

RTU User Center

Brief Characteristics

- ☒ user interface for configuration of RTUs,
- ☒ data organization in tree structure,
- ☒ filtered displaying of tree structure,
- ☒ bulk operations,
- ☒ easy user scripts,
- ☒ multi-user mode, access control,
- ☒ possibility of connection of hundreds of units,
- ☒ storage of tree structure into XML file,
- ☒ data storage in SQL server,
- ☒ support of Drag&Drop operations,
- ☒ integrated function blocks editor,
- ☒ management of users and access to RTUs
- ☒ support of Windows authentication,
- ☒ Import/export of IEC 61850 SCL files.

Basic Description

The RTU User center is a user add-on of the RTU Communicator and enables the complete and comfortable service of ELVAC RTUs and similar devices. It does not communicate with RTUs directly, but through the RTU Communicator. Both applications use the SQL database as a storage area of the whole data structure. All three programs are an integral part of the whole package with the name RTU Communication set and they communicate between each other through the Ethernet network.

The User center is designed so that it can run in the system in several installations, it means in multi-user work. Each User center in the system can only display an image of the status of the system (measurements and signals) – the off-line mode, or can display live

data as it changes in real time – the on-line mode. The number of User center running at the stated moment in the on-line mode is restricted by the provided license. The license provided free of charge to any purchased ELVAC RTU enables only one on-line User center.

However, it is always valid that one RTU can be configured at the same time only by one user, the other users only have access for reading.

All data concerning RTUs is arranged into the tree structure. At the lower layer are the communication channels used by RTUs for communication (RS-232, UDP / HioCom, TCP client / IEC 60870-5-104, etc.), then there are its own units or the slave units and then there are channels or sub-channels. Each node of this tree structure contains a set of parameters which describes its properties and also a set of the actual data which, after the connection to the unit, displays the status of the node. The display of this information can be configured according to the demands of the user. The optional display also includes the option of filtering and help for individual parameters.

The selected operations can be executed together for more terminal units or measuring, signaling or control channels. Some mass operations are directly integrated into the user interface, some must be implemented through simple user scripts.

The main goal of the application is the parameterization of units which represents setting the correct values of all parameters and then the transfer of these parameters through parametrizing files into the RTU. Everything is fully simplified. There is Help for parameter settings, displaying of data types, ranges of values and units, option for the mass change of parameters for more nodes and some functions for finding potential conflicts in the setting.

The process of transferring/writing parameters to the unit requires only the selection of this function and then there is a whole series of actions which remain hidden from the user although the results are logged into the information window.

Value	Enabled	Channel	IEC address
YES	YES	0	0
YES	YES	1	1
YES	YES	2	2
YES	YES	3	3
YES	YES	4	4
YES	YES	5	5
YES	YES	6	6
YES	YES	7	7
YES	YES	8	8
YES	YES	9	9
YES	YES	10	10
YES	YES	11	11
YES	YES	12	12
YES	YES	13	13
YES	YES	14	14
YES	YES	15	15
YES	YES	16	16
YES	YES	17	17
YES	YES	18	18
YES	YES	19	19
YES	YES	20	20
YES	YES	21	21
YES	YES	22	22
YES	YES	23	23
YES	YES	24	24
YES	YES	25	25
YES	YES	26	26
YES	YES	27	27
YES	YES	28	28
YES	YES	29	29
YES	YES	30	30