Mobilogix

ATD310S

Theory of operation:

This is a Wireless Headlight Controller (WHC) with multi-functional device including Cellular, Bluetooth, and NFC communications interfaces.

The device will remain in a sleep mode while in a stationary position. The device can wake up from either of the following scenarios.

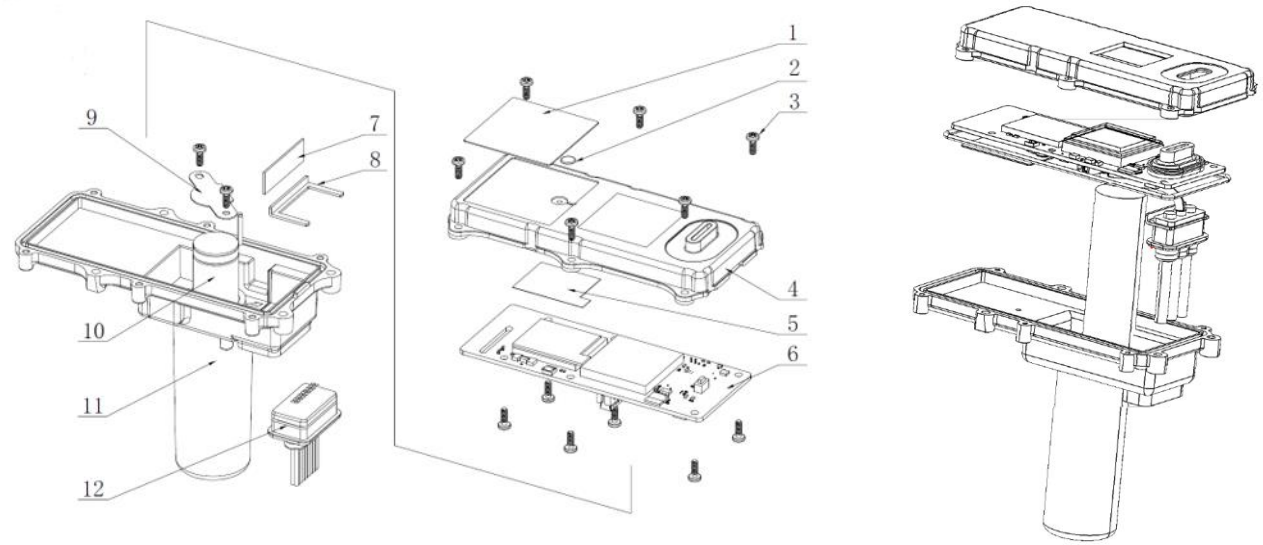
In scenario 1, the device will wake up and go into a “Stolen Mode”, meaning the device has been moved without authorized consent from the home server. In this mode the tracker will begin broadcasting location and sensor information to home server, so the correct actions can be taken to retrieve the stolen device.

In scenario 2, the device obtains authorized consent to be moved and goes into a “Trip” mode. In this mode the device logs and broadcasts sensor and location information so the user’s trip can later be analyzed, after the user has deactivated the tracker.

Via the LTE CAT1 network or BLE, the device will go back into a sleep mode to conserve power.

The device will draw the majority of its power from the trackers host asset, which is a much larger supply. However, there will be a smaller onboard Li-Po battery attached to the tracker, just in case the host’s supply runs out. There is no physical on/off switch on this device, but there is a button that will wake up the device from sleep mode. Once it is connected to a supply it will begin to run, unless, a BLE or cellular command gives the tracker a shutdown command.

Module Interface



Item	P/N	Description	Qty
1	440-00047	Label /PET 50UI	1
2	445-00012	Membrane /ePTFE	1
3	472-00002	Screw /SUS304/Torque 3.0~3.5kgf.cm	14
4	432-00002	Top enclosure asm /PC1414&Silicone	1
5	105-00008	NFC antenna	1
6	820-00010	PCBA asm	1
7	445-00013	PC slice	1
8	430-00004	Retaining Ring /SECC	1
9	430-00003	Battery holder /SPTE	1
10	110-00009	Battery	1
11	432-00001	Bottom enclosure asm /PC925U&Silicone	1
12	115-00011	Harness cable	1

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Module Assembly Detail:

Back panel of the device

Battery Holder

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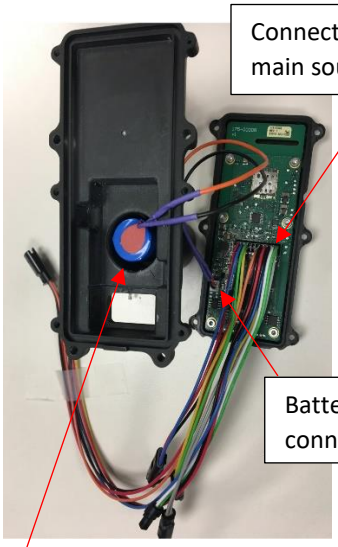
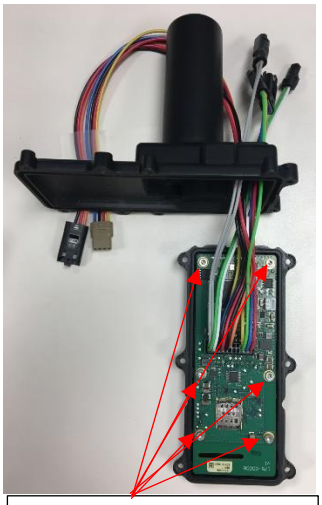


Connectors for the main source

Battery connection

Internal battery



Used 6 of the same screws as used for PCB to secure the enclosure

Complete assembled front side of the device.

Used 6 of the same screws as used for front cover to secure the enclosure

Complete assembled back side of the device.

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FCC Interference Statement (Part 15.105 (b))

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

FCC Part 15 Clause 15.21

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Part 15.19(a) [interference compliance statement], unless the following statement is already provided on the device label

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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ISED RSS-Gen Notice

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1) l'appareil ne doit pas produire de brouillage;

2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC RF Exposure Guidance Statement

In order to comply with FCC/ISED RF Exposure requirements, this device must be installed to provide at least 20 cm separation from the human body at all times.

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In order to comply with FCC/ISED RF Exposure requirements, this device must be installed to provide at least 20 cm separation from the human body at all times.

Afin de se conformer aux exigences d'exposition RF FCC / ISED, cet appareil doit être installé pour fournir au moins 20 cm de séparation du corps humain en tout temps.

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Key Hardware Components and Specifications

Hardware Components and Specifications	
Component/Spec	**Description**
Quectel EG91-NA modem	• Qualcomm MDM 9207 chipset • LTE CAT1 • 3GPP Rel. 11 • FOTA • Embedded GPS/GNSS
Antennas	Embedded Cellular/GNSS/Bluetooth
Operating Frequency Band (RF)	WCDMA850: 824-849MHz (TX), 869-894MHz (RX) WCDMA1900: 1850-1910MHz (TX), 1930-1990MHz (RX) WCDMA2100: 1920-1980MHz (TX), 2110-2170MHz (RX) LTE BAND 2:1850-1910MHz (TX); 1930-1990MHz (RX) LTE BAND 4: 1710-1755MHz (TX); 2110-2155MHz (RX) LTE BAND 5: 824-849MHz (TX); 869-894MHz (RX) LTE BAND 12: 699-716MHz (TX); 729-746MHz (RX) LTE BAND 13: 777-787MHz (TX); 746-756MHz (RX) BT: 2402-2480MHz (TX&RX) GPS:1575.42MHz (RX)
Modulation mode	WCDMA: Uplink: BPSK; Downlink: QPSK/16QAM/ 64QAM LTE: QPSK, 16QAM Bluetooth: GFSK, π/4-DQPSK, 8DPSK GPS: BPSK
Max. of Transmit power	WCDMA850/900/1900/2100: 24+1/-3dBm LTE: Band 1/2/3/4/5/7/8/28/40: 23±2.7dBm BLE: 3.68dBm
Maximum of Antenna's Gain	WCDMA850: 1.42dBi WCDMA1900: 1.42dBi WCDMA2100: 1.42dBi LTE B2: 1.42dBi LTE B4: 1.42dBi LTE B5: 1.42dBi LTE B12: 1.42dBi LTE B13: 1.42dBi Bluetooth:2.13dBi GPS:0.1 dBi
SIM card slot	3FF Verizon SIM
Power ON/OFF	Powered by Lithium Polymer battery
Battery	Rechargeable Lithium Polymer • 3.7V • 2000mAh
Charging	Internal battery will be charged by host power supply
Operating temperature	-20°C to +65°C
Dimensions	143.9 x 69.3 x 15mm
Certifications	FCC/IC/Verizon

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