



ALPHA

GNSS Receiver Enclosure



Key Features

- Spoofing & Jamming Detection
- Advanced Multipath Mitigation
- 874 Channels, all constellations
- Fast Acquisition
- Up to 200 Hz Output
- S-Band & L-Band
- RAIM
- Single & Dual Antennas

ALPHA is a rugged environmental enclosure for the **TR-2S**, **TR-3S**, & **TR-3S DUO** OEM GNSS boards that provides easily accessible ports to interface with external devices. Available in single and dual antenna options.

Experience enhanced performance in challenging environments with patented anti-spoofing and jamming detection, all-constellation tracking, and fast acquisition. Use NetView PC-based application for easy status and configuration by a Graphical User Interface, or for customization by traditional line commands and script files.

ALPHA Specifications



Tracking	Total Channels	874	
	GPS	L1 C/A, L1C, P1, P2, L2C, L5	
	GLONASS	L1 C/A, P1, P2, L2 C/A, L3	
	Galileo	E1, E5, E5A, E5B, E6	
	BeiDou	B1, B1C, B2B, B2, B2A, B3	
	QZSS	L1C C/A, L1C, L2C, L5, L6, L1S, L1Sb, L5S	
	SBAS	L1, L5	
	NavIC	L1, L5, S	
	L-Band	1525-1560 Mhz	
Performance		Horizontal (m)	Vertical (m)
	Autonomous (Stand alone)	1.000	1.500
	SBAS	0.500	0.850
	DGPS	0.250	0.500
	JStar (PPP)	0.025	0.050
	RTK	0.008 + 1 ppm	0.015 + 1 ppm
	Network RTK	0.008 + 0.5 ppm	0.015 + 0.5 ppm
	Static / Fast Static	0.003 + 0.1 ppm	0.004 + 0.4 ppm
	Heading	DUO: < 0.09 deg (2m baseline)	
Time to First Fix	Cold Start	< 35 s	
	Warm Start	< 5 s	
	Reacquisition	< 1 s	
	RTK Initialization	2 - 6 s	
Output Rate	Position / Measurements	2S/3S: up to 200 Hz; DUO: up to 100 Hz	
	Heading	DUO: up to 100 Hz	
Wireless I/O	Bluetooth	Bluetooth V2.0 Class 2, SPP Slave and Master Profiles	
Wired I/O	GNSS Antenna	+5 VDC, 0.16 A max (TNC); 2S/3S: 1 antenna; DUO: 2 antennas	
	USB	1 x USB 2.0 High-speed. 2S: Up to 1.5 Mbps, 3S: 12Mbps (5-pin ODU)	
	Serial	1 x RS232 up to 460.8 kbps (7-pin ODU)	
	1PPS	1 x 1PPS (BNC)	
	Event Marker	1 x Event Marker (BNC)	
Storage	Internal Memory	Up to 16 GB	
Status/Interface	Keys	3S & DUO: Power & Function	
	LEDs	3S & DUO: Status & Recording	
Power	Input Voltage	4.5 to 40 VDC, 5-pin ODU	
	Power Consumption	2 W, typical	
Physical	Dimensions	48 x 48 x 35 mm	
	Weight	370 g	
Environmental	Operating Temperature	-40°C to +70° C	
	Storage Temperature	-40°C to +85°C	
	Shock & Vibration	MIL-STD-810H (Method 516.7 & 514.8)	
	Ingress Protection	IP66	

ALPHA Family Nomenclature

2S/3S: single antenna; TR-2S & TR-3S variants.

DUO: dual antenna; TR-3S DUO variant.

Refer to the user manual for full specifications.

GNSS performance is dependent on signal quality, satellite geometry, ionospheric and tropospheric conditions, baseline length, multipath effects and RF interference. Specifications may be changed without notice.