

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



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.



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.

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CONSORTIUM RUBIN-AUTOMATION

*Professional solutions
– basis for development!*



Automatic Process Control System (APCS) for pumping stations



Control objects

Step-up, step-down, transfer pumping stations using straight and return pipelines of the heat supply network.

Goals of introduction

- Introducing optimal heat supply modes.
- Preventing or reducing damage from accidents with their prompt localization.
- Displaying reliable and 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.

System functions

- Measuring key technological parameters of the pumping station (temperature, pressure, consumption, level, etc.) and displaying them on the operator's console.
- Logging the status (position) of actuating mechanisms and sensors of the pumping station and displaying them on the operator's console.
- Remote manual and automatic control of pumps including the ones equipped with soft starters and frequency-regulated drives.
- 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 of the pumping house.
- Emergency shutdown devices and blocking the process equipment in case of invalid changes of technological parameters.
- Technical accounting of heat carrier in the delivery and return pipeline, accounting of consumed electric power, cold water for the company's own needs.
- Calculating the pumping station equipment running time.
- Sending information on the equipment current status, parameters and status of the process to the 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 pumping 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.
- Syzran heat networks, Samara obl.
- "T Plus", Ulyanovsk branch, Ulyanovsk.
- "IRMET", Irkutsk, etc.