TWIG Asset Locator

Quick Guide

The compact and water-proof device can be thrown in or clicked on, quickly as the situation arises.

Up to 10 months of uninterrupted watch can be kept, thanks to a powerful 2600 mAh rechargeable battery and selectable operating modes.

The TWIG Asset Locator is a GPS/GPRS tracking and monitoring device designed to protect and locate mobile assets such as vehicles, trailers, machines and boats. It is not intended for personal use to be carried or worn by people.

When situation on ground requires close monitoring, get GPS position update to central station every few seconds and listen in to audio.

Fully remotely configurable and controllable, the TWIG Asset Locator is fast to deploy and flexible to operate. It is also programmable by USB cable, including batch processing with pre-compiled configuration file.

TWIG Integrator Kit resources enable integrating TWIG devices with central station systems. Optionally the TWIG WebFinder SP software provides a turn-key solution for testing or deployment. Or simply locate TWIG device by selecting on a smart phone a SMS web link, opening up Google maps view.

Manufacturer:
Twig Com Oy,
24101 SALO, Finland
web: www.twigworld.com

CE

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Twig Com Oy declares that this mobile device, type TGP81EU, is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/.

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Some of the features described in this guide are optional and intended to be purchased separately. For more information, please contact your dealer.

For more information, details and descriptions, including device configuration and assortment of chargers and accessories, visit the web site: www.twigworld.com.

WHAT TO DO FIRST

DOWNLOAD PC CONFIGURATION SOFTWARE, INSTRUCTIONS AND USB DRIVERS FROM ftp://support.twigworld.com/public/
If possible turn off the PIN request from the SIM card. If not, change the PIN code to 9999 or change the PIN code that is programmed to Protector to same that is used in SIM card before starting the phone. Changing the PIN code that unit automatically uses, please refer to configuration guide and PC Configure program.

INSERTING THE SIM CARD

1. Slide the SIM card to the holder. Check that the silicon seal is undamaged and clean. If necessary it may be slightly moistened e.g. with water or grease suitable for –ring silicone seals. Do not use chemicals not indented to silicone..

2. Push the SIM card with the holder all the way in from the hole on the side of the unit carefully. **Do not use force as the SIM will go to its place easily**.

3. Use the 2 screws to close the SIM holder door.

Do not push with sharp or metal tools or objects if SIM is not coming out when replacing!
The device is dust and water proof. The protection category for the device is IP67 To meet the requirements, the SIM plug with the silicone sealmust be inserted in place correctly. If the seal or plug is damaged it must be changed immediately to maintain tightness and warranty.

INITIALIZING THE DEVICE

When you start using the device for the first time, you should charge the battery first. Please note that the battery will reach its full capacity only after two or three charging times.

POWER SUPPLY

•Mains charger with the charger adapter or charging cradle
•Standard Li-Ion battery integrated to the unit is 2600mAh Li-ion polymer battery. The battery type and capacity may vary depending on the market area and model of the unit in the sales package.

MAINS CHARGER

The mains charger should only be used indoors. Make sure that the voltage in the country where you are staying corresponds to the voltage marked on the charger. When charging, connect the mini USB connector to mini USB socket in charging adapter. Twist the Charging adapter to the bottom of the phone from keyboard side down, all the way until it clicks on its place on back cover.

CHARGING

The device controls the charging status, the battery temperature and power supply during the charging operation. The ideal temperature range for charging is +10°...+30°C. If charging the battery above or below these temperatures the life of a battery may be shortened. Also, the battery may not reach full capacity. Battery charging is not allowed below +0°C or above +50°C

When charging the Lithium polymer batteries with the USB charger, about 70% of the battery capacity will be charged quickly, but charging the remaining 30% takes relatively more time. Also note that humidity, temperature, age of the battery and currently used features (e.g. the GPS) affect the time spent on charging.

Standard CE-approved USB car charger (5VDC, 500mA) may be used for charging.

BATTERY CARE, MAINTENANCE AND DISPOSAL

The continuous operating time is less when using an old battery than a new battery. When storing unit for a long time, it should be kept cool and with fully charged battery in a dry place. Lithium polymer batteries do not contain heavy metals which can damage the environment. Lithium polymer batteries should be disposed of according to the country-specific regulations.

ENVIRONMENTAL EFFECTS IN USAGE

SIGHT
The device must have an unobstructed view to satellites at any time. In marginal conditions (e.g. when staying in surroundings with heavy tree cover or in a shadow area in between base stations) GPS positioning may not work properly.

The device can be used like a standard GSM phone with the limited feature set. In some cases, the device can be built in clothes or special vests. If the device is mounted somehow, it must be attached to the surface so that the back of the device is facing out[?]up and the top of the device upwards. To ensure proper functioning of the GPS and GSM, the unit can be covered with thin low loss material such as plastic, fibre glass or clothes, but not with metal.

GPS position availability can be also improved by using AGPS (assisted GPS). Please ask your distributor or monitoring service provider about availability of AGPS service for your TWIG device. In TWIG WebFinder SP the AGPS is a user selectable feature.

TEMPERATURE RANGES
•Usage: -20°C to +55°C, at temperatures below -20°C, or above +55°C, the battery will not supply power and the device will shut down to prevent damage. Upon warming up/cooling down, the device will function properly again
•Charging: Battery must not be charged below °0. Likewise, charging above +50 °C is prevented.

OPERATING MODES

Asset Locator can be operational for up to several months depending on its operating mode and configuration.

The basic operation mode is determined in the TWIG Configurator program in the Power saving mode (or controlled remotely by the monitoring central station).

Power Saving Mode controls how the device sleeps and wakes up. This substantially affects the device operating time.

Note that if Power Saving Mode selection is other than Normal then the GPS_ON functions are disabled.

Normal: Device does not enter “deep sleep” at all. Device uses timers (such as GPS max search time, GPS sleep time, GPRS reconnect interval) to control operation and current consumption. Operation time varies depending on what processes are running.

Medium/Sensor: Device wakes up after GPRS Reconnect interval has elapsed, or whenever it moves (detected movement is greater than GPS_motion_on Sensitivity (mG)). As long as device is awake it is controlled normally by GPS max search time, GPS sleep time and GPRS reconnect interval. If tracking is activated, tracking update messages are sent only when device is moving and awake. Whenever movement stops (detected movement is below GPS_motion_on Sensitivity (mG)), device goes to sleep after 5 minutes.

Heavy/Timer: The device wakes up only to the Power On key, or after GPRS Reconnect interval or active tracking interval has elapsed.

Once the unit is ON based on mode determined in the Power Saving Mode, it resumes any active tracking programmed to it. It also responds to position request.

EXAMPLES

Power Saving mode is set to Medium / Motion Sensor
Unit turns on when timer expires or movement is detected. If Reconnect Interval Timer is set to 30 minutes (1800 seconds) which is the minimum to enter to sleep, unit wakes up every 30 minutes and checks for messages from central station. Battery life is expected to be 3-4 months with no motion present.

If unit is used with 24 hours (86400seconds) Reconnect Interval, expected battery life is 8 months unless it wakes up based on movement.

Power Saving mode is set to Heavy / Timer
Unit turns on when timer expires. Different timers to wake up are; GPS sleep interval, Reconnect interval and active Tracking interval. Unit will use for wake up the timer that expires first.

If Reconnect Interval Timer is set to 30 minutes which is the minimum to enter to sleep, unit wakes every 30 minutes and checks for messages from central station. Battery life is expected to be 5-6 Months.

If unit is used with 24 hours (86400seconds) Reconnect Interval, expected battery life is 8 months or more.

If only automatic position reports (tracking report) is desired on interval you should set GPS and reconnect interval longer that the Tracking. GPS may also be set totally off to save the battery. Then unit will only turn on at interval and send report. Other timers may run in parallel to e.g. refresh position or check GeoFence.

All Tracking is activated OTA with MPTP commands.

Note, that the more unit has parameters to wake, the shorter the operation time.

Typical operating times
Battery performance in Motion Sensor operating mode is greatly affected by whether the unit is waking up due to detected movement. While ON any tracking that is activated will be resumed on programmed interval until movement no longer is detected.

Typical operating times in **+20 Celsius** with GPRS reporting:

9 months (1 GPS report / day)
8 months (motion watch, 1 reconnect/day)*
15 days (1 GPS report / hr)
8 days (1 GPS report / 10 min)
55 hours (1 GPS report / min)
17 hours (1 GPS report / 5 sec)
Up to 50 days (GSM standby only)

Operating times vary substantially if temperature is lower than +10 or higher than +40 Celsius or depending on e.g. network conditions and GPS visibility.

USER INTERFACE

STRAP HOLE

DISPLAY
- **GSM status**
- **GPS status**
- **Battery status**

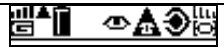
POWER ON/OFF
- **Power on**
- **Power off press both buttons**

MICROPHONE

SIM HOLDER

SYSTEM CONNECTOR
For connecting charger or data cable to the device.

DISPLAY INDICATORS

DEVICE IN STAND-BY MODE		
	BATTERY INDICATOR	**TELEMATICS FEATURES INDICATORS**
GSM NETWORK INDICATORS		**GPS POSITIONING INDICATORS**

BATTERY STATUS	
	The water level indicates charge left in the battery. The higher the level, the more charge is left.
	During charging, the battery icon is changed to indicate this event.

GSM / GPRS NETWORK STATUS	
	GSM is on
	GPRS is used for telematics
	GPRS is active for telematics
	.GSM is roaming. Phone is using other than home network. Call and position transmissions are charged according to roaming agreements. Position transmissions may have been blocked automatically.
	Bars on top of the network status icon indicate the strength of the GSM network. The more bars and the taller the bars, the better the GSM network. - Four bars - high network strength - No bars - no network

GENERAL STAUS ICONS	
	Processing. An operation is in progress, please wait
	Tracking is active to one or more destinations

GPS POSITIONING STATUS	
	GPS is active
	GPS is sleeping
	GPS is not available
	Bars on top of the network status icon indicate the accuracy of the last GPS position. The more bars and the taller the bars, the better the accuracy. If the position is older than 1 – minute the signal bars are shown as wireframes

DISPLAY / TONE NOTIFICATIONS

GENERAL NOTIFICATIONS	
	Powering Off icon will be shown when power off button press has been initiated. Keep pressing to power off.
	Power off has been disabled and unit can not be turned off.
	General failure. Shown when an operation fails. E.g. if you try to make a call when there is no number pre-configured in the device. Simultaneously, the **Failure** tone is played.
	SIM failure. Shown when there is no SIM card inserted in the device, or if the PIN code was rejected. Simultaneously, the **Failure** tone is played.

BASIC KEY FUNCTIONS

TURNING THE DEVICE ON
1. Press ON button and hold it down for a few seconds.
2. The logo is shown.

TURNING THE DEVICE OFF
1. Press both buttons simultaneously and hold it down for a few seconds.
2. The Power off icon is shown.

Note, powering off may be prevented by configuration and icon will indicate in the statusbar.

INCOMING/OUTGOING MPTP MESSAGES
The device may send or receive some MPTP messages. In most cases messages are either remote configuration/activation messages, some notifications, emergency reports or various types of position messages and they work autonomously according to configuration. In most cases there are no display notifications.

CARE AND MAINTENANCE

NOTE: The instructions below apply to the device, its accessories, batteries in use as well as batteries taken out of use.

• Dust and dirt may damage the moving parts of the device. Do not use or keep the device in dusty or dirty surroundings.

• Do not open the device or battery by yourself or pierce holes in it.

• Rough handling may break the circuitry inside the device. Do not drop, knock, twist or shake the device or its battery.

• Keep the device dry. Liquids contain minerals which could corrode electronic circuits. If the device gets wet, turn it off and dry the device and the battery immediately. Put the device into an upright position and let it dry. It is recommended that a dealer or service personnel check that the device functions properly.

• Even though the device is waterproof, do not wet the device unnecessarily or immerse it in water.

• Protect the device from heat. High temperatures may shorten the life of the electronical devices, melt or warp plastics and damage batteries. Do not warm up the device or battery or use it near fire.

• Do not short-circuit the battery or battery contacts. Exposing the metal strips of the battery to a close contact with a metallic object, such as a coin, a clip or a set of keys can cause accidental short-circuiting and damage the battery.

• Charge and recharge the battery only with the charger specified in the Operating instructions/Quick Guide. Use the battery only for the purpose it is intended.

• Clean the device with a soft cloth, dampened slightly with mild soapy water. Do not clean the device with harsh chemicals, solvents or other corrosive substances.

• Only allow service personnel authorised by the dealer to service the device.

SAFETY AND PRECAUTIONS

TELEMATICS PROTOCOL

MPTP (Mobile Phone Telematic Protocol) allows, among other things, tracking of the device over SMS or GPRS communication. Automatically sent telematics messages are only allowed to authorised numbers configured in the device. Such numbers can be, e.g. emergency and service center numbers. Position of the device is retrieved by the GPS, or by the network parameters -the latter is a network-dependent service.

The carrier for telematics messages is a SMS-message or GPRS connection. Deliveries of all messages is fully handled by and in the responsibility of the GSM network operator and services can vary substantially. The cost of a protocol message depends on service provider contract.

GPS

The Global Positioning System (GPS) is operated by the government of the United States, which is solely responsible for its accuracy and maintenance. The system is subject to changes that could affect the accuracy and performance of all GPS equipment.

GENERAL

• Traffic: Strictly adhere to all eventual European and national legislation and also honour other eventual safety recommendations when using the device while driving a vehicle. Place the device in its holder, do not leave it on the passenger seat or some other place where it can break loose in a collision or a sudden stop. When receiving a call in an awkward driving situation, you must always put safety before other priorities and courtesy. If you feel uncomfortable about using a device while driving, you should not use it.

• Vehicles with air bags: An air bag inflates with great force. Do not place objects, including either installed or portable wireless devices, in the area over the air bag or in the air bag deployment area.

• External alert: The use of the alert device to operate a vehicle´s lights or horn on public roads is not permitted.

• Children: Keep the device and its accessories away from small children to avoid causing injury to themselves or others. Damage to the device or its accessories is also thus avoided.

• Power supply: This equipment is intended for use with the specified power supplies listed in the Quick Guide/Operating Instructions. Any other usage will invalidate any approval given to this apparatus and may be dangerous.

• Other accessories: Any other accessories used should also be approved by the device manufacturer. Check the compatibility of new power supply units and other accessories at the dealer or manufacturer.

• Connections: All installations, connections and service regarding the device, its power supply and accessories should be approved by the device manufacturer. Use of any unauthorized accessories, modifications or attachments may be dangerous and voids the device warranty if said accessories cause damage or a defect to the device.

• Magnetic fields: The device may contain magnetic components. Even though the magnetic fields of the components are weak, they might damage magnetic cards, such as bank and credit cards. We recommend that you would keep the device away from magnetic cards.

• Storing positions: Position information is stored correctly in the device when the GPS is turned off (from the GPS menu) or powered off (by pressing the topmost side key). To prevent the memory from becoming corrupted, never power off the device by removing the battery.

RADIO FREQUENCY (RF) ENERGY

• Aircrafts: Turn your device off before boarding any aircraft and do not use the device while in the air. Besides being illegal, the use of a device in an aircraft may endanger the operation of the aircraft or disrupt the mobile network. Failure to comply with this instruction may lead to suspension or denial of mobile phone services, and possibly even legal action.

• Hospitals: Turn your device off before entering hospitals or other health care facilities where medical electronic equipment may be in use. Such devices can be extremely sensitive to radio frequency interference. Only use the device with permission and under the instruction of hospital staff.

• Medical devices: Remember that any personal medical devices (such as hearing aids or pacemakers) may be affected by RF energy if they are not adequately shielded. Consult the manufacturer or vendor of the equipment to determine the proper shielding.

• Posted facilities and country-specific regulations: Power off the device in any facility where posted notices require to turn off mobile phones. Also follow all the country-specific regulations applicable to where the device is used.

• Potentially explosive atmospheres: Turn off the device at refuelling points, e.g. gas stations. Also observe restrictions on the use of radio equipment in fuel depots, chemical plants or where blasting operations are in progress because remote control RF devices are often used to set off explosives. Do not store or carry flammable liquids, gases or explosive materials in the same compartment as the device, its parts or accessories.

• Other electronical equipment: Using the device may cause interference with a vehicle's electronic equipment if it is not adequately shielded. Consult the manufacturer or the vehicle seller to determine the proper shielding.

• Computers: Remember that using the device close to a computer may cause interference. When using your device near such equipment keep a distance of about one meter.

• Body parts: When the device is in operation do not touch the antenna with eyes, mouth or bare skin to guarantee proper function.

WARRANTY

Twig Com Ltd. warrants to the original purchaser (“Company”) that this Twig Com device and all accessories originally provided by Twig Com in the sales package (“Product”) are free from defects in materials, design and workmanship under normal use in accordance with the operating instructions and pursuant to warranty terms and conditions. Warranty periods are determined in the purchase agreement.

Individual warranty terms and conditions are available from Twig Com or from local distributor.

The warranty is void if the unit is opened or the warranty seals on screws are broken.