



iCONTROL SCADA



Control and automation software for substations, distribution grids and generation plants



IEC 61850
compliant

- **Easy-to-use SCADA HMI control software** with all recommended features for energy applications, fulfilling industry requirements and particular demands
- **Optimal Adaptation** to any schema or architecture, from standalone systems to complex redundant schemas with remote clients and SQL data storage
- **Generate customized reports**, which can be triggered periodically or by any kind of event/ alarm
- **Manage multiple communication protocols at the same time** – from simple Modbus to IEC 61850 (MMS & GOOSE), both master and slave, including common protocols for control center communication, such as IEC 60870-5-104/101, DNP3.0 or OPC UA
- **Display the SCADA in real time with an Internet browser** using the iControl web viewer, which blocks any unwanted/ dangerous activity with integrated safety measures

iControl SCADA is a versatile control and data acquisition software adaptable to any application requirements, from small substations and power plants to full medium voltage grids, always working in the same environment.

Our SCADA systems provide an intelligent HMI for real-time monitoring and control, as well as advanced data acquisition, regardless of the communication protocol, the RTU to connect to, or the architecture (standalone, client/server or redundant) in place.

iControl SCADA guarantees complete interoperability and unites all important functionalities for power distribution networks, e.g. single-line diagrams, playback event reproduction, quality of service calculations (SAIDI & SAIFI ratios), templates or SQL database and alarm/event management. It was specifically designed for the energy sector, allowing us to create a simple and intuitive interface for the operation and configuration of SAS, power plants and distribution control centers.

BUSBAR COLORING

Busbar coloring or topologic coloring is a feature that offers automatic power line coloring (ALC) based on grid topology and voltage level. The user can assign colors to the different energization statuses: energized (under power), not energized (not fed), and grounded. The lines (busbars and connections) and graphical components (circuit breakers, transformers, isolators etc.) are then colored accordingly.

In the energized case, the lines and elements may be displayed in two different modes:

Energy-based – coloring according to voltage level

Flow-based – coloring according to power flow

The latter allows distinguishing different power flows by color (one color per flow), i.e. display parts of the grid

SMART ZOOM

The **iControl** smart or decluttering zoom provides an intelligent, clear overview of the entire grid, showing or hiding elements depending on the applied zoom, allowing you to quickly navigate through the entire grid in one screen.

ICONTROL WEB VIEWER

iControl can be monitored remotely via its web application, allowing to review all single line diagrams, schemas, listings and historical data in a comfortable way.

IEC61131-3 PLC AUTOMATION

The iControl application includes PLC automation sequences which can be programmed using the iConfPLC software, (included in our free iConf tool) based on the IEC 61131-3 standard.

SQL AND REPORTING

All the information collected and generated by iControl can be stored in an SQL database for system analyses and reporting or to integrate provide data access to third party databases, applications and intranets.

iControl can also generate customizable reports by itself, which can be sent to maintenance teams, managers or engineering departments.

SWITCH FROM EDITION TO OPERATION

iControl does not require a special license to build or modify a project, instead users can be managed with customizable user permissions and user levels via RBAC.

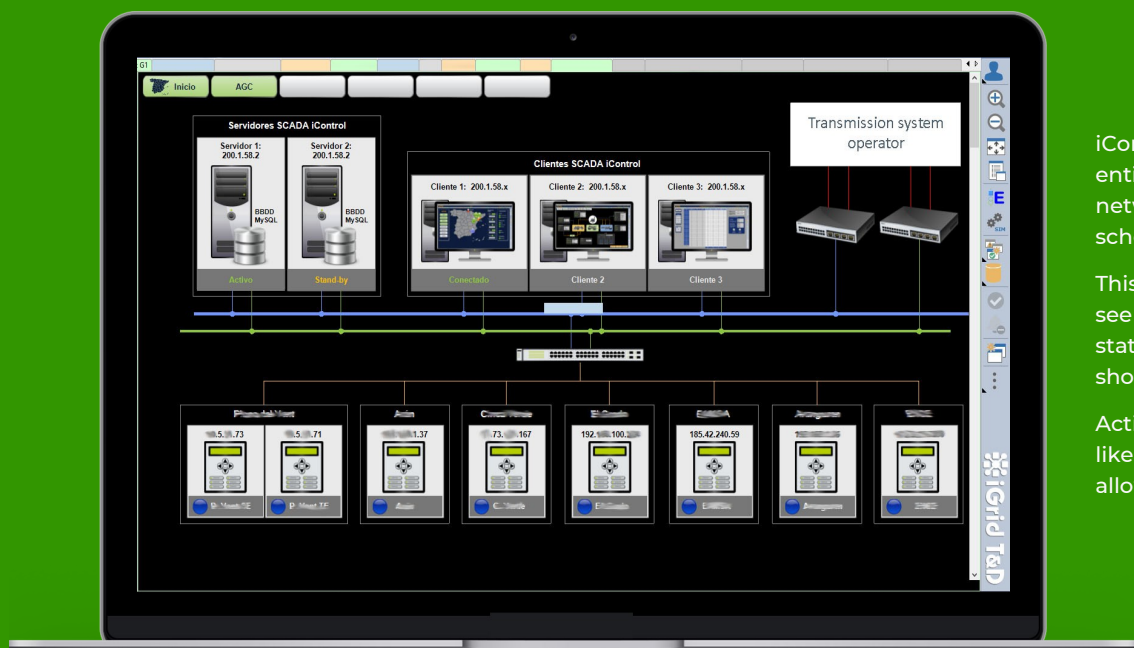
This feature is a big advantage during deployments, as the system can be modified directly on the server, without the need of any extra engineering terminal, and without losing communication with field devices.

CLIENT/SERVER ARCHITECTURE

iControl can be deployed as a standalone system or in a client/server architecture, in which all the information is gathered and stored on the server station, with one or several system operators connected to the locally or remotely accessible client terminals.

REDUNDANCY

Critical systems depend on redundancy capabilities to ensure the necessary reliability. With iControl you can add hot-standby servers to client/server architectures. The switchover can either be triggered automatically by the active device or manually by the operator. IEDs and iControl clients are always connected to both servers, and switched automatically during switchover.



iControl can show the entire communication network in a visual schema

This makes it is easy to see the connection status of all IEDs even at short glance.

Action-calling elements, like buttons and links, allow to navigate

PROTOCOL STACK

Master/Slave IEC 60870-5-101	Master/Slave IEC 60870-5-104
Master/Slave Modbus TCP/UDP and JBUS (master)	Master/Slave ModbusRTU
Master/Slave DNP3.0 (serial, UDP, TCP)	Master IEC 60870-5-103
Master IEC 60870-5-102	Master Procome
Master DLMS	Master Spabus
Master IEC 62056-21	SNMP Agent/Manager
IEC 61850 MMS Client/Server	IEC 61850 GOOSE Publisher/Subscriber

GENERAL

Simple configuration and maintenance with our free iConf tool.
Command console with full packet exchange information, with all available protocols

Quick switching between the edition and runtime modes without interrupting the operation

Web viewer with iControl you can display all the SCADA information (including schemas, listings and trends) on a web browser

Multilingual easily translatable to any language and alphabet

Low resource consumer, executable on any computer using Windows or Windows Server

IGCOMMS SOFTWARE APPLICATION (COMMUNICATION FRONT END)

Security IEC 62351-3 and IEC 62351-5 support, including TLS/SSL, SSH and VPN connections

IEC61131-3 automation logic and PLC programming, with LD, FBD, ST and SFC editor

LUA language can be used to create simple and complex logic and mathematical expressions

DATA STORAGE

CSV file to automatically store the sequence of events (SOE) of digital and analog points

SQL all collected data can be stored in SQL data bases to facilitate posterior analyses

Reporting customized reporting can be automatically triggered by an event/alarm, or periodically generated. Reports are stored on the server and can be sent by email

ARCHITECTURE

Redundancy deployable on a hot-standby configuration, with redundant servers and data bases to improve system reliability

Client/Server the iControl server collects & stores all field data with all supported protocols.
The iControl Client is used to operate the system and provides the lists and graphs.

RTUs & IEDs only communicate with the server, while the operation console can be distributed on several clients, using native applications or web browsers.

Standalone iControl runs on windows computers and has all the functionalities to manage an entire project: communication,

SIGNALS

Multiple list options to display collected information:

- Sequence of events
- Active alarms
- Alarm acknowledgment
- Historical events

Trend charts can be user-defined, simply attached to schemas and viewed by the operator at any time during operation

Signal types supported by the SCADA include: digital inputs, digital commands, counters, analog inputs and set points

ORDERING INFORMATION

iControl#iiiiii

ICONTROL VERSION

HMI
SubstationAutomationLite
SubstationAutomationPlus
ControlCenterLite
ControlCenterMid
ControlCenterPlus

TAGS

adjust the number of tags as you like

IEC 61850

include IEC 61850 capabilities

WEB SERVER

access your SCADA through the secured

SQL DATABASE

store your data comfortably with

CLIENTS

add as many extra clients as you want

OPTIONAL FEATURES

EASY CONFIGURATION W/ iCONF

iConf has been specifically developed for electrical applications, saving you lots of time and money throughout the control system set-up and maintenance tasks, whilst also minimizing your project risks.
Upload and **download** your configurations, import or scan **SCL files** (IEC 61850) and create your own **templates**.



- Included feature
- Optional feature

HMI

Substation
Automation
LiteSubstation
Automation
PlusControl
Center
LiteControl
Center
SmartControl
Center
Plus

Contact iGrid T&D for other configurations

DATA STORAGE

CSV data storage	●	●	●	●	●	●
SQL event logging + advanced reporting		○	●	●	●	●
iControl web server		○	○	●	●	●

MAINTENANCE

E-mail alarms	●	●	●	●	●	●
SMS alarms (needs an external SMS system)				●	●	●

NUMBER OF IEDS/ MASTER STATIONS

Up to 6 IEDs	●					
Up to 32 IEDs		●				
Up to 150 IEDs			●	●		
Up to 500 IEDs					●	
More than 500 IEDs						●

NUMBER OF I/O POINTS

Up to 750 IO (for HMI iControl Edition)	●					
Up to 6.000 IO		●		●		
Up to 15.000 IO			●		●	
Up to 150.000 IO						●

COMMUNICATION PROTOCOLS

Master/Slave IEC60870-5-101						
Master/Slave IEC60870-5-102	Master JBUS	Only	Only			
Master/Slave IEC60870-5-103	Master DLMS					
Master/Slave IEC60870-5-104	Master Procome			●	●	●
Master/Slave ModbusRTU	Master IEC62056-21	Master	Master			
Master/Slave ModbusTCP/UDPMaster/Slave DNP3.0	Master/Slave SNMP					
Client/Server IEC61850 MMS		○	○	○	○	○
Publisher/Subscriber IEC61850 GOOSE		○	○	○	○	○
File transfer			○	○	○	○
TASE2.0 / IEC61850 / IEC 60870-6				○	○	○
OPC UA client		○	○	○	○	○

PLC AUTOMATION AND BUSBAR COLORING

PLC Automation		●	●	●	●	●
Automatic Line Coloring	●	●	●	●	●	●
System Architecture						
Standalone	●	●	●			
Client/server architecture: Server + 1 client		○	●	●		
Redundancy: main & hot-standby servers + 1 client			●		●	
Redundancy: main & hot-standby servers + 5 clients						●