

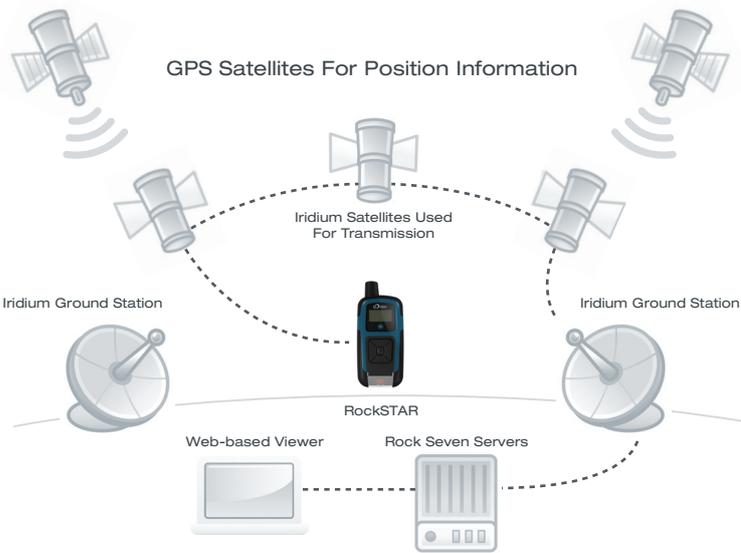


ROCK SEVEN

LOCATION TECHNOLOGY



How does the RockSTAR work?



The RockSTAR tracker is a rugged and fully self-contained battery operated tracker which works anywhere on Earth.

The tracker will wake up every so often (e.g. every 15 minutes), obtain a position using the GPS satellite network, and then transmit that position back to Rock Seven HQ using the Iridium satellite network in seconds. The message is relayed to us from Iridium, and then we visualize the positions on an easy-to-use web-based viewer.

The RockSTAR also allows short messages (like SMS, social media updates and short emails) to be sent using a paired Bluetooth device (such as a smartphone) and the Messenger app. This allows for full two-way communication wherever you are, even when out of mobile network range.

Iridium is the only satellite network that allows transmission of information from any point on Earth – other networks have no coverage in the polar regions, and have intermittent or no coverage in other marine and land areas.

Iridium has 66 satellites in orbit around the Earth, allowing coverage anywhere on Earth 24 hours a day, 7 days a week. No other satellite network has truly global coverage. Messages sent via Iridium take just seconds to reach Rock Seven HQ.

Depending how often the RockSTAR is set to transmit, they can last for up to a year on their internal battery.

Physical Properties

Dimensions	144 x 76 x 36mm (plus antenna)
Weight	305 grams
Screen	Single Colour OLED 26 x 35mm

Environmental Properties

Storage Temperature	-40 to 85 deg C
Operating Temperature	-30 to 60 deg C
Operating Environment	< 75% Relative Humidity
Testing	MIL-STD-810G for vibration, temperature and shock IP67 – Sealed against dust and water ingress to immersion of 1m

Power

Input voltage	USB (5v)
Power Consumption	Tx/Rx: 8W Max
Battery	LiPo cells, 5.3Ah
Power I/O	USB

Communication

Iridium Modem	9602 short burst transceiver
Iridium Antenna	Maxtena helical antenna
GPS antenna/chip	uBlox GPS chipset

Battery Life (examples)

Up to 12 months transmitting once per day
Up to 3 months transmitting once per hour
Up to 3 weeks transmitting every 15 minutes

Actual battery life will depend on environment and usage patterns

GPS

GPS Receiver Type:	50 channel
Update rate:	Up to 4Hz position update rate
Time to first fix:	<1s hot, <20s warm, <60s cold
GPS Sensitivity:	-160dBm

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