

UTE

ULJANIK TESU ELEKTRONIKA



ULJANIK TESU ELECTRONICS (UTE Ltd) is a company for design, manufacture and sale of electrical and electronic equipment.

From 1975 to 1997 the company was present on the world market as the manufacturer of electric and electronic equipment in The electrical machinery and equipment factory (TESU) in the Uljanik shipyard Pula. Since 1997 the company has continued its own production activities and it is now an independent private limited liability company.

BASIC ACTIVITIES

Design, production and sales of electric and electronic devices like:

- electrical power distribution system
- electronic unit for control and regulation in the processing industry and ships
- electronic unit for control and of the genset as supply source
- alarm and monitoring systems
- protection and control of diesel genset
- rectifiers, storage batteries chargers
- generator voltage regulators
- voltage sensors...

CERTIFICATES

All our devices that are made for instalation on a ship have licence or standard approval of international recognized registries (CRS, Lloyd, BV, RINA).



HRVATSKI REGISTAR BRODOVA Croatian Register of Shipping

POTVRDA O TIPNOM ODOBRENJU
TYPE APPROVAL CERTIFICATE

Broj/Nr: _____

Brodski regulirani ispravljači - punjači : SCR
Regulated marine rectifiers - chargers

PROIZVOĐAČ:
MANUFACTURER: **UTE - ULJANIK TESU ELEKTRONIKA d.o.o.**
32100 PEŠĆA, Ploče ulica 1
HRVATSKA - CROATIA

PROIZVODNJEVOJLJAVNA I MJEŠTAN PRVAJIMA PROFORMA:
THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

Hrvatski registar brodova: **Pravila za tehnički nadzor pomorskih bh**
Croatian Register of Shipping: Rules for the Technical Supervision of Sea

PODIROJE PREMIJNE POSEBNI GRANIČNI EN JEITL
FIELD OF APPLICATION/SPECIAL OPERATIONAL LIMITS

Izlazni napon:
Output voltage: **24 V**

DOBRODNE VARIJETHI DIO:
APPROVAL OF CLASS LIMITS: **2012-02-03**

Mjesto i datum:
Place and date: **Split, 2008-02-03**

IZNJEIJE NAVEIENE NA POLJEIIBNI
CLASSIFICATION SYMBOL

M.P.
Styl: _____
Genin Begovic, dipl.ing.

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Certificate number: 110408/01/01
File number: AP 33362
Product code: 04401
This certificate is not valid unless accompanied with the full technical information contained in 7 sections
www.veritas.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to:
UTE - Uljanik TESU Elektronika d.o.o.
Pula - CROATIA

For the type of product:
ALARM, MONITORING AND CONTROL SYSTEMS
Type ACMA 1000 Family.

Requirements:
BUREAU VERITAS Rules for the Classification of Steel Ships - (SCS-E1).

This certificate is issued in respect to BUREAU VERITAS' rules covering the relevant approved procedures for the product described above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 08 Dec 2014

For BUREAU VERITAS:
41 Boulevard de la Woluwe, 1200 Brussels, Belgium
Bureau Veritas

[Signature]

[Bureau Veritas Seal]

The certificate holder is responsible for the safe installation, correct operation or overhaul, provided the conditions indicated in the certificate and subject to any special conditions or conditions imposed by the relevant authorities. The certificate holder is responsible for the maintenance and repair of the product, ensuring that the product continues to comply with the relevant requirements. The certificate holder is responsible for the safe operation of the product in accordance with the relevant requirements. The certificate holder is responsible for the safe operation of the product in accordance with the relevant requirements. The certificate holder is responsible for the safe operation of the product in accordance with the relevant requirements.

BU Not. A15.131 May 2012 This certificate consists of 2 pages

ACTIVITIES

We offer high-quality service, from concept development, detail elaboration, implementation, maintenance, at the same time taking into account client needs and mutual collaboration.

We are designing and producing control for different industrial processes, using our own solutions or hardware of world recognized companies.



ACTIVITIES

To solve control requests on different processes, we often use programmable logic controllers (PLC) from our own production or different world recognized manufacturer like **Siemens, OMRON, Koyo, Allen Bradley, Woodward** . We programe systems for plant or equipment monitoring and control as well as data acquisition and analysis - SCADA .

No.	Time	Date	Alarm Status	Alarm	Group
103	2:04:18 PM	9/8/2006	AL/ACC	Fan B49 Running Fail	4
104	2:04:17 PM	9/8/2006	AL/ACC	Zone A2 Ventilation Capacity Loss	2
104	2:04:04 PM	9/8/2006	AL/RET	Zone A2 Ventilation Capacity Loss	2
106	2:04:04 PM	9/8/2006	AL/ACC/RET	Zone B Ventilation Capacity Loss	4
104	2:03:19 PM	9/8/2006	AL	Zone A2 Ventilation Capacity Loss	2
98	2:02:25 PM	9/8/2006	AL	Fan B49 Running Fail	4
100	2:02:57 PM	9/8/2006	AL/ACC	Zone B Ventilation Capacity Loss	4
108	9:43:23 AM	9/8/2006	AL/ACC	Zone D Ventilation Capacity Loss	6
106	9:43:21 AM	9/8/2006	AL/ACC	Zone B Ventilation Capacity Loss	4
107	9:43:21 AM	9/8/2006	AL/ACC	Zone C Ventilation Capacity Loss	5
105	9:43:20 AM	9/8/2006	AL/ACC	Zone A3 Ventilation Capacity Loss	3
103	9:43:20 AM	9/8/2006	AL/ACC	Zone A1 Ventilation Capacity Loss	1
83	9:43:19 AM	9/8/2006	AL/ACC	Damper A24 Closed	2
82	9:43:19 AM	9/8/2006	AL/ACC	Damper A23 Closed	2
57	9:43:19 AM	9/8/2006	AL/ACC	Damper A22 Closed	2
98	9:43:19 AM	9/8/2006	AL/ACC	Damper A26 Closed	2
104	9:43:19 AM	9/8/2006	AL/ACC	Zone A2 Ventilation Capacity Loss	2
81	9:42:36 AM	9/8/2006	AL	Damper A25 Closed	2
80	9:42:31 AM	9/8/2006	AL	Damper B23 Closed	2
57	9:42:29 AM	9/8/2006	AL	Damper A21 Closed	2
98	9:42:25 AM	9/8/2006	AL	Damper A20 Closed	2
102	9:41:28 AM	9/8/2006	AL	Zone A1 Ventilation Capacity Loss	1
100	9:41:28 AM	9/8/2006	AL	Zone A3 Ventilation Capacity Loss	3
106	9:41:28 AM	9/8/2006	AL	Zone A2 Ventilation Capacity Loss	2
107	9:41:28 AM	9/8/2006	AL	Zone C Ventilation Capacity Loss	5
100	9:41:28 AM	9/8/2006	AL	Zone B Ventilation Capacity Loss	4
108	9:41:28 AM	9/8/2006	AL	Zone D Ventilation Capacity Loss	6
102	1:15:03 PM	9/22/2006	AL	Zone A1 Ventilation Capacity Loss	1
100	1:15:03 PM	9/22/2006	AL	Zone A3 Ventilation Capacity Loss	3
106	1:15:03 PM	9/22/2006	AL	Zone A2 Ventilation Capacity Loss	2

ALARM LEGEND

- AL/ACC, AL/RET, AL
- ACTIVE, ACCEPTED
- NORMAL STATE

Mimic Fans overview Control Control Zone A1 Control Zone A2 Control Zone A3 Control Zone B Control Zone C Control Zone D Alarms Events

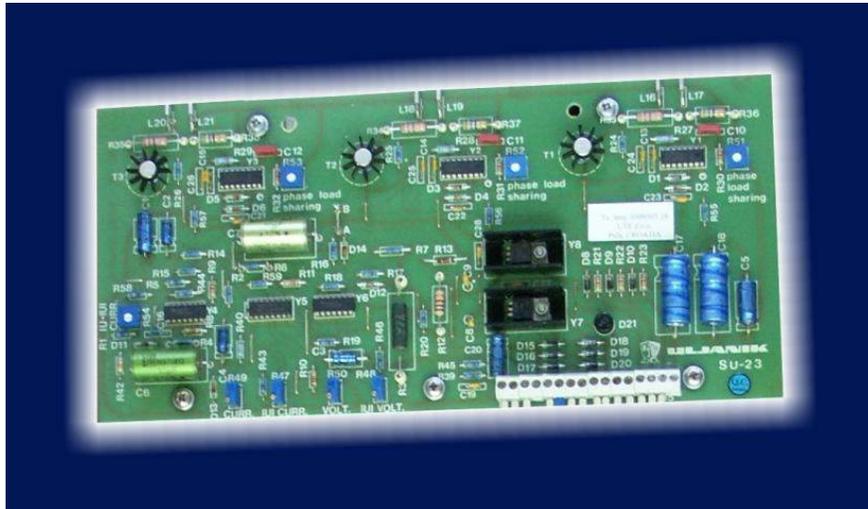


ACTIVITIES

We design and produce PCBs for our devices.

Before the installation in devices, every PCB is tested. After the installation, the whole device is tested.

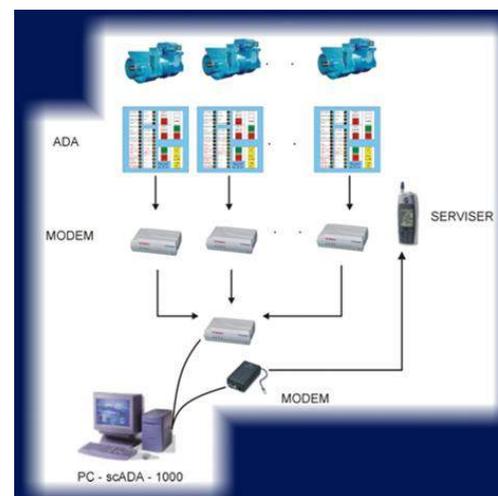
Test of every product is made in real conditions (under full load) for more hours.



PRODUCTS

DIESEL GENERATING SET AUTOMATICS

- "stand-by" automatics with the genset which supplies the consumers in case of mains failure
- "black-out" automatics which in case of critical alarm of generator set gives order to the next generator set to start
- automatics of central station with aggregates which are main power supply, with synchronization, load distribution, start and stop depending on load and possibility to control large load
- engine and generator protection



PRODUCTS

SCR - THYRISTOR RECTIFIER - CHARGER

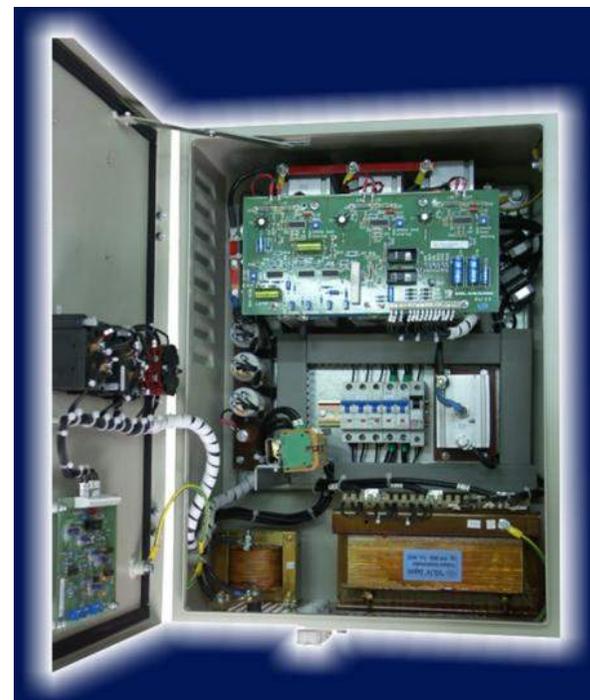
Thyristor rectifier - charger type SCR from 30A, 60A, 100A or by request is intended for charging storage batteries, as supply source 24V (12V) for consumers or both at the same time.

SPIN - STABILIZED SWITCHING SUPPLY SOURCE

Spin is intended for :

- *consumers supply without storage batteries*
- *storage batteries charging/maintenance*
- *simultaneous storage battery charging/maintenance and consumers supply*

*Nominal voltage and current is: 12V / 12A or 24A
24V / 6A or 12A*



PRODUCTS

ARN45 - ANALOG REGULATOR OF SYNCHRONOUS GENERATOR VOLTAGE

Designed for use on synchronous generator with or without a brush with 50A excitation current maximum and frequency 50/60Hz.



ARN5 - ANALOG VOLTAGE REGULATOR

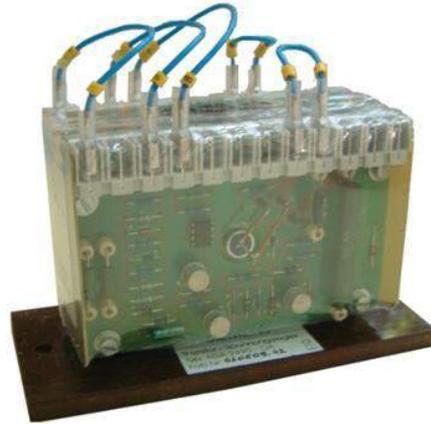
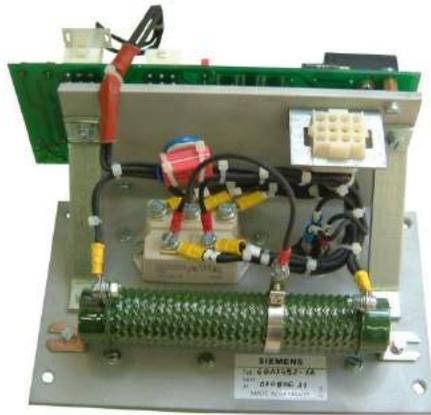
Designed for use on brushless synchronous generator with 5A excitation current maximum and frequency 50/60Hz. Regulator includes frequency compensation (U/f characteristic), over excitation protection with shut-down and EMI suppression filter. The regulator allows the use of current boost, LAM and parallel operation compensation equipment.



PRODUCTS

VOLTAGE REGULATORS
according to the Siemens documentation.

SIEMENS



REFERENCES

Ansaldo Sistemi Industriali

We are designing and producing switchboard and control cabinets for different industrial processes, using our own solutions or hardware of world recognised companies.

For Ansaldo Sistemi Industriali we made :

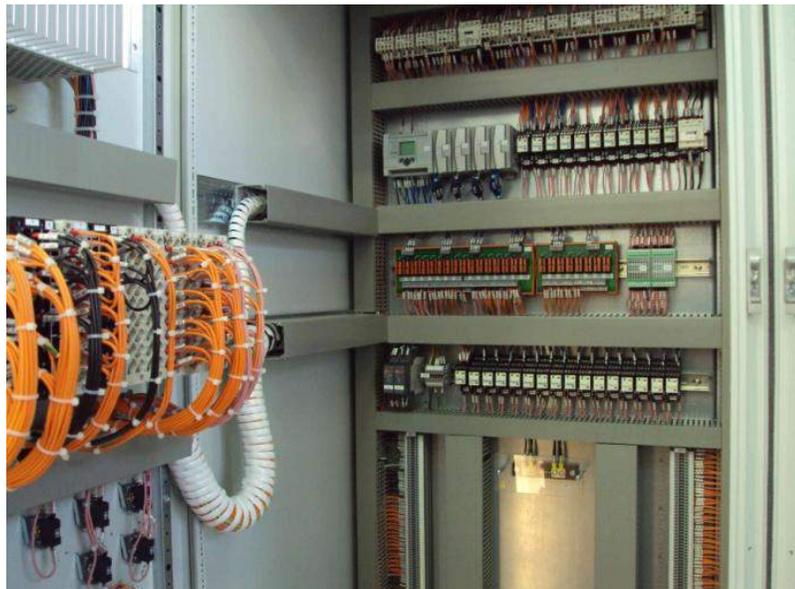
- Excitation and protection cabinet for rotational frequency converter system 10kV/50Hz to 11kV/60Hz, 3,6MVA
- Excitation and protection cabinet of synchronous motor
- Excitation and protection control panel of synchronous generator
- Remote control panel

REFERENCES



*32,5MVA, 12kV generator excitation and protection cabinet
Ta-Lin refinery, Taiwan*

REFERENCES



32,5MVA, 12kV generator excitation and protection cabinet (interior details)

REFERENCES



*7,9MW 11kV synchronous motor excitation and protection cabinet
Paradip refinery, India*

REFERENCES

INAGIP / Marino Rosetti, gas platform

The scope of project is the supply of two Main Gas Drive Generator Engine Sets which are controlled and protected by two Local Control Panels (Switchboard) made by UTE d.o.o.

Two “Main” gas engine driven synchronous generators (“Main” gas generator sets) are provided to supply power to all Platform’s electrical users during the “Normal” operating conditions allowing also the depend of load starting of one main “Fire Water Pump”.

With reference to the “Electrical Load Summary”, the electrical load demand widely varies between the two Platform’s operating conditions foreseen “Unmanned” (no presence on-board of personnel) and “Manned” (presence on-board of personnel). The “Normal” operating condition of the “Main” power generation system shall be with only one “Main” gas generator set running (both in “Unmanned” and in “Manned” Platform’s operating condition), except during particular periods (e.g. during transition from “Unmanned” to “Manned” Platform’s operating conditions, during motor’s heavy starting, during hottest days in summer, during particular maintenance activities, etc.), where both “Main” gas generator sets may run in parallel. The automatic management of the “Main” power generation system, to meet the loads’ requirements, shall be autonomously performed by the Mimic panel.

REFERENCES



Izabela South gas platform

REFERENCES



Annamaria A gas platform

REFERENCES

The control panel is equipped with all circuits, devices and control systems that realize and assure the correct operation of the plant.

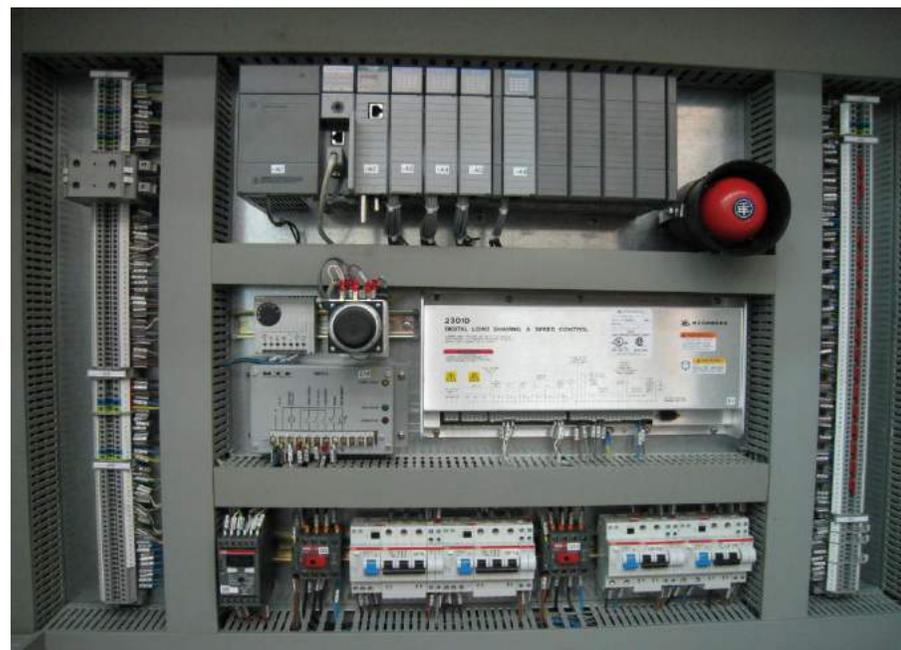
The parallel control and speed control systems are referred to Gen Sets with engine mounting electronic speed governors or through CANBUS connection where the engine allows it. As optional, possibility to connect with a remote monitoring system operating in a PC windows based.

The Control Panel allows to obtain a system that, by machine operator, starts the engine, synchronizes the Gen Set, closes the relevant Circuit Breaker enabling the engine to run in parallel with others Gen sets having similar characteristics.

The system, using the Can Bus connection between the control units, allow to obtain an automatic load sharing system: the power is equally supplied by the Gen Sets. After an adjustable delay, if the appropriate circuit is inserted (by selector switch), the Control Panel verifies the real requested electric power. In case of load increasing, the system allows the starting of the stand-by Gen Set, that automatically works again in parallel to the master Gen Set.

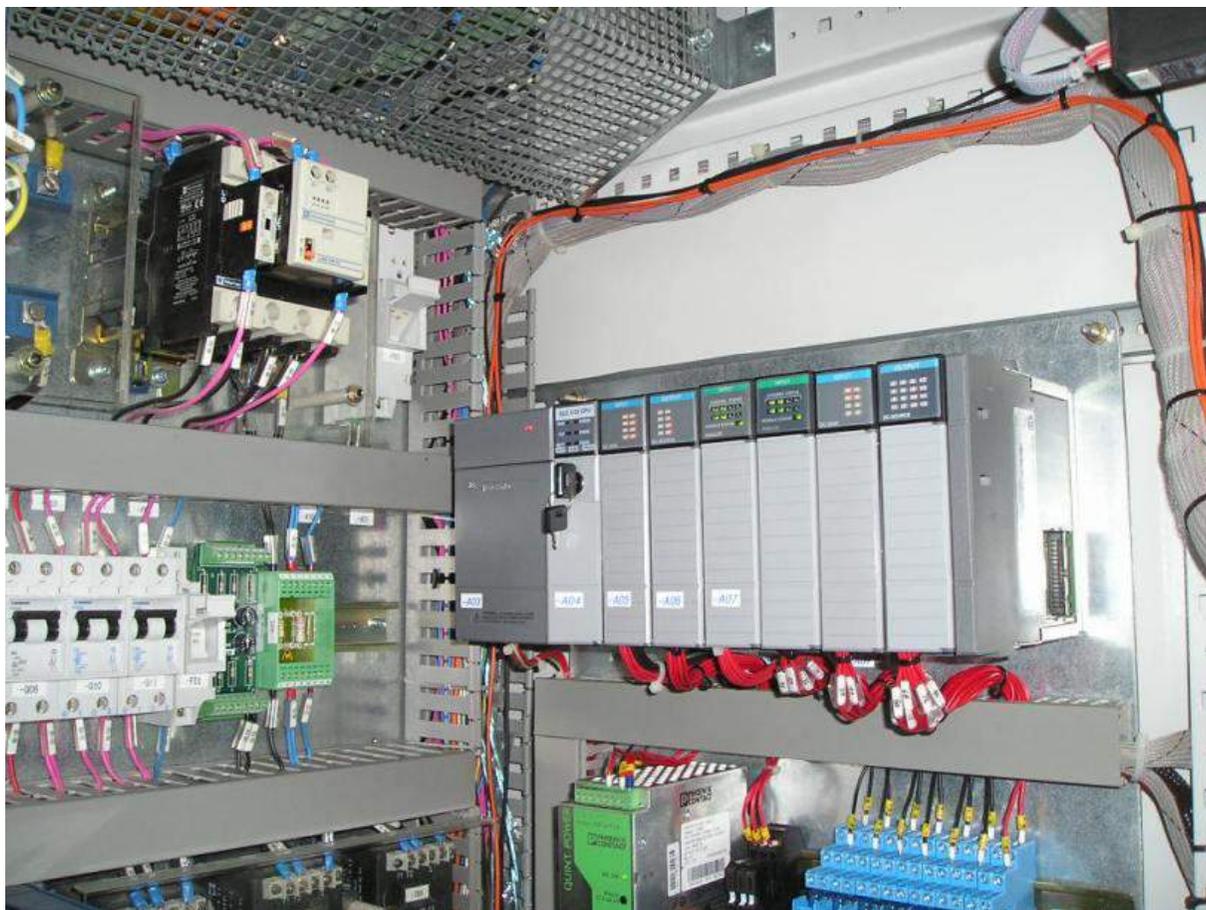
All the activation and deactivation delays, as well as the power thresholds levels, can be adjusted directly on the Gen Set control devices

REFERENCES



Control cabinet for gas engine and generator

REFERENCES



Beregovaya, Russia
Control cabinet for active and reactive power

REFERENCES



*Uljanik shipyard
Touch screen for control of 90 fans with S7-300 PLC*

REFERENCES

The screenshot displays a 'FANS OVERVIEW' screen with the following data:

SEA MODE | **FANS OVERVIEW** | 2:08:06 PM | 9/8/2006

ZONE A1 Min N°. 4 | Fans running 8

No.	Description	Status
1.	Fan/Damper 11	Running
2.	Fan/Damper 12	Running
3.	Fan/Damper 13	Running
4.	Fan/Damper 14	Running
5.	Fan/Damper 15	Running
6.	Fan/Damper 16	Running
7.	Fan/Damper 17	Running
8.	Fan/Damper 18	Running
9.	Damper 5	Closed
10.	Damper 6	Closed

ZONE A2 Min N°. 3 | Fans running 4

No.	Description	Status
1.	Fan/Damper 21	Stopped
2.	Fan/Damper 22	Running
3.	Fan/Damper 23	Stopped
4.	Fan/Damper 24	Running
5.	Fan/Damper 25	Running
6.	Fan/Damper 26	Running
7.	Damper 3	Closed

ZONE A3 Min N°. 1 | Fans running 1

No.	Description	Status
1.	Fan/Damper 31	Running
2.	Damper 8	Closed
3.	Damper 9	Closed

ZONE B Min N°. 6 | Fans running 6

No.	Description	Status	No.	Description	Status
1.	Fan/Damper 41	Running	7.	Fan/Damper 47	Running
2.	Fan/Damper 42	Stopped	8.	Fan/Damper 48	Stopped
3.	Fan/Damper 43	Running	9.	Fan/Damper 49	Fan Alarm
4.	Fan/Damper 44	Running	10.	Fan/Damper 50	Stopped
5.	Fan/Damper 45	Running	11.	Fan/Damper 51	Running
6.	Fan/Damper 46	Stopped	12.	Damper 1	Closed

ZONE C Min N°. 7 | Fans running 9

No.	Description	Status	No.	Description	Status
1.	Fan/Damper 61	Stopped	8.	Fan/Damper 68	Running
2.	Fan/Damper 62	Running	9.	Fan/Damper 69	Stopped
3.	Fan/Damper 63	Running	10.	Fan/Damper 70	Running
4.	Fan/Damper 64	Stopped	11.	Fan/Damper 71	Running
5.	Fan/Damper 65	Running	12.	Fan/Damper 72	Running
6.	Fan/Damper 66	Running	13.	Fan/Damper 73	Stopped
7.	Fan/Damper 67	Stopped	14.	Fan/Damper 74	Running
			15.	Damper 2	Closed

ZONE D Min N°. 6 | Fans running 7

No.	Description	Alarm	No.	Description	Alarm
1.	Fan/Damper 81	Running	7.	Fan/Damper 87	Running
2.	Fan/Damper 82	Stopped	8.	Fan/Damper 88	Running
3.	Fan/Damper 83	Running	9.	Fan/Damper 89	Stopped
4.	Fan/Damper 84	Running	10.	Fan/Damper 90	Running
5.	Fan/Damper 85	Running	11.	Fan/Damper 91	Stopped
6.	Fan/Damper 86	Stopped	12.	Damper 4	Closed
			13.	Damper 7	Closed

Control buttons: Mimic, Fans overview, Control, Control Zone A1, Control Zone A2, Control Zone A3, Control Zone B, Control Zone C, Control Zone D, Alarms, Events

Uljanik shipyard

Touch screen for control of 90 fans with S7-300 PLC

REFERENCES



Uljanik shipyard

Touch screen for control of 90 fans with S7-300 PLC

REFERENCES



*CHP, 400kVA on biomass
Control cabinet*

REFERENCES



CHP, 400kVA on biomass

REFERENCES

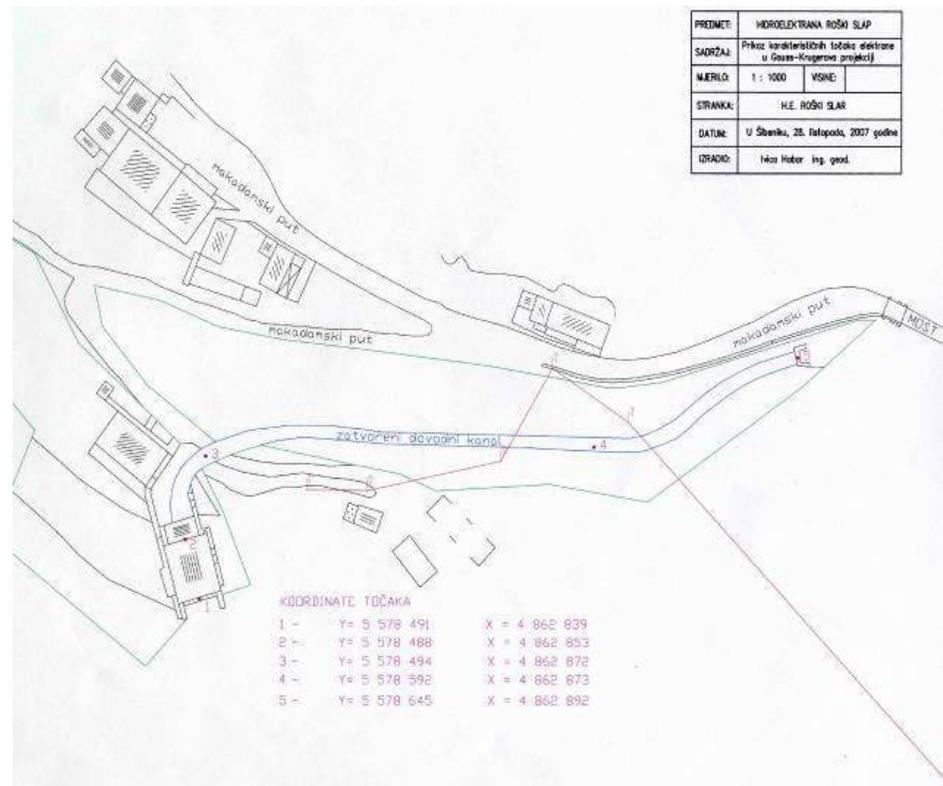
Hydro plant Roško slap

Automatics of small hydro plant Roški slap is made with PLC, protection devices which are embedded in low voltage switch-board cabinet and control cabinet which controls turbine work. Most of information arrive to PLC trough contact inputs, while some arrive trough communication connection.

Display of plant drive status and alarm is on personal computer which is connected to PLC trough communication cable. Trough PC is possible to control power factor ($\cos\phi$) for each of generators and to see trends of water level and openness of turbine blades.

Low voltage cabinet is always in automatic mode and all parameters of system are seen trough protection devices. PLC receives information from protection devices, from sensors on generator, redactor and turbine and from turbine control cabinet. Based on this information and information on high-voltage switches position, PLC gives permission to work to adequate turbine, or turns it off.

REFERENCES

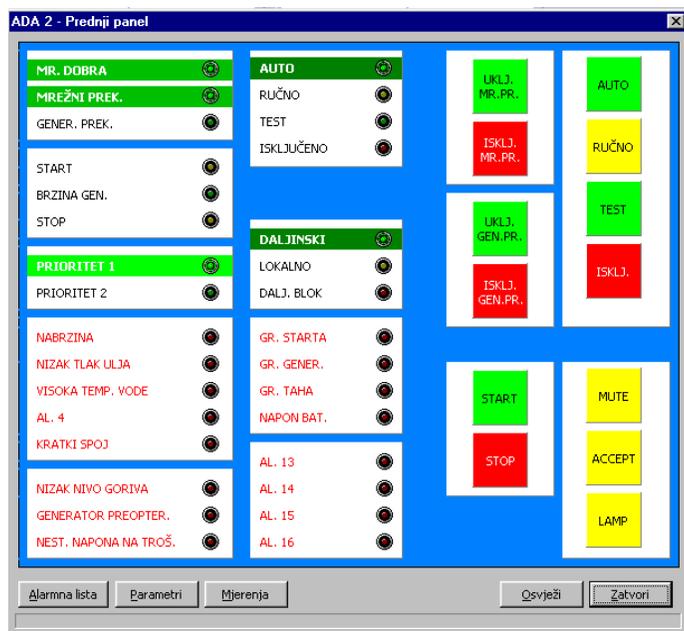


*Hydroplant Roški slap, 1.64 MW
Control cabinet*

REFERENCES

Macedonian Telekom

Automatics of 50 aggregates in the whole Macedonia is made. Automatics of the aggregates are connected trough modem line with central system in Skoplje, from which is possible to control and supervise the whole system .



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