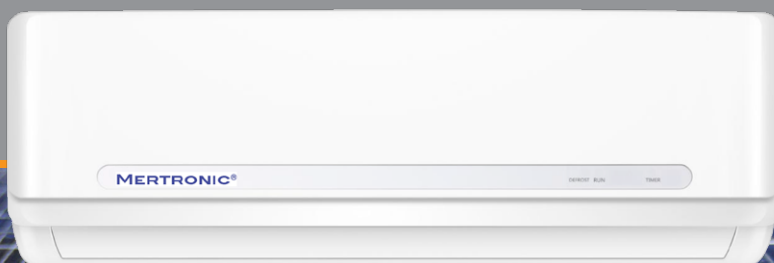


Middle East Electricity 2018



Middle East Electricity 2018:

WELCOME TO THE WORLD OF MERKUR®



Ulrich Scheller, General Manager

MERKUR® Ueberseehandel GmbH welcomes you to the Middle East Electricity Exhibition 2018! 11 years of consecutive participation allowed us to build a strong relation with our clients and partners in the region.

The RENEWABLE ENERGY sector is of growing importance for our company. Having established the cooperation with our local distributor M/S GILCO CONTRACTING & BUILDING WORKS L.L.C. in the UAE, who are DEWA listed contractors under the Shams Dubai Solar Rooftop initiative we have strengthened our capabilities into the renewable energy sector.

In close cooperation with leading manufacturers in the field we are offering engineering and contracting services for Renewable Energy Projects. This business segment perfectly translates and connects with our other product lines, especially with the very innovative MERTRONIC LIGHTING DIVISION. At this year's show we are

very proud to introduce LED-HPS street lighting fittings and the FISOL series fully integrated solar street lighting luminaires introduced during the Light Middle East Exhibition which are taking the market by storm.

The **MERKUR®** Electro Technology Division has recently completed our latest Automatic Reading Prepaid Smart Metering System being sought after by utilities worldwide. Our latest achievement for this system is the successful interfacing with the BPBD Standard Metering Software in Bangladesh. Full GPRS capabilities and operation under STS and CTS protocols have also been achieved.

MERKUR® Ueberseehandel GmbH continues to be a vivid and progressive partner for our clients allowing them to stay up to date with the main technological and environmental trends. In this MEE2018 exhibition news report please find some of our most recent achievements and an update on the latest product innovations from within our own production and the supply from our main principals from Europe.

Faithfully yours



General Manager

MERKUR® Solar Projects

MERKUR® Solar Projects

The year 2013 has had an outstanding beginning. In cooperation with CALYXO® Germany we were able to complete the production and shipment of the CALYXO CX3 panels destined for the prestigious SOLAR INNOVATION CENTER project at the Makhtoum Solar Park in Dubai.

Over a period of more than 2 years we have been working in close cooperation with consultants/architects and contractors during the design stage and preapproval of the solar roof for the SIC. The mockup for architects/consultants and clients approval was supplied and produced by us in 2017.

The PV sector represents a strong pillar in our business strategy for the future. Our other pro-



jects in hand are OFF-GRID and ON-GRID installations. These are ROOF-TOP and GREEN FIELD SOLAR PLANTS, HYBRID SOLAR SYSTEMS for agricultural and industrial use, SOLAR LIGHTING SYSTEMS and HYBRID SOLAR SYSTEMS for UMTS stations incorporating our SOLAR AIR-CONDITIONERS.



MERKUR® Renewable Energy BIPV



MERKUR® BIPV – Building Integrated Photovoltaic Systems

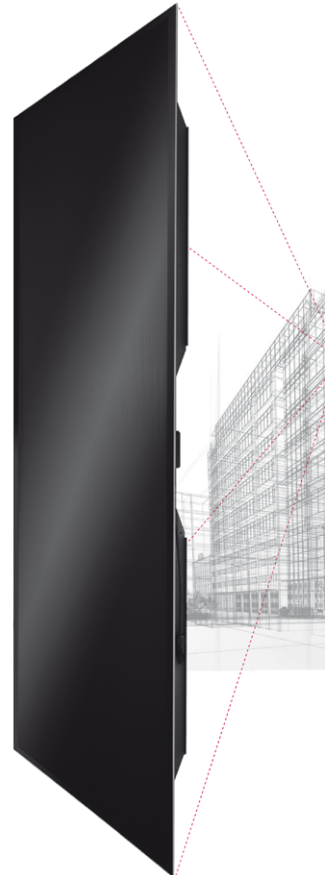
In cooperation with our thin film PV panel manufacturers **MERKUR®** is targeting the façade building sector.

Solar PV facades can have a positive impact on the environmental footprint of a building. They do represent a very attractive architectural element to add extraordinary aesthetics to the building design. Furthermore the BIPV solar installations can significantly reduce the cooling capacity needed for the building as they provide shadow and cool down the facade.

The solutions are complex however and for better economics it is strongly recommended to substitute the façade with elements integrating the solar façade.

At the time being this product portfolio is very much in its infancy but in cooperation with the industry we stand up for the challenges to integrate PV into buildings in the coming years.

MERKUR® and our thin film PV panel manufacturers are offering professional consulting in this segment. Don't hesitate to get in contact with us.



MERKUR® Renewable Energy Special Solutions

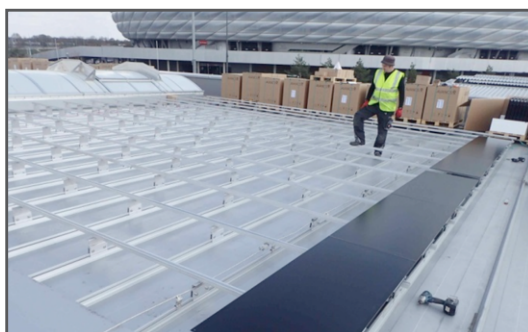
MERKUR® Renewable Energy Special Solutions

Renewable Energy Systems require custom made individual designs to be perfectly suited for the intended purpose and to match each individual project's specific requirements. The **MERKUR®** engineering teams stand ready to assist with profound advice for feasibility and financial study, system design and engineering for a variety of solar systems. We are offering special solutions for:

- ROOF TOP and GREEN FIELD SOLAR SYSTEMS (ON-GRID, OFF-GRID, HYBRID)
- SOLAR CAR PARK SYSTEMS
- SOLAR WATER HEATING SYSTEMS
- SOLAR WATER TREATMENT SYSTEMS
- CHARGING STATIONS FOR ELECTRIC VEHICLES
- SOLAR WATER PUMP / IRRIGATION SYSTEMS
- SOLAR STREET LIGHTING SYSTEMS



Solar car park system



MERKUR® Solar Air Conditioners



MERKUR® Solar Air Conditioners

Cooling with solar power in areas where the sun is shining nearly all the year round is one of the best ways to save energy and to protect our environment. That is why **MERKUR®** has a strong focus on SOLAR AIR CONDITIONER technology. We are offering a wide range of products in this segment. All our **MERKUR®** SOLAR AIR CONDITIONERS are using state of the art technology and the products are working with highest efficiency.

MERKUR® SOLMATE® series solar air conditioners are especially suitable for off-grid applications. As such they are used mostly in professional applications due to the high cost involved for the entire system. Such solar systems need a battery backup and/or hybrid configuration. Typically the SOLMATE® airconditioners are

therefore being used in the Telecom sector in the ME region.

Our more economic solar AC solution suitable for private use are the SUNBOOST® and SOLARIS® air conditioner series. These on-grid 230V AC airconditioners are having a built in inverter, which allows the connection of up to maximum 1500W/peak solar panels, feeding the solar energy directly into the air conditioner. During the night and when the solar power produced does not suffice the aircon will run on grid power.

These **MERKUR®** solar air conditioners can save you money by significantly reducing the energy consumption from grid supply and therefore they can drastically reduce your electricity bills.

MERKUR Power Distribution



MERKUR® POWER DISTRIBUTION

MERKUR® UEBERSEEHANDEL GmbH is a leading specialist for naturally grown cresosoted wooden utility poles (*pinus silvestris*). Hundreds of thousands of our poles stand the test of time all over the Middle East for several decades.

Our innovative product, ITP engineered timber poles from industrial production are especially suited for extremely hot climate zones. The ITP poles are resistant to checks and shakes (cracks) along the grain. Our poles both Round Timber Poles and ITP Engineered Timber Poles are Made in Germany and prove themselves in harshest climatic conditions.

Our utility pole systems are listed and qualified for project supply in many countries all over the world. To name a few in the region we are supplying to utilities in OMAN, UAE, YEMEN, LIBANON, LIBYA.



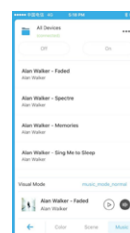
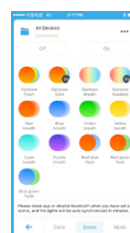
MERTRONIC® Lighting

MERTRONIC® LIGHTING

In the lighting sector **MERKUR®** UEBERSEE-HANDEL GmbH has further completed the MERTRONIC® LED lamp and luminaire range. We successfully market the MERTRONIC® LED product range from local stock in Dubai.

We have a large number of luxury hotels within our list of regular clients. The professional team of **MERKUR®** lighting specialists offers the complete project service including contracting, engineering and installation. Our lighting division has implemented several outdoor LED lighting projects installing in-ground lights, wall washers, LED strip illumination as well as solar lighting systems. The multitude of these systems implement our DMX light control system.

The latest edition of the Bluetooth controlled outdoor lighting range is our GARDENIA series garden light system. The luminaires will be controlled by means of apps from mobile phones. The systems are being shown at our booth during the MEE2018.



MERTRONIC® Lighting: LUX-PLUS series

MERTRONIC® Lighting LUX-PLUS series

The main challenge of lighting engineers, when designing outdoor LED lighting systems especially in hot environments such as in the Middle East, is the heat management within the luminaires. Our latest products added to our portfolio address this issue by application of Low and Medium Power LED Technology.

Reduction of the operating current reduces the operating temperature directly. Adding special optics make a very innovative range of luminaires allowing increased life time, high energy savings/reduction of operation cost, increase of the operating life which allows long warranty periods and a much reduced depreciation of the system efficacy.

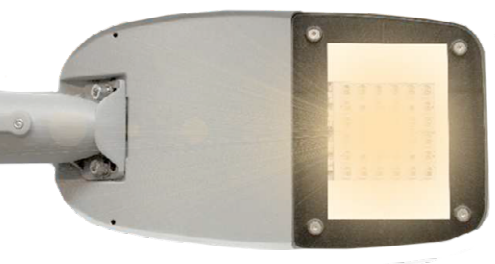
- Up to 93% reduced electricity consumption compared with conventional lightings
- Up to 40% energy savings compared with standard LED systems
- Targeted application of light, no light pollution
- No heat development, no extra cooling devices required
- Excellent environmental impact, reduced emissions, durable, self-cleaning.
- Made in Germany



MERTRONIC® Lighting LED-HPS series

MERTRONIC® Lighting LED-HPS series

The advantages achieved under the Low Power concept applied in the LUX-PLUS range of products also apply for the newly introduced LED-HPS luminaire series.



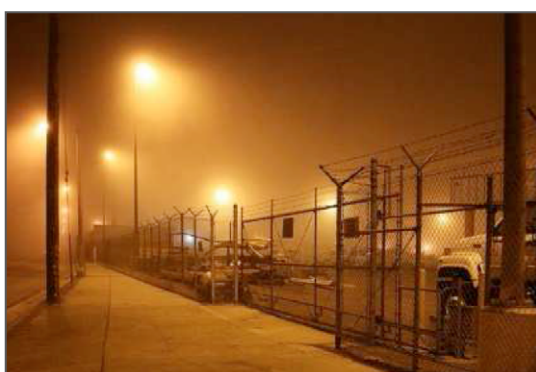
This product series has an extremely long life expectancy of up to 100,000 hours! That makes more than 20 years of expected life

time! Eliminating the blue light spectrum results in 2200K light color at a very high efficiency of up to 400lm/W !

At the same time, due to application of Low Power Technology the operating temperature remains very low and makes expensive heat management systems obsolete. This allows a very compact design of the luminaires. Our



LED-HPS range of products allows to substitute HID luminaires operating with High Pressure Sodium lamps. At the same time our LED-HPS luminaires will allow to maintain the light color scheme, i.e. retrofitting existing HPS street lighting systems maintaining better CRI characteristics adding to the safety of motorists.



LED-HPS technology eliminates glare at foggy, snowy or rainy weather conditions



High glare with blue containing LED street lighting especially at foggy, snowy or winter conditions (3000- 6000K)

MERTRONIC® Lighting FISOL/INFINITE series



MERTRONIC® Lighting FISOL and INFINITE series

We are very proud to show our FISOL and INFINITE series fully integrated solar street lighting luminaires, introduced only 4 months ago during the Light Middle East Exhibitions. These luminaires are taking the market by storm. Having fully integrated solar systems they are stand alone lighting systems operating independently from the grid. They do neither require any grid connection nor extra wiring or a battery box. Their special batteries are capable to withstand very high ambient temperatures. Especially in remote areas without grid the systems are perfect solutions unbeatable by grid tied street lighting systems.



MERTRONIC® LED Signage

MERTRONIC® LED Signage

MERKUR® UEBERSEEHANDEL GmbH is a professional One-Stop Solution Provider that is dedicated in LED Display Manufacturing, Research & Development, Sales and Services. MERTRONIC LED Displays are optimized to protect the environment and to save energy. We are making our effort to improve our screen with cutting Edge technology.

Transparent Screens are the pioneering alternative to curtain media façades. Integration into a façade, low dead weight and high light permeability are just some of the advantages of this product.

The transparent LED displays are custom made for the façades and integrated directly

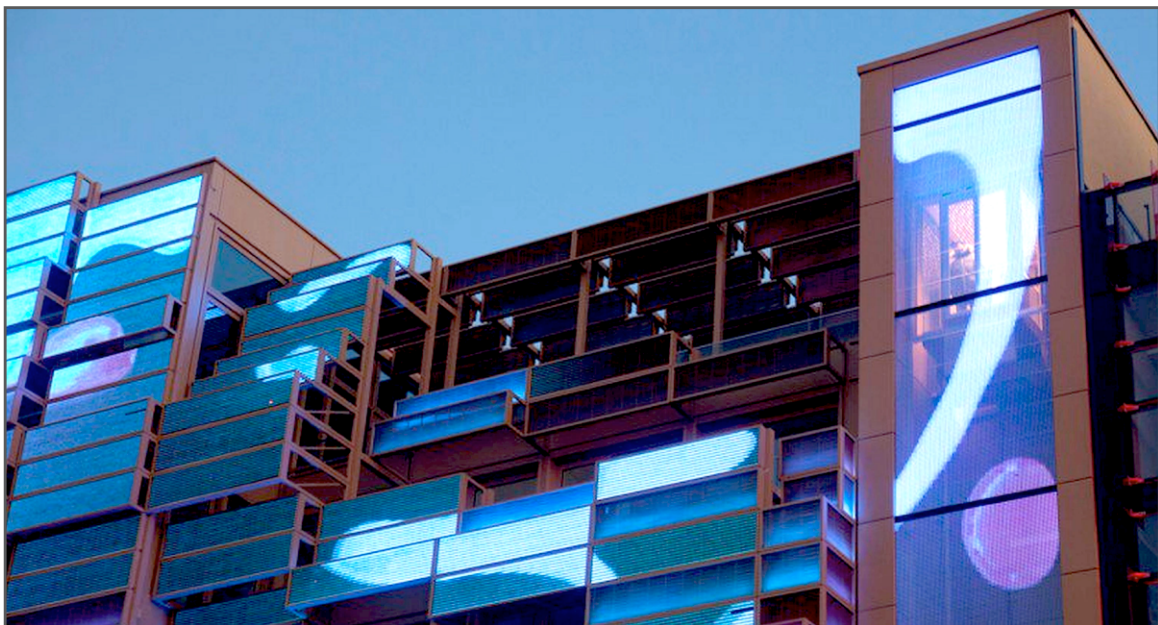
into the insulated glazing, blending with the cladding of the building. Fine LED strips in the insulated glazing compound enable a very high level of transparency at high resolution – ideal for large-scale displays on the outer shell of a building. The system combines aesthetics with high tech “invisibly” built-in the glass façade.

Application areas:

- Façades/large glass surfaces in the cladding of a building

Key features:

- minimum pixel pitch 20 mm
- transparency of at least 80%
- low weight of only an additional 3.5 kg/m²
- areas of up to 1,000 m² possible

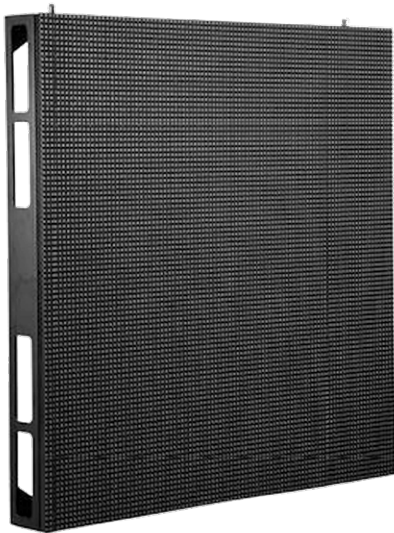


MERTRONIC® LED Signage

Orion Series Outdoor Fixed LED

08/010/013/016 are providing solutions for permanent outdoor installations such as outdoor advertisement media, government & enterprise project culture & tourism, sports, commercial real estate etc.

- Ultralight design: The whole weight per sqm is over 50% lighter than normal fixed iron cabinet.
- Easy maintenance: After adopting the classic back maintenance, it's applied to large sized LED and Roof mounting, wall mounting and Pillar base.



cabinet with seamless joint

- Super wide viewing angle: 140 viewing angle to expand the scope of audience making it more suitable for outdoor use.
- Mistake tracking system: Visible mistake tracking function.

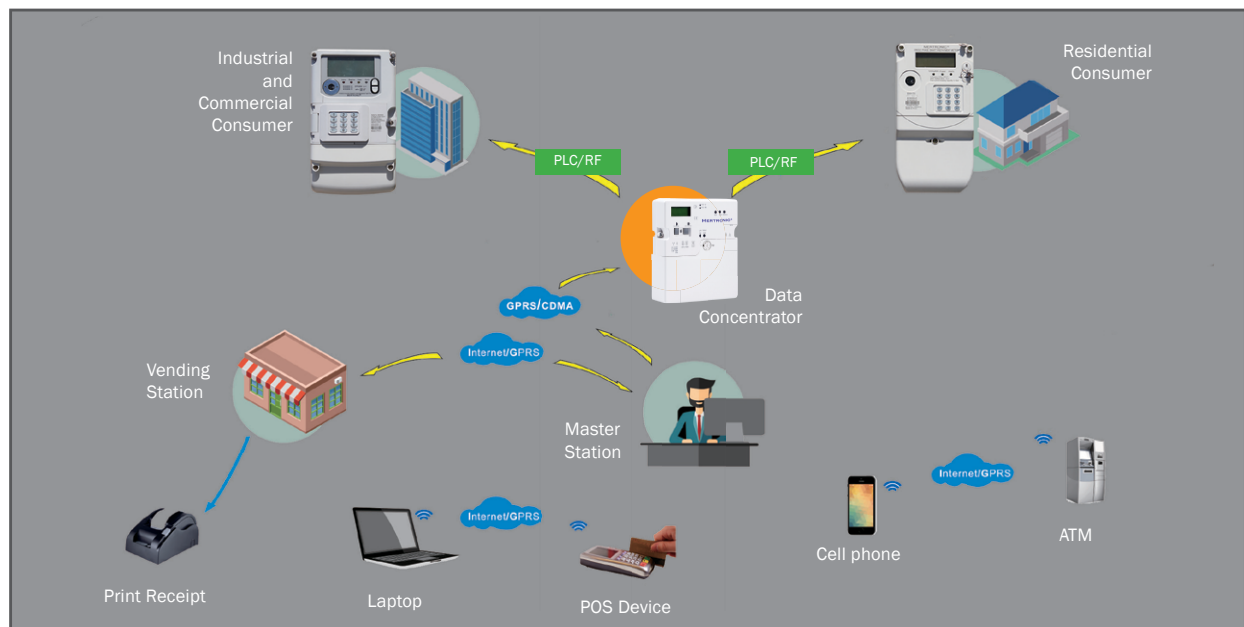


MERTRONIC® AMR Metering System

MERTRONIC® AMR Metering System

MERKUR® is introducing MERTRONIC® Smart keypadbased Prepaid Meters - Smart keypad-based stand-alone Prepayment Electricity Meter in a compact housing. An integrated keypad and LCD ensure all customer needs are met in one compact design.

- Forward & reverse active power measurement
- Can work as Post Paid and Prepaid
- Prepaid function as STS and CTS
- Storage active energy for latest 6 months
- Display readable without main power
- Remaining electric quantity alarm
- Temper Free and Tamper Detection
- Infrared communication, RS485 communication, PLC, GPRS, RF Module



MERTRONIC® AMR Metering System for Smart Meters

MERCEDES BENZ Energy Storage Home

Sleek, efficient, scalable: Mercedes-Benz Energy Storage Home

Energy storage is the key to a sustainable energy future. With Mercedes-Benz Energy Storage Home, we offer private households and businesses a solution to save resources and safely manage their own energy – to make their energy supply more independent and more efficient, and to better cope with any spikes in energy demand.

Developed for demanding conditions in cars, Mercedes-Benz Energy Storage Home meets the highest safety and quality standards. The battery modules, each with an energy capacity of 2.5 kWh, are developed and sold by Mercedes-Benz Energy. Up to eight battery modules can be combined for private use, giving a total energy storage capacity of 20 kWh.

Our energy storage systems are not just targeted towards people who enjoy the freedom which a car affords, but also towards those who want the freedom to choose the nature of their energy supply and storage.

Mercedes-Benz Energy Storage Home Main Features:

- Very reliable lithium-ion technology with a long service life
- Automotive platform – developed for demanding conditions in cars
- Made in Germany Mercedes-Benz quality
- Modular system design (2.5 kWh–20 kWh)
- Lifetime: approx. 80 % capacity remaining after ten years
- Expected number of cycles: 8,000
- Saves resources
- Greater independence in energy supply



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