

NavOpen Smart Antenna



Integrated RTK GNSS Receiver · PPP · IMU



— Overview

Engineered for professionals who demand centimetre accuracy without infrastructure. The NavOpen Smart Antenna combines a multi-constellation GNSS receiver, a proprietary RTK engine, satellite-delivered PPP corrections and an integrated IMU in a single IP67-sealed housing — no base station, no separate modem, no extra radio. Australian-engineered and field-proven from broadacre cropping to construction across 50+ countries.

— Key Features

- **No base station** — global PPP corrections, <3cm accuracy, 3-minute convergence
- **Proprietary RTK engine** — 8mm+1ppm horizontal, multi-constellation tracking
- **Integrated IMU** — 100Hz, automatic slope & attitude compensation
- **All-in-one comms** — 4G LTE, 410–470MHz internal radio, Wi-Fi & Bluetooth
- **Built tough** — IP67 sealing, -40°C to +70°C operating range
- **Open integration** — standard correction & output formats, brand-agnostic mounting

8 mm <small>RTK ACCURACY</small>	<3 cm <small>PPP · NO BASE</small>	100 Hz <small>IMU RATE</small>	1.5 kg <small>WEIGHT</small>	<6 W <small>POWER</small>
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PERFORMANCE

SPP horizontal (RMS)	1.5 m
SPP vertical (RMS)	2.5 m
RTK horizontal (RMS)	8 mm + 1 ppm
RTK vertical (RMS)	15 mm + 1 ppm
PPP accuracy (RMS)	< 3 cm
PPP convergence	3 minutes
PPP coverage	Global
PPP signal stability	99.99%
Init. reliability	> 99.99%
Timing accuracy (RMS)	20 ns
Velocity accuracy (RMS)	0.03 m/s
Max. data rate	20 Hz
Correction formats	RTCM 2.x/3.x · CMR/CMR+

INERTIAL (IMU)

IMU	Integrated
IMU data rate	100 Hz
Roll / Pitch (RMS)	< 0.2°
Heading (RMS)	< 0.3°

SIGNALS TRACKED

GPS	L1C/A · L2C · L2P · L5C
GLONASS	L1C/A · L2C/A
BeiDou	B1 · B2 · B3 (BDS-3)
Galileo	E1 · E5a · E5b
QZSS	L1C/A · L2C · L5
SBAS	WAAS · EGNOS · GAGAN · SDCM · MSAS
Other	L-band

COMMUNICATION

Connectors	12-pin · 19-pin · TNC
Ports	RS-232 ×2 · CAN ×2 · Ethernet*
Wi-Fi	802.11 b/g/n/ac
Bluetooth	v4.1
LEDs	Power · RTK · Satellite
Output	Position · Attitude · Sys info

CELLULAR & INTERNAL RADIO

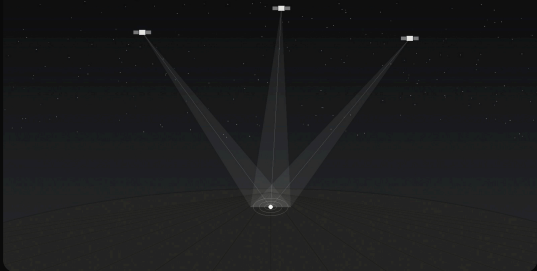
FDD LTE	1,2,3,4,5,7,8,12,13,18,19,20,25,26,28
TDD LTE	38,39,40,41
Radio power	0.5 W / 1.5 W
Frequency range	410–470 MHz
Operating mode	Half-duplex
Protocols: CSS · Transparent · TrimTalk450 · TrimMark 3 · South · Satel	
Channel spacing	12.5/25 KHz · LoRa 250 KHz
Air baud (GFSK/4FSK)	4800/9600/19200 bps
Air baud (LoRa)	11–18 kbps

ELECTRICAL & PHYSICAL

Input voltage	12 V DC
Power consumption	< 6 W (typical)
Dimensions	200 × 205 × 65 mm
Weight	1.5 kg

ENVIRONMENTAL

Ingress protection	IP67
Humidity	95% non-condensing
Operating temp.	-40°C ~ +70°C
Storage temp.	-40°C ~ +85°C



No base station. Any field on Earth.

Satellite-delivered PPP corrections give centimetre accuracy without towers, local CORS subscriptions or a second radio in the paddock. Converge in three minutes and steer with confidence anywhere on the planet.

<3 cm

GLOBAL ACCURACY

3 min

CONVERGENCE

99.99%

STABILITY

APPLICATIONS

- Broadacre cropping — A–B lines & controlled-traffic farming
- Orchard & vineyard — repeatable rows under canopy, IMU-aided
- Construction & grading — machine guidance without a local base
- OEM integration — guidance displays, autosteer & robotics platforms

IN THE BOX

- NavOpen Smart Antenna unit
- Roof mounting kit (magnetic / bolt-on)
- Power & data cable loom
- Quick-start guide

OUTPUT & INTEGRATION

Position output	NMEA-0183
Bus	CAN
Corrections in/out	RTCM 2.x / 3.x
Config	Wi-Fi · Bluetooth · Web
Mounting	Magnetic / bolt-on roof

ORDERING

Product	NavOpen Smart Antenna
Warranty	2 years
Origin	Made in Australia
Enquiries	sales@navopen.com.au

Notes: (1) Initialization time depends on satellite count, observation time, atmospheric conditions, multipath, obstructions and satellite geometry. (2) All performance figures are RMS unless otherwise stated and depend on signal environment and correction availability. (3) Ethernet port optional. (4) Actual size/weight may vary with manufacturing and measurement method. Specifications are subject to change without notice. © 2026 NavOpen.