	-
Initial Scaling Error	< 0.06 %	< 0.04 %	< 0.07 %
Scale Factor Stability	< 0.06 %	< 0.05 %	< 0.09 %
Non-linearity	< 0.05 %	< 0.05 %	< 0.08 %
Cross-axis Alignment Error	< 0.05 °	< 0.05 °	< 0.05 °
Noise Density	100 ug/√Hz	0.004 °/s/√Hz	210 uG/√Hz
Bandwidth	400 Hz	400 Hz	110 Hz
Pressure	10 to 120 Kpa (50HZ)		

GNSS

Model	u-blox M8P
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Supported Navigation Systems	GPS L1 GLONASS L1 GALILEO E1 BeiDou L1
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Update Rate	10 Hz
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Cold Start Sensitivity	-148 dBm
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Tracking Sensitivity	-160 dBm
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Hot Start First Fix	1 s
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Cold Start First Fix	26 s
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Horizontal Position Accuracy (with L1 RTK)	0.02 m
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Velocity Accuracy	0.05 m/s
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Timing Accuracy	30 ns
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Acceleration Limit	4 g
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Communication

Interface	RS232
Speed	4800 to 2M baud
Protocol	AN Packet Protocol or NMEA
Peripheral Interface	2x GPIO and Auxiliary RS232
GPIO Level	5 V or RS232
GPIO Functions	1PPS Odometer Stationary Pitot Tube NMEA input/output Novatel GNSS input Trimble GNSS input AN Packet Protocol input/output Packet Trigger Input Event Input

Hardware

Operating Voltage	5 to 36 V
Input Protection	±60 V
Power Consumption (Typical)	0.5 W
Hot Start Battery Capacity	> 48 hrs
Hot Start Battery Charge Time	30 mins
Hot Start Battery Endurance	> 10 years
Operating Temperature	-40 °C to 85 °C
Environmental Protection	IP67 MIL-STD-810G
MTBF	310,000 hrs
Shock Limit	2000 g