



SIGMA

Multi-Purpose GNSS Receiver



Key Features

- All GNSS Constellations
- Cell & Radio
- NTRIP Caster / Server
- GNSS Heading & IMU
- Ethernet, USB, Serial
- Wi-Fi, Bluetooth
- CAN, Event, 1PPS
- External Frequency I/O

The SIGMA is a versatile receiver designed for multiple applications that require RTK, with options for GNSS Heading and roll / pitch from a MEMS IMU. With an internal battery, 2 power inputs, and all typical I/O, the SIGMA readily serves multiple GNSS configurations. Featuring integrated cell and radio communications, the SIGMA may be a Reference Station, with NTRIP Caster and Server functions to transmit RTCM corrections via TCP or NTRIP.

Number of Channels	874	
GNSS Constellations	GPS GLONASS GALILEO BeiDou QZSS SBAS IRNSS L-Band	L1 C/A, L1C (P+D), P1, P2, L2C (L+M), L5 (I+Q) L1 C/A, P1, P2, L2C, L3 (I+Q) E1 (B+C), E5A (I+Q), E5B (I+Q), AltBoc, E6 (B+C) B1, B1-2, B1C (P+D), B5A (I+Q), B2, B5B (I+Q), B3 L1 C/A, L1C(P+D), TMBOC, L2C(L+M), L5(I+Q), L6, L1S, L1Sb, L5S L1, L5 L5, S-Band 1525-1560 MHz
Position Accuracy	Autonomous (Stand alone) SBAS DGPS PPP RTK Static/Fast Static Roll / Pitch / Heading ¹	< 2 m < 1 m < 0.5 m Horizontal: 0.025 m Vertical: 0.050 m Horizontal: 0.008 m + 1 ppm Vertical: 0.015 m + 1 ppm Horizontal: 0.003 m + 0.1 ppm Vertical: 0.004 m + 0.4 ppm Roll / Pitch: 0.10 deg, Heading: 0.09 deg (2 m baseline)
Network	NTRIP Caster TCP / TCPO / UDP Server NTRIP / TCP Client NTRIP Server HTTP(S) Server FTP Server / Push /SFTP	Up to 256 NTRIP Clients 5 / 256 / Unlimited Clients 2 / 2 Connections 2 NTRIP Caster Connections 1 Client 1 Client / 1 / 1 Connection
Cell	4G LTE	LTE-FDD, LTE-TDD, DC-HSPA+, HSPA+, HSPA, UMTS (SMA)
Radio	UHF Radio Modem UHF FH915 (optional)	1W TPO / 2 W EIRP, 406-470MHz UHF transceiver (SMA) 1W TPO / 2 W EIRP 902-928/ 868-870 MHz ISM transceiver (RP-SMA)
Memory	Non-removable	Up to 64 GB
Status/Interface	LEDs / Keys	2 Buttons: Power & Function 7 LEDs: Power, Status, Recording, Radio, Cellular, Wi-Fi, Bluetooth
Communication	Ethernet Wi-Fi, Bluetooth USB Serial Serial/CAN 1PPS Event Marker External Frequency I/O GNSS Antenna ²	Full-duplex 10BASE-T/100Base-TX (7-pin ODU) 5 GHz and 2.4GHz, 802.11 a, b, g, n, ac v5.1, Dual-Mode High-speed USB 2.0 (480 Mbps) dual-role port (7-pin ODU) 2 x RS232 up to 460.8 kbps (7-pin ODU) 1x RS232 / 422 / CAN 2.0 with +12 V DC, 250 mA max (M12, 8 pin) 2 x 1PPS 2 x Event Marker 5/10/20MHz +5 VDC (0.2A max)
Power	External Input Input Voltage Internal Battery Operation Time	2 inputs, 5-pin ODU +10 to +30 VDC Rechargeable Li-Ion Battery, 42500 mWh (nom.) 18 hours
Physical & Environmental	Operating Temperature Storage Temperature Humidity Ingress Protection Shock Vibration Dimensions Weight	-40°C – +65°C -40°C – +85°C 100% IP67 MIL-STD- 810H (method 514.8) MIL-STD- 810H (method 516.8) 212 X 132 X 62 mm 1.4 kg

The SIGMA-3S is a single antenna model. The SIGMA-DMI is dual antenna model with an integrated MEMS IMU.

1. Roll / Pitch / Heading on the SIGMA-DMI model
2. 2 x +5 VDC ports on the SIGMA-DMI model

SIGMA Models & Options

	Standard	Option A	Option B	Option C
SIGMA-3S	PWR1, PWR2, USB, Serial, Serial, Ethernet, Wi-Fi Ant., RS232/CAN, BT Ant., ANTv		Event A, 1PPS B, 1PPS A, FREQ I/O	Event A, 1PPS B, 1PPS A, FREQ I/O, Cell, UHF, SIM Door
SIGMA-DMI	PWR1, PWR2, USB, Serial, Serial, Ethernet, Wi-Fi Ant., RS232/CAN, BT Ant.	ANT2, ANT1	ANT2, Event A, 1PPS A, ANT1	ANT2, Event A, 1PPS A, ANT1, Cell, UHF, Sim Door

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.