

iNAPAD

iMAR Position & Azimuth Determining System (PADS)

iNAPAD is a high precise system for Navigation, Positioning and Azimuth Determination. It can be applied in any kind of vehicles, used by mobile survey teams in military environment.

The main tasks of such survey teams is the determination of position in operational areas as well as the orientation and alignment of weapon systems upon deployment.

iNAPAD stands out due to

- easy & operator guided handling
- rapid and accurate results
- provision of standard deviations of all output data and thus high safety / SIL grade
- software supported mission preparation and execution
- automatic computation of all relevant mission data
- robust, compact, lightweight

Key components of iNAPAD are:

- iPREENA – high accurate INS core
- Theodolite with integrated Laser Range Finder
- Ruggedized PC
- Rechargeable Battery pack for min. 8 hrs autonomy

Main Tasks

- Navigation / Determination of own position
- Laying of / Transfer of azimuth & elevation to weapon systems
- Determination of position of weapon systems
- Recce and Survey of positions prior to deployment of forces

For land vehicles additionally an odometer aiding capability is available as an option, the scale factor of the wheel sensor is estimated automatically.

iNAPAD provides system performance and system reliability which is required in standard military tasks of navigation, guidance and control, mapping and target observation and determination.

iNAPAD is being delivered with the MS Windows (or LINUX or MacOS alternatively) based operator software [iXCOM-CMD](#) which is tailored to each customer requirements. This software allows to configure the output interfaces and data, it also provides the possibility to display and store data online on the PC. By applying the module "Moving Map Add-On" the user software additionally allows trajectory planning and/or a playback of recently gain operational data and visualisation of the results in Google Earth™.



Main Technical Data iNAPAD

Data Output:	Azimuth (True Heading) and elevation, position as well as standard deviations, system status (BIT)
Azimuth / True Heading	< 1 mil seclat [RMS] in ≤ 7 min. 0.2 mil with GNSS on the move
Elevation (Pitch), Roll:	< 0.5 mil PE (< 0.2 mil dynamically)
Position:	< 2 m with GNSS aiding (S/A off); < 0.1 % DT (with odometer or ZUPTs during GNSS outages)
Altitude Accuracy (all versions):	< 3 m GNSS (S/A off) < 0.15 % DT (with odometer or ZUPTs during GNSS outages)
Alignment Methods:	Static and Dynamic Alignment, Stored Heading/ Stored Position Alignment
Aiding Methods:	GNSS and/or VMS and/or ZUPT and/or waypoint aiding
Data storage:	up to 128 GByte / internal non-volatile memory
Software:	iXCOM communication protocol; iXCOM-CMD HMI software; integrated real-time Kalman filter (42+ states) and thus high SIL grade
GNSS Receiver (integrated):	at customers choice; GPS, GLONASS, GALILEO, BEIDOU available
Output Interfaces (options):	RS232/422 UART, Ethernet TCP/IP / UDP, PPT (Pulse Per Time), PPS, CAN and others
Qualification:	MIL-STD-810G, MIL-STD-461F, MIL-STD-704G, DO160G
Environment:	-20...+60 °C operating, -40...+85 °C storage; 8...100 %, IP67
MTBF / MTTR:	> 20,000 hrs (estimated for surveying applications) / < 30 minutes
Power Supply & Consumption:	10...35 V DC, < 25 W (incl. internal GNSS receiver);
Weight / Size:	iPRENA: < 6.9 kg / approx. 187 x 128 x 296 mm ³ (w/o connectors) Theodolite: ~ 5 kg CDU: ~ 2 kg



iMAR Navigation GmbH • Im Reihersbruch 3 • D-66386 St. Ingbert / Germany
 Phone: +49-(0)-6894-9657-0 • Fax: +49-(0)-6894-9657-22
www.imar-navigation.de • sales@imar-navigation.de

