

GCINS01

INTEGRATED INERTIAL
NAVIGATION SYSTEM



GCINS01 Integrated Inertial Navigation System is an extremely small form factor, lightweight, low power, cost effective and a complete navigation system with a wide variety of uses in the industry, especially in applications where the continuity of navigation information is important. It contains GCIMU01 and GNSS receiver. It also contains an interface to receive and process external odometer signals.

GCINS01 SPECIFICATIONS

Size	30mm x 30 mm x 10 mm
Weight	< 20 g
GNSS Capability	Single GNSS Receiver
Supply Voltage	4-36 V
Power Consumption	< 1 W
Operating Temperature Range	[-40 , +70] (°C)
Communication Interfaces	RS-422 (Full Duplex)
Discrete Interfaces	Time Mark Outputs , User Event In , Odometer Inputs

GNSS RECEIVER SPECIFICATIONS

Receiver Type	L1 GNSS Systems
Constellations	GPS, GLONASS, Galileo, BeiDou, QZSS, SBAS
Cold Start	24 s
Hot Start	2 s

NAVIGATION PERFORMANCE (Typical)

POSITION		VELOCITY		HEADING	PITCH/ROLL
Horizontal (m, 1 σ)	Vertical (m, 1 σ)	Horizontal (m/s, 1 σ)	Vertical (m/s, 1 σ)	(°, 1 σ)	(°, 1 σ)
1.5	2	0.05	0.05	0.15	0.1

	MAGNETOMETER		BAROMETER	
Standard Range	± 20	G	30-125	kPa
Total RMS noise	< 0.002	G	< 0.08	Pa
Resolution	< 0.001	G	< 0.015	Pa