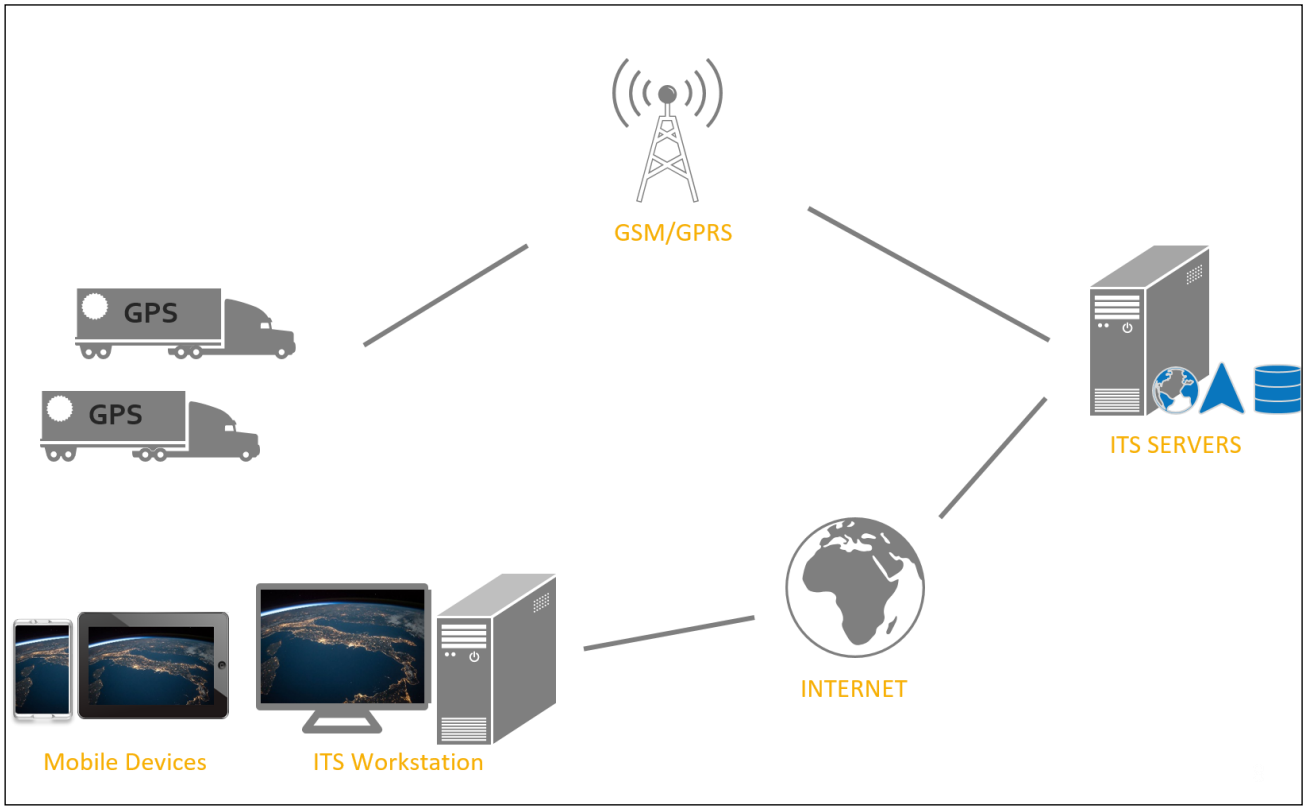
INFORMATION TRACKING SYSTEM

GL300A USER MANUAL

Version 1 ● 20 March 2019



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Document History

Paper copies are valid only on the day they are printed. Contact the author if you are in any doubt about the accuracy of this document.

Revision History

This document has been revised by:

Revision Number	Revision Date	Summary of Changes	Author
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Reference Documents

Please see the following documents for more information:

Document Name	Author

Distribution List

This document has been distributed to:

Name	Position	Company	Action
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Boryana Yordanova	IT Project Manager	Software Company	Update/Review
Plamen Tonchev	IT Project Manager	Software Company	Update/Review

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1. Introduction

The user manual described in this document is planned to be developed as deliverable from lot 2 'Basic design, programming and system elaboration 'according of the "Project MC5.01/15B – Support to Southern African States in Nuclear Safety and Safeguards. INSC/2016/379-139."

1.1. Purpose and Scope

This document describes the GPS device Queclink GL300A's options, connections between device and Workstation and all technical details on how Software Company Ltd. use the device as part of a fully functional web-based and mobile application system that will meet the requirements laid out in the Tender Technical Specifications document given with "Project MC5.01/15B – Support to Southern African States in Nuclear Safety and Safeguards. INSC/2016/379-139.".

The GPS locator GL300A is perfectly fit for monitoring a multitude of temporarily-dispatched, outsourced vehicles and containers in logistics industry. Its main advantages are ultra-long standby time with large-capacity internal battery and low power consumption. Its power button is pressed for direct usage with no installation required at all. GL300A can also monitor the real-time environmental conditions as it is designed to be compatible with high-accuracy temperature and humidity sensor and optical sensors.

1.2. Document Overview

The rest of the document is organized as follows:

- *Product Overview*
- *Getting Started*
- *Tracker Connection Steps*
- *Quick Start Manage Tool software*

1.3. Definitions, Acronyms and Abbreviations

See Appendix A.

1.4. Contacts:

Manager: *Mr. Nikolay Palov – Software Company Ltd.*

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2. Product Overview

2.1. Appearance

Figure 1: GL300A Main views

2.2. Parts List

Item	Description
GL300A Locator	151*74*34.5 mm
Micro USB 5Pin Cable 1.2M (Optional)	
GL300A Adapter	

External GPS Active Antenna (Optional)	
GL300A Magnet Set (Optional)	

Table 1: Parts

2.3. Button, USB and GPS Interface

Figure 2: **Power ON** Button

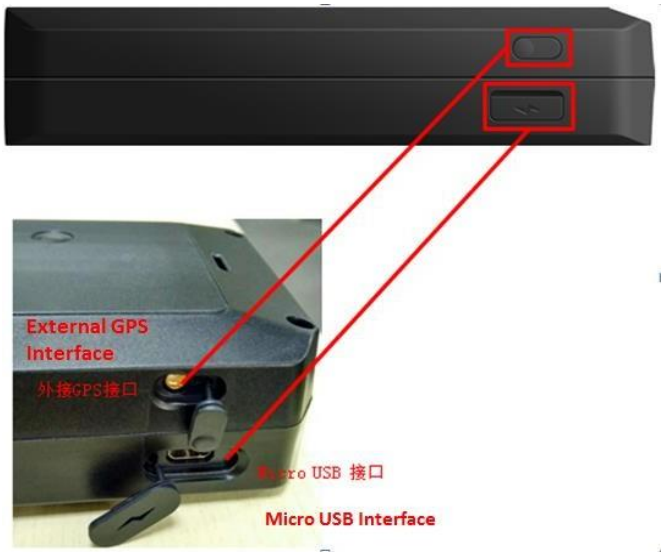


Figure 3: Micro USB and GPS

2.4. LED

There are seven LED lights. The two in the first row are Cell and GPS lights, which indicate GSM and GPS signals. In the second row, there are five power lights indicating the power

Figure 4: Display LED

2.5. External SIM Card Holder

When the device is ready to start, the toggle switch needs to be moved to the ON position. After the device is turned off by command, the toggle switch needs to be moved to the OFF position.

The device supports lid detection. When the device is turned on and the SIM card cover is opened, the system will send cover removal report.

The external SIM card slot cover can be opened directly from outside the device for the SIM card to be installed.

Figure 5: SIM Card Holder

3. Getting Started

3.1. Open the External SIM Card Holder

Figure 6: External SIM Card holder

Remove the screws with a screwdriver first and then remove the SIM card cover to open the SIM card holder.

3.2. Install a SIM Card

Insert the SIM card and move the toggle switch to the ON position.

Figure 7: Add SIM Card

3.3. Power on the Device

Put the case back in place and fix it with screws. Press the power-on button to turn the device on.

3.4. Device's LED Status

LED	Device Status	Led Status
Cell (Green)	The device is searching network.	Fast flashing
	The device has been registered to network.	Slow flashing
	SIM card needs pin code to unlock.	ON
GPS (Blue)	GPS chip is powered off.	OFF
	GPS sends no data or data format error occurs.	Slow flashing
	GPS chip is searching GPS information.	Fast flashing
	GPS chip has got GPS information.	ON
PWR (Green)	The external power supply is connected and the device is charging.	LED1-LED5 lighting up in turn
	The external power supply is connected and the device charging is complete.	LED1-LED5 ON
	The external power supply is not connected and battery capacity is less than 20%.	LED1 flashing
	Power key is pressed when the external power supply is not connected and battery capacity is no less than 20% (LED on 5s according to default setting of a relevant FKS parameter)	LED ON for a period of time based on the percentage of battery capacity
	Power key is pressed when the external power supply is not connected and battery capacity is no less than 20% (the relevant FKS parameters set to 0)	LED always ON based on the percentage of battery capacity

Table 2: LED Status

4. Tracker Connection Steps

Follow the steps to connect GPS Device to existing mobile network using genuine device drivers.

4.1. Remove the PIN from the SIM card.

4.2. Install the SIM card.

4.3. Turn the switch next to the SIM card slot to ON position.

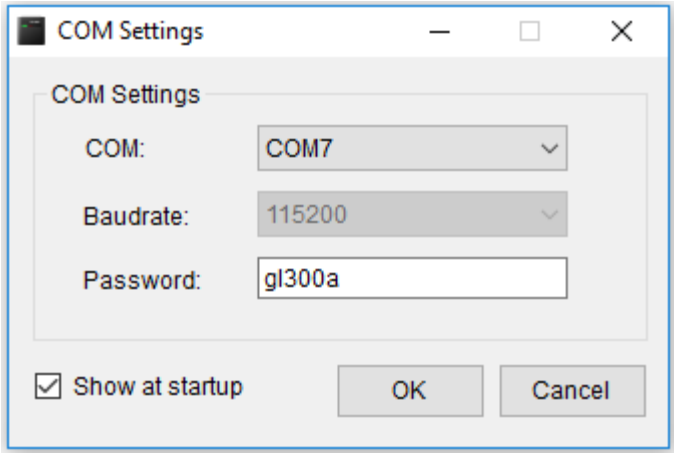
4.4. Install the genuine driver for COM port - **MC_USB_COM_PORT DRIVERS**.

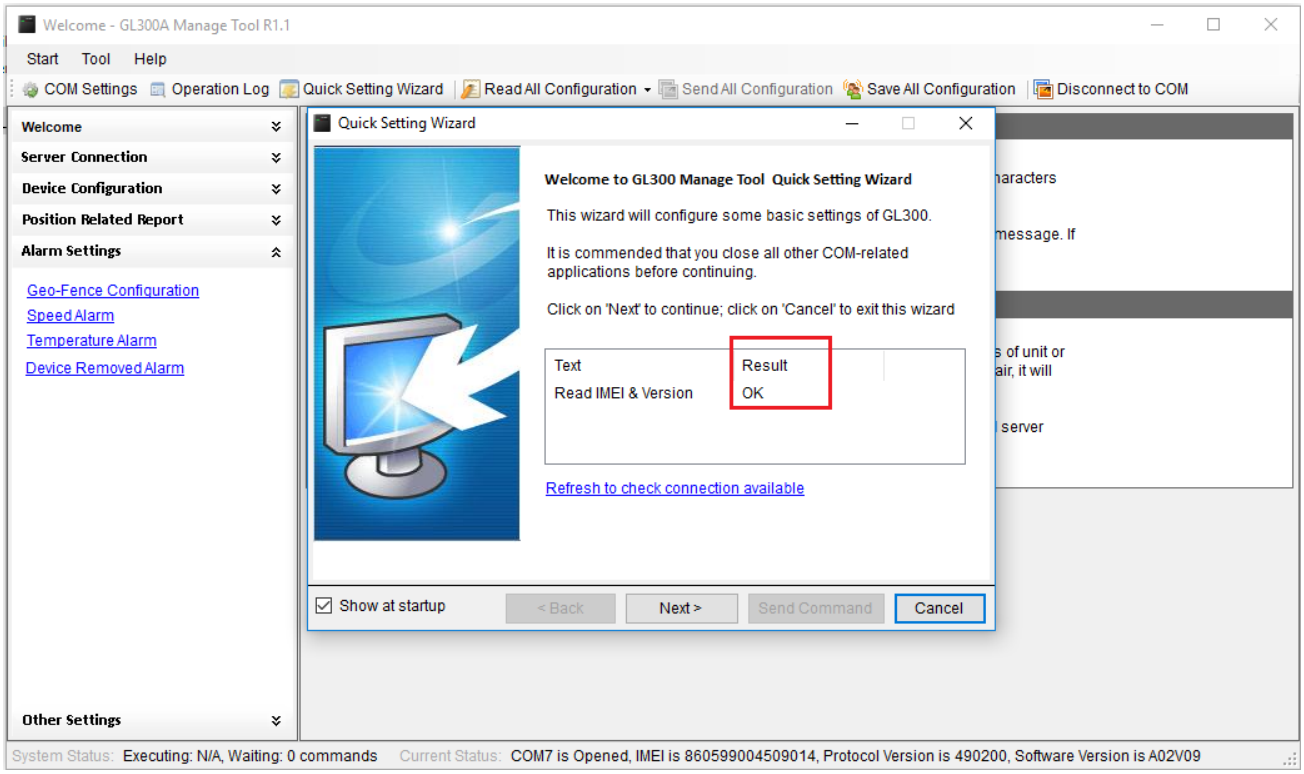
4.5. Connect the tracker via USB to the PC.

4.6. Restart the PC in case it doesn't find the tracker as a device.

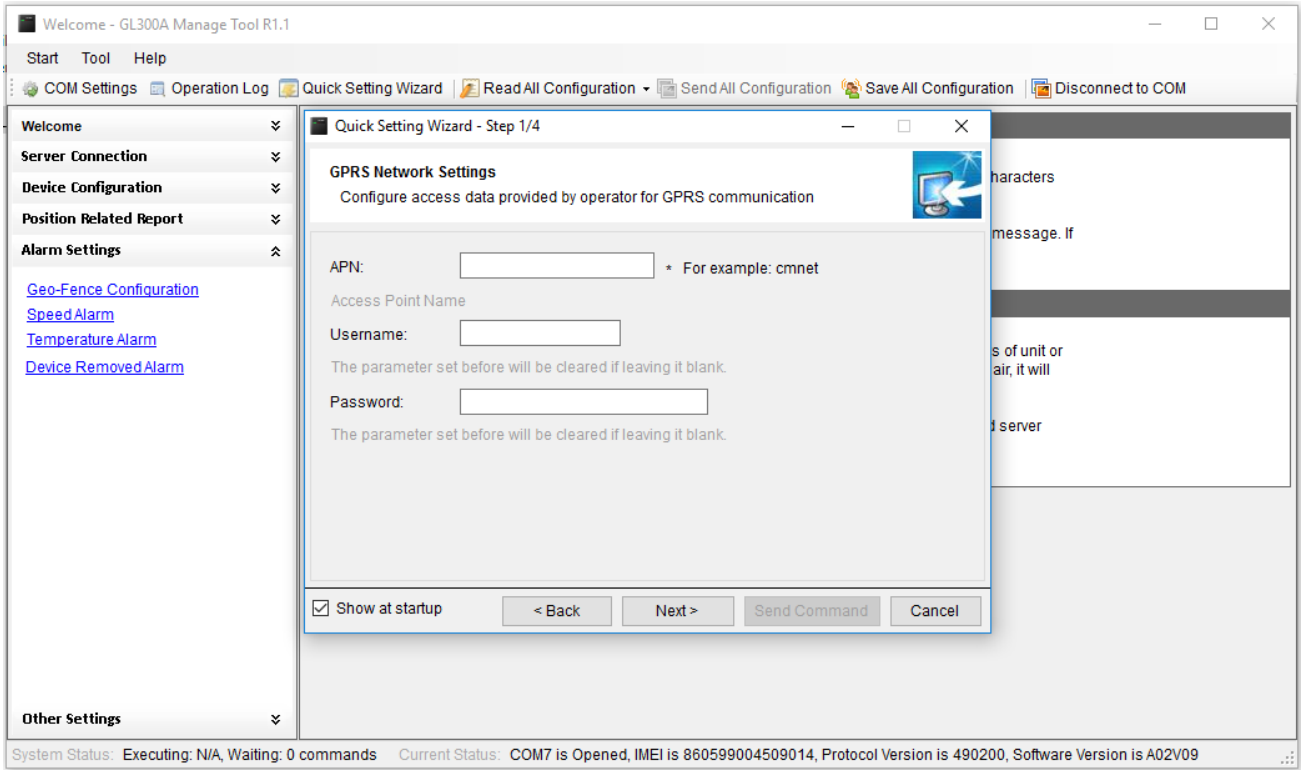
4.7. Install the genuine tool **Queclink_GL300A_Manage_Tool_R1.1.exe** on the tracker.

4.8. Choose a COM port and test until the OK message pops up.




Welcome - GL300A Manage Tool R1.1
Start Tool Help
COM Settings Operation Log Quick Setting Wizard Read All Configuration Send All Configuration Save All Configuration Disconnect to COM
Welcome
Server Connection
Device Configuration
Position Related Report
Alarm Settings
Geo-Fence Configuration
Speed Alarm
Temperature Alarm
Device Removed Alarm
Other Settings
Quick Setting Wizard
Welcome to GL300 Manage Tool Quick Setting Wizard
This wizard will configure some basic settings of GL300.
It is commended that you close all other COM-related applications before continuing.
Click on 'Next' to continue; click on 'Cancel' to exit this wizard
Text
Result
Read IMEI & Version
OK
Refresh to check connection available
Show at startup
< Back
Next >
Send Command
Cancel
System Status: Executing: N/A, Waiting: 0 commands
Current Status: COM7 is Opened, IMEI is 860599004509014, Protocol Version is 490200, Software Version is A02V09

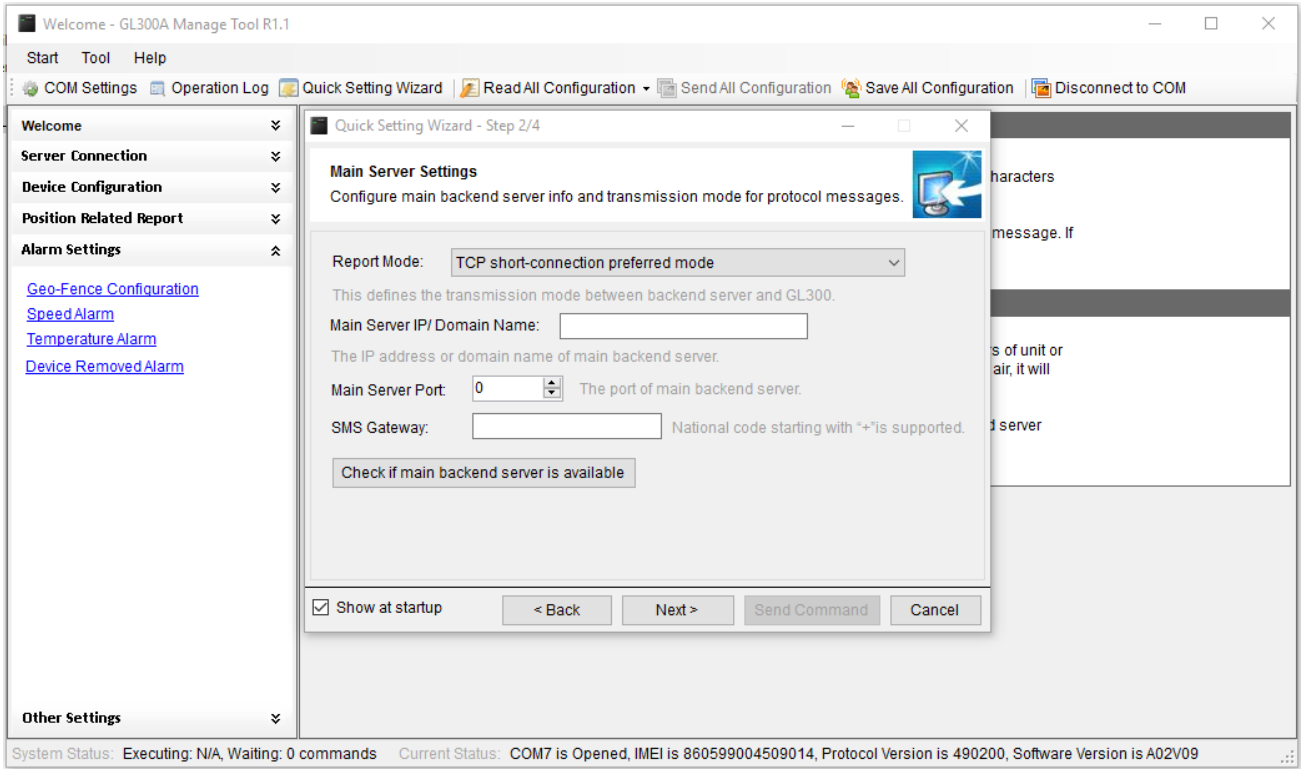
4.9. Fill in appropriate values for **APN** settings, **Username** and **Password** for selected mobile network:



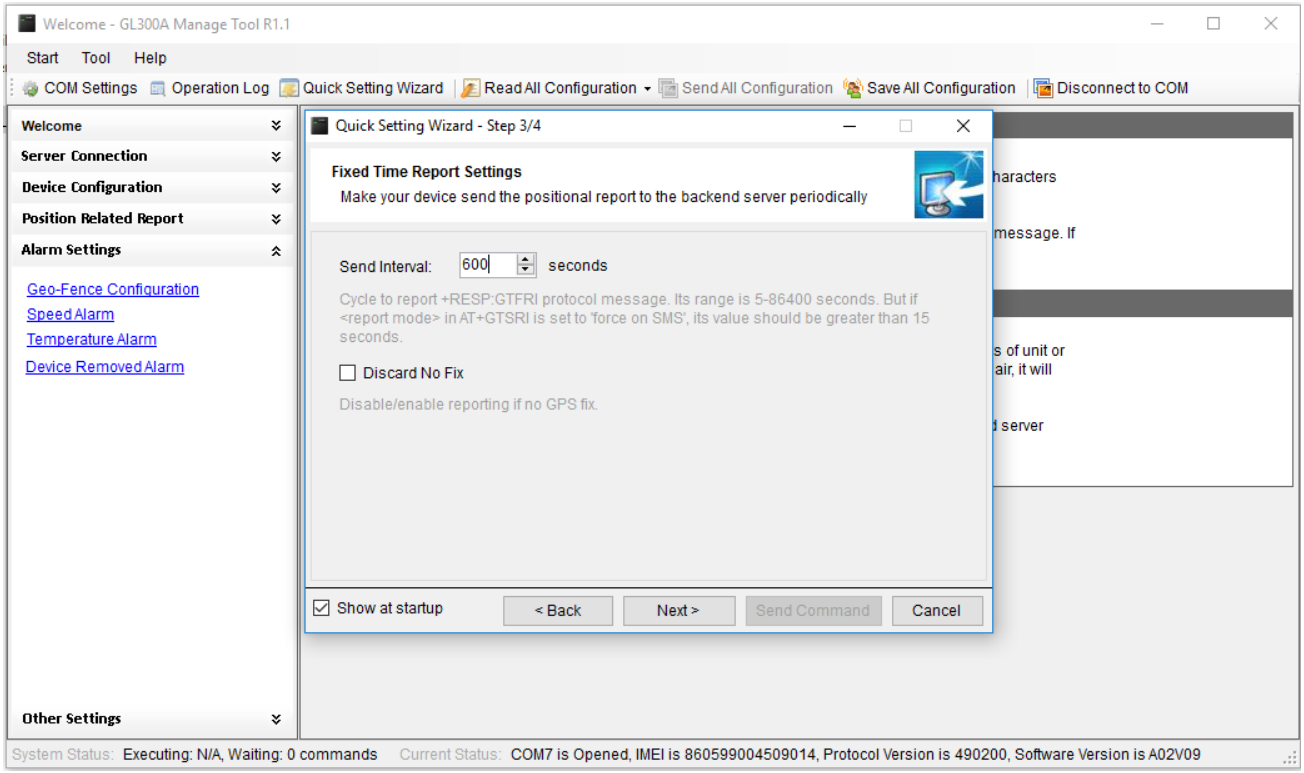
See Appendix B.

4.10. Tracker settings:

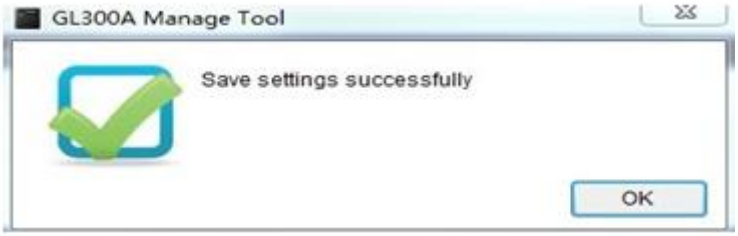
- *Server: istc.novotika.com;*
- *Port 5004;*
- *Mode: TCP Short preferred.*



4.11. From the section Position Related Report/Fixed Report Information choose **Fixed Timing Report** and the corresponding time interval in seconds (**600**).



4.12. Apply and Exit settings to device – 'Send Command':



4.13. Register GPS devices:

- *Run and log in ITS application*
- *Click GPS Devices menu*
- *Click 'New' button*
- *Fill in the form*
- *Press 'Create' button.*

5. Troubleshooting and Safety Information

5.1. Troubleshooting:

Trouble	Possible Reason	Solution
After GL300A is turned on, the GSM LED always flashes quickly.	The SIM card is not inserted.	Please insert the SIM card into GL300A.
	The signal is too weak; GL300A cannot be registered to the network.	Please move GL300A to a place with good cell coverage.
	SIM card cannot be registered to the network.	Use a SIM card that can be registered to network, or contact your mobile operator.
Messages cannot be reported to the backend server by GPRS.	The SIM card in GL300A does not support GPRS.	Try a GPRS supported SIM card.
	APN is wrong. Some APN cannot visit the internet directly.	Ask the network operator for the right APN.
	The IP address or port of the backend server is wrong.	Make sure the IP address for the backend server is an identified address over the internet.
Unable to power off GL300A.	The function of power key is disabled by **AT+GTFKS**.	Enable the function of power key by **AT+GTFKS**.
	Unable to power off GL300A if charger is connected or external battery is used.	Disconnect charger or external battery, and try again.
No response from UART when GL300A is configured through UART.	GL300A is in power saving mode.	Remove the Data Cable_M, and plug it in again. After this operation, GL300A will exit from power saving mode for 10 seconds.
		Restart GL300A Manage Tool to try to wake up the device.
GL300A cannot get successful GPS fix.	The GPS signal is weak.	Please move GL300A to a place with open sky.
		It is recommended to let the top surface (the same surface with indication LED) face towards the sky.

5.2. Safety Information:

- *Please do not disassemble the device by yourself'*
- *Please do not put the device in overheated or too humid place, and avoid exposure to direct sunlight. Too high temperature will damage the device or even cause battery explosion. Please do not use GL300 on airplane or near medical equipment.*

6. Appendices

6.1. Appendix A:

Definitions, Acronyms, and Abbreviations

Term	Meaning
GPS	Global Positioning System
APN	Access Point Name
ITS	Information Tracking System
SC	Software Company Ltd.

6.2. Appendix B:

Mobile Operators, APN, Usernames, and Passwords by countries

Country	Operator	APN, username, password
Botswana	Be Mobile	APN: internet.be; username: not set; password: not set;
	Mascom Internet	APN: internet.mascom; username: not set; password: not set;
	Orange Botswana	APN: internet.orange.co.bw; username: not set; password: not set;
Namibia	TN Mobile	APN: internet; username: not set; password: not set
	MTC Namibia	APN: ppsinternet **or** internet; username: ppsuser **or** not set; password: ppsuser **or** not set;
Malawi	Airtel Malawi	APN: internet; username: not set; password: not set;
	Tnm internet	APN: internet; username: not set; password: not set;
	G-Mobile	APN: internet; username: not set; password: not set;

	Lacell	APN: internet; username: not set; password: not set;
	G-Expresso	APN: internet; username: not set; password: not set;
Tanzania	Vodacom Tanzania	APN: internet; username: not set; password: not set;
	Tigo Tanzania	APN: tigoweb; username: not set; password: not set;
	Airtel Tanzania	APN: internet; username: not set; password: not set;
	Halotel Internet	APN: internet; username: not set; password: not set;
	Zantel	APN: znet; username: not set; password: not set;
	TTCL Mobile	APN: internet; username: not set; password: not set;
	SMART LTE	APN: internet **or** smartlte; username: not set; password: not set;
Zambia	Airtel Zambia	APN: internet; username: not set; password: not set;
	MTN Zambia	APN: internet; username: not set; password: not set;
	Zamtel	APN: zamtel.net; username: not set; password: not set;