



POWER CONTROL!



WE SPEAK THE SAME LANGUAGE



COMPANY PROFILE

AR has been founded by a highly experienced team for electromechanical assembly of medium and low voltage electric panels in 1997. As a service, manufacturing and engineering based electrical contractor, we provide panel manufacturing, testing, installation and applications in power generation, transmission, distributing and industrial fields. We continue our activities in 2500 m² facility by TSE 3367 EN 61439-1 standards and ISO9001:2008 quality management system.





**INNOVATIVE
CONTINUOUS
IMPROVEMENT**



PRODUCTS AND SERVICES

PANEL PRODUCTIONS

- I. Low Voltage (LV) Distribution Boards
- II. Motor Control (MCC) Panels
- III. PLC and RTU Automation Panels
- IV. HV-MV Secondary Protection Panels
- V. xEnergy Switchboard Systems
- VI. xEnergy-XW Withdrawable MCC Systems
- VII. LV Compensation and Harmonic Filter Panels
- VIII. Exproof Panels

PROJECT DESIGN

ENGINEERING

FIELD TESTS & COMMISSIONING

SUBCONTRACTING



A close-up photograph of a man wearing a light-colored patterned jacket over a white shirt and a blue and white striped tie. A tailor's hands are visible, using a yellow measuring tape to measure the man's chest. The background is a plain, light-colored wall.

**STRONG
SPECIAL
PRODUCTION
CAPABILITY**



PANEL PRODUCTIONS

Our panels have successfully passed the following tests in internationally accredited, independent laboratories regarding indoor and outdoor conditions, we strictly adhere to these conditions,

- Standards : IEC 60439-1 / IEC 61439-2
- Test of Antiseismic / Vibration : IEC 60068-3-3
- Area of Usage : Indoor and Outdoor
- Grid Type : TN-C, TN-S, TN C-S, TT, IT
- Voltage, Un : AC 400V
- Rated Service Voltage , Ue : up to 690V
- Rated Insulation Voltage , Ui : up to 1000V
- Rated Impulse Withstand Voltage , Uimp : 8 kV
- Overvoltage Category : III / IV
- Pollution Degree : 3
- Rated Busbar Current , In : up to 6300A
- Rated Short-time Short-circuit , Icw : up to 100kA
- Rated Peak Short-circuit Current , Ipk : 264 kA
- Rated Frequency : 50-60 Hz
- Segregation : up to Form 4b
- Degree of Protection : up to IP65
- Mechanical Resistance to Impacts : IK10
- Ambient temperature : 35 (24 h)

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Low Voltage (LV) Distribution Boards

LV distribution boards are produced as TSE-ISO standart certified and type tested up to 6300A with appropriate IP protection classes considering indoor and outdoor conditions.

As designed according to standarts, strong body structure, being durable against high short circuit currents and dynamic powers during open-close of the breaker are the key features for us.



Motor Control (MCC) Panels

MCC panels are widely used in shopping malls, factories, smart buildings, treatment facilities, pumping stations and transportation which have highly motor usage.

Concluding the important factors as operation safety, which is realized by usage of the correct equipment and system in the right point, and investment productivity to employ to advantage of end user are part of our work principal.



HV-MV Secondary Protection Panels

As AR Elektrik, we are expert on HV and MV secondary protection and control systems. From equipment selection to testing of the panels are made high quality and in accordance to IEC standards. These panels are heart of the operation of HV and MV substations so that those should be manufactured & tested most carefully.

- Control Panels
- Protection Relay Panels
- LCC Panels
- Busbar Protection Panels
- Marshalling Box
- AC-DC Auxiliary Service Panels
- Measuring Panels



PLC and RTU Automation Panels

PLC and DTU panels are widely used in industrial and energy automation fields and important for process and control of the systems. Therefore, these kind of panels should be wired and tested carefully. Color codes, protection class, circuit connectivity and labeling should be considered during preliminary preparation and manufacturing stages.



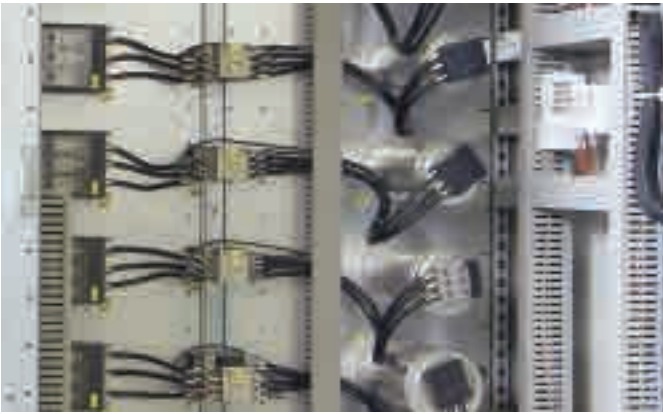
xEnergy Switchboard Systems

The xEnergy system is designed to meet constantly increasing requirements, providing optimum conditions for building infrastructure up to 6300 A. Every function module in this switchgear assembly is perfectly prepared and systematically planned – from the switchgear and fitting system technology to enclosures and software tools. The system complies with the IEC 61439-2.



xEnergy-XW Withdrawable MCC Systems

- Power outgoers with circuit breakers up to 630 A
- Outgoers for motor starters up to 250 KW
- Empty drawers for individual applications
- Easy and uniform handling for all drawer sizes
- Drawers can be replaced under live-line working conditions
- Internal separation up to form 4
- Unambiguous position indicator for operating, test or de-energized status
- Easy maintenance without the need of using any special tools for replacement jobs
- Minimum down times



LV Compensation and Harmonic Filter Panels

COMPENSATION PANELS During designing of the compensation panel, required precautions to have long life of the capacitor batteries should be taken beside choosing of the appropriate material.

HARMONIC FILTER APPLICATIONS The drives, rectifiers, welding machines, induction furnaces, tristor controlled systems, automation systems, uninterrupted power sources, computers and other office devices make non-linear and harmonic currents from the grid. These harmonic currents may cause an undamped oscillation circuit together with grid impedance and capacitors. A compensation system with filter should be installed in order to prevent this situation



Exproof Panels

Electrical products designed with specific safety measures to prevent ignition of a surrounding gas or vapor during normal operation.

Panelboards, switches, and instrument housings for both hazardous and non-hazardous areas.

Different panels can be combined, according to customer needs...



SUBCONTRACTING

All electrical devices, the cable trays mounting, cabling, test and commissioning works are done by our expert staff by taking all required work safety precautions. HV substations, airports, transportation, petrochemical facilities and shopping malls have been completed successfully. The facility types and projects that we have main experiences are listed as followings.

- Power Plants
- Substations
- Industrial Facilities
- Residential Areas
- Marine Projects
- Oil Refineries
- Communication Projects
- Transportation Projects
- Special Projects



A photograph of several wind turbines silhouetted against a bright orange sunset sky. The turbines are of varying heights and are positioned across the horizon. The foreground is dark, showing the silhouettes of trees and the ground.

ENVIRONMENTALLY
FRIENDLY
TECHNOLOGIES



FIELD TESTS & COMMISSIONING

The low voltage panels are commissioned in conformity with IEC-61439 standards by carrying out routine and general tests.

The High and medium voltage substations are energized after testing&verifying of the cabling and configuring of the protection&control devices on site.

All test reports and calibration certificates of used test devices are submitted to the customer after successful completion of the site tests.

Primary and Secondary Test Devices:

- Omicron CPC-100 Primart Testing Device
- Omicron CM-Plus Secondary Testing Device

IEC 61439-1 Routine Tests:

- Dielectric Strength (Up to 5000VAC) (Metrel Multi Tester)
- Insulation Resistance (Metrel Multi Tester)
- Earthing Circuit Continuouty (Metrel Multi Tester)
- Painting and sheet thickness (Salutron Coating Thickness Metering Device)
- Visual inspection of the cable terminations, labelings, bar sections and panel view

Optional Tests:

- Temperature measuring device (Cem DT-8891E)
- Radiation measuring device (Cem DT-8891E)
- Primary test device (Omicron CPC100)
- Secondary test device (Omicron CM256)





**HIGH
TEST**
CAPABILITIES



PROJECT DESIGN & ENGINEERING

LV and HV secondary projects are delivered without any problem and ready to manufacturing by existing technical knowledge including approval processes. The projects are drawn by EPLAN P8 & AUTOCAD...

AC & DC LV PANELS PROJECTS
SUBSTATIONS SECONDARY PROJECTS
AUTOMATION PANELS PROJECTS
CUSTOM PROJECTS
MECHANICAL DESIGN



AUTODESK
AUTOCAD
2014





**DELIVERY
ON TIME**



CERTIFICATION & AUDITS

CERTIFICATION:

ISO 9001:2008 QUALITY MANAGEMENT SYSTEM CERTIFICATION

TS 3367 EN 61439-1 CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

AUDITS:

SIEMENS TURKEY

(BUREAU VERITAS)

AUDIT DATE: 2013

SUPPLIER CLASS: A

ANDRITZ HYDRO

TURKEY

AUDIT DATE: 2013

SUPPLIER CLASS: B+

SEL USA

AUDIT DATE: 2013

SUPPLIER CLASS: B+





**HIGH
QUALITY
& INTERNATIONAL
STANDARDS**

**WE
SPEAK
THE SAME
LANGUAGE**



EATON

Licensed
Panelbuilder

UNITED STATES OF AMERICA **NETHERLANDS** BOSNIA AND HERZEGOVINA **BELARUS** LATVIA **RUSSIA** GEORGIA



TURKMENISTAN MONGOLIA **TURKEY** IRAQ **SAUDI ARABIA** OMAN **ALGERIA** MAURITANIA **NIGERIA**

ABB

ANDRITZ
Hydro

ALSTOM

EATON

SIEMENS

ÇALIK

AKBANK

BEST

BORUSAN EnBW

BOTAŞ

CENGİZ

elster

EMERSON

EMTA

ENERJİSA

EÜAŞ

GAMA

GE

Honeywell

İSDEMİR

KARDEMİR



LMA Limak

SEL

TAV
Havalimanları

TCDD

TEİAŞ

TP

Tüpraş

ZORLU ENERJİ GRUBU



AKFEL HOLDING



NUHCONTAINER

EFEX

petlas®

PROSIM



SİMORA



AND OTHERS



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