

# User Manual

Triskan TS8



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## User Manual

Product Series	TS8
Product Name	Triskan – Professional Mobile Terminal
Revision Date	January 25, 2010
Revision	A04



# 1 SAFETY PRECAUTIONS

Read these simple guidelines. Not following them may be dangerous or illegal. Read the complete user guide for further information.

## 1.1 SWITCH ON SAFELY

Do not switch the device on where usage of wireless cellular devices (mobile phones for example) is prohibited or when it may cause interference or danger.

## 1.2 INTERFERENCE

All wireless devices may be susceptible to interference, which could affect performance.

## 1.3 SWITCH OFF IN RESTRICTED AREAS

Follow any restrictions. Switch the device off in aircraft, near medical equipment, fuel, chemicals, or blasting areas.

## 1.4 QUALIFIED SERVICE

Only qualified personnel may install or repair this product.

## 1.5 ENHANCEMENTS AND BATTERIES

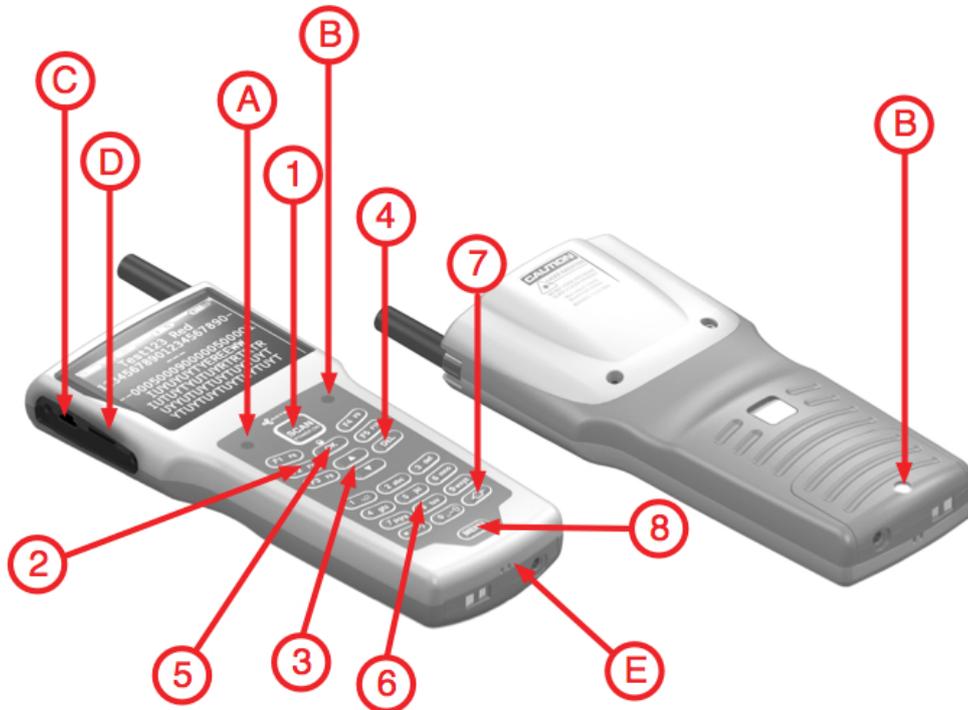
Use only approved add-ons and batteries. Do not connect incompatible products.

## 1.6 WATER-RESISTANCE

Your device is not water-resistant. Keep it dry

## 2 GET STARTED

### 2.1 Triskan TS8 Layout



- 1 - Scan key (used also as Power on key).
- 2 - Function keys. F1-F5 when shift not active, F6-F10 with activated shift.
- 3 - Arrow keys. You can move between text fields with arrows or move cursor within field with activated shift key.
- 4 - Delete key.
- 5 - OK key. Press this key to submit data to server.
- 6 - Keypad for number and text entry.
- 7 - Shift key. Press to switch shift state and switch between numeric and text entry mode. Hold to switch between upper and lower caps text entry when in text mode.
- 8 - Menu key. Press this key to access system menu.
- A - Light sensor. This sensor senses the environment light intensity and controls the keyboard backlight.
- B - Charger indicator lights. Red and orange when charging, green when full.
- C - Micro USB connector for data transfer and charging.
- D - microSD memory card socket.
- E - Wrist strap.

## 2.2 Insert SIM card and battery

- Always switch the device off and disconnect charger before removing the battery.
- With the back of the device facing you, press and hold the red release button and remove the battery.
- Unlock the SIM card holder by shifting the metal lock upwards.
- Insert the SIM card into the card holder. Ensure that the beveled corner on the card is facing right, and that the contact area on the card is facing down. Lock the holder.
- Re-insert the battery.

## 2.3 Switching the device on

- To switch on a powered down device, press SCAN button.
- The device switches on when a USB cable is inserted.

## 2.4 Charge the battery

### Regular charging

Same rules apply for charging the device or separate battery.

- Connect a compatible charger to a wall outlet.
- Connect the charger cord to the battery. If the battery is completely discharged, it may take several minutes before the charging indicator RED or ORANGE light is lit.
- When the battery is fully charged, the charging indicator turns to GREEN. Disconnect the charger from the device, then from the wall outlet.

**TIP:** Disconnect the wall-mount power supply from the outlet when it is not in use. A power supply that is connected to an outlet consumes power even when it is not connected to the device.

### USB charging

Use USB charging when a wall outlet is not available.

- Connect a compatible USB cable between a compatible USB device and your device.
- Depending on a type of device that is used for charging, it may take a while for charging to start.

## 2.5 Antenna

Your device has an external GSM antenna. As with any radio transmitting device, avoid touching the antenna area unnecessarily while the antenna is transmitting or receiving. Contact with such an antenna affects the communication quality and may cause the device to operate at a higher power level than otherwise needed and may reduce the battery life.

Note: when replacing the GSM antenna, always use antennas approved for your device; otherwise network connection might turn unreliable or stop working completely, your device or the antenna may get damaged or you may violate regulations governing radio devices.

## 2.6 Get connected

Your device supports the following connectivity methods:

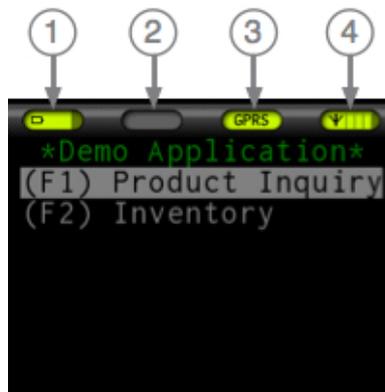
- GPRS network, or
- WLAN network
- USB data cable - to connect to compatible devices, such as PCs, and to charge your device

## 2.7 Prolong battery life

Many features in your device increase the demand on battery power and reduce the battery life time. To save battery power, note the following:

- The brightness of the display increases the demand on battery power. In the configuration file, the time-out after which the brightness is reduced and when it is switched off completely can be changed.
- The keypad backlight brightness can be adjusted in the configuration file. Disable the keypad backlight if it is not needed.

## 2.8 Display indicators: Menu bar



1. Battery indicator. This indicator displays the battery charge level.
2. Keyboard indicator. This indicator displays text entry and shift state. When on a text field, the indicator displays the active keyboard symbol set (“123”, “ABC” and “abc”) on yellow background. When text entry is not allowed, this symbol displays shift state (either blank or shift arrow pointing upwards).
3. GPRS/WLAN indicator. This indicator is grayed out when GPRS/WLAN is not connected or yellow when GPRS/WLAN is connected. Speed of the GPRS/WLAN connection may vary and depends on GPRS/WLAN coverage in the area, GPRS service provider’s network,

PIN protection of on a SIM-card (booting of the device with non-protected SIM-card is approx. 10sec faster), WLAN access points and WLAN cryptography used.

The GPRS/WLAN indicator displays arrows when network is transferring data.

4. Network indicator. This indicator shows GSM network signal strength.

## 2.9 Keypad locking

Keypad can be locked by either simultaneously pressing SHIFT and OK buttons or by the inactivity timer. Inactivity timer can be set by support personnel by modifying the configuration file. When the device is locked, all key presses are ignored and lock screen is displayed. To unlock the device, press SHIFT + OK.

## 2.10 Keyboard

Device is equipped with cell phone style keyboard. The display indicator in Section 2.8 displays the active keyboard symbol set as “123”, “ABC” or “abc”.

To switch between numeric and alphabetic symbols press SHIFT. To switch between Capital and Lower case letters press and hold SHIFT. Using multi-tap – press the key one or more times until the letter you want to enter appears.

# 3 Personalise your device

The device can be personalized to suit your needs better via configuration options in the configuration file. Support personnel should see configuration manual to configure the device. Various configurable options include network settings and power management settings.

## 3.1 Configuration file

To make changes in configuration file:

1. Verify that the Triskan TSS device is switched off.
2. Use the USB cable to connect the device to a host computer.
3. Enter PIN Number (by default): 1234. Notification “Configuration unlocked” will appear.
4. In the folder “My Computer” on the host computer a new icon "Removable Disc" will appear.
5. Open the "Removable Disc" and open the configuration file config.ini.
6. Make changes to config.ini.
7. Save the config.ini file.
8. Safely remove the "Removable Disc".
9. Disconnect the USB cable.

Variable	Description	Default
[gsm]		
pin	SIM card PIN1 code. Used if SIM card is PIN-protected, otherwise ignored.	pin=0000
apn	GPRS APN (Access Point Name). Use the APN provided by your GSM operator to access internet.	apn=internet
user	GPRS user name. If set, the modem authenticates itself to GPRS AP using the user name and password. Leave user name unset if authentication is not used.	blank
password	GPRS password. See above for description.	blank

Variable	Description	Default
[server]		
addr	Default in default configuration file shipped with device: ple-demo.artecgroup.com Application server address, either IP address or DNS name.	blank
port	Application server port.	port=4661
device_id	The ID that this device reports itself to server. Equal to device serial number lower 16 bits if not set otherwise.	device serial number lower 16 bits.
retry_count	Number of retries the application tries to connect to application server over TCP/IP before giving up and displaying an error.	retry_count=3
retry_timeout	Number of ms the application waits the application server to respond before giving up and displaying an error.	retry_timeout=5000
what_style	"What" command type in PL protocol. Valid values are "old" or "new"	what_style=new
extra_id	Specifies the user-defined extra ID that is sent by the terminal integrated to the protocol header.	extra_id=0
transfer_log	Set to 1 to enable transfer logging to log folder on uSD card. Folder "log" must be present on uSD! (>=04D)	transfer_log=0

Variable	Description	Default
[power]		
lcd dim	Number of seconds from last key press until the display is dimmed to half brightness	lcd dim=10
lcd min	Number of seconds from last key press until the display is dimmed to minimal brightness	lcd min=20
lcd off	Number of seconds from last key press until the display is switched off.	lcd off=20
power save	Number of seconds from last key press until the system is set to low-power stand-by state and the GPRS link is disconnected.	power save=30
power down	Number of seconds from last key press until the system is shut down completely.	power down=3600

Variable	Description	Default
	[user]	
display_bright	Display brightness in full brightness mode, 0-255. Display power consumption can be lowered when this is set to a lower value.	display_bright=200
keypad_bright	Keypad backlight brightness, 0-255. Set this to 0 to disable keypad backlight. If enabled, keypad backlight is turned on only when the device is in dark room.	keypad_bright=255
keypad_lock	Number of seconds from last keypress until the keypad is automatically locked. Set this to 0 to disable keypad automatic locking feature.	keypad_lock=0
keypad_unlock_pin	It is possible to set the PIN code the user must enter to unlock the device. Default option is to unlock the device using the SHIFT + OK key combination. In case a PIN code is defined, it must be 1...8 digits long. The default option is used on the following occasions: a) the 'keypad_unlock_pin' option is omitted from the configuration file; b) it is left blank; c) it is longer than 8 digits; d) it contains non-numeric characters.	keypad_unlock_pin=none

Variable	Description	Default
	[wlan]	
ssid	Service Set IDentifier, a name used to identify the particular 802.11 wireless LAN to which a user wants to attach.	ssid=triskan
auth	Specifies the method of WLAN security (authentication and encryption). Possible values: 0 - no authentication 1 - WEP (legacy, low security) 2 - WPAPSK (WPA + TKIP) 3 - WPA2PSK (WPA2 + AES)	auth=0
key	Contains the WLAN authentication key, when using WPA PSK or WPA2 PSK security.	blank
default	Specifies the default key identifier (1..4) when using WEP security.	default=1
wep1 ... wep4	Contains the WLAN encryption key, when using WEP security. Up to four keys may be specified (wep1...wep4).	blank
ip	Set to the static IP address or to 0.0.0.0 to use DHCP.(>=04D)	0.0.0.0 (DHCP)
netmask	Set subnet mask for WLAN connection if using static IP address.(>=04D)	255.255.255.255
gw	Set gateway address for WLAN connection if using static IP address.(>=04D)	255.255.255.255
dns	Set DNS server address for WLAN connection if using static IP address.(>=04D)	255.255.255.255

## 4 Battery and charging information

Your device is powered by a rechargeable battery. The model of the battery unit intended for use with your device is TS8-B201. The battery can be charged with the wall-mount power supply TS8-PR01 (Original type CUI EPS050100UE-P13P-SZ). The battery can be charged and discharged hundreds of times, but its charge capacity will decrease over time. When the working and standby times are noticeably shorter, replace the battery. Use only above mentioned types of approved devices designated for this device. Use of an unapproved battery or wall-mount power supply may present a risk of fire, explosion, leakage, or other hazard.

The exact wall-mount power supply model number may vary depending on the type of plug. The plug variant is identified by one of the following: R0 (Europe), R1 (UK) or R2 (USA) If a battery is being used for the first time or if the battery has not been used for a prolonged period, it may be necessary to connect the charger, then disconnect and reconnect it to begin charging the battery. If the battery is completely discharged, it may take several minutes before the charging indicator appears on the display or before any scans could be made.

Always switch your device off and disconnect the wall-mount power supply before removing the battery. Unplug the battery from the electrical plug and your device when not in use. Do not leave a fully charged battery connected to a wall-mount power supply, since overcharging may shorten its lifetime. If left unused, a fully charged battery will lose its charge over time.

Always try to keep the battery between 15°C and 25°C (59°F and 77°F). Extreme temperatures reduce the capacity and lifetime of the battery. A device with a hot or cold battery may not work temporarily. Battery performance is particularly limited in temperatures well below freezing.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object such as a coin, clip, or pen causes direct connection of the terminals of the battery. (These look like metal strips on the battery.) This might happen, for example, when you carry a spare battery in your pocket or purse. Short-circuiting the terminals may damage the battery or the connecting object and cause fire hazard.

Do not dispose of batteries in a fire as they may explode.

Batteries may also explode if damaged. Dispose of batteries according to local regulations.

Please recycle when possible. Do not dispose as household waste.

Do not dismantle, cut, open, crush, bend, deform, puncture, or shred cells or batteries.

In the event of a battery leak, do not allow the liquid to come in contact with the skin or eyes. In the event of such a leak, flush your skin or eyes immediately with water and seek medical help.

Do not modify, remanufacture or attempt to insert foreign objects into the battery, or immerse or expose it to water or other liquids.

Improper battery use may result in a fire, explosion, or other hazard. If the device or battery is dropped, especially on a hard surface, and you believe the battery has been damaged, take it to an authorized reseller for inspection before continuing to use it. Use the battery only for its intended purpose. Never use any wall-mount power supply or battery that is damaged. Keep your battery out of the reach of small children. When you disconnect the power cord of any enhancement, grasp and pull the plug, not the cord.

## 5 Care and maintenance

Your device is a product of superior design and craftsmanship and should be treated with care. The following suggestions will help you protect your warranty coverage:

- Keep your device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device does get wet, remove the battery, and allow the device to dry completely before replacing it.
- Do not use or store your device in dusty, dirty areas. Its moving parts electronic components can be damaged.
- Do not store your device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store your device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
- Do not attempt to open your device other than as instructed in this guide.
- Do not drop, knock, or shake your device. Rough handling can break internal circuit boards and mechanics.
- Do not paint your device. Paint can clog the moving parts and prevent proper operation.
- Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications, or attachments could damage the device and may violate regulations governing radio devices.

If any device is not working properly, take it to the nearest authorized reseller for service.

### 5.1 Disposal

The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds that all electrical and electronic products and batteries must be taken to separate collection at the end of their working life. This requirement applies to the European Union and other locations where separate collection systems are available. Do not dispose of these products as unsorted municipal waste. By returning the products to authorized reseller you help prevent uncontrolled waste disposal and promote the reuse of material resources. More detailed information is available from the product retailer, local waste authorities, national producer responsibility organizations, or your local representative.

## 6 Additional safety precautions

### 6.1 Small children

Your device and its enhancements may contain small parts. Keep them out of the reach of small children.

## 6.2 Operating environment

To transmit data files or messages, your device requires a quality connection to the network. In some cases, transmission of data may be delayed until such a connection is available.

## 6.3 Medical devices

Operation of any radio transmitting equipment, including current wireless device, may interfere with the functionality of inadequately protected medical devices. Consult a physician or the manufacturer of the medical device to determine if they are adequately shielded from external RF energy or if you have any questions. Switch off your device in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

## 6.4 Implanted medical devices

Manufacturers of medical devices recommend that a minimum separation of 15.3 centimeters (6 inch) should be maintained between a wireless device and an implanted medical device, such as a pacemaker or implanted cardioverter defibrillator, to avoid potential interference with the medical device. Persons who have such devices should:

- Always keep the wireless device more than 15.3 centimeters (6 inch) from the medical device when the wireless device is turned on.
- Not carry the wireless device in a breast pocket.
- Turn the wireless device off immediately if there is any reason to suspect that interference is taking place.
- Read and follow the directions from the manufacturer of their implanted medical device.
- If you have any questions about using your wireless device with an implanted medical device, consult your health care provider.

## 6.5 Hearing aids

Some digital wireless devices may interfere with some hearing aids. If interference occurs, consult your service provider.

## 6.6 Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles such as electronic fuel injection systems, electronic anti-skid (antilock) braking systems, electronic speed control systems, and air bag systems. Do not store or carry flammable liquids, gases, or explosive materials in the same compartment as the device, its parts, or enhancements. For vehicles equipped with an air bag, remember that air bags inflate with great force. Do not place objects, including installed or portable wireless equipment in the area over the air bag or in the air bag deployment area.

Using your device while flying in aircraft is prohibited. Switch off your device before boarding an aircraft. The use of wireless tele-devices in an aircraft may be dangerous to the operation of the aircraft, disrupt the wireless telephone network, and may be illegal.

## 6.7 Potentially explosive environments

Switch off your device when in any area with a potentially explosive atmosphere, and obey all signs and instructions. Potentially explosive atmospheres include areas where you would normally be advised to turn off your vehicle engine.

Sparks in such areas could cause an explosion or resulting in bodily injury or even death. Switch the device off at refueling points such as near gas pumps at service stations. Observe restrictions the use of radio equipment in fuel depots, fuel storage and distribution areas; chemical plants; or where blasting operations are in progress.

Areas with potentially explosive atmosphere are often, but always, clearly marked. They include below deck boats, chemical transfer or storage facilities and areas where the air contains chemicals or particles such as grain, dust, or metal powders.

You should check with the manufacturers of vehicles using liquefied petroleum gas (such as propane or butane) to determine if this device can be safely used in their vicinity.

## 7 CERTIFICATION INFORMATION

### 7.1 Declaration of CE conformity

Products with CE marking comply with the R&TTE Directive 99/5/EC (Radio Equipment & Telecommunications Terminal Equipments), the EMC Directive 89/336/EEC, and the Low Voltage Directive 73/23/EEC issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms (in parentheses are the equivalent international standards):

- 3GPP TS 51.010-1 The 3rd Generation Partnership Project (3GPP), Mobile Station (MS) conformance specification; Part 1: Conformance specification.
- EN 60950-1 (IEC 60950-1) Safety of Information Technology Equipment.
- ETSI EN 301 511 Global system for mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands, covering essential requirements of article 3.2 of the R&TTE directive (1995/5/EC).
- ETSI EN 301 489-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.
- ETSI EN 301 489-7 Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)

- ETSI EN 301 489-17 Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2.4GHz wide-band transmission systems and 5GHz high performance RLAN equipment.
- ETSI EN 300 328 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wide-band Transmission systems; data transmission equipment operating in the 2.4GHz ISM band and using spread spectrum modulation techniques.
- EN 50360:2001 Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300MHz - 3GHz).
- EN 50392:2002 Generic standard to demonstrate the compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (10MHz - 300GHz) - General public.

We, Artec Group OÜ, Teaduspargi 6/2, 12618 Tallinn, Estonia, declare under our sole responsibility that our product Triskan TS8 and in combination with our accessories, to which this declaration relates is in conformity with the listed appropriate standards.

Tallinn, Estonia 13.10.2008

Gustav Poola  
Artec Group OÜ, CEO

## 7.2 RoHS Compliance

This product is in compliance with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003, on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) and its amendments.

## 8 Licensing

The device contains software components that are GNU GPLv2 and GNU LGPLv2.1 licensed. A copy of these licenses are included below. You may obtain source code for these software components from us for a period of three years after our last shipment of this product for a small fee of 10€.

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## 8.1 GNU GPL

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Version 2, June 1991

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Version 2.1, February 1999

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