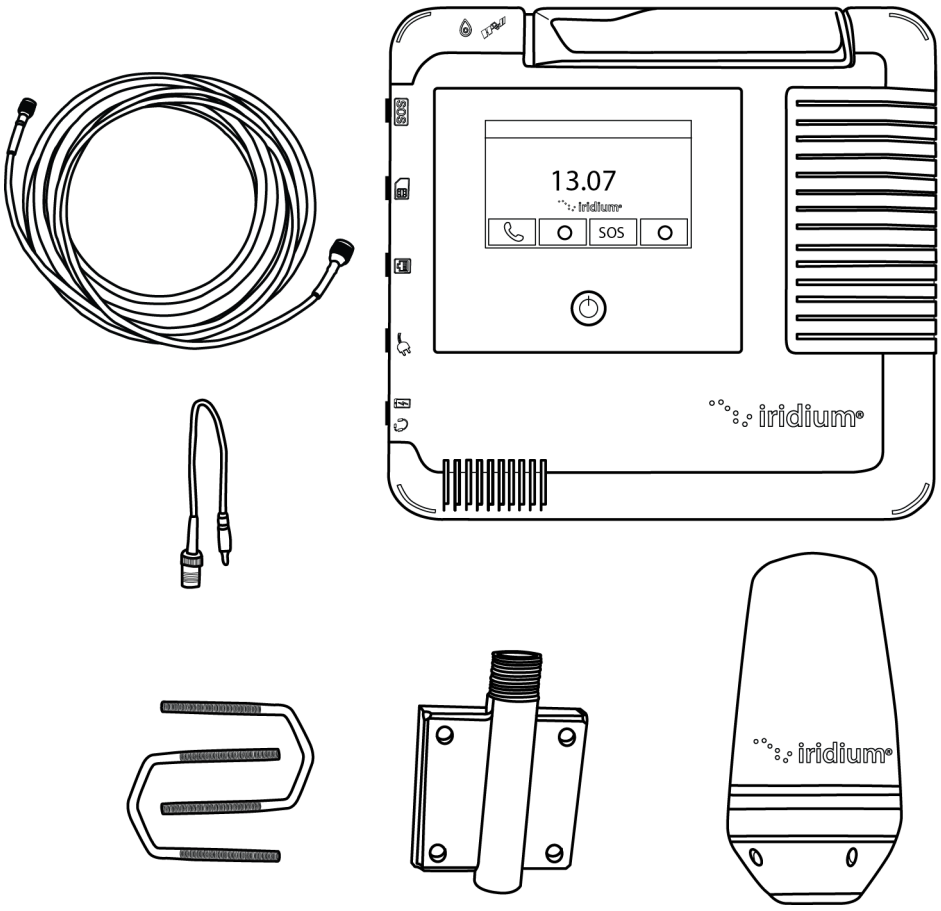
Iridium GO! exec®

Single Mode Antenna LITE Kit (No GNSS) (GELITKT2301)

Installation Guide V1.2



Prior to installing or using Iridium GO! exec, read and understand this Installation Guide, and the Iridium GO! exec User Manual including the safety warnings and information. Failure to do so could result in serious injury or death.

* Please note this is a single mode Iridium only antenna (NOT including a Global Navigation Satellite System (“GNSS”) Antenna) and so will not assist with providing location coordinates for SOS. To use the Iridium GO! exec as a GNSS device requires: moving the device outdoors with a view of the sky, installing firmware 1.0.6 or higher, and setting GNSS antenna to internal in device settings. Refer inside page 8, Note 3 for details.

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Legal Notices

This Installation Guide provides installation information for the Iridium GO! exec Single Mode Antenna LITE Kit (No GNSS). Iridium expects there may be additions and or modifications to this document as product development continues, or as new features are developed, so Iridium reserves the right to revise this Installation Guide or withdraw it at any time without prior notice. You can find the current version of this Installation Guide for the Iridium GO! exec at www.iridium.com.

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If you do not have the Iridium GO! exec User Manual, it can be found at www.iridium.com or call 1-866-947-4348 (or +1-480-752-5155 for outside U.S.) and request that a User Manual be sent to you.

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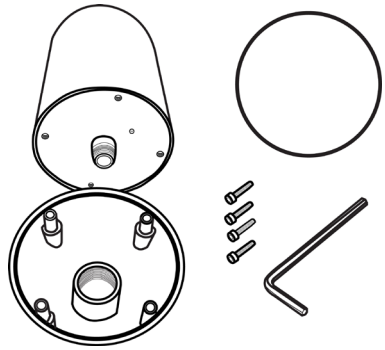
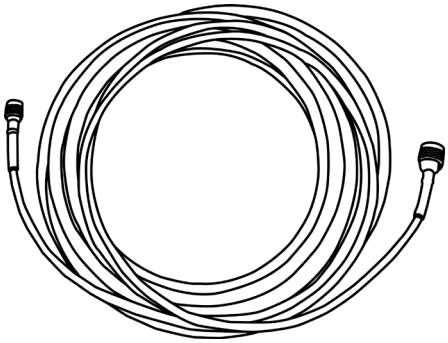
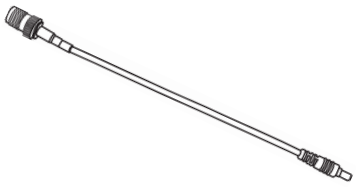
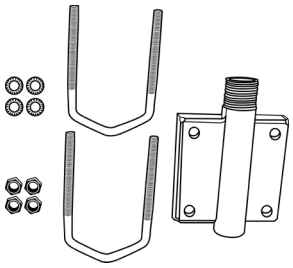
1 Kit contents

1.1 Items included in the kit:

		
(A) 1 x Iridium Single Mode Passive Omnidirectional Antenna Kit	(B) 1 x 5m/16.404ft LMR 400 Passive Antenna Cable	(C) 1 x Iridium GO! exec Cable Adapter 0.15m/5.90 inches
		
(D) 1 x Stainless Steel Mast/Rail Mount Bracket Kit	(E) 10 x Cable Ties	(F) 1 x User Installation Guide

2 Antenna and Cable Installation

Note: *It is recommended that prior to installation, you pre-test the complete setup. This can be done on a bench or on the deck of the boat. Connect all components to test if everything works fine. Doing so will familiarize the user how the parts go together and guarantees it works fine prior to installation. Make sure the external antenna is located outside and the Iridium GO! exec receives good signal reception for at least 5 minutes during this test before you proceed with the installation. Maintain a separation of at least 20 cm (7.8 inches) from antenna during test.*

⚠ WARNING	
⚠	Persons with Pacemakers: • Should ALWAYS keep Iridium GO! exec and the antenna more than eight inches or twenty centimeters from their pacemaker when the device is turned ON. • Should turn Iridium GO! exec OFF immediately if there is any reason to suspect that interference is taking place. • Failure to heed this warning could result in serious injury or death.
⚠	The Iridium GO! exec device utilizes a negative ground system. When using a DC power source, such as a car or boat, the power system must be a negative ground system. Do not use the device with positive ground systems. Failure to properly ground the GO! exec could cause fire or could cause the device to fail so that it is unavailable in an emergency situation, preventing or delaying an emergency response. These hazards could cause serious injury or death.
⚠	Use the Iridium GO! exec device ONLY with Iridium supplied power accessories. Use of non-Iridium supplied power accessories could result in exposing the device to excessive voltage, which could cause fire or could cause the device to fail so that it is unavailable in an emergency situation, preventing or delaying an emergency response. These hazards could cause serious injury or death.

Step 1)

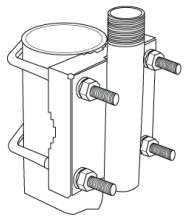
Find a dry location for Iridium GO! exec inside the vessel. Ensure that it is installed near a power source. See the Iridium GO! exec Mounting Bracket Installation on how to secure the Iridium GO! exec device in the vessel. (Section 3 and 4)

Step 2)

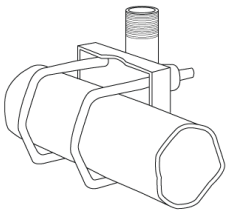
Carefully consider the cable path to allow the cable length for the exterior antenna to reach the Iridium GO! exec device.

Step 3)

Bracket mounting: Install the Mast/Rail mounting bracket within the 5 meter/16 feet proximity to a pole or rail.



Vertical installation



Horizontal installation

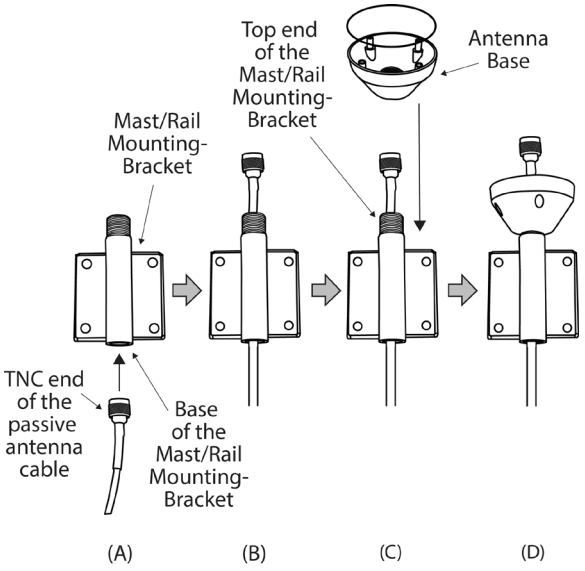
Antenna mounting: the antenna must not be mounted at a location such that during radio transmission, any person or persons can come closer than the indicated minimum safe distance to the antenna: 20 cm (7.8 inches). See Iridium GO! exec User Manual for a discussion of exposure to radio frequency (RF) energy.

Note: *U-Bolts can fit pole and rail with diameter 30-60mm.*

Step 4)

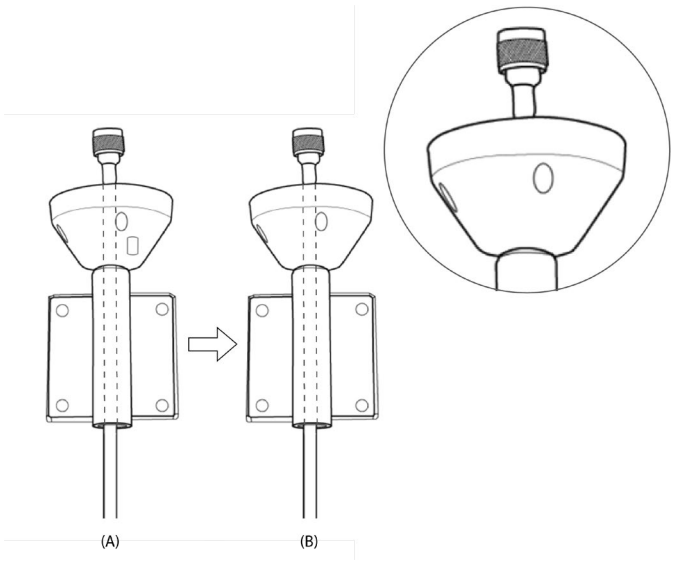
Once the antenna mount bracket is securely in place:

1. Feed one end of the passive antenna cable through the base of the bracket (A and B) then, feed the cable through the Antenna base plate (C).
2. Screw the antenna base to the bracket (D).



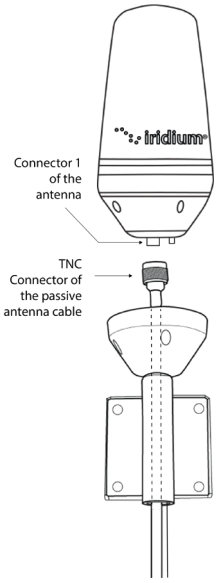
Step 5)

Insert the satellite cable through the antenna base



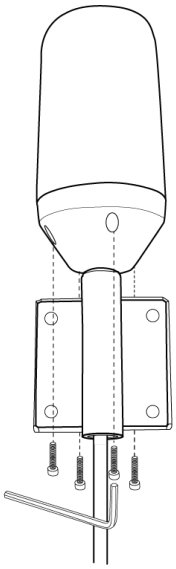
Step 6)

1. Connect the SAT antenna cable connector (TNC-M) to the antenna connector1 (TNC-F) and hand-tight.



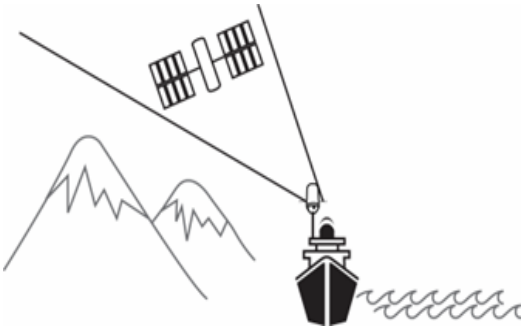
Step 7)

Screw the antenna base to the antenna housing using screws and Allen key provided.
Ensure that you attach the black rubber seal (see step 4C above) provided to the antenna base plate.



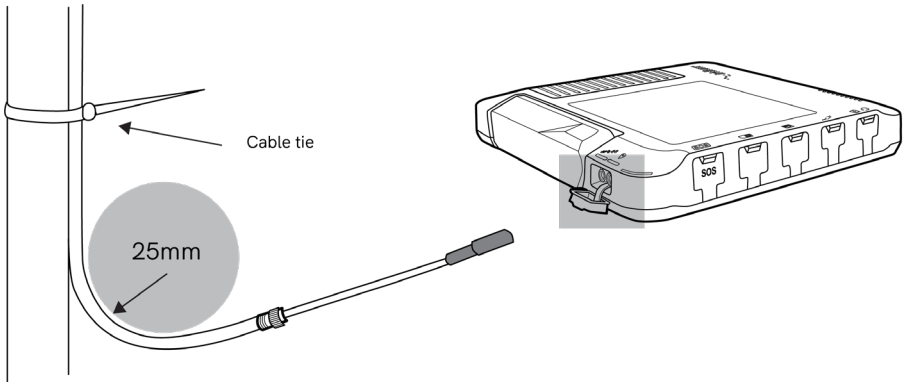
Note:

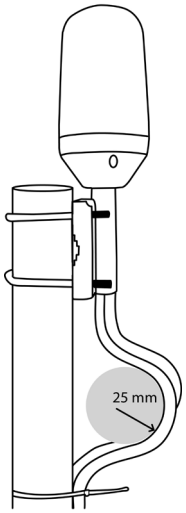
1) Use of an external antenna will provide connectivity for the Iridium network and GPS reception.
2) To ensure maximum performance of the antenna and to maximize availability and reliability of service, the position of the antenna must:
   a) *Have a clear view of the sky*
   b) *Be clear and free of obstructions*
   c) *Be clear of metal objects*
   d) *Be located above and away from other transmitting devices*
   e) *Be securely affixed in location*
   f) *Not be located indoors*
   g) *Be installed in conjunction with a certified included cable.*



Step 8)

To minimize cables waving around, use the cable ties provided to fasten tight along the pole or rail path and at both the antenna end and the Iridium GO! exec end.



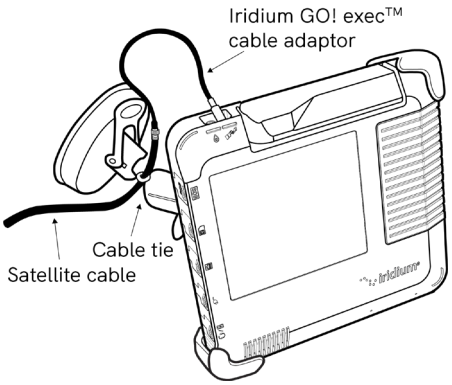


Note:

1) *Do not put stress on the cable. Ensure that the bend radius of the cable doesn't go below 25mm slack (see 5.3 Passive Antenna Cable Physical Specifications).*
2) *When installing the antenna cables, follow these guidelines:*
   a. *Route and restrain cables to prevent them from vibrating or moving under normal conditions which could result in damage to the antenna or the coaxial cable connections.*
   b. *Wherever the cables contact structures, protect the cables from chafing or abrasion. If a cable needs to be bent or looped, avoid kinking it, and ensure that each bend radius follows the cable supplier limits.*
   c. *Use coaxial sealant, shrink-wrap tubing, electrical tape, or another suitable product to seal all cable connections appropriately to prevent moisture and corrosion damage from weather exposure. Mount all antennas vertically and clear of nearby metal obstructions. Minimize horizontal obstructions as much as possible because this can create areas of poor system coverage.*

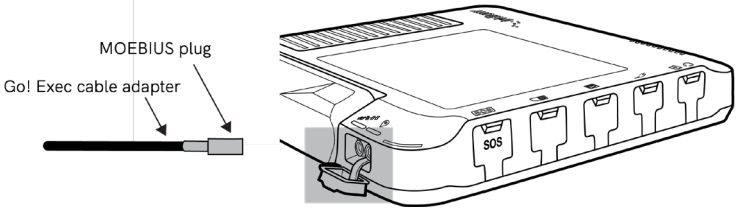
Step 9)

To protect the 15cm Iridium GO! exec cable adapter from damage, cable ties shall be used at the Iridium GO! exec end to tighten the satellite cable to any mounting equipment used. See illustration to the right. It is important to make sure that the gap between the satellite antenna cable connector and the Iridium GO! exec satellite connector is close enough so that the Iridium GO! exec cable adapter is not stressed at any point when connected to the Iridium GO! exec.



Step 10)

Connect the TNC end of the cable to Iridium GO! exec cable adapter, and then plug the Iridium GO! exec cable adapter plug to the Iridium GO! exec Satellite connector.
The connectors for satellite on the device are located behind the cover found directly below the device antenna.



Note:

1) *When an external antenna is connected, you may still raise the device internal antenna.*
   If the device's "Power ON/OFF based on antenna lift" is enabled, this action turns the unit on and allows for transmission over the Iridium network as well as acquiring location information using the connected external antenna, while lowering the device antenna with the external antenna connected will not switch the device off.
   To switch the device off with the external antenna connected, you need to use the power button on the device or use the device's Settings menu. Alternatively, with the device powered on and the device antenna in lowered position, unplugging the external antenna will switch the device off.
   If the device's Setting "Automatically power on the device on charger connection" is enabled, unplugging the device power supply will also switch off the device, while plugging the device to a power supply will switch the device on.

2) *Please use provided cable ties to secure the antenna cables to the mounting bracket.*

3) *The "LITE" kit does not include an external Global Navigation Satellite System ("GNSS") Antenna and so will not assist with providing location coordinates for SOS. Calls placed and messages sent using the LITE kit – including SOS calls and messages – will not include accurate location services.*

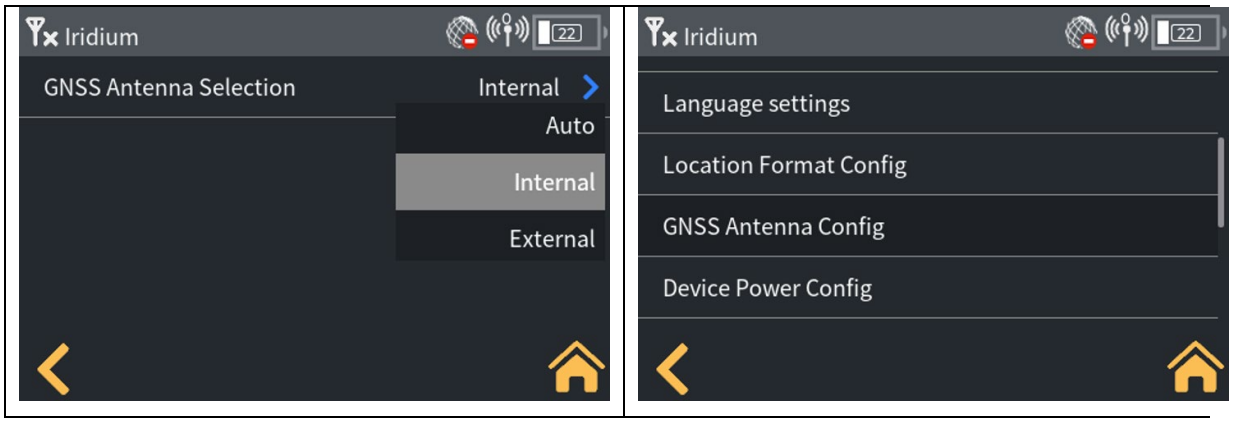
   While the Iridium GO! exec device itself does have an antenna with GNSS capabilities, using the internal antenna indoors will reduce reception and will likely result in poor or no signal reception for all purposes, including SOS functionality. Location services will not be accurate and may show no location found. Calls – including SOS calls – will still go through, but the app or the Iridium GO! exec device will be unable to accurately display the location coordinates.

4) *To allow the Iridium GO! exec device to use the internal GNSS antenna, the device's Settings menu MUST be updated. On the LCD choose "Settings" then "GNSS Antenna Config" then "Internal". This will force the device to always use the internal GNSS antenna. Note that the device FW version must be 1.0.6 or higher to support this feature.*

3 Using the LITE Kit

To use the LITE kit, the Iridium GO! exec device firmware must be version 1.0.6 or higher – updates are available via the most recent Iridium GO! exec App release on the Apple App Store and Google Play. Users just need to download the latest version, connect to the Iridium GO! exec and follow firmware upgrade prompts on the app screen.

Note: Users will need to change their device's "GNSS Antenna Config" setting to "Internal" to use internal GNSS with the single mode antenna is connected.



User will see the following options:

1) **Auto:**
   - Devices will be set to "Auto" out of the box.
   - Auto allows users to switch to an external GNSS antenna (for example, the dual mode antenna) when it detects one is connected.
   - This option also allows the device to switch back to internal GNSS when it detects the external iridium antenna has been removed.

Note: If Auto is used with the single mode antenna, the device will not use internal GNSS and assume an external antenna is equipped, and therefore continue searching for it.

2) **Internal:**
   - This option overrides the auto/default setting and forces the device to always use internal GNSS even if it detects an external antenna.
   - This option must be selected when using the single mode antenna.

3) **External:**
- This option overrides the Auto/default setting and forces the device to only use the external GNSS antenna, regardless of whether one is equipped.
   - This option can be used with Iridium's Premium Dual Mode Antenna, but it is not recommended as the user will need to return to Auto once they disconnect the external antenna.

⚠ WARNING	
	This LITE antenna kit does not support location services. To engage location services – including SOS emergency calls and messages – the Iridium GO! exec should be used outdoors with a view of the sky, and the device's GNSS Antenna Config should be set to "internal" setting. Failure to do so could cause location services to fail or produce inaccurate results and, in the case of an emergency, could prevent or delay an emergency response. This could cause serious injury or death.

⚠ WARNING	
	Do not leave power and antenna ports uncovered. Open power cover only for as long as recharging is required, and open antenna cover only when actively using the external antenna. Leaving the covers open allows moisture and water vapor to enter the device which in turn could lead to corrosion and damage to the device. This could cause fire or could cause the device to fail so that it is unavailable in an emergency situation, preventing or delaying an emergency response. These hazards could cause serious injury or death.

4 Specifications

4.1 Iridium Passive Omnidirectional Antenna

Approved passive single mode Iridium Antenna for use with the Iridium GO! exec

- Requires no pointing towards satellite
- Low loss rado.me

Electrical Specifications:	
Frequency	1616 - 1626.5 MHz (SAT)
Impedance	50 ohms (SAT)
VSWR	< 2.0 (SAT)
Satellite System	Iridium (SAT)
Polarisation	RHCP (SAT)
Axial Ratio	< 3.5 dB (SAT)
Gain	2 dBic (SAT)
Mechanical Specifications:	

Color	White (non-glossy)
Height	150 mm (191.5 mm mounting base included)
Diameter	Ø 95 mm
Mounting	Supplied Mounting or any US-style Mounting Bracket with 1"-14NF thread.
Mounting place	On marine vessel or remote homes
Materials	ASA, copper, PCB, stainless steel and brass
Operating temperature	-40C to +70C
Connector 1	SAT: TNC-female
IP rating	IP68
SAT Cable	See 5m/16.404ft passive SAT antenna cable specifications

4.2 Mast/Rail Mount

Stainless Steel Mast/Rail Mounting Bracket

Mechanical Specifications:	
Color	Polished
Mounting	On pole or rail with supplied U-bolts
Mounting place	On vertical or horizontal pole or rail with diameter Ø 30-60 mm
Materials	Polished high grade AISI-316 stainless steel
For Antenna Types	Supplied Iridium Marine antenna
Dimensions	130 x 92.5 x 40 mm

4.3 5m/17ft Passive SAT Antenna Cable

Electrical Specifications:	
Impedance	50 Ω
Capacitance	78.41 pF/M (23.9 pF/ft)
Velocity of Propagation	84%
Voltage Withstand	2500 VDC
Max Operating Frequency	8 GHz

Physical Specifications:	
Bending Radius Static	25.4mm (1”)
Bending Radius Repeated	103mm (4.0”)
Weight	0.10 kg/m or 0.068 lb/ft
Connectors	TNC-M (Iridium GO! exec – cable adaptor) TNC-M (Iridium Antenna – connector1)
Cable diameter	0.405” or 10.287mm
Connector Diameter	See TNC connector specs

Environmental Specifications:	
Operating Temperature	-40°C to +85°C

4.4 Iridium GO! exec Cable Adapter

Electrical Specifications:	
Impedance	50 Ω
Capacitance	96.45 pF/M (29.399 pF/ft)
Velocity of Propagation	69.5 %
Voltage Withstand	12000 Vrms
Max Operating Frequency	3 GHz
Physical Specifications:	
Bending Radius Static	13mm (0.512”)
Bending Radius Repeated	30mm (1.181”)
Weight	17gms/m
Connectors	Iridium GO! exec antenna connector Iridium SAT Antenna - cable
Cable Length	15cm / 5.905’’
Cable diameter	2.52.5mm (0.1”)
Connector Diameter	See connector specs
Environmental Specifications:	
Operating Temperature	-55°C to +85°C

For Customer Support, please contact:

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