Turbo SCADA

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Automation and Control SCADA Software

Okosis
Automation and Control Systems
Industries and Commercial Corporation

Introduction

Okosis Automation and Control Systems

Okosis Automation and Control Systems Company provides consulting, analysis, design, installation, testing and commissioning, technical support and maintenance services in Automation and SCADA systems.

We began our business with the goal of using our technical know-how and experience in Automation and SCADA systems to produce great solutions that meet the highest level of global standards for our valuable clients.

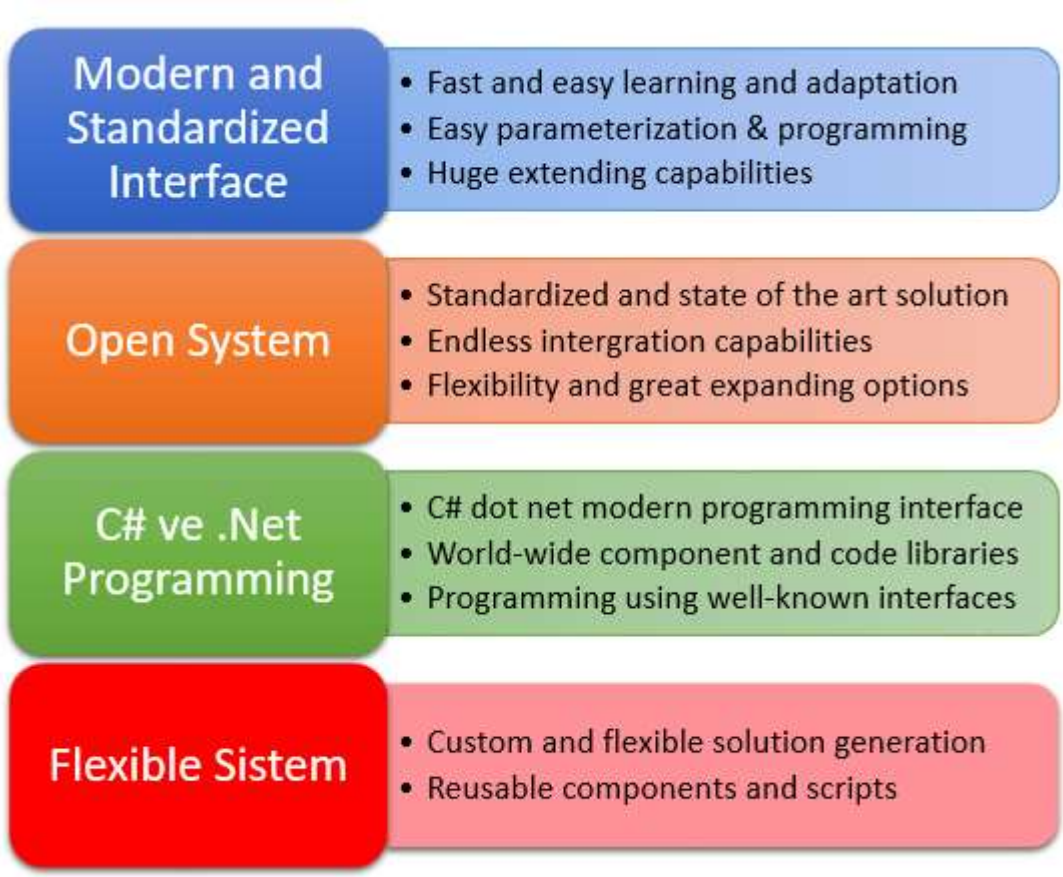
Our innovative and dynamic team has been successfully completed a wide range of domestic and international projects, thanks to great experience and know-how of specialists besides young and dynamic engineering team.

Okosis focused as well in Research and Development of SCADA Systems, Communication Protocol Applications, Automation and Control Systems, Remote Monitoring Systems to create customer oriented solutions to maximize the usage of great opportunities of today's edge technologies.

TurboSCADA

Automation and Control SCADA Software

TurboSCADA is a modern SCADA Software which provides efficient interfaces that allows remote monitoring, visualization and controlling of systems.



User friendly **Modern and standard Interfaces** provides fast and easy learning of designing, parameterization and programming of TurboSCADA system. **Open System** features provide standardized and rich integration and expansion possibilities. **C# .Net Programming** provides integration possibilities thanks to easy to find and widely used and preferred code libraries and component pools. **Flexible System Architecture** provides the ability to easily develop and reuse user-specific custom solutions which accelerates and simplifies project generation.

Highlights

General Features

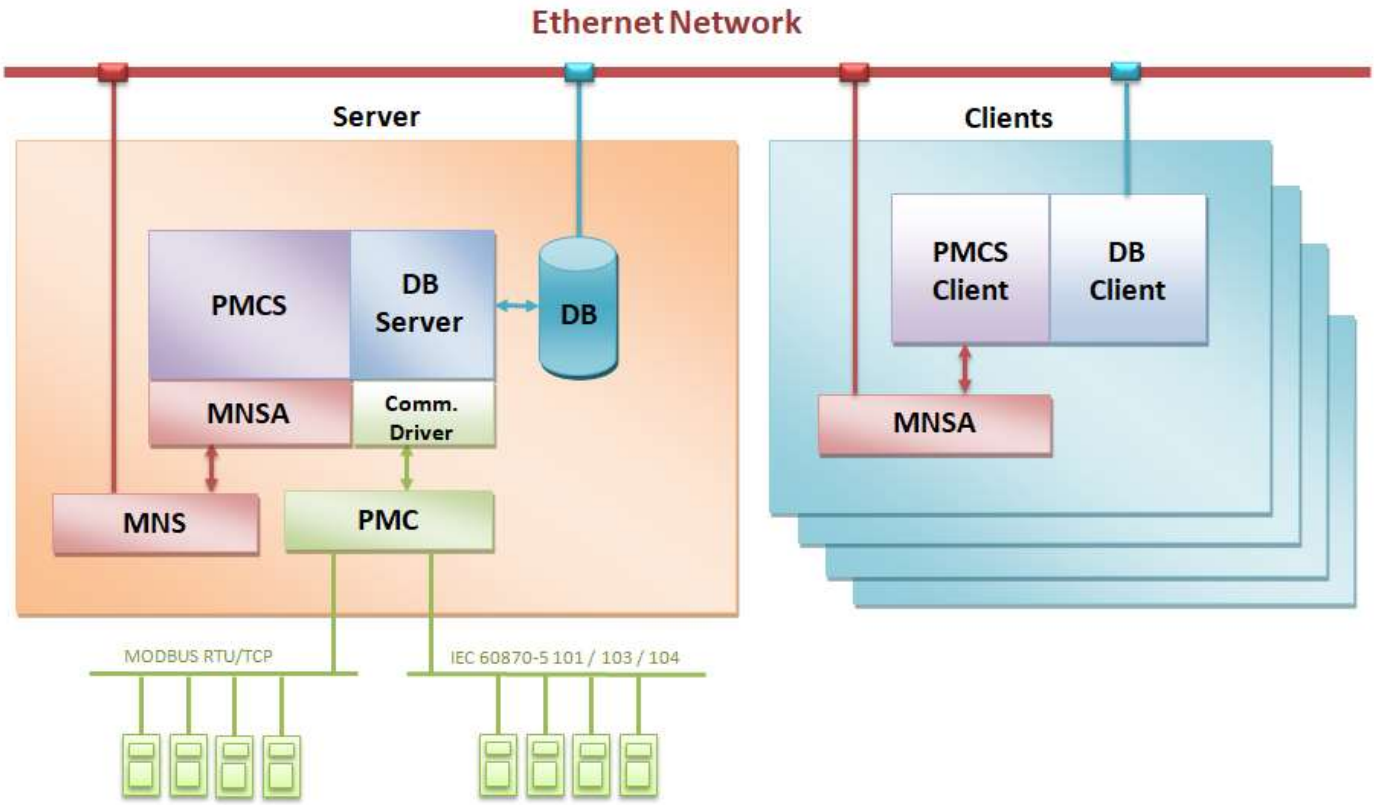
- Flexible monitoring and control options via graphical displays
- Detailed presentation of events coming from the field to the screen
- Ability to save and archive field data in an open relational database
- Graphical and report presentation of current and recorded values
- Control possibilities via remote control and control screens
- Easy communication configuration, fully integrated SCADA interface
- Remote monitoring and control of data collected via communication with various field devices (Relays, analyzers, PLCs, RTUs, etc.)
- Broad communication possibilities as:
  - IEC 60870-5-101 / IEC 60870-5-103 / IEC 60870-5-104
  - Modbus RTU / Modbus TCP
- OPC server and OPC Client integration
- Online and web presentation opportunities via Web Server
- Easy to use modern Windows Operating System
- Compatibility with standard computer hardware and software
- Strong and rich user authorization options
- Easy licensing with product codes / key codes

Special solutions for Energy Automation Systems

- Dynamic Single Line Diagrams and automatic Line Coloring features
- Remote monitoring of various energy data and continuous recording to the relational database (energy, power, current, voltage, etc.)
- Detailed examination and evaluation of faults via time-tagged event and alarm lists with 1ms resolution
- Preparation of energy quality analysis and reports, easy integration with TEIAS system, automatic transmission of detailed info and reports
- Optional Load Shedding and Load Management systems
- GPS time synchronization and transmission of data with time tag
- Provider independent operation, flexible and open configuration

SCADA Architecture – Standard Configuration

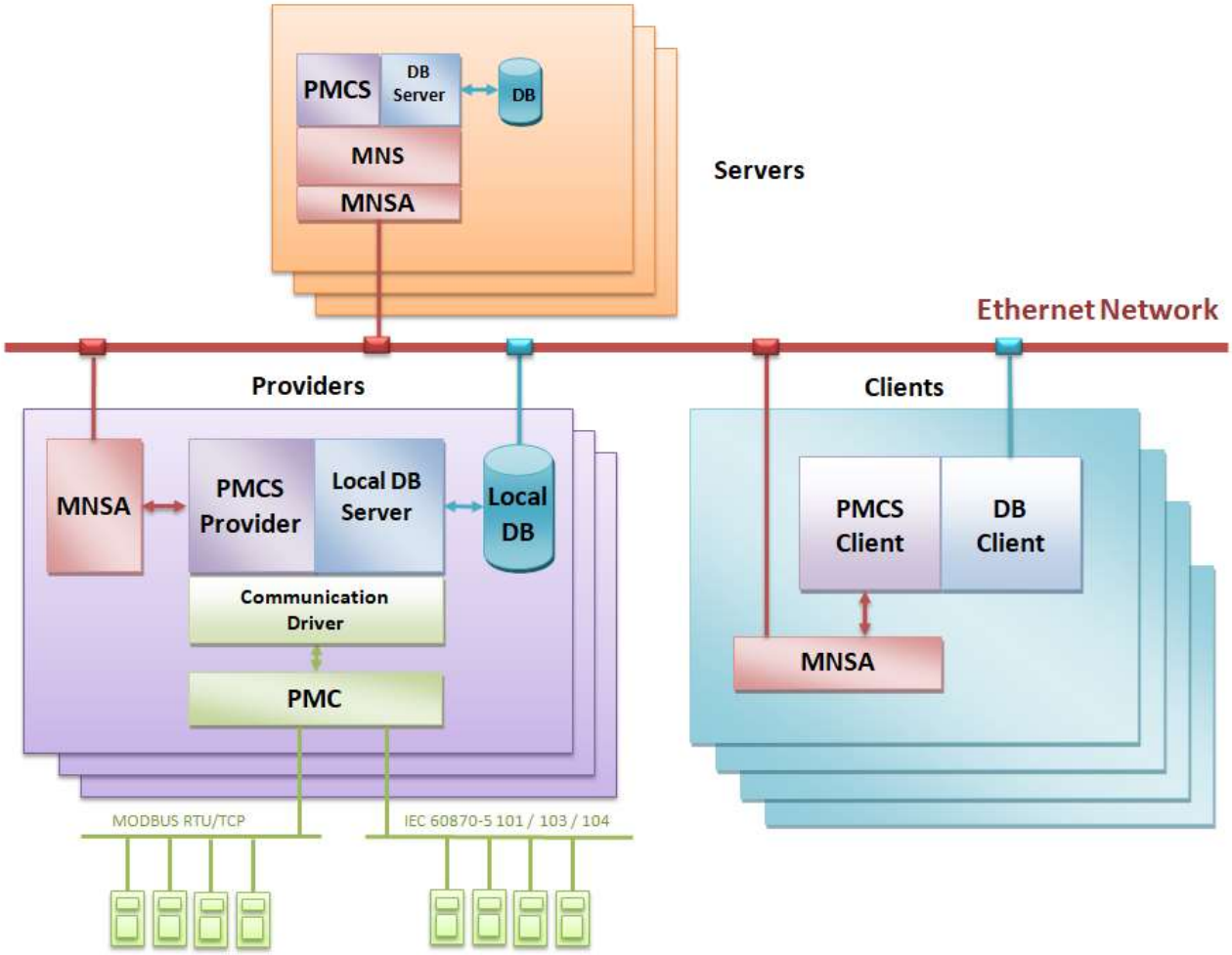
TurboSCADA software in The **Standard Configuration** works in a system architecture which consists of a server and multiple client computers. In this configuration, server computer executes several tasks as data collection, storing, web presentation, serving data to the client computers.



PMCS: Power Monitoring and Control SCADA
PMC: Power Monitoring Control drivers
MNS: Multi Network Server
MNSA: Multi Network Server Agent
DB: Database

SCADA Architecture – Redundant Configuration

TurboSCADA software in The **Redundant Configuration** is executed in a network architecture which consists of multiple servers and clients. In this configuration, server computers run redundantly and according to the priority configuration the relevant server takes the responsability.



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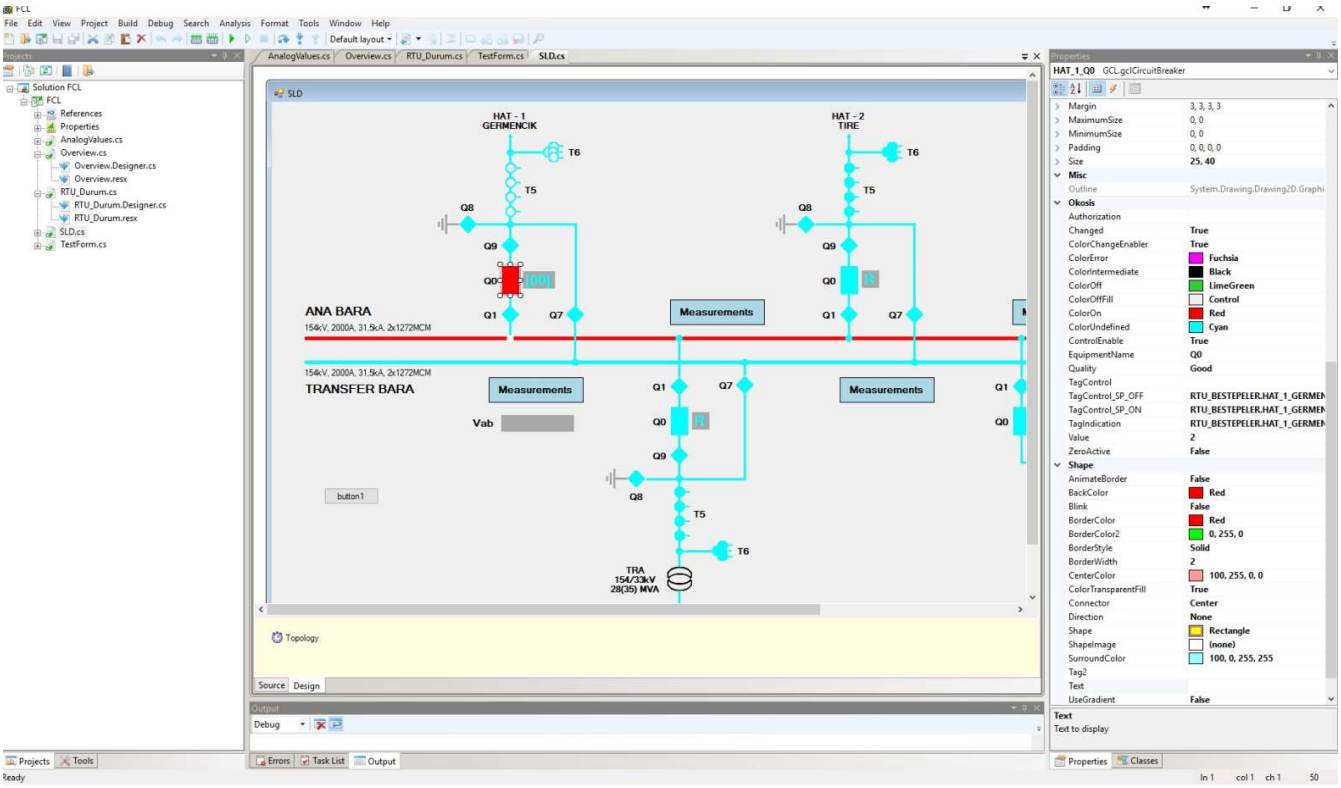
Graphic Display Design and Programming

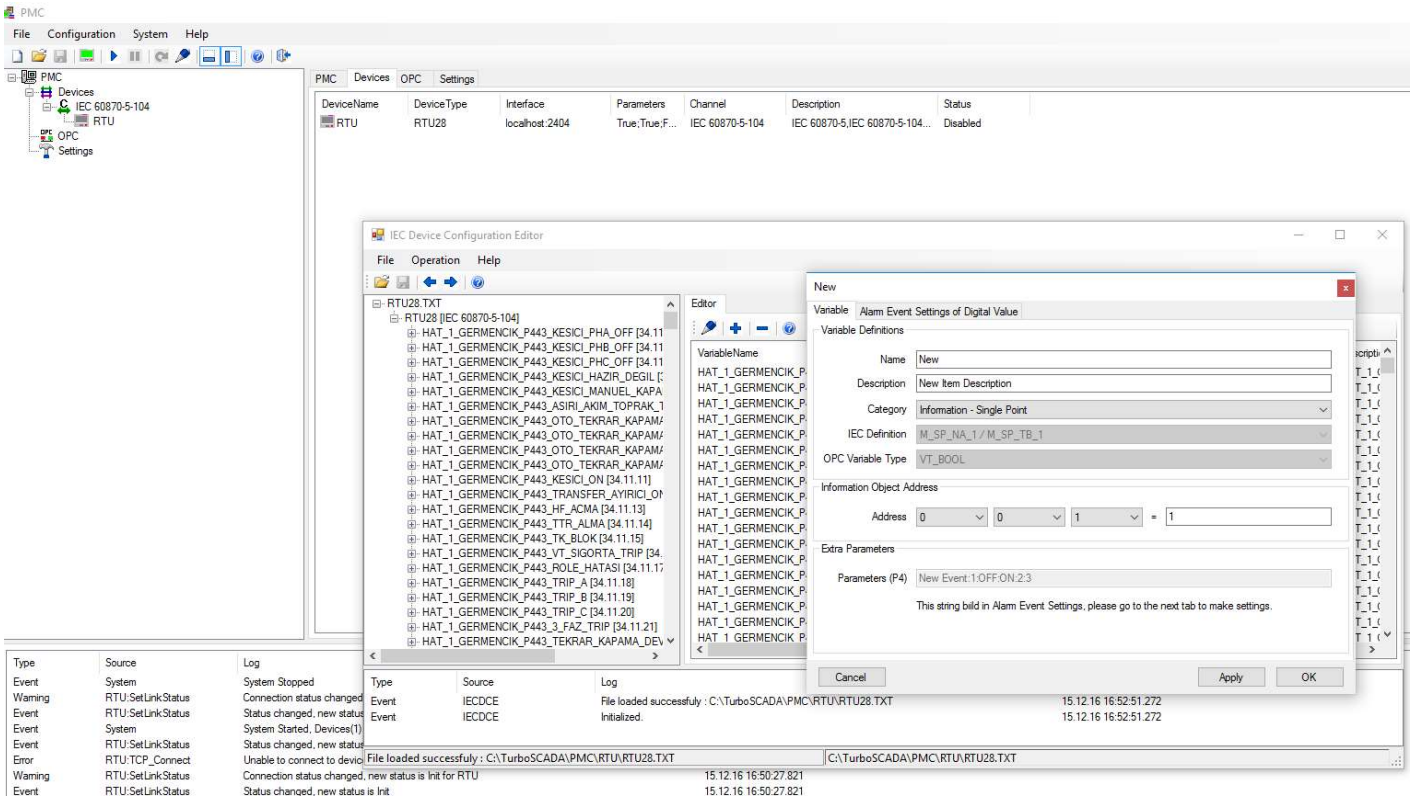


TurboSCADA software has been developed using modern software techniques and infrastructures. It provides modern and easy-to-use design interfaces to create SCADA graphical interfaces. SCADA pages can be easily created and saved in the project file for later use via objects and property screens in the TurboSCADA object menu. It is easy to write custom user codes behind the pages and properties of the graphical components using modern and powerful C# (C Sharp) programming language.

Some of the prominent features of the design interface are listed below:

- User-friendly and modern SCADA page design interface
- Create and save pages quickly using pre-defined objects
- Complete and easy integration with comm. configuration interfaces
- Coding using modern & powerful C # (C Sharp) programming language
- Ability to create unlimited pages and coding and save them as projects
- Ability to use universal C sharp libraries and code fragments

Communication Interface And Configuration

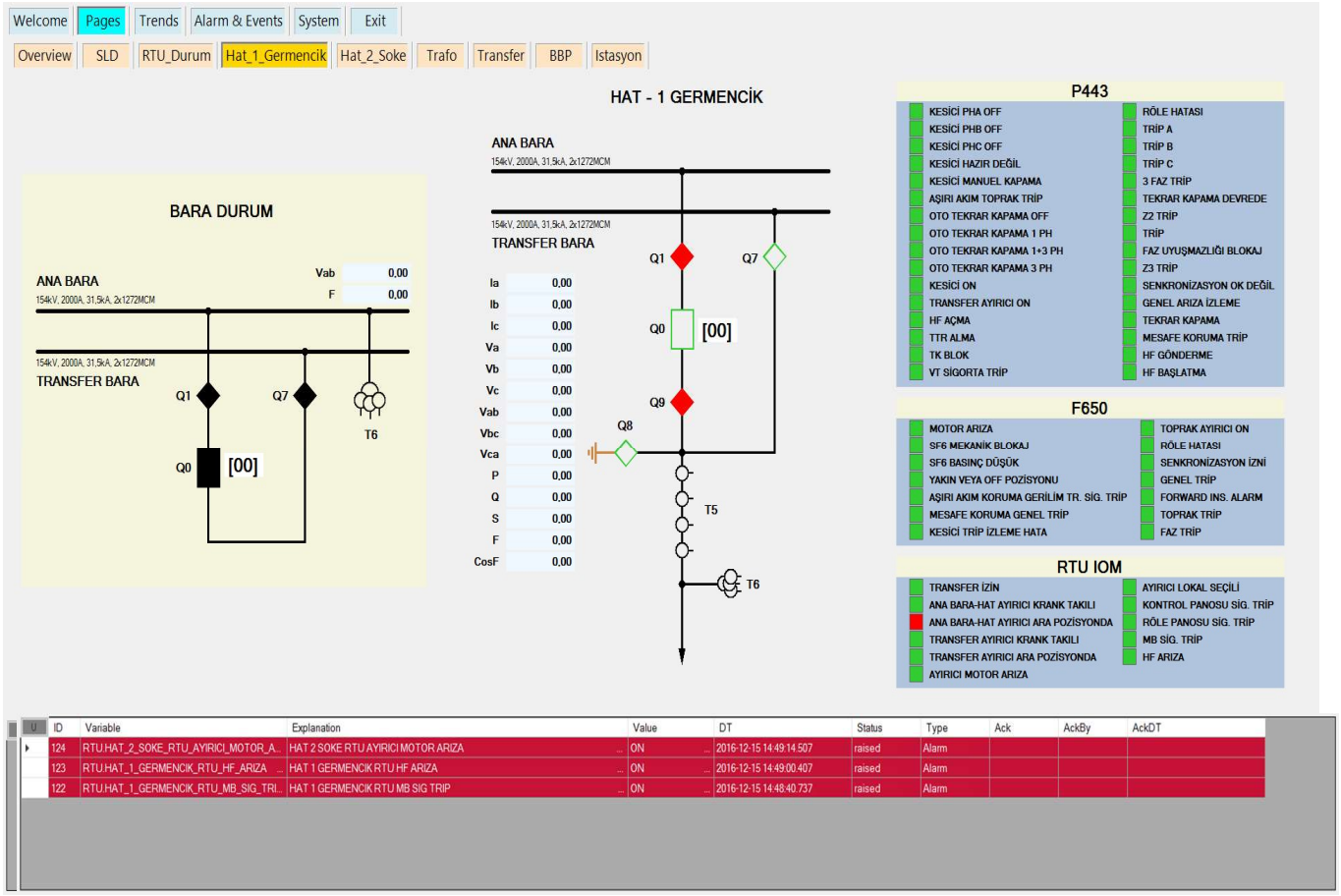


TurboSCADA PMC software provides access to various communication protocols such as **IEC 60870-5-101 / IEC 60870-5-103 / IEC 60870-5-104** and **Modbus RTU / Modbus TCP** through their own interfaces by introducing communication channels. Besides, it is capable of various expansion capabilities compliant with modern open system principles via OPC Server and OPC Client interfaces.

Provides user-friendly functionalities as given below:

- Easy parameterization, thanks to user friendly Tag Management screens in the communication configuration interface
- Easy and fast system configuration through integrated communication driver and SCADA graphic design.
- Define devices as prototypes once and re-use them easily in all of your future projects, no need to redefine again

Control Screens



Visual presentation of the equipments is done on TurboSCADA control screens and remote control option is provided through these screens.

The following information can be displayed on the control screens:

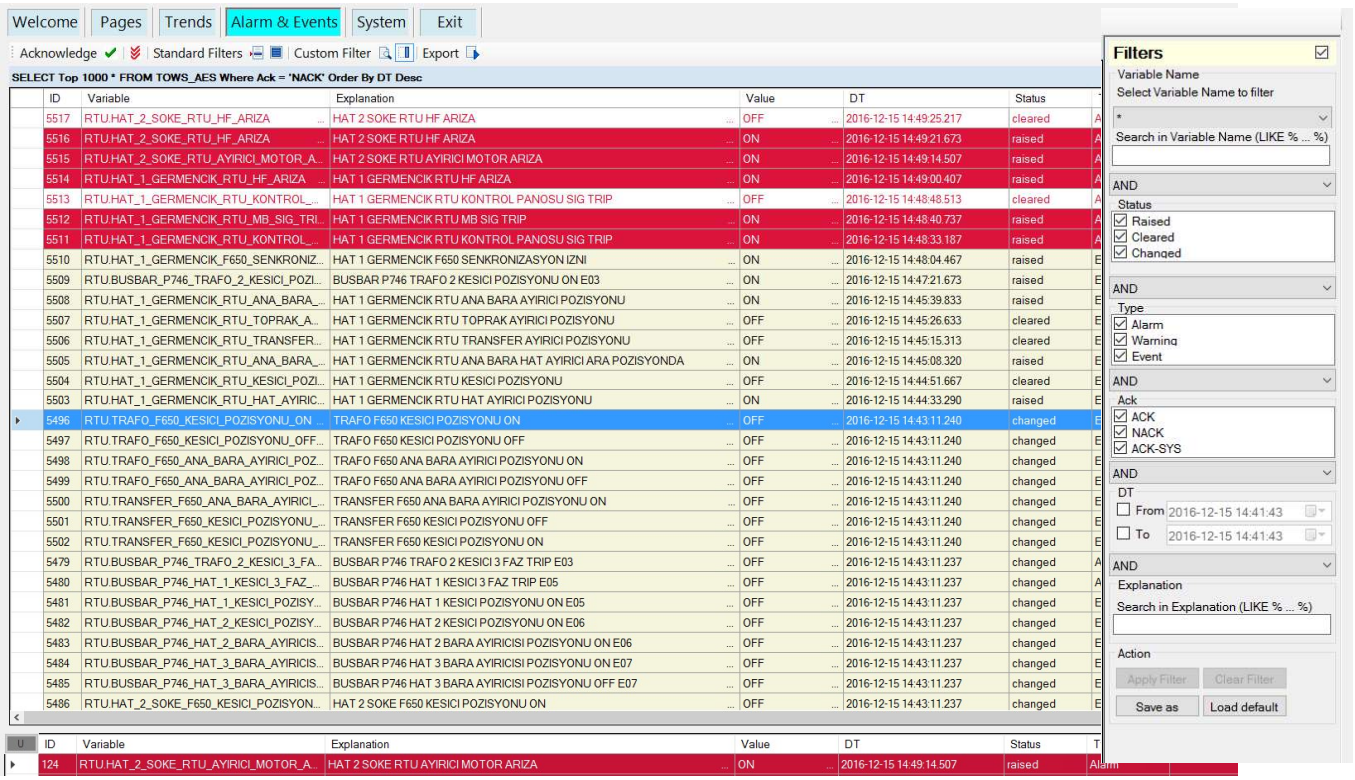
- Automatic line coloring according to the bar voltage values
- Instant display of analog data effectively
- Instant display and control of breaker and breaker positions
- Display of instantaneous position and status of warning signals
- Design the screens once and re-use them easily in all of your future projects, no need to redesign again

Alarm and Event Management

TurboSCADA Alarm / Event screens and all events occurring in the field are shown with **1 ms resolution time stamps** and **listed chronologically**. Information displayed on the alarm / event screen can be easily defined through the settings in the communication configuration software.

Some of the features offered by the alarm screens are given below:

- Events and alarms that are continuously archived
- Chronological ordering of information with accuracy in milliseconds
- Enhanced singular / multiple acknowledgment capabilities
- External recording in XML format of requested alarm records
- Detailed filter screen for finding the desired alarm record
- Alarms with different visual features according to different alarm levels



Trend And Graphic Management

TurboSCADA software presents **open architecture** containing **multi servers and clients** besides several **data collecting points** in a harmony.

Tabular and graphical presentation of collected data realized as given below:

- Prepare trend pages that the user can create, customize and save
- Easy interrogation and drawing with a filter window designed to simply filter desired values and draw the trend
- Provides numerical display of data on trend pages drawn at desired intervals and xml output option.
- Enables enlargement / reduction on the trend page.
- Provides option to save trend page as jpeg / bitmap.

References

- **Oyak Renault IT Monitoring System**

  TurboSCADA system has been installed and a server system and a web server is used for monitoring and SMS notification with client computers connected in the Oyak Renault, Bursa Nilufer factory.

- **TEIAS Ikitelli UKM-OKS**
  (Remote Control Center – Event Recording System)

  TEIAS İkitelli Remote Control Center acquires data from nine substations GIS SCADA system over ADSL modems. TurboSCADA UKM-OKS server system get data from local SCADA systems installed at substations, Alarm / Event records are received with the MNS Server system and presented via web server.

- **Kubilay JES Substation Automation SCADA System**

  As part of the Kubilay JES Energy Automation SCADA system, one TurboSCADA server system and two TurboSCADA Client systems have been installed. One of the clients is used for remote monitoring and the other is used for TEİAŞ reactive power monitoring reporting system.

- **Mehmethan JES Substation Automation SCADA System**

  As part of the Mehmethan JES Energy Automation SCADA system, one TurboSCADA server system and two TurboSCADA Client systems have been installed. One of the client systems is for remote monitoring and the other is for TEİAŞ Reactive Power Monitoring Reporting system.

- **Ozmen JES Substation Automation SCADA System**

  As part of the Özmen JES Energy Automation SCADA system, one TurboSCADA server system and two TurboSCADA Client systems have been installed. One of the client systems is for remote monitoring and the other is for TEİAŞ Reactive Power Monitoring Reporting system.

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