NAVTELECOM
TELEMATICS SYSTEMS

GNSS TRACKING AND MONITORING DEVICES

SMART S-4511E, S-4511SA, S-4513E, S-4513SA

DATASHEET

Moscow, Russia
2026

Intended Use

The SMART S-4511x and S-4513x, manufactured by Navtelecom LLC, are GNSS/LTE tracking and monitoring devices with integrated GLONASS/GPS and LTE/GSM antennas.

The SMART series is designed for:

- location tracking and monitoring of vehicles and stationary equipment;
- monitoring of route history, speed, operating hours and other telematics parameters;
- remote monitoring and control of connected equipment and systems;
- alarm notification in case of emergency events;
- collection and transmission of data from supported wired and wireless sensors and peripheral devices;
- data logging and reporting.

Detailed information about the functional capabilities of the devices is available at www.navtelecom-iot.com

Standard Package Contents

№	Item	Qty
1	SMART tracking device	1
2	Micro-Fit 3.0 14-pin connector with power leads	1
3	Set of 5 connecting leads	1

Technical Specifications

		S-4511x*	S-4513x*
LTE/GSM/Bluetooth			
Modem Type		4G/2G	
Frequency Bands			
LTE-FDD	E	B1/B3/B5/B7/B8/B20	
	SA	B1/B2/B3/B4/B5/B7/B8/B28/B66	
LTE-TDD	E	–	
	SA	–	
GSM (2G)	E	900/1800 MHz	
	SA	850/900/1800/1900 MHz	
LTE Category		Cat 1	
GPRS Class		Class B, multislot class 12	
Transport Protocols		TCP, UDP	
Output Power		GSM/GPRS Power Class: - EGSM900: 4 (33 dBm ± 2 dB) - DCS1800: 1 (30 dBm ± 2 dB) EDGE Power Class: - EGSM900: E2 (27 dBm ± 3 dB) - DCS1800: E1 (26 dBm +3 dB/−4 dB) LTE Power Class: 3 (23 dBm ± 2.7 dB)	
Maximum LTE Data Rate (DL/UL), Mbps		10 / 5	
Maximum GPRS/EDGE Data Rate, kbps		85.6 / 236.8	
SIM Cards		1	2
SIM Card Slot #1		Mini-SIM (external, with ejector)	
SIM Card Slot #2		Not Available	Nano-SIM (internal)

	S-4511x*	S-4513x*
SIM Chip (MFF2) Option	Optional (1 chip)	Optional (2 chips)
GSM Jamming Detection	Yes	
Bluetooth	Bluetooth 5.0	
GNSS		
Supported Navigation Systems	GLONASS/GPS/BeiDou	
Receiver Channels	Tracking: 33 Acquisition: 99	
GLONASS Operating Frequency (L1), MHz	1598.0625–1605.375	
GPS Operating Frequency (L1), MHz	1563.42–1587.42	
BeiDou Operating Frequency (B1), MHz	1559.052–1591.788	
Coordinate System	WGS-84	
Sensitivity, dBm	Tracking: −167 Cold Start: −148	
Time to First Fix (TTFF), s	Cold Start: 35 Warm Start: 30 Hot Start: < 1	
Horizontal Position Accuracy (CEP 50%), m	2.5	
Speed Accuracy, m/s	≤ 0.1	
Navigation Update Rate, Hz	1	
GNSS Jamming Detection	Yes	
Power Supply		
Supply Voltage, V[1]	9.5–47	9.5–47
Average Current Consumption at 12 V, mA[2]	80	80

	S-4511x*	S-4513x*
Standby Current at 12 V (GNSS and Cellular Modules Off), max, mA	20	20
Maximum Current Consumption at 12 V, mA	250	250
Reverse Polarity Protection	Yes	Yes
Overvoltage Protection	Yes (up to 200 V)	Yes (up to 200 V)
Built-in Battery[3]	Li-Po 3.7 V, 380 mAh	Li-Po 3.7 V, 380 mAh
Battery Protection (Overcharge, Deep Discharge and Short Circuit)	Yes	Yes
Battery Life, h	≥ 1	≥ 1
Battery Charging Time, h	2	2
RTC Crystal Oscillator	Yes	Yes
RTC and GNSS Backup Battery	Yes	Yes
RTC and Ephemeris Retention Time, days	5	5
Battery Charging via USB	Yes	Yes
Interfaces/Sensors		
Input Surge Protection	Yes	Yes
Total Number of Inputs	5	5
Discrete Inputs, Positive Triggering ("+")	2	2
Discrete Inputs, Negative Triggering ("–"), with Built-in Pull-up	3 (IN2, IN4, IN5)	3 (IN2, IN4, IN5)
Analog Inputs	1	1
Analog Input Voltage Range, V	0–31	0–31
USB Interface	Mini-USB	Mini-USB

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RS-485 Interface	No	Yes
RS-232 Interface	No	No
CAN Interface	No	No
1-Wire Interface	Yes	Yes
Control Outputs	2	2
Output Switching Current, max, mA	500	500
Output Switching Voltage, max, V	48	48
Audio Interface (Microphone and Speaker)	No	No
Accelerometer	Yes	Yes
Accelerometer Range, g	±24	±24
Accelerometer Calibration	Yes	Yes
Device Memory		
Memory Capacity, MB	8	
Black Box Capacity, records	Up to 50,000	
Record Logging Interval, s	1–3600 or event-based	
microSD Card Support	No	
Environmental Specifications		
Ingress Protection Rating	IP54	IP54
Shock Resistance, g	24	24
Storage Temperature with Battery,°C	0 to +40	0 to +40
Storage Temperature without Battery,°C	−40 to +85	−40 to +85
Operating Temperature with Battery,°C	−20 to +60	−20 to +60

	S-4511x*	S-4513x*
Operating Temperature without Battery,°C	−40 to +85	−40 to +85
Battery Charging Temperature,°C	0 to +50	0 to +50
Relative Humidity at 35°C, max, %	95	95
Physical Specifications		
GNSS and Cellular Antennas	Built-in	
Interface Connectors	Micro-Fit 3.0 (14-pin)	
Housing Material	ABS plastic	
Dimensions, mm	102×57×22 (including connectors)	
Device Weight, g	78	79

** The "x" designation in the device model indicates the target region:*
SA – South America
E – Europe
These designations are indicative only. The device may be used in other regions where the supported cellular frequency bands are compatible with local network operators.

The manufacturer reserves the right to modify the product specifications without prior notice for the purpose of product improvement.

[1] If the maximum operating voltage is exceeded, the overvoltage protection is activated. In this case, the device continues operating from the built-in battery, if equipped.
[2] During GPRS operation under poor network conditions, the device may draw current peaks of up to ~10 ms exceeding 500 mA.

[3] WARNING: The device contains a lithium-polymer (Li-Po) battery. The following safety precautions must be observed: do not heat the battery or place it near heat sources; do not expose the battery to open flame; do not expose the battery to direct sunlight for extended periods; do not operate the device in conditions exceeding the specified temperature and humidity limits; do not subject the battery to impact, crushing, deformation or disassembly; do not short-circuit the battery terminals.

[4] If the device is stored or operated outside the specified temperature range, it is recommended to disconnect and remove the built-in battery to prevent damage to both the battery and the device.

[5] Battery charging is disabled at low and high battery temperatures.

Warranty

The manufacturer warrants that the product will operate as specified in the applicable documentation, provided that all requirements for installation, operation, storage and transportation are observed.

The warranty period for the product is 3 years from the date of sale. The built-in rechargeable battery, where applicable, is covered by a 1-year warranty.

Minor cosmetic wear resulting from normal use does not affect warranty coverage.

The manufacturer does not guarantee compatibility of the product with third-party hardware, software or services unless explicitly specified in the applicable documentation.

The manufacturer shall not be liable for damage resulting from improper installation, operation, storage, transportation or use of the product contrary to the applicable documentation.

This warranty does not cover:

- documentation and packaging materials supplied with the product;
- accessories supplied with the product, unless defective upon delivery;
- damage caused by improper installation, operation, storage or transportation;
- damage caused by external mechanical, electrical, thermal, chemical or environmental factors;
- unauthorized modification, repair or alteration of the product.

This warranty becomes void if:

- the product is used in violation of the installation, operation, storage or transportation requirements specified in the applicable documentation;
- the product has been opened, modified, repaired or serviced by unauthorized persons;
- warranty seals, labels, serial numbers or identification markings have been removed, altered or damaged;

- the product has been used with incompatible or malfunctioning hardware, software or accessories;
- the hardware, firmware or internal configuration of the product has been modified without authorization from the manufacturer.

This includes, but is not limited to:

- modification of the device hardware or printed circuit board;
- replacement, removal or modification of electronic components;
- installation of unofficial or modified firmware;
- modification of internal system parameters;
- reverse engineering or any other unauthorized interference with the hardware or software of the product.

Any such actions are performed at the user's own risk and immediately void the warranty. The manufacturer reserves the right to refuse warranty service if signs of unauthorized hardware or firmware modification are detected.