YÖNTEM
ELECTROMECHANICAL
INDUSTRY & TRADE CO.

ELECTRIC INDUSTRIAL
PLANTS CONTRACTING

ELECTROMECHANICAL
PRODUCTION





LOW VOLTAGE PANEL

www.yontemelektromekanik.com

YÖNTEM
ELECTROMECHANICAL
INDUSTRY & TRADE CO.

AREAS OF ACTIVITY

- Engineering and consultancy works
- Software engineering
- Production
- Trade service
- Contracting activities

We can define low voltage panels as LV Distribution Panels, Capacitor Panels, MCC (Motor Control Center) Panels, Protection Panels, Control Panels, External Distribution Boxes, PLC Panels and some special manufactured panels according to customer requirement designs. Our all panels are produced as Type Tested (TTA) and/or Partially Type Tested (PTTA) defined in IEC 60439-1. LV Panel productions of our firm all type tests defined in TS 3367 EN 60439-1 certificate, and also have ISO 9001: 2000 quality certifications.

GENERAL SPECIFICATIONS

The main framework of our Low Voltage Panels are manufactured from 2 mm Galvanized metal sheet profiles, and are completely modular in structure. This modular structure forms a flexible system, which allows addition of panels in both directions.

Our panels are coated with phosphate after the required chemical cleaning processes and painted with electrostatic powder paint. Sections manufactured from pre-galvanized metal sheet do not require painting. Continuity of grounding is ensured thanks to the grounding of doors and moving parts.

The main busbar has the ability to carry currents of up to 4000 Amper and endure short circuits of up to 100 kA.

Auxiliary busbars have been certified as a result of type tests with the capacity to carry 630 A, 1600 A, and 2500 A current and 16 kA, 25 kA, 40 kA, 50 kA short circuit endurance capacity.

We also have drawer type compensation and MCC designs available to be used inline with project requests.

Although our panels are manufactured with 800*600*2050 mm standard external dimensions, project preparation and manufacture of special panels are also undertaken by our firm.

APPLICATION AREAS

Power Transmission & Distribution

Step-down transformer Station
Substations

Power Plants

Thermal Power Plant
Hydroelectric Power Plants

Transportation

Airports & Ports
Highway Facilities
Train / Subway Stations

Industrial Facilities

Iron & Steel Plants
Cement Factories
Automotive Factories
Mining
Petrochemical Facilities
Pumping Stations
Pipelines
Flour Mills
Glass Industry
Textile Factories

Other Facilities

Organized Industrial Zones
Treatment Facilities
Hospitals
Shopping Malls
Other facil. with critical power req.

LV PANELS TECHNICAL SPECIFICATIONS

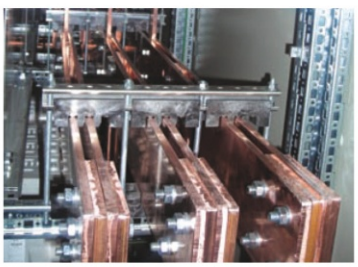
Standard		**IEC 60439-1**	
Operating Voltage	690 V	Nominal Current	Up to 4000 A
Insulation Voltage	1000 V	Nominal Short Circuit Endurance Current	Up to 100 kA
Impact Endurance Voltage	8 kV	Nominal Short Circuit Peak Current	Up to 205 kA
Frequency	50 – 60 Hz.	Protection Class	Up to 54 IP



CIMSA – Eskisehir Cement Factory
LV Distribution Panels and Busbar System



CIMSA – Eskisehir Cement Factory
LV Distribution Panels (Farin MDB)









Mardin Cement Factory
1475 kVAR Compensation with Drawer



CIMSA – Eskisehir Cement Factory
1200 kVAR LV Capacitor System with Harmonic Filter







The power and control circuits of motors are found within our MCC panels. Control voltage has been established with an insulation transformer. The power circuits are designed according to the power and starting manners of the motors. Starter systems can be installed via direct, star – triangle, soft starter or frequency converter.



OYAK – Bolu Cement Factory
De-dusting MCC Group



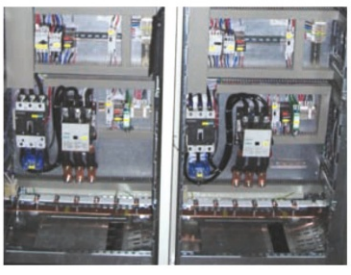
EUAS – Kangal Thermal Power Plant
Oil Burners – MCC Pump with FC



EUAS – Kangal Thermal Power Plant
Coal Intake System MCC







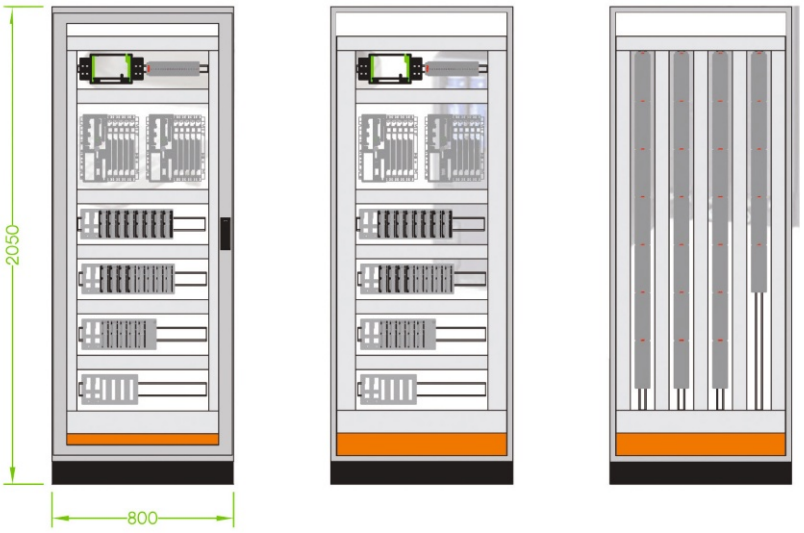
We are producing both PLC panels and RTU panels within the scope of this manufacturing. Project preparation and manufacture of all panels are undertaken according to requirements with a modular structure. PHOENIX brand Interface modules are used in our panels for signals, which come from and go to the site. Error-free connections are also ensured while cabling labor is performed in a very short time thanks to the connections made with connectors.



EUAS – AEL Thermal Power Plant
Band Propelling Stations PLC Systems



ASKI – Ivedik Water Treatment Facility
PLC Systems



FRONT VIEW
WITH COVER

FRONT VIEW
WITHOUT COVER

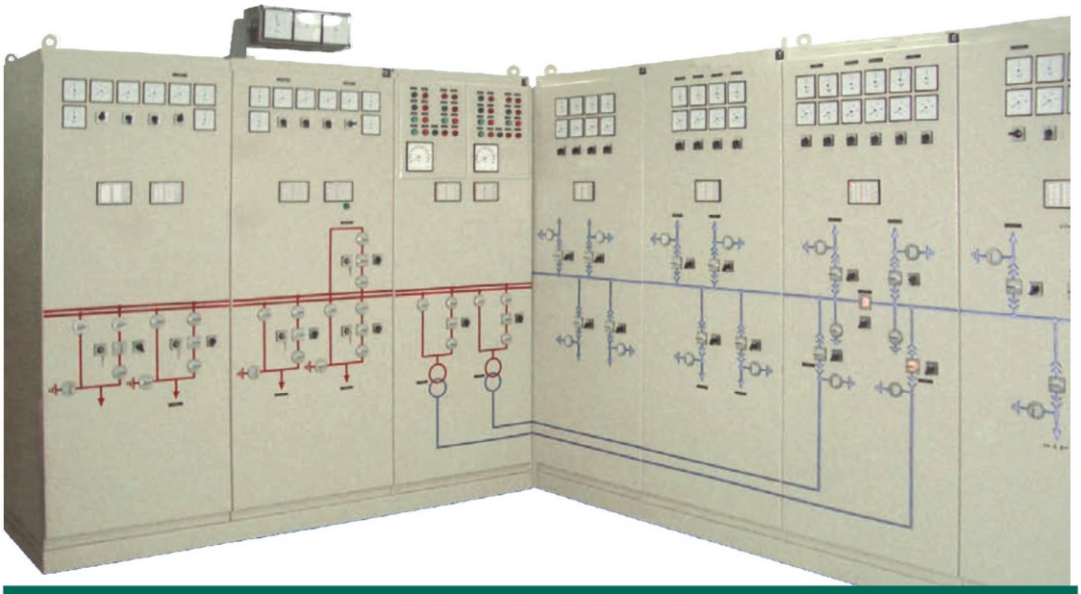
REAR VIEW
WITHOUT COVER

ETI MADEN – Kirka Boron Mining Substation PLC Systems

SIEMENS S7, ALLEN BRADLEY, GE-FANUC, MODICON, HITACHI, OMRON and similar other PLCs according to customer desires are used in our PLC Panels.
SIEMENS, MOTOROLA-MOSCAD, TELEMECANIQUE, SATEL, ELPRO, ADAM and similar RTUs are used in our RTU panels on the other hand.

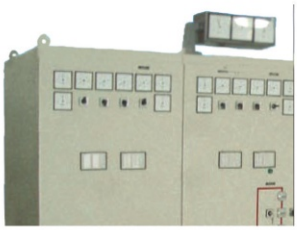
Our Control and Relay Panels are produced in accordance with IEC standarts, technical specifications, and although they are designed to be used in 380 kV – 154 kV – 36 kV substation, our various productions are available that can satisfy the needs of different sectors our productions are manufactured from 2 mm DKP metal sheet.

Although our control and Protection Panels are manufactured with 800*800*2150 mm standard external dimensions, project preparation and manufacture of special panels are also undertaken by our firm. Our panels are designed and manufactured by taking into consideration installation and ease of operation, and have protection classes from IP 41 up to IP 54.



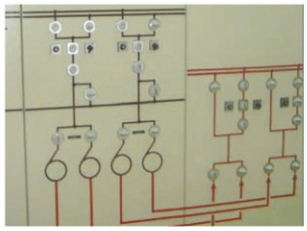
TEIAS – Ismet Pasa Substation

Quality materials inline with the guaranteed characteristics accepted by TEIAS are used in our panels. These are materials such as Measurement Tools, Control Switches, Transmitters, etc.



At the front of our panel, PVC mimic diagrams have been engraved with a thickness of 3 mm, at the formats requested by TEIAS. In these diagrams 380 kV is represented by brown, 154 kV by red, 34.5 kV by blue colors. The main busbars are shown as 10 mm and fiders s 8 mm wide.









CONTROL AND RELAY PANELS TECHNICAL SPECIFICATIONS

Standard		**IEC 604391**	
Operating Voltage	690 V	Nominal Current	-
Insulation Voltage	1000 V	Nominal Short Circuit Endurance Current	Up to 10 kA
Impact Endurance Voltage	8 kV	Nominal Short Circuit Peak Current	-
Frequency	50 – 60 Hz.	Protection Class	Up to 54 IP

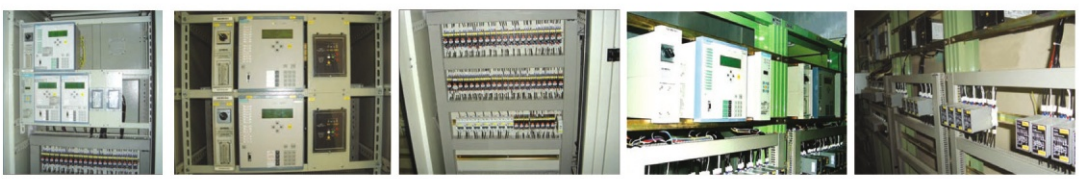


TEIAS – Ismet Pasa Substation

SIEMENS, M. GERIN, AREVA, MICROELETTRICA, GE, SEL, ABB brand Over current protection, Distance protection, Differential protection, Transformer protection Line protection, Over and Under Voltage protection, Directional Grounding protection, etc. relays are used in our Relay Panels.

Monitoring of relays without opening the door has been made possible with the 4 mm thick glass used in the front doors of our panels.

Framed type relay panels are also manufactured accordin to requirement to be used at transformer centers belonging to TEIAS.



EXTERNAL DISTRIBUTION BOXES (STM-SDK)

External Distribution boxes (SDK) are produced in accordance with the IEC Standarts, technical specifications and although they are designed to be used in Substaion of 380 kV – 154 kV – 36 kV, we also have various manufactures for the requirements of different sectors.

According to customer request some external boxes 2 mm Aluminum plates, and other production is performed from 2 mm DKP or pre-galvanized metal sheets.

Continuity of grounding is ensured thanks to the grounding of doors and moving parts.Continuity of grounding is ensured thanks to the grounding of doors and moving parts.

Our SDK Panels are manufactured with standard 450*600*900 mm external dimensions and can achieve IP 54 protection class.



TEIAS – 8th Transmission Group Directorate

OUR OTHER PANEL MANUFACTURES (STM-EXT)



TEIAS – Adiyaman Substation AC-DC Auxiliary Service Panels (YSP)



TEIAS – Kiziltepe Substation Busbar Protection Panels



TEIAS – Tokat Artova Substation Meter Panels



YÖNTEM
ELECTROMECHANICAL
INDUSTRY & TRADE CO.

Turgut Özal Mahallesi
1940 Cadde No:81/16
Yenimahalle/ANKARA/TURKEY

+90 312 566 41 00 +90 312 566 41 01
+90 533 597 08 22
gulcumurat40@gmail.com
yontem@yontemelektromekanik.com
www.yontemelektromekanik.com