





# ИНТЕРНЕТ

ВОЗМОЖНОСТЬ ПОДКЛЮЧЕНИЯ LAN + GPRS





# как это работает?

ДИСПЕТЧЕРСКАЯ



ПРОГРАММНОЕ  
ОБЕСПЕЧЕНИЕ ДЛЯ  
УДАЛЕННОГО  
УПРАВЛЕНИЯ



ИНТЕРНЕТ



КОНТРОЛЛЕР



ГЕНЕРАТОР



The screenshot displays the Rainbow Scada software interface. The main window is titled 'Rainbow Scada' and shows a detailed view of the generator's engine parameters. The interface is divided into several sections:

- Summary:** Displays various engine metrics such as Battery Voltage (13.86 Vdc), Engine RPM (1499 RPM), Oil Pressure (3.5 Bar), Coolant Temp (69.3°C / 157.1°F), Oil Temp (69.5°C / 157.1°F), Fuel Level (50.5%), Engine Run Hours (1288.81 Hrs), Total kWh (182490.8 kWh), Total kWh (Ord) (7226.7 kWh), Total kWh (Cap) (1172.7 kWh), Hours to Sv1 (173.83 Hrs), Days to Sv1 (176.82 Day), Freq (49.99 Hz), P Total (-0.04 kW), Q Total (3.3 kWh), S Total (0.0 kVA), and Pwr Factor (-0.998).
- Control:** Features a set of icons for manual control, including a stop button (red circle with 'X'), a start button (green circle with 'I'), and a reset button (yellow circle with 'R'). A hand icon is shown clicking the stop button.
- Alarms:** A section on the right side of the interface, currently showing a 'Warning: fail To Stop'.
- Map:** A small map window on the right side of the interface showing the location of the generator, with a tree view of the map structure including Country, Region, City, and Town levels.

At the bottom of the window, the status bar shows: 'Alarm : 0, Warning : 1, Running : 0, Normal : 0, Silent : 0' and the time '21:18:52'. The coordinates are 'Latitude = 40.999190852 / Longitude = 25'.



# Подробный мониторинг и дистанционное управление



**СЕТЬ**

**ГЕНЕРАТОР**

**ДВИГАТЕЛЬ**

**АВАРИИ**

**УДАЛЕННОЕ УПРАВЛЕНИЕ**

**Control**

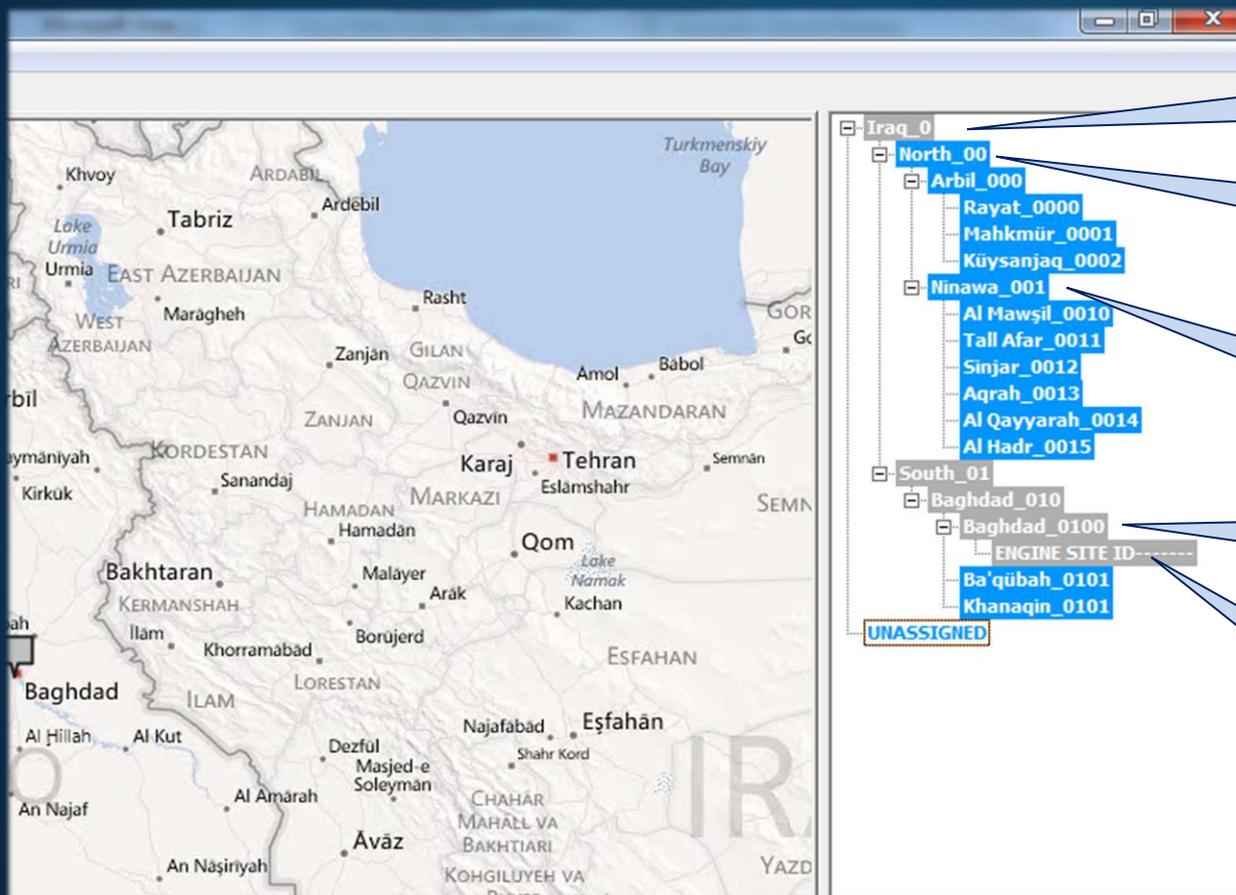
**Alarms**  
Warning:  
Fail To Stop

Latitude = 40.999190852 / Longitude = 29.155282635 Alarm : 0, Warning : 1, Running : 0, Normal : 0, Silent : 0 21:18:52

The screenshot displays the Rainbow Scada software interface. It features a top menu bar with 'File' and 'Help'. Below the menu is a 'Map Device' section. The main area is divided into three columns: 'Mains', 'Genset', and 'Engine'. Each column displays various electrical and mechanical parameters such as voltage, current, frequency, and RPM. A 'Control' panel at the bottom left contains several icons for system management. An 'Alarms' section on the right shows a warning for 'Fail To Stop'. A tree view on the far right shows a hierarchical structure of 'Country\_0', 'Region\_00', 'City\_000', 'Town\_0000', 'Town\_0001', 'Region\_01', 'City\_010', 'Town\_0100', 'DATAKOM 2', 'Town\_0101', and 'Town\_0101'. The status bar at the bottom indicates 'Alarm : 0, Warning : 1, Running : 0, Normal : 0, Silent : 0' and the time '21:18:52'.



# Группировка генераторных установок



Страна

Регион

Город

Район

Генератор



## Отслеживание ошибок до сбоев питания

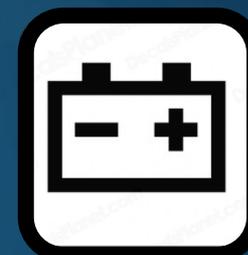
ГЕНЕРАЦИЯ ПРЕДЕПРЕЖДЕНИЙ ПРЕЖДЕ ЧЕМ ОНИ ПРЕВРАТЯТСЯ В  
АВАРИЙНЫЕ СИТУАЦИИ



Низкий уровень  
топлива



Низкий  
уровень масла



Низкий заряд  
АКБ



Контроль  
автоматического  
режима



СЕРВИСНОЕ  
ОБСЛУЖИВАНИЕ



# Удаленный сброс ошибок

## Сброс ошибок из удаленной диспетчерской

The screenshot displays the Rainbow Scada software interface. The main window is titled "Rainbow Scada" and has a menu bar with "File" and "Help". Below the menu bar are tabs for "Map" and "Device". The interface is divided into several sections:

- Summary:** Contains three columns of data for "Mains", "Genset", and "Engine".
  - Mains:** Volts L1 = 233.8 V, L2 = 224.9 V, L3 = 234.3 V; L1-L2 = 399.6 V, L2-L3 = 399.4 V, L3-L1 = 401.1 V; Current I1 = 0.0 A, I2 = 0.0 A, I3 = 0.0 A; Freq = 49.99 Hz; P Total = 0.0 kW; Q Total = 0.0 kVAr; S Total = 0.0 kVA; Pwr Factor = 0.000.
  - Genset:** Volts L1 = 234.2 V, L2 = 225.5 V, L3 = 235.8 V; L1-L2 = 400.5 V, L2-L3 = 401.3 V, L3-L1 = 402.9 V; Current I1 = 265.8 A, I2 = 0.0 A, I3 = 0.0 A; Freq = 49.99 Hz; P Total = -62.0 kW; Q Total = 3.3 kVAr; S Total = 62.1 kVA; Pwr Factor = -0.998.
  - Engine:** Battery Voltage = 13.86 Vdc; Engine RPM = 1499 RPM; Oil Pressure = 3.5 Bar; Coolant Temp = 69.3 °C / 156.7 °F; Oil Temp = 69.5 °C / 157.1 °F; Fuel Level = 50.5 %; Engine Run Hours = 1288.81 Hrs; Total kWh = 182490.8 kWh; Total kVArh (Ind) = 7226.7 kWh; Total kVArh (Cap) = 1172.7 kWh; Hours to Srv1 = 173.83 Hrs; Days to Srv1 = 176.82 Day.
- Control:** A panel with several icons. A hand cursor is pointing at the "Reset Errors" icon (a red circle with a white 'A' and a red arrow).
- Alarms:** A large orange rectangular area with the text "Warning: Fail To Stop".
- Right Panel:** A tree view showing a hierarchy of locations: Country\_00, Region\_00, City\_000, Town\_0000, Town\_0001, City\_001, Town\_0010, Region\_01, City\_010, Town\_0100, DATAKOM\_2, Town\_0101, Town\_0101, UNASSIGNED.
- Status Bar:** Latitude = 40.999190852 / Longitude = 23.899190852; Alarm : 0, Warning : 1, Running : 0, Normal : 0, Silent : 0; 21:18:52.



# Удаленный тест генераторной установки

тест генератора из диспетчерской

The screenshot displays the Rainbow Scada software interface. The main window is titled 'Rainbow Scada' and has a menu bar with 'File' and 'Help'. Below the menu bar are tabs for 'Map' and 'Device'. The interface is divided into several sections:

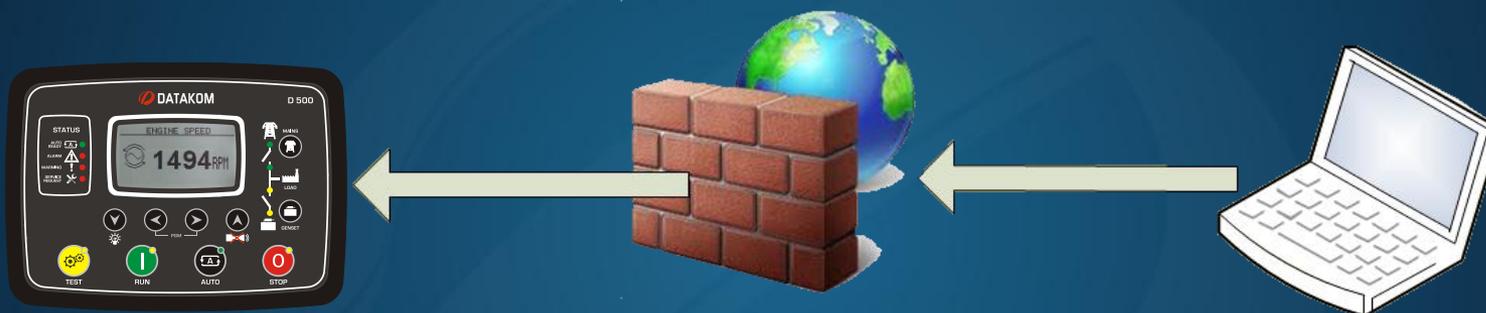
- Summary:** A top navigation bar with tabs for 'Summary', 'Information', 'Genset', 'Mains', 'Engine', and 'Alarms'. The 'Genset' tab is currently selected.
- Mains:** Displays electrical parameters for three phases (L1, L2, L3) including Voltages (e.g., 233.8 V, 224.9 V, 234.3 V), Currents (0.0 A), and Power (P, Q, S Total).
- Genset:** Displays parameters for the generator set, including Voltages (e.g., 234.2 V, 225.5 V, 235.8 V), Currents (265.8 A), and Power (P, Q, S Total).
- Engine:** Displays engine parameters such as Battery Voltage (13.86 Vdc), Engine RPM (1499 RPM), Oil Pressure (3.5 Bar), Coolant Temp (69.3 °C / 156.7 °F), Oil Temp (69.5 °C / 157.1 °F), Fuel Level (50.5 %), Engine Run Hours (1288.81 Hrs), Total kWh (182490.8 kWh), Total kWh (Ind) (7226.7 kWh), Total kWh (Cap) (1172.7 kWh), Hours to Srv1 (173.83 Hrs), and Days to Srv1 (176.82 Day).
- Control:** A panel with several icons. A yellow gear icon with a lightning bolt is highlighted by a hand cursor. Other icons include a power switch, a hand, a lightning bolt, and a red circle with a white '0'.
- Alarms:** A section with a warning message: 'Warning: Fail To Stop'.
- Right Panel:** A tree view showing a hierarchical structure of locations: Country\_00, Region\_00, City\_000, Town\_0000, Town\_0001, City\_001, Town\_0010, Region\_01, City\_010, Town\_0100, DATA001, Town\_0101, Town\_0101, and UNASSIGNED.
- Status Bar:** At the bottom, it shows 'Latitude = 29.155282635', 'Longitude = 29.155282635', 'Alarm : 0, Warning : 1, Running : 0, Normal : 0, Silent : 0', and the time '21:18:52'.

TEST  
MODE  
BUTTON

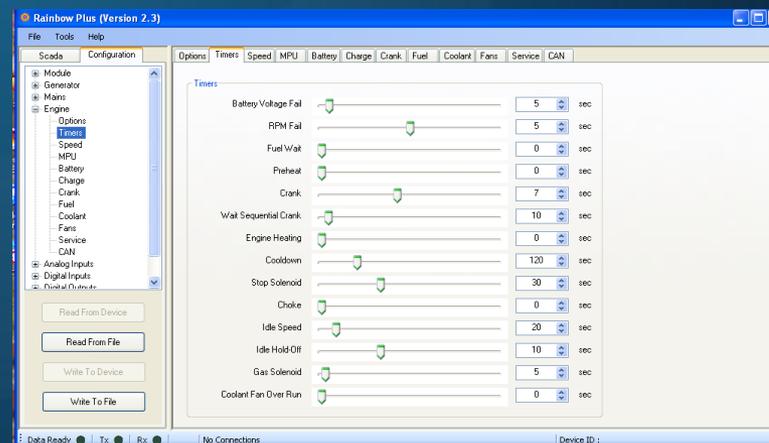


# Пульт дистанционного управления электроагрегата

ЗАЩИЩЕННОЕ БРАНДМАУЭРОМ УДАЛЕННОЕ РЕДАКТИРОВАНИЕ ПАРАМЕТРОВ



ПРОГРАММА  
RAINBOW PLUS

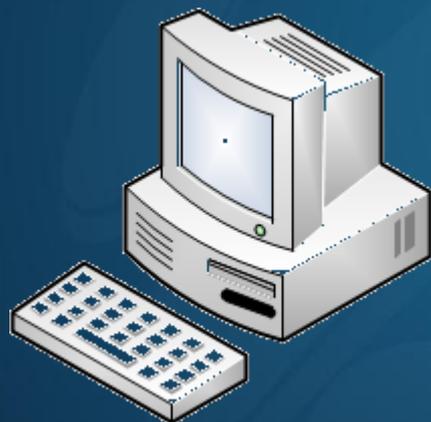




## Удаленное обнаружение неисправностей

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Сократит время реагирования на неисправности



**ДА !**



**НЕТ !**



## Удаленный контроль мошенничества

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сохранит Ваши деньги

~~кража  
энергии~~

~~кража  
ТОПЛИВА~~



# Дистанционный мониторинг расхода топлива

ИСКЛЮЧИТ ВОЗМОЖНОСТЬ КРАЖИ ТОПЛИВА





# СБРОС ОШИБОК С ПОМОЩЬЮ СМС

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**SMS**



**СБРОС ОШИБОК**

# УДАЛЕННЫЙ МОНИТОРИНГ СЕРВИСНОГО ОБСЛУЖИВАНИЯ



**Rainbow Scada**  
File Help  
Map Device  
Summary Information Genset Mains Engine Alarms

Engine

Charge Voltage = 19.20 Vdc	Genset Runs = 8	1 - oil pressure = 8.0 Bar
Battery Voltage = 19.19 Vdc	Genset Cranks = 26	2 - engine temp = 46.8 °C / 116.2 °F
Engine RPM = 1500 RPM	Engine Run Hours = 1.22 Hrs	3 - fuel level = 51.7 %
Oil Pressure = 8.0 Bar	Hours to Srv1 = 248.78 Hrs	4 - oil temp = 69.3 °C / 156.7 °F
Coolant Temp = 46.8 °C / 116.2 °F	Days to Srv1 = 179.82 Day	
Oil Temp = 69.3 °C / 156.7 °F	Hours to Srv2 = 448.78 Hrs	
Canopy Temp = N/A	Days to Srv2 = 379.82 Day	
Fuel Level = 51.7 %	Hours to Srv3 = 648.78 Hrs	
	Days to Srv3 = 579.82 Day	

**СЕРВИСНЫЕ СЧЕТЧИКИ**



## Экономия рабочей силы для обслуживания

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**НЕТ !**

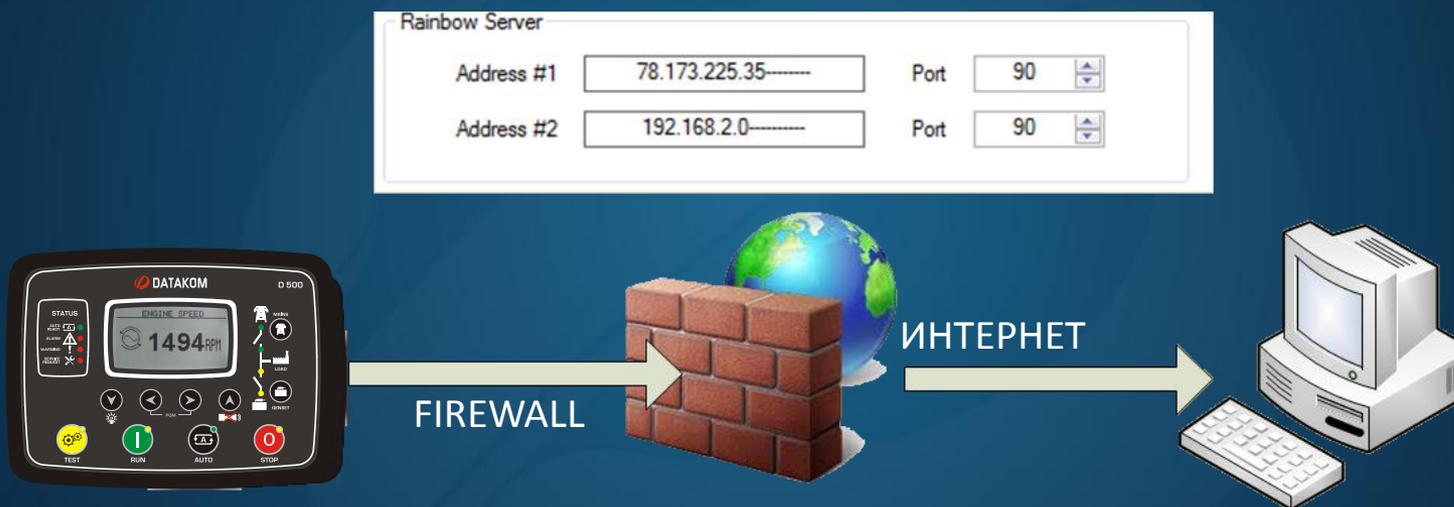


**ДА !**



# Безопасность данных

Данные передаются только в вашу диспетчерскую!



Никто не получит доступ к контроллеру в обход FIREWALLа !



# ИНТЕГРАЛЬНЫЙ ПОДХОД

ИНТЕГРАЦИЯ СТОРОННИХ УСТРОЙСТВ В ТОЙ ЖЕ СЕТИ





# Дополнительный контроль релейных выходов

Контроль всей станцией с помощью D-500





## ПРЕИМУЩЕСТВА

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- ❑ ГЕНЕРАЦИЯ ПРЕДУПРЕЖДЕНИЙ ДО ВОЗНИКНОВЕНИЯ СБОЕВ
- ❑ СБРОС ОШИБОК ИЗ ДИСПЕТЧЕРСКОЙ
- ❑ ТЕСТ УСТАНОВКИ ИЗ ДИСПЕТЧЕРСКОЙ
- ❑ СОКРАЩЕНИЕ ВРЕМЕНИ ВМЕШАТЕЛЬСТВА
- ❑ СОКРАЩЕНИЕ ЗАТРАТ НА ЗАПЧАТИ БЛАГОДАРЯ ПЛАНИРОВАНИЮ ОБСЛУЖИВАНИЯ
- ❑ ИСКЛЮЧЕНИЕ КРАЖИ ТОПЛИВА
- ❑ ИСКЛЮЧЕНИЕ КРАЖИ ЭНЕРГИИ
- ❑ КОНТРОЛЬ КОНТРОЛЛЕРА С ПОМОЩЬЮ САЙТА
- ❑ БЕЗОПАСНОСТЬ ПЕРЕДАЧИ ДАННЫХ
- ❑ ИНТЕГРАЦИЯ СТОРОННИХ УСТРОЙСТВ В ТОЙ ЖЕ СЕТИ
- ❑ УПРАВЛЕНИЕ ВСЕЙ УДАЛЕННОЙ СТАНЦИЕЙ С ПОМОЩЬЮ D-500