ABOUT CONSORTIUM

The consortium “RUBIN-AUTOMATION” consolidates professional experience of key specialists in the field of automated control systems.

- INVESTIGATION
- DESIGNING AND INSTALLATION
- MONITORING UTILITIES
- UTILITIES
- SCIENCE AND EXPERTISE
- TRAINING AND PROFESSIONAL DEVELOPMENT

SCIENTIFIC-INDUSTRIAL ENTERPRISE «RUBIN»

A pool of scientists, experts, designers, practical engineers, highly skilled workers as well as specialists in various fields of expertise connected with issues of providing effective control over automation objects.

SCIENTIFIC PRODUCTION COMPANY KRUG

An engineering centre engaged in a wide range of projects and services from making draft proposals, designing and coordinating the project appraisal to actualizing and maintaining automated systems.

RUBIN AUTOMATION

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CONSORTIUM RUBIN-AUTOMATION

Professional solutions – basis for development!

Automatic Process Control System (APCS) for heat supply stations

Control objects

Central and individual heat supply stations providing connection to the heat network of heat consumption systems: heating, ventilation, hot water supply and consumers' processing plants.

Goals of introduction

- *Introducing optimal heat supply modes.*
- *Preventing or reducing damage from accidents with their prompt localization.*
- *Displaying timely technological information on the monitors of the control station.*
- *Reducing production costs as well as nonmanufacturing costs due to “underestimation” and excessive consumption of energy resources.*

RUBIN
AUTOMATION

APCS for heat supply stations

RESOURCE-SAVING HEAT ENERGY

System functions

- Measuring key technological parameters of the heat supply station in the scope of the requirements of Code SP 41-101-95 (temperature, pressure, consumption, level, etc.) and displaying them on the operator's console.
- Logging the status (position) of actuating mechanisms and sensors of the heat supply station and displaying them on the operator's console.
- Remote manual and automatic control of main-line, circulating, boost and drain pumps.
- Warning lights and audible warning in case of going beyond the preset parameters values and detecting equipment failures.
- Automatic keeping the preset values of technological parameters in accordance with the requirements of SP 41-101-95.
- Emergency shutdown devices and blocking the process equipment in case of invalid changes of technological parameters in accordance with the requirements of SP 41-101-95.
- Commercial/technical accounting of supplied heat energy and heat carrier, consumed electric power for the company's own needs.
- Calculating the heat supply station equipment running time.
- Sending information on the equipment current status, parameters and status of the process to the district and (or) central control station.

System features

- Modularity (modular principle of software structure).
- Openness (support of open communications protocols).
- Scalability and replication (option to increase the system information capacity without stopping its functioning).
- Using specialized fail-safe remotely controlled communication channel for unreliable, slow communication channels.
- An option of 100% redundancy of controllers, servers of collecting and storing data, users' automated workstations.
- A large drivers library for instrument gages.
- Implementation of all functions (measurement, recording, control, regulation) on the basis of a single software and hardware complex.
- Using certified software and hardware facilities including the ones entered in the State register of gages.

Components

- Actuating mechanisms, incremental transducers, instrumentation transducers located in technological sections of the heat supply station.
- Microprocessor controller DevLink-C1000 with modules for input/output of analogue and discrete signals which, depending on the task, maybe made according to the scheme of 100% “hot” sparing of controllers or 100% “hot” sparing of the controller processing (computing) part.
- Servers for collecting and storing data, users' automated workstations on the basis of SCADA KRUG-2000.

Implemented projects

- “T Plus Teploset Penza”, Penza.
- “T Plus SaranskTeploTrans”, Saransk.
- “Penza power machine building plant”, Penza.
- “Ramenskaya administration company”, Ramenskoye, Moscow obl., etc.