Product Range

- Power Quality & Energy
- Power Factor Correction (PFC)
- Remote Monitoring
- Protection & Control

SMART WAY TO ENERGY QUALITY

ENTES is a leading technology company providing solutions in the fields of energy efficiency and quality since 1980

A World Brand In Energy Quality

ENTES is a European techology company that works ardently for energy quality and efficiency where energy is valuable and overcosting. ENTES has provided valuable solutions that meet the special requirements of customers since 1980 allowing corporations to easily manage the energy they use. As one of the leading enterprises in shaping the way of conducting business, ENTES transforms energy into a controllable concept so that business can be conducted at the lowest cost, thus providing new economical opportunities.

Based on its own resources, ENTES takes advantage of qualified brain power and hard work with an aim of being pragmatic and also open to technological developments in the world.

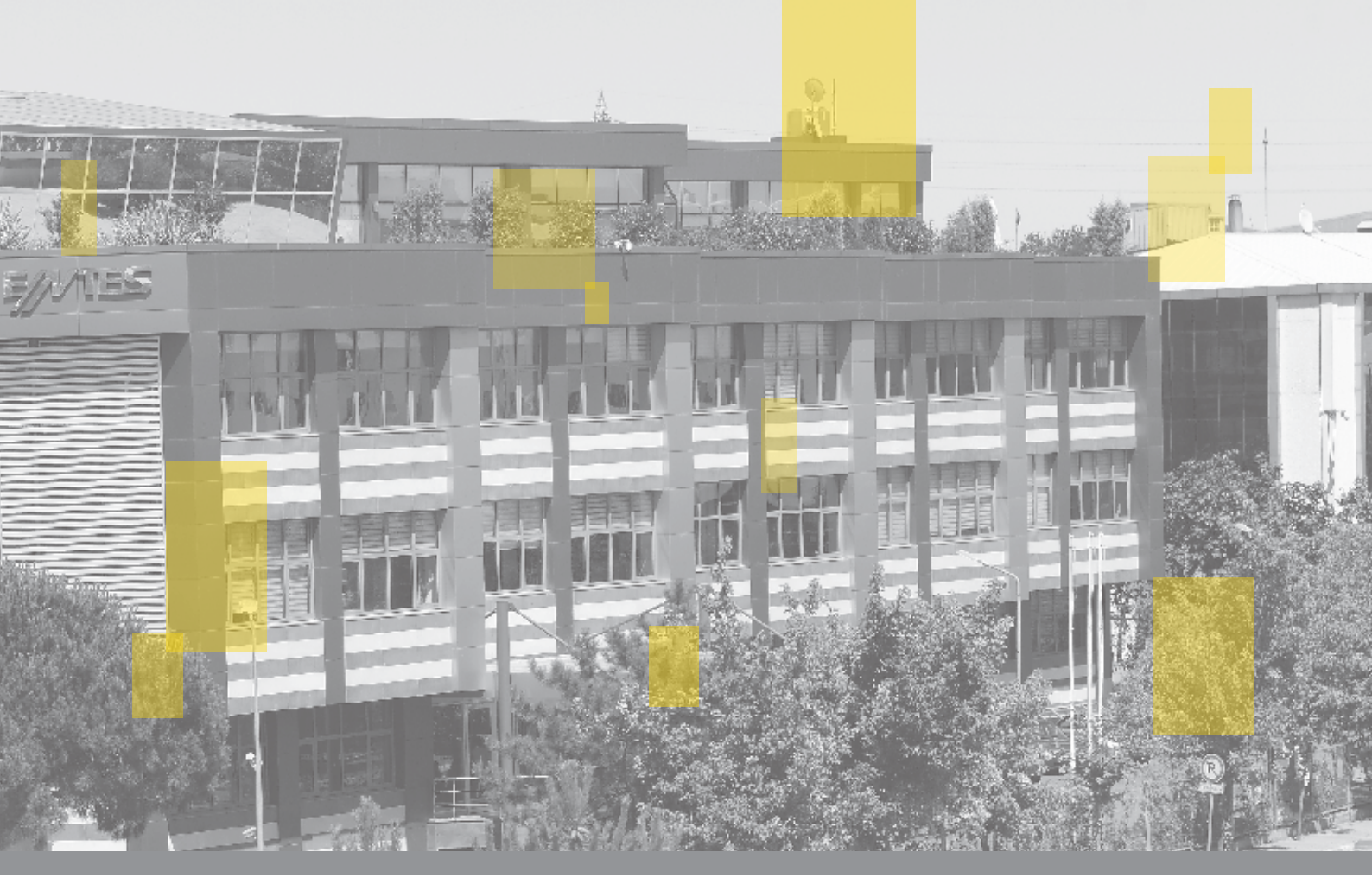
Today, hundreds of thousands of companies around the world control their energy by using ENTES solutions.

Power Factor Correction

Power Quality and Energy

Remote Monitoring Hardware and Software

Protection & Control



Strong Corporate Structure

- Headquartered in Istanbul, Turkey
- Consistent growth since **1980**, the year it was founded,
- High quality standards and international certifications in world classification,
- More than **350** qualified employees,
- One of the most powerful distribution and technical support network in the industry,
- Customer satisfaction-oriented, a **unique quality** after-sale services policy,
- Experience for overseas markets over **100** countries and a worldwide-recognized brand in the industry with offices in **Germany, Netherlands** and **Greece**.

Power Quality & Energy

Network Analyzers

MPR-4 Series
New Generation Network Analyzers

- Digital input/output, analog output, relay and temperature measurement options with modular I/O structure
- 96 x 96 x 45 mm slim design
- 3,5 inch large LCD screen
- 16 MB memory
- Current / voltage unbalance measurement
- Detailed measurement up to 51 harmonics
- 256 event log
- Sag / Swell measurement
- Compatible with current transformers
- IP54 (optional)
- plug&meter - Save money with quick installation (optional)

Monitor
Monitor production processes in real time and track production costs.

Measure
Measure and record operation times and total energy costs of your production.

Analyze
Make use of many parameters that MPR series measure to increase energy efficiency.

And Much More
Check device inputs-outputs and customize your devices with Entbus or Energy Doctor cloud solutions .

MPR-3 Series
New Generation Mini Network Analyzers

MPR-3 Series panel type mini network analyzers are developed for switch panels where mounting space matters. They are compact solutions for detailed measurement & analysis of electrical parameters.
plug&meter supported (optional)

MPR-2 Series
New Generation Mini Network Analyzers

MPR-2 Series DIN type network analyzers are designed for detailed measurement and analysis of electrical parameters. Real-time monitoring is supported via wide graphic screen.
plug&meter supported (optional)

MPR-1 Series
New Generation Mini Network Analyzers

MPR-1 Series DIN type network analyzers are designed for the measurement of electrical parameters on machines and switchboards. They are a cost-effective measurement device series for energy monitoring software.
plug&meter supported (optional)

Measurement Devices

Powermeters

Powermeters are designed to measure the active, reactive and apparent power values and active, reactive energy values of each phase in the system.

Multimeters

Multimeters are designed to measure electrical parameters such as current, voltage, frequency and cosφ of systems in plants.

Ammeters

Ammeters are designed to measure current values of systems in plants.

Voltmeters

Voltmeters are designed to measure voltage values of systems in plants.

Frequencymeters

Frequencymeter are designed to accurately measure the frequency of operating voltage in industrial plants.

Measurement Devices

Cosφmeters

Cosφmeters are designed to measure the cosφ of the energy taken from the network

Current Transducers

Transducers are devices designed to convert electrical current signals into analog signals into their inputs.

Voltage Transducers

Transducers are devices designed to convert electrical voltage signals into analog signals into their inputs.

DC Ammeters

DC Ammeters are designed to measure the current of a DC system.

DC Voltmeters

DC Voltmeters are designed to measure the voltage of a DC system.

Remote Monitoring Software

It is required to measure system parameters and data such as capacitor levels, reactive energy ratios, etc. regularly and analyze the measured data
comprehensively.
ENTES offers a unprecedented monitoring and analysis with its Entbus and Energy Doctor software solutions. Therefore, ENTES can always remotely monitor, manage, configure and keep PFC under control at all times for the solutions it offers.

Remote Monitoring Hardware

Ethernet Modbus Gateway

Ethernet / RS-485 Modbus Gateways for communication with MODBUS compatible devices via Internet (WAN) and Intranet (LAN).

RS-485 USB Converter (Modbus)

Used for computer communication between devices and RS-485 / USB Converter.

GPRS Modbus Gateway

GPRS/Modbus Gateways (modems) enable access to devices that communicates with Modbus protocol over GPRS or Ethernet network.

Power Factor Correction (PFC)

Power Factor Controllers

RGA/RGSR Series

- New generation PFC solution
- PFC by measuring the current and voltage of 3 phases separately in systems with unbalanced loads
- Innovative solution with PFC modes
- Real-time monitoring with graphic screen
- Increased PFC precision with second PFC current input
- 1-51th current and voltage harmonics measurement
- Total voltage harmonics measurement
- 15 and 20 step options (RGA Series)
- Static Var Compensation -supported for RGSR Series. A new generation PFC solution. (12+SVC and 16+SVC step options)

Power factor controllers relays are in the center of the PFC system and control all other equipment. They keep the reactive power under control at all the times by disabling and enabling capacitors through PFC contactors or using shunt reactor/inductive load drivers. It prevents harmonic fluctuations in the grid with harmonic filters connected to the system.

RG3-C Series

- PFC by measuring the current and voltage of 3 phase separately in systems with unbalanced loads
- 1-19 th current and voltage harmonics measurement
- Total voltage harmonics measurement
- 12 and 15 step options
- User friendly with plug-and-play feature and environ mentally friendly with low power consumption.

RG-T Series & RG-B series

- PFC by measuring current on one phase in systems with balanced loads
- 6, 8 and 12 step options (RG-T series)
- 1-19 th current and voltage harmonics measurement (RG-B Series)
- Total voltage harmonics measurement (RG-B Series)
- 8 and 12 step options (RG-B Series)

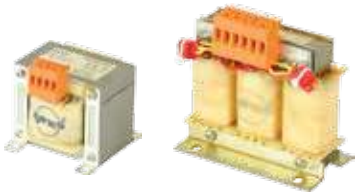
Other PFC Equipments

Low Voltage Power Capacitors

ENTES offers low voltage power capacitors in 0.26 kVAr and 50 kVAr range that are suitable for different company structures.

Current Transformers

Current transformers are used to convert high level primary currents to low secondary currents in cases when the current cannot be or is hard to read directly. Also special series current transformers can deliver current data of 3 phases to plug&meter applicable devices developed by Entes over a single RJ45 cable.



PFC Contactors

PFC Contactors acts as a controller between the Power Factor Control and capacitors.

Inductive Load Drivers (SVC)

Shunt Reactors can adjust steps and activate them in a unique speed by triggering powers in specific angles through thyristors using inductive load drivers in SVC-supported RGSR series of ENTES.

Shunt Reactors

Shunt reactors have been designed for the PFC of the capacitive energy drawn by long underground electricity lines, UPSs, computers, electronic ballast and energy saving lamps. ENTES shunt reactors offer a wide range of products from 0.1 kVar to 40 kVar.

Static Contactors

Static contactors are used in systems with inductive loads that are activated-deactivated in a fast manner. PFC of loads that are activated-deactivated in a short period of time with using ENTES SC series static contactors.

Harmonic Filters

Harmonic filter reactors are high quality reactors designed to protect the PFC system by pushing harmonics in PFC systems.

Discharging Unit

Discharging Unit discharges capacitors that get quickly activated-deactivated and prolongs lifetimes of capacitors and prevents loss of internal heat.

Protection & Control

Astronomic Time Relays

DTR series astronomic time relays are smart time relays which are capable of automatically calculation of sunrise and sunset times and have internal real time clocks.
MCB-50/50t electronic time relays which have internal real time clocks are designed to control devices according to the time periods programmed by the user.

- Automatic sunset and sunrise calculation
- Automatic DST (Daylight Saving Time) switching
- Programming based on city name and geographical coordinates
- 2 relay outputs (16A)
- 32 programs and precise timing
- 24/7 relay programming
- Vacation mode
- Backlight Display
- Password Protection

ENTES Protection & Control product group offers solutions for safe operation of systems and monitoring. The comprehensive range of our products fulfils the purpose of conventional and customized needs

Multifunctional Time Relays

Multifunctional time relays offer flexible solutions that are tailored to objective with trigger controlled rich sub-functions in addition to their main functions.

Time Relays

MCB series time relays are designed to control devices in desired time interval. They offer a number of different timing functions with adjustable time ranges.

Phase Sequence / Thermistor Relay

FR-02 Phase Sequence Relay controls the order of 3 phases feeding motors. PT-01 Thermistor Relay is developed to protect motors with PTC.

Phase Failure Relays

MKC - MKS series phase failure relays are designed to prevent over-heating and burning of 3 phase motors due to phase failure or unbalanced voltage (asymmetry) in industrial plants.

Voltage Monitoring Relays

GKRC series Voltage Monitoring Relays are designed to protect single or three-phase systems against voltage changes and phase sequence faults.
DGRC series voltage monitoring relays are designed to protect single or three-phase systems in cases of permanent voltage drops.

Current Monitoring Relays

AKC series current monitoring relays are designed to protect motors and systems against under or over current with a current adjustment and two delay adjustments.

Liquid Level Controller

Liquid level controllers are used for controlling liquid levels in wells and liquid tanks at industrial sites.

Daylight Switches

FG series daylight switches are designed to control lighting systems according to environmental light levels.
Daylight switches monitor the daylight in connection with a light sensor.

Power Supplies

Power supplies provide safe and accurate DC outputs at various power ranges, increasing the productivity of your automation solutions with wide temperature ranges and adjustable output voltages.

HEADQUARTER

Address: Dudullu OSB; 1. Cadde; No: 23

34776 Umraniye - ISTANBUL / TÜRKİYE

Tel: +90 216 313 01 10

Fax: +90 216 314 16 15

Sales Fax: +90 216 365 71 71

E-mail: impex@entes.com.tr

Web: www.entes.com.tr

E-bulletin membership: ebulten@entes.com.tr

Coordinates: 40,995852 N, 29,178398 E

INTERNATIONAL BRANCH OFFICES

GERMANY : info@enteselektronik.com
Tel: +49 (0) 7022 6047415

NETHERLANDS : info@entes.eu
Tel: +31 412 - 644319

GREECE : infohellas@entes.eu
Tel: +30 2310 706999
+30 2310 707296