Company Overview

14th February 2024

Agenda

- About MEMICO
  - TimeLine , Business Partners , Market coverage and customers , Certifications
- Products Portfolio
  - Low Voltage, Busway, Automations , Substation , Medium Voltage, Kiosks, Shelters & cable support systems

Who we are

- With a rich history spanning four decades, stands as a stalwart in the dynamic landscape of the electrical industry and energy management as a leading manufacturer of both Low voltage and medium voltage panels and switchgear.
- Our journey is marked by a relentless pursuit of knowledge, adaptability to industry changes, and a passion for delivering cutting-edge solutions to our clients.
- At Memico, quality is not just a standard; it is a way of life, This commitment has garnered the trust of our clients, establishing us as a benchmark for quality in the electrical industry.

Mission Statements

Vision: "To be the Pinnacle of Excellence in the regional Electrical Industry, Guided by Innovation, Sustainability, and Unmatched Quality."

Mission: Our mission is to continue leading the electric industry with a steadfast commitment to innovation, sustainability, and the highest standards of quality, we aspire to:

- Pioneer Technological Advancements
- Champion Sustainability
- Ensure Uncompromised Quality

By staying true to our vision and mission, we aim to be the preferred choice for customers, partners, and employees alike, setting new benchmarks for excellence in the electric industry worldwide.

The Core of our principles

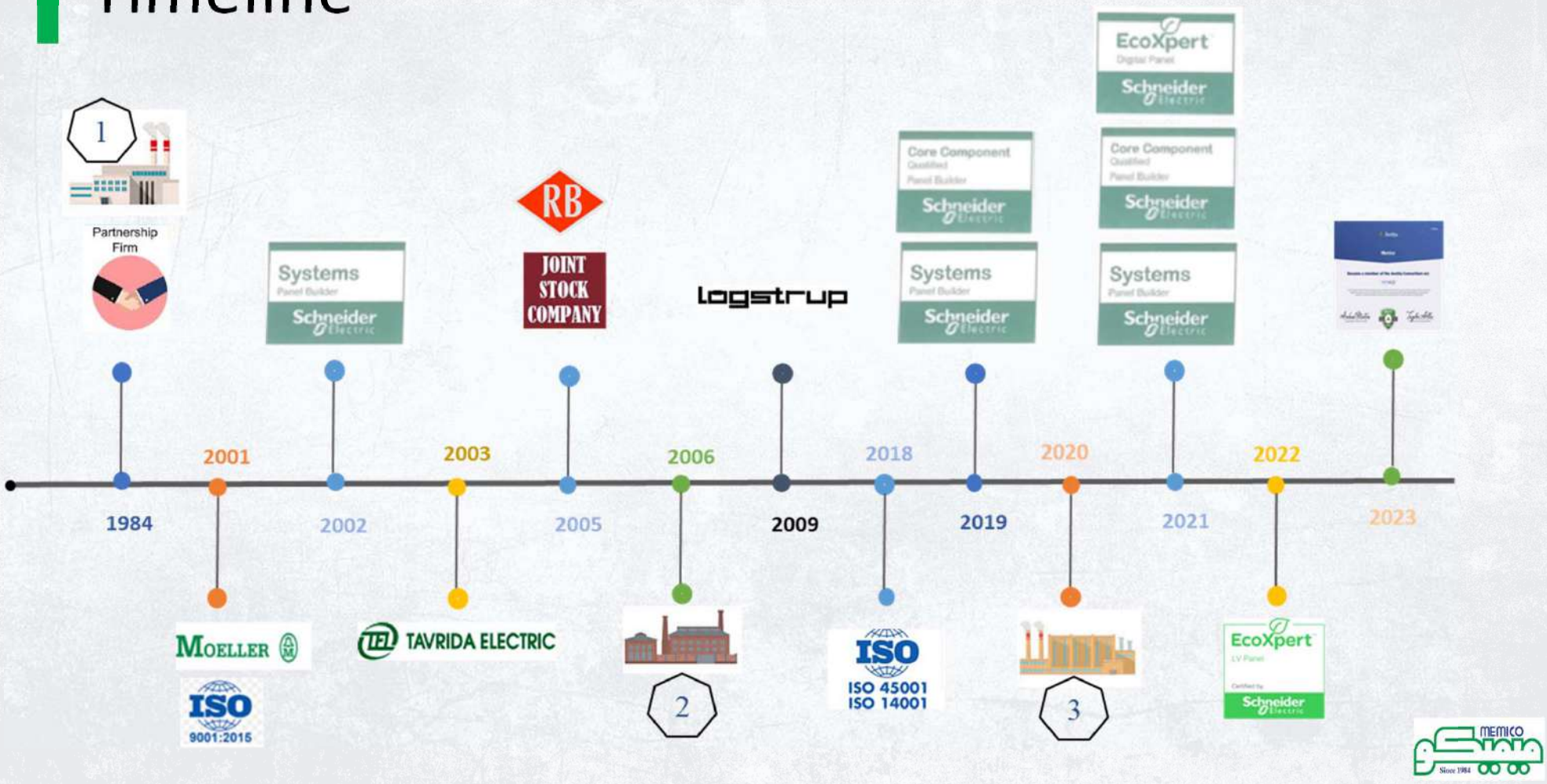
- Empower our Workforce
- Exceed Customer Expectations
- Commitment to innovation and continuous development
- Social Responsibility

Partners of success

- Memico, is a certified partner of Schneider Electric with EcocExpert certification, manufactures a diverse range of Type Tested Low Voltage Switchgears in adherence to global standards.
- Memico produces Switchboards and MCCs Under License of LOGSTRUP, which situated in Denmark Since 1958
- Exclusive licensed manufacturer authorized by TAVRIDA ELECTRIC; we manufacture a Compact air insulated withdrawable MV switchgear.
- The ME6 RMUs cubicles under the successful Type Testing operating under the license of RB-ITALY.

Our collaborations reflect our dedication to staying ahead in a rapidly changing industry.

Timeline


1
Partnership Firm
1984
2001
ISO 9001:2015
Systems Panel Builder Schneider Electric
2002
TAVRIDA ELECTRIC
2003
RB
JOINT STOCK COMPANY
2005
2
2006
logstrup
2009
ISO 45001 ISO 14001
2018
Core Component Qualified Panel Builder Schneider Electric
Systems Panel Builder Schneider Electric
2019
3
2020
EcoXpert Digital Panel Schneider Electric
Core Component Qualified Panel Builder Schneider Electric
Systems Panel Builder Schneider Electric
2021
EcoXpert LV Panel Schneider Electric
2022
2023
MEMICO Since 1984

Market Coverage

Industries

Oil & Gas

Real Estate

Building

Utilities

Distribution & Transmission

Infrastructure

Renewable Energy

Sample Customers

Utilities (EEHC)

Construction

Industry

Infrastructure

Certifications

Avetta ensures that every workplace is safe and sustainable

Ensures Thant our product and service meets the customers expectations

Product Portfolio

Low Voltage

Busway

Automation

Substation

Medium Voltage

Kiosks

Shelters / Enclosures

Cable support systems

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L.V Distribution Switch Boards

Main Distribution Boards MDB	Smart Panels	Final Distribution Boards
Ac & Dc Distribution board	Power factor correction	Pillar and coffret
Sub Distribution Boards SDB	Synchronization panels	Consumer & Commercial Panels
Motor Control Center MCC	Automatic Transfer Switchboards (ATS)	Marine

Only your own Requirements sets the limits

L.V Distribution Switch Boards

- Memico
- Prisma
- Logstrup

Since 1984, MEMICO has been engaged in the design and manufacturing of a diverse range of low voltage switchboards that adhere to international standards, particularly IEC.

At MEMICO, our dedication lies in delivering top-notch, competitively priced solutions along with outstanding customer service, aiming to foster enduring relationships with our clients.

Memico manufactures LV panels across all models, ranging up to 8500A, with Protection Degree extending up to IP-66. These panels undergo type testing or partial testing, aligning with the latest international standards.

Memico L.V Panels _ Features

Free Stand / Wall / Flush mounted	Up to Form 4	Cable entry from top or bottom
Interchange ability between sections	Safe operation with inner doors Option	Front and Rear access
IN/OD Painting	Customized Steel /Dimensions	UP to IP66

Memico L.V Panels

MDB

-Logstrup, Type Tested, up to 8500A.
-MEMICO Model, up to 6300A
-PRISMA IPM up to 4000A
-Dielectric Test voltage (Veff): 2KV,1min
-Short -time withstand current (Icw): up to 65 KA/1sec.

MCC

-Modular Distribution System
-Up to 6300A
-Fixed or Withdrawable
-Internal separation up to Form 4b
-Free Stand/ Wall Mounted
-Up to 65 KA per 1 sec
-Internal Segregation Level Up to Form 4B as a standard Solutions
-Protection Degree up to IP66

P.F Correction

-Elevating the voltage level
-Lowering utility expenses
-Distinctive designs
-Enhancing system efficiency

ATS

-High-quality solution for transferring critical loads to emergency sources.
-Ensures the seamless continuity of electrical supply
-Minimal interruption
-Automatic change-over system

AC/DC

-380VAC
-220VDC
-48VDC “communication pan”

Memico L.V Panels

Synchronization

-Manually / Automatic
-2 or more generators or breakers
-Offering multiplex solutions
-On- line services

Smart Panels

-Power Monitoring Expert (PME)
-Power Scada Operation (PSO)
-Embedded and stand-alone Metering
-Connect to energy management platforms.
-Real time control &site information through on- line services

Marine

-Heavy-duty applications
-Painting System: C5-M
-Stainless Steel 2 mm
-Up to IP66

Pillars / Cofree

-Furnishing a secure and flexible solution with monitoring individual protection
-Efficient management of the LV network.
-Weatherproof for outdoor installations.

Final BP

-Flush
-Box
-Free stand
-industrial / commercial and consumer applications

Prisma IPM

- Memico, a certified partner of Schneider Electric with EcocExpert certification

- We Manufactures a diverse range of Type Tested Low Voltage Switchgears in adherence to global standards.

Prisma IPM Configurations

- Type-tested under IEC 61439 certified by a 3rd party – ASEFA
- Low Voltage functional switchboard system
- Compliant to IEC 61439-1 and IEC 60529
- All applications up to :
  - 4000 A Icw
  - 85 KA/S
- Internal separation up to Form 4b
- Up to IP 54
- Free Standing and wall mounted configurations

M floor-standing type cubicle

System M Floor-Standing

PaK monoblok type enclosure

Full KIT type enclosure

System L Wall-Mounted

Logstrup LV Switchgears_3500:8500

Memico produces Switchboards and MCCs Under License of LOGSTRUP Company (www.logstrup.com), which situated in Denmark Since 1958

Featuring optional independent explosion/ventilation ducts accessible from each functional unit, this design enables pressure and gases to safely exit through the top of the panel. This offers a safer solution compared to allowing the release through the door or cable compartment.

We take pride in supplying such a great Product to a diverse range of industries, including Chemical, Marine/Offshore, Oil & Gas, Petrochemicals, Water Treatment Plants, Mining, and Infrastructure.


Certificate of authorization

Logstrup switchboards & MCCs

- Type Tested Distribution Panels According to IEC 61439-2, 60439-1, 60529 , 62208 by KEMA in Holland
- Up to 8500A, (Icw) up to 150KA per 1sec
- Internal Segregation Level Up to Form 4b as a standard
- Degree of Protection Up to IP54
- Busbar Trucking Systems
- Packaged Substations
- 19” Rack Systems

Distribution Boards
Main Switchboards
Fixed MCC
Process Control Panels

Packaged Substations
Busbar Trenching Systems
Withdrawable MCC
Customized Enclosures & Desks

Withdrawable

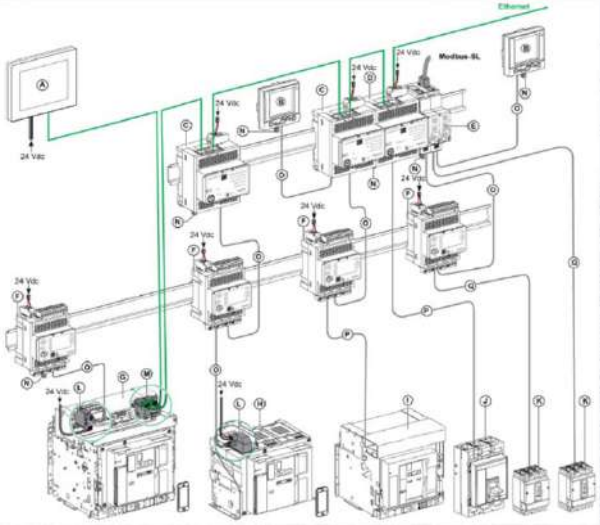
L.V Smart panels

Embedded and stand-alone metering

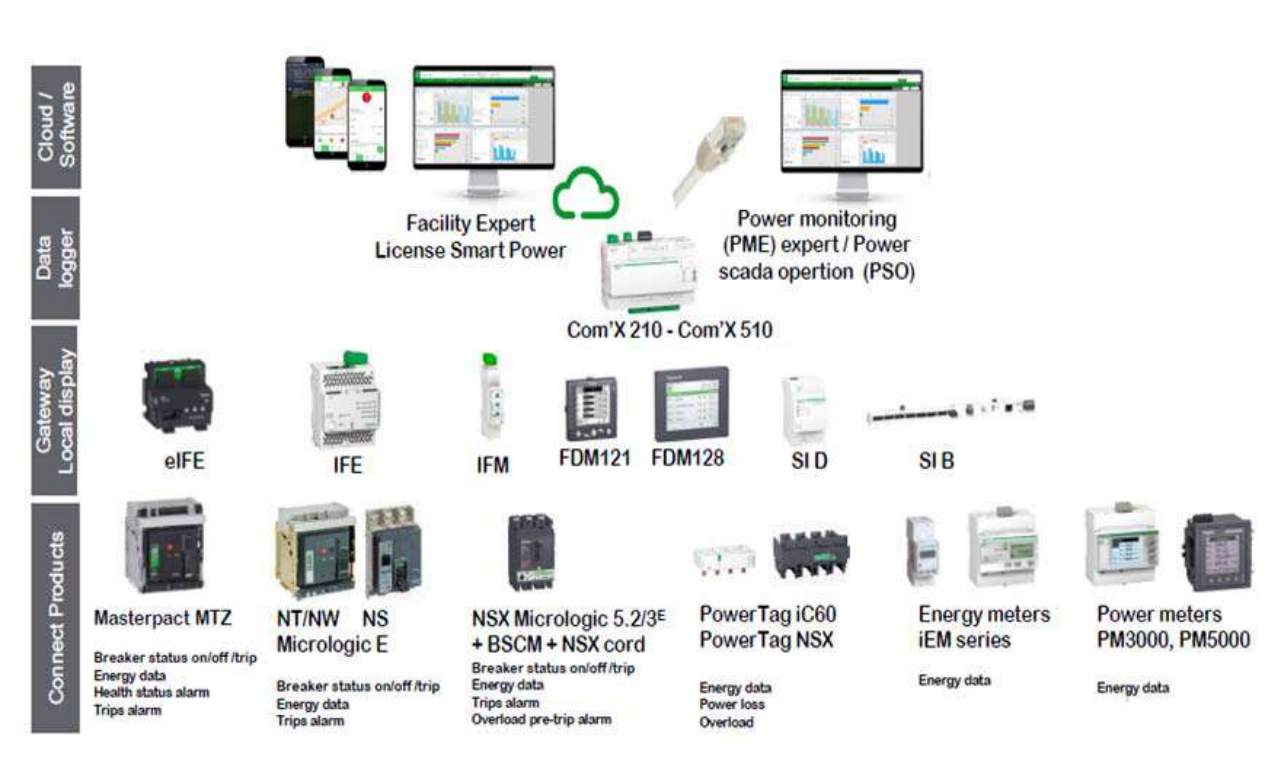
Connect to energy management platforms

Real time control &site information through on- line services

A	FDM128 Ethernet display
B	FDM121 front display module
C	IFE Ethernet interface
D	IFE Ethernet switchboard server
E	IFM Modbus-SL interface
F	IO input/output application modu
G	Masterpact MTZ1 or MTZ2/MTZ
H	Masterpact MTZ1 or MTZ2/MTZ
I	Masterpact NT/NW
J	Compact NS
K	Compact NSX
L	ULP port module
M	EIFE Embedded Ethernet interface
N	ULP line termination
O	RJ45 male/male ULP cord
P	Circuit breaker BCM ULP cord
Q	NSX cord



L.V Smart panels



Product Portfolio

Low Voltage

Busway

Automation

Substation

Medium Voltage

Kiosks

Shelters / Enclosures

Cable support systems

What is Busway ?

Memico collaborates with Schneider Electric in the Busway Distribution system. According to the latest IEC61439-6 standards, it undergoes comprehensive type testing at the KEMA lab, leading to the issuance of the KEMA-KEUR certificate

Busways represent an innovative approach to efficiently transport and distribute energy. This prefabricated electric distribution system comprises busbars within a protective enclosure, incorporating straight lengths, fittings, devices, and accessories. It is suitable for use in various types of buildings.

It serves as a superb substitute for cables and conduits in commercial and industrial applications due to its:

- Compact dimensions, simpler configuration, and cost-effectiveness.
- Fire-resistant with no toxic emissions in the event of a fire.
- Promotes health by minimizing the risk of exposure to electromagnetic fields.

Busway _ Comprehensive 25 Certifications

Dielectric properties

Short circuit strength

Temperature-rise limits

Resistance of insulating materials to abnormal heat and fire

Resistance to flame-propagation

Fire resistance in building penetration

Electrical characteristics

Electrical performance

Fire Resistance

Mechanical operation

Degree of protection – dust ingression

Resistance to harsh environment

Mechanical Strength

Resistance to crushing

Degree of protection – water ingression

Resistance to corrosion

Thermal Stability

Mechanical impact

Lifting Test

Structural strength

As per latest IEC61439-6

Busway _ Partners Certifications

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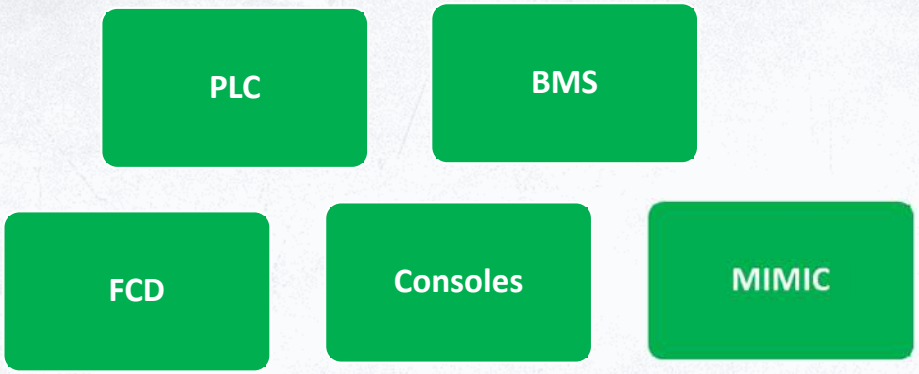
Automation



Only your own Requirements sets the limits

Automation

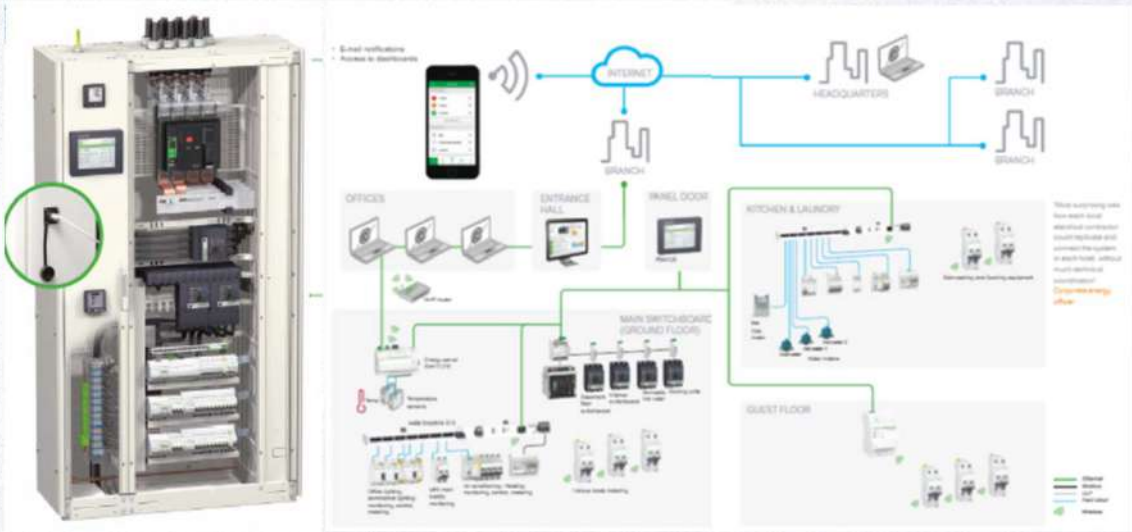
With a lot of successfully completed projects, We specialize in designing automation solutions for PLC, HMI & SCADA in Building / Industrial Automation solutions, encompassing the configuration of field instrumentation as well as the setup of Monitoring and Control Desks

Sectors we serve such as Power, Cement, infrastructure , Material Handling and Oil and Gas.

We use future ready electrical components with Ethernet TCPIP communication backbone to make the power distribution system transparent and with real time communication with the plant operators.

Automation _ Solution Architecture

- Communication enabled
  - MCB: Acti9
  - MCCB: Compact NSX and NS
  - ACB: Master pact NW & NT & MTZ
- Wireless Current Sensors
  - Power Tag
- Electrical IO System
  - Elerlin’X IO System
- Communication Interfaces
  - Smart links
  - And Elerlin’X IFE & IFMs Gateways



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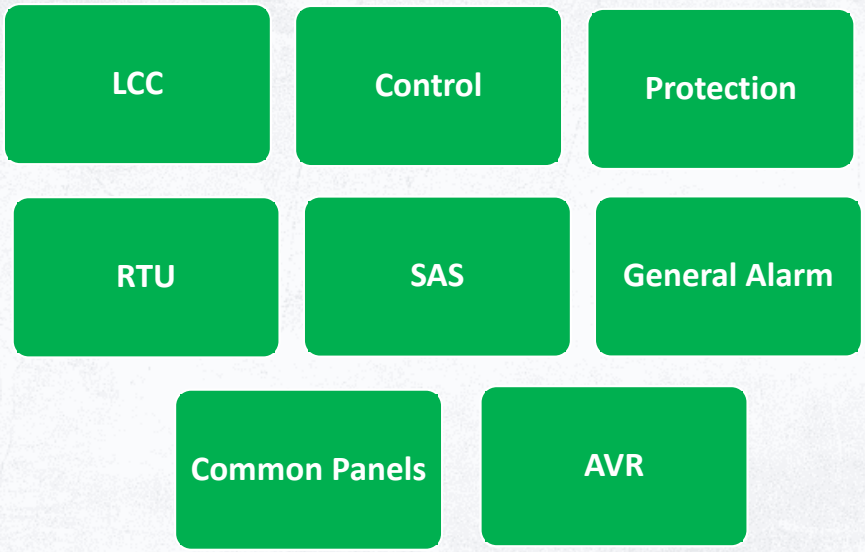

Only your own Requirements sets the limits

Substations Panels

LCC , Marshaling

- Contains the interlock circuits.
- Operation during the routine maintenance.
-Operation in case of damage in remote Control Panel.
- Location: 66 K.V, 220 K.V, 500 K.V Hall
-V. Substations
- Marshaling, AC/DC Control Panels
- Engraved colored MIMIC diagram
- IP54

Protection

-Standard 19” rack
-Custom-sized panels.
-Cubicles design

Control

Built with measuring and control devices to:
– Control the switching equipment
– Measure the energy
– Provide annunciation at the transformer and distribution ends.

We also extend our offerings to provide comprehensive grid and substation automation solutions, ensuring the safety and security of your assets.

- AVR, to control the low voltage side of the transformer and maintain voltage.
- General alarm panels, to display all characteristics of signals in a substation.
- Metering panels, to measure the energy for tariff.
- SAS Panel, Substation Automation Systems
- In addition to any custom – Common Panels

Substations _ References

SIEMENS

Product Portfolio

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Kiosks

Shelters / Enclosures

Cable support systems

Medium Voltage

- Distributers
- RMUs
- Retrofit
- Capacitor Bank

Only your own Requirements sets the limits

Medium Voltage Switchboards (MILT Type)

Exclusive licensed manufacturer authorized by TAVRIDA ELECTRIC, we manufacture a Compact air insulated withdrawable MV switchgear – Based on vacuum switching technology, air insulation, digital protection, and arc-flash relays

- 12 & 24 KV
- Type tested according to IEC 62271-200, MILE type inherently saves the environment as it is SF6-free switchgear.
- Power block assembled metal construction including all necessary mechanical interlocks with auxiliary wiring to be tailored by customer himself.
- Vacuum C.B. with magnetic actuator can interrupt in 16ms (The fastest arc fault interruption in the industry).
- Air insulation, digital protection and arc-flash relays

Medium Voltage _ Circuit Breaker

Withdrawable Circuit breaker based on a fixed type of TEL circuit breaker and control module, includes two types of modules:

- ISM-switching modules (either LD or MD, Shell or HD types) used to close and open primary circuits,
- Control module (CM) used to provide control of ISM (close and trip operations) and to replicate the auxiliary interface of conventional CB.

Key Benefits

- *Environmentally friendly*
  - The ISM does not use SF-6 insulation materials.
  - The CM and ISM modules are manufactured from environmentally friendly materials.
- *High reliability*
  - 50,000 CO operations at rated current and 100 full rated short-circuit operations without any maintenance make it the most reliable circuit breaker on the market.
- *Lightweight and compact dimensions*

The Fastest Arc Fault Interruption in less than one cycle

Medium Voltage Switchboards Benefits

Since the switchgear units are of a withdrawable design and can be used with remote control system, the range is ideally suited for all types of applications which call for:

- Reliable, safe, environmentally and friendly switching medium (Vacuum).
- Interlock mechanisms to improve operation and safety.
- Signal outputs to monitor operation of the circuit breaker.
- The insulation system, operating mechanism and vacuum interrupter are maintenance free. No maintenance is needed at all.
- Compatibility with SCADA systems.

CB Retrofit services

Memico offers retrofit solutions for MV Circuit Breakers, employing a 12,24KV vacuum circuit breaker.

The retrofit is executed in a way that:

- The conventional circuit breaker is replaced with a retrofit kit.
- Connect the copper terminals and the new control circuit is created.
- The original interlock mechanism which prevents proper operation and withdrawal of the breaker is retained to enhance the safe operation of the unit.

Benefits gained from Our Retrofit Services:

- Reliable, safe, environmentally, and friendly switching medium (Vacuum).
- Interlock mechanisms to improve operation and safety.
- The insulation system, operating mechanism and vacuum interrupter are maintenance free. No maintenance is required for the retrofitted CB
- Heavy duty as (Up to 35,000 cycle)

Ring Main Unit (ME6) 12 & 24KV–SF6 LBS

The ME6 cubicles belong to the category of RMUs produced by Memico under the successful Type Testing conducted according to the latest international standards, specifically IEC, in officially recognized testing laboratories, operating under the license of RB-ITALY.


TEST REPORT No. 7862/NBK/09

High Voltage & Short-Circuit Testing Laboratory
Laboratorium Badawcze Aparatury Rozdzielczej

TYPE TEST CERTIFICATE

Tested apparatus: MV Metal-enclosed Switchgear

Type: MBLE MP-12-31.5/2000(1250/630)

Manufacturer: Miter Electrical and Mechanical Industries Company (MEMICO)

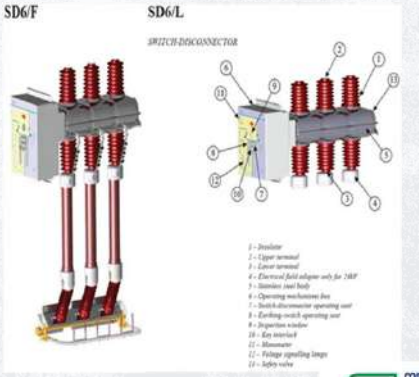
Tavrida Electric Export AS

Date of the test: 20th of April – 08th of May 2009

Tested by: High Voltage & Short-Circuit Testing Laboratory

Ring Main Unit (ME6) _ Main Features

- Switch disconnector stainless steel body earths every dangerous electric discharge
- Sealed for life SF6 filled switch disconnector;
- SF6 pressure gauge
- Class E3 electrical endurance, 100 breaking current operation
- Class M2 mechanical endurance, 5000 operations
- High electrical performance up to 800 A
- Inspection window enables visual check of contacts
- Reduced maintenance under normal operating conditions.
- Full Metal Enclosures .so, the protection against the spread of fire is achieved by the metal segregation of the compartments and the use of self-extinguishing insulating materials
- The Operating Handle Attached to Switch Drive Shaft Operate, The Switch Disconnector Earthing Switch and The Corresponding Indications
- The Upper Switch Contacts Support Also the Bus Bars
- All Switch Operation Performed with Front Door Closed



Outdoor RMU _ Installation

- Cold drawn steel , 2.5 mm.
- A heavy-duty base welded steel
- Channel beams.
- Roof construction without traverse joints eliminating water and moisture accumulation.
- Double leaf door with gaskets, lockers.

Capacitor Bank

- Capacitor bank : 11kV , 9000kVAr
- Rating: STEP 1 (1800kVAr),
- STEP 2 (3600 kVAr), STEP 3 (3600kVAr)

General Characteristics

Dimension :	L *W*H=6*2.8*2.5 m
Painting System:	C5-M
Internal Roof :	Normal (light corrugated sheet)
Internal Floor:	Normal (flat steel)
Fire Rated :	No
Fire System :	Fire detect and fire alarm system

66/11kV GIS
9 MvAR Capacitor Bank
Egyptian Electricity Transmission Co.

Product Portfolio

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Kiosks

Shelters / Enclosures

Cable support systems

Prefabricated Substation Transformer Kiosks

The kiosks are constructed with durability in mind, resting on a sturdy concrete base, accommodating ranges of 12KV and 24KV, with capacities up to 2000 KVA.

Structure
Constructed from sheet iron with a minimum thickness of 2 mm, it incorporates an Earth System, Fire Alarm, Fire Fighting Systems, and SCADA Communication & RTU Systems. The exterior is coated with a resilient polyester electrostatic layer, providing resistance to various weather and water conditions. Additionally, an optional C5-M Painting system designed for marine deployment is available.

Low Voltage Compartment:
The LV distribution board fixed & built on a steel frame mounted on the compartment base with all Energy meters, Voltage & Current measuring.
Protection Degree IP54

Transformer Compartment:
Oil Immersed or Dry Type Transformer

Medium Voltage Compartment:
SF6 Gas Insulated or Air Type RMU
Protection Degree: IP54

Kiosks_ Main Features

- Durable construction that rests on a firm concrete base
- Sheet iron with thickness not less than 2 mm
- Energy Meters, Voltage & Current Measuring Fire Alarm, Fire Fighting, SCADA Communication & RTU Systems available
- Polyester electrostatic painting, resistant to weather conditions & water
- Comprehensive Range
- Fixability for any design
- Factory or Site Assembly
- Quick & Safe Maintenance
- Marine areas deployment

Kiosks References

Project: 6 MW PV PLANT
Customer: IRSC Energy
End User: ENNI

Project: Hiaa Kareema
Customer: Elkhorafy
End User: Several distribution companies

Kiosks References_ Exported

Saudi Arabia

Libya

Iraq

Ethiopia

Guinea

Sudan

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Shelters

Engineered and crafted for a lifespan exceeding 30 years

Our shelter is tailored in compliance with the latest international standards.
It undergoes treatment to withstand challenging environmental conditions, such as high humidity, resistance to rain, wind, sunlight, and dust.

Additionally, rigorous inspections ensure high-quality welding for all steel supports and metal parts, guaranteeing durability and protection against rust.

The design exhibits perfection and flexibility, while the use of high-quality materials ensures reliability and continuity.

Maintenance is easy and quick, further emphasizing the overall excellence of our product.

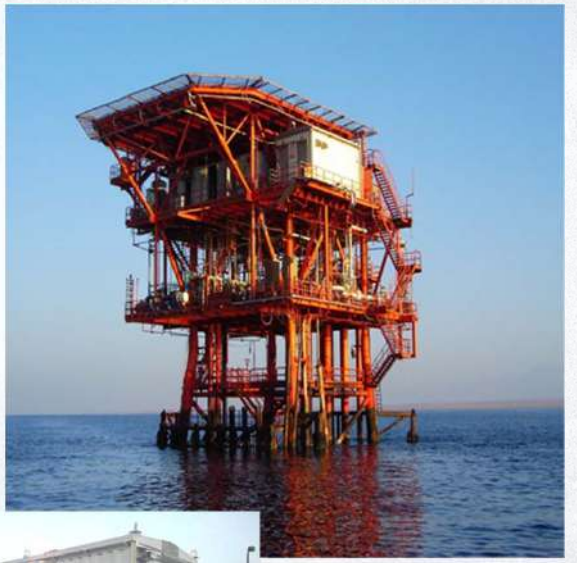
Shelters

Specifications

- Suspended ceiling / Raised floor.
- Roof – Doors – Outline Skeleton, all steel sections, and sheets according to DIN 17100, Completely welded for perfect sealing and corrosion protection.
- Lifting Lugs
- Anti-corrosion Paint (Painting System: up to C5)
- Insulation Material: Rockwool/Sandwich panel designed to facilitate working conditions within a temperature range of -5 to 55 °C, enduring high humidity, direct sun exposure, and resistance to rain, wind, and dust. Maintains an average internal temperature between 22 and 25 °C.
- Up to IP 54

Electrical components

LV Distribution Panels – MV Distribution Panels – Lighting system – Power Transformer – Control Switches – Power Sockets –HVAC System – Fire Alarm & Fire Fighting Systems – Earthing System.



Shelters _ References

Canal Sugar Factory

DP World

SIEMENS Energy

Shelters _ References

Khalda petroleum

Belayim Petroleum

EHC Ammonia

(In/Out) Door Transformers _ Enclosures



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Cable support systems

Cables support systems

Memico is dedicated to delivering top-notch cable support systems that adhere to the latest international standards. Utilizing state-of-the-art equipment and CNC machines in our production processes, we craft a variety of Cable support Solutions, including cable trays, cable trunks, and ladders, tailored to meet specific specifications.
Technical Specifications:

Material:
Our cable trays are constructed from materials safeguarded against corrosion.
(Mild Steel/Galvanized Steel/Stainless /Aluminum)

Thickness:
(0.8 mm – 1.00 mm – 1.20 mm – 1.50 mm – 2.00 mm) are available

Dimensions:
We manufacture and tailor various types of cable solutions with standard dimensions (length and height) or according to customer specifications.

Cables support systems_ Specifications

Cable Support Models:

- Memico manufactures an extensive variety of cable support systems featuring horizontal connections tailored to meet customer specifications
    - With or without covers, With or without perforations, Normal edge or flanged.
    - Internal flange or external flange

Surface Protection & Coating options:

- Hot-dip galvanized: The steel undergoes hot-dip galvanization after fabrication, adhering to DIN 50976. This coating is well-suited for various applications, particularly outdoor use, considering the annual zinc thickness loss influenced by the surrounding air.
- Pre-Galvanized Steel: Sheet fabricated into tray according to DIN 17162
- Electrostatic Epoxy Paint, available in a variety of colors.
- Polyester Paint

Cable solutions main features:

Precision in design, robust construction, smooth surface, exceptional resistance to corrosion, straightforward installation, rounded edges, lightweight yet with a substantial load capacity, and effortless integration and configuration.

Thank you