

physical

Dimensions

Main module + battery pack	112 mm x 173 mm x 41 mm
Antenna	112 mm x 37 mm (diameter x height)

Weight

Main module	370g
Antenna (incl. 5m cable)	340g
Shipping weight (main module + antenna)	930g
Rechargeable battery pack	315g

Enclosure

Material	Bayblend FR110
Colour	UN0332 (Coconut)

Connectors

Antenna	SMA
Battery	Spring loaded, sealed contact
Data/Control/Power	25 way D type plug

environmental

Temperature

Main module	-25C to +70C
Antenna	-40C to +70C
Battery pack	Refer to battery pack specifications

Humidity

≤ 95% @ +40C

Vibration

5-20Hz: 1.92m²s⁻³ random noise
20-500Hz: -3dB octave random noise

Shock (survival)

Half sine 6ms, 300ms²

Ingress Protection Rating

Main module	IP66 (when interface connector appropriately mated)
Antenna	IP66
Battery Pack	IP66

frequency range

Transmit

1626.5 MHz to 1660.5 MHz

Receive

1525.0 MHz to 1559.0 MHz

GPS

1575.42 ± 1.0 MHz

G/T

≥ -25dB/K at EL = 30°

EIRP

< 9dBW
0dBW @ EL = 30°
-3dBW @ EL = 5°

modulation

Transmitter	2 level FSK, 256Hz tone spacing
Tx burst duration	8s (Global Beam)
User data rate	~10 bits per second (Global beam)
Receiver	32-ary FSK, 20Hz tone spacing
User data rate	~9 bits per second

message length

To Terminal (forward messages)	Up to 1000 bits
From Terminal (return messages)	Up to 84 bits

GPS

Channels	12
Time To First Fix (Typical)	
Cold start	45s
Hot start	<8s (GPS was off for less than 2 hours)
Accuracy (SA Off)	
Position (CEP,2D)	4m (Typical)
Altitude	maximum 18000m
Dynamic capability	
Velocity	maximum 515m/s
Acceleration	≤4g
Maximum update rate	1s

control & monitoring

Interface	Asynchronous serial RS232 or RS485
Baud rate	9600 bps
Parity/data bits/stop bits	N,8,1

data interfaces

Eight general purpose I/O, individually configurable as:

Analog Input	12 bit ADC, 0V - 2.5V
Analog Input	4-20mA loop
Analog Output	0V-2.5V (into high Z)
Digital Input	TTL compatible
Digital Output	TTL compatible (50uA max drive capability)

solar panel input

Maximum voltage	30V
Maximum current	0.5A

power supply voltage

9.6V to 30V 'smoothed' DC

power consumption (@12V)

Sleep	0.5mW
Receive (incl. GPS)	2.4W
Transmit	8.7W

battery pack option

Rechargeable:

Battery Type	Nickel Metal Hydride (NiMH)
Capacity	1.2Ah
Storage temperature	-20C to +35C
Discharge temperature	-20C to +60C (0C to +45C optimal)
Permanent charge	+10C to +35C