

PETRA 3000

FOG Land Navigation Family



High Accuracy FOG
Land Navigator Family

The PETRA 3000 FAMILY

The **PETRA 3000** family of Land Inertial Navigation Systems (INS) with embedded GNSS best exploits the strapdown Fiber Optic Gyro (FOG) technology for high-precision pointing, localization and navigation achieving optimal performance. Thanks to innovative integration of ITAR-free inertial sensors, designed and manufactured in Italy, with advanced state estimation techniques based on Kalman Filter algorithm, completely developed and tuned in-house, the

PETRA 3000 family provides the end user with superior pointing accuracy in GNSS denied environment. Aimed to withstand harsh operational conditions, **PETRA 3000** is ideally suited for new and retrofit land vehicles programmes. The **PETRA 3000** products family provides maintenance-free, robust, low weight, compact volume land inertial navigation and pointing solutions without compromising performance in all operational environments.

HEADING AND ATTITUDE (1σ)	PETRA 3000	PETRA 3020	PETRA 3010
Heading accuracy	0.3 mils sec Latitude	0.45 mils sec Latitude	0.85 mils sec Latitude
Roll/Pitch accuracy	0.25 mils	0.35 mils	0.40 mils
Body Acceleration range	± 10g, ± 20g, ± 40g (optional range)		
Minimum Gyro Compassing and attitude Settling time (static conditions)	2 ÷ 4 min		
Gyro Compassing and attitude Settling time. (full accuracy static conditions)	10 ÷ 15 min		
Stored Heading Alignment (Using last stored position and heading)	60 sec		

POSITION ACCURACIES (1σ)

Horizontal accuracy with odometer: $\leq 0.15\% DT$
Vertical accuracy with odometer: $\leq 0.1\% DT$
Horizontal accuracy with GNSS (RMS): 10 m East | 10 m North

SYSTEM CHARACTERISTICS

Interfaces

RS422/RS232
Ethernet
CAN Bus
Pulsed Odometer
Data Output Rate: up to 500 Hz

Environmental and Reliability

Operating Temperature: -32°C to +65°C
Storage Temperature: -40°C to +71°C
EMC/EMI: MIL-STD-461F/IEC 61000-6-4
Vibration: MIL-STD-810F/IEC 60068-2-6
MTBF: > 40000 hours

Dimensions:

WxHxD: 192X178X296 mm
Weight: <12Kg
Power requirements:
28VDC (18-36VDC): <18 W

