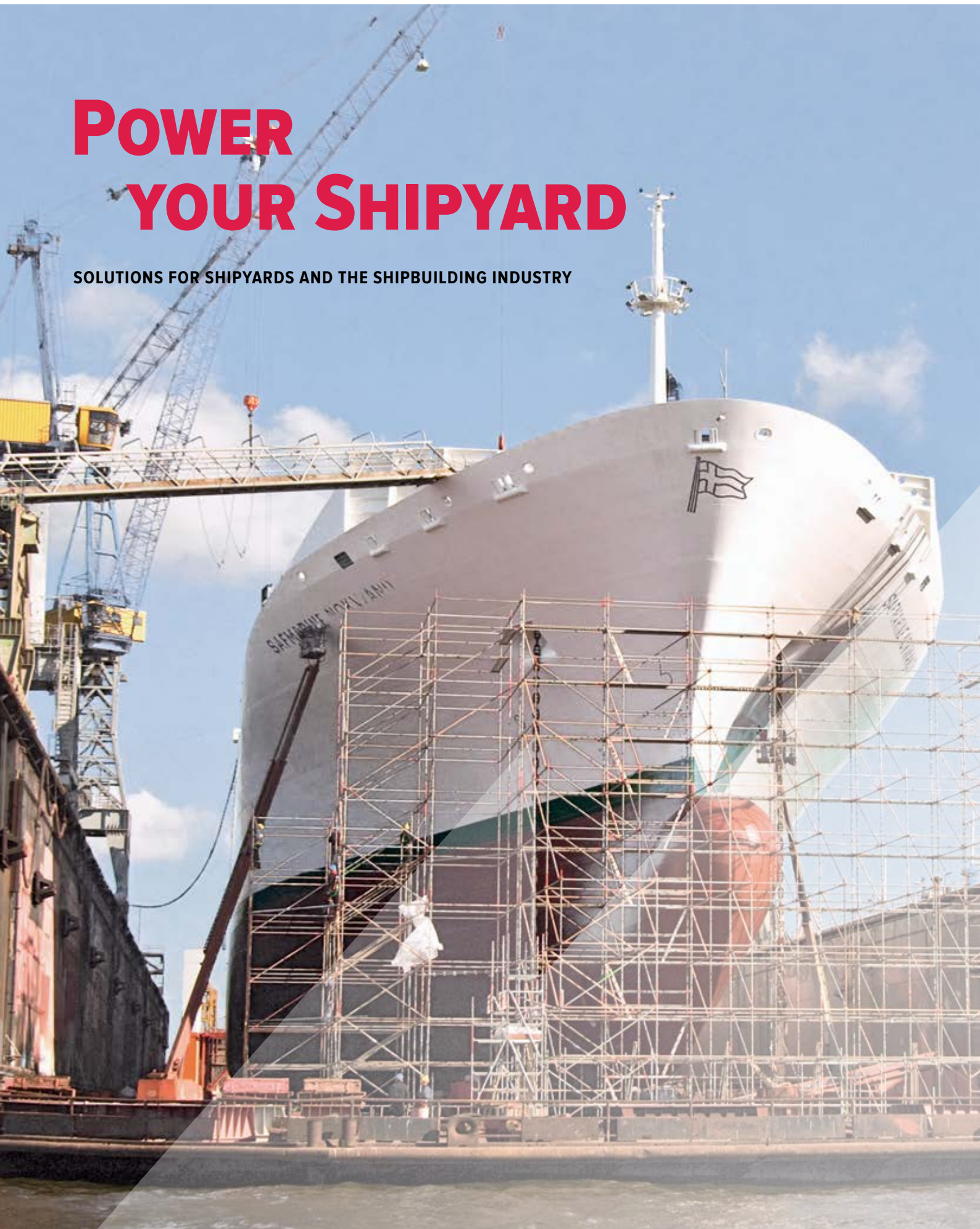


POWER YOUR SHIPYARD

SOLUTIONS FOR SHIPYARDS AND THE SHIPBUILDING INDUSTRY



You are buoyed up ...

... not only with your ships, but also with MENNEKES at the shipyard! There is virtually no other industry that has such a high demand for industrial plug and socket connections and distributors as the shipbuilding industry.

In shipbuilding halls the number of permanently installed supply points is already enormous. On the ship segments, where numerous welders, in addition to performing many other tasks, must also be concurrently supplied with mobile energy sources, optimal energy is always the central work prerequisite. In this regard, all plugs and sockets, distributors

or connection cables must withstand the toughest conditions; operation often takes place under difficult circumstances and the work environment is usually harsh. Therefore rely on a partner that meets the most rigorous requirements. MENNEKES sets standards – in the quality of its products as well as with intensive consulting and planning. Implement individual solutions and benefit from many years of experience in energy distribution at shipyards ...

... with MENNEKES.



AMAXX® receptacle combinations

Special wall combinations

EverBOX GRIP – mobile distributors

EverBOX – mobile distributors

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The basic infrastructure for shipyard halls and buildings.

In addition to the manufacturing of entire ships and ship segments, all types of repairs also take place in shipyard halls. Not only are the dimensions of these shipyard halls and docks gigantic, the energy requirements and the number of plug and socket connections are also enormous.

To ensure smooth operation under these harsh conditions, the highest standards are necessarily imposed on quality and material. In this area MENNEKES already offers a variety of standard solutions.

Moreover, the specific requirements are often quite individual. Whether you are the director of production, director of maintenance or the planner – MENNEKES is the optimal partner for your specific requirements. We can respond with great flexibility to your requests in our development and production and can implement the receptacle combination that is ideal for you.

1

Wall mounted receptacles

- Increased corrosion protection
- Fusing as well as residual current protection
- Robust quality and durability

2

AMAXX® receptacle combinations

- Simple, self-explanatory operation
- Enclosures of high-quality thermoplastic

3

AMAXX® receptacle combinations, special solution

- The receptacles are individually fitted for on-site requirement
- Enclosure can be flange-mounted

4

Special wall combinations

- Large individual solution
- Busbar systems are possible



1

Wall mounted receptacles



2

AMAXX® receptacle combinations



3

AMAXX® receptacle combinations, special solution



4

Special wall combinations

Permanently installed solutions for shipyard halls

Wall mounted receptacles.

In addition to the classic wall mounted receptacles, the MENNEKES range up to 400 A also includes variants with increased corrosion protection and fusing, as well as residual current protection. This pays off, particularly in the shipbuilding industry, where the demands imposed on material and products are extremely high. In this application robust quality and durability are characteristic of every single wall mounted receptacle and receptacle combination, so that your employees can concentrate completely on their work.

Another aspect that applies in particular measure for shipyards, and which is very important to us for our products, is the simple, self-explanatory operability. More so than in other industry segments, often many people of different nationalities work together in the shipbuilding industry. Consequently, the intuitive use of our products, without the necessity of verbal explanation, is of special significance. MENNEKES meets this requirement through a unique, pragmatic design vocabulary and a clear colour-coding of functions.

1

Wall mounted receptacles

- With X-CONTACT: ensure safe contact and simple handling
- As much as 50% less expenditure of force

2

Wall mounted receptacles

- fused, switched and interlocked
- Robust quality and durability



1

Wall mounted receptacles



2

Wall mounted receptacles



“ Robust quality, simple, intuitive operability, and a clear pragmatic design vocabulary – this is our commitment, from professionals for professionals!

Permanently installed solutions for shipyard halls

AMAXX® receptacle combinations.

The AMAXX® receptacle combinations from MENNEKES are the central element of the permanently installed energy distribution. Thanks to their modular structure they can be put together individually and precisely as needed for each point in the shipyard hall. Thus they form the foundation of the power distribution in the hall. Depending on ambient conditions the enclosure material can also be selected appropriately for the respective requirement, e.g. AMELAN® for high chemical resistance, with outstanding mechanical, thermal, and electrical characteristics, or EverGUM® with high dimensional stability and resistance to aging.

Energy and data can easily be combined thanks to the modular system. MENNEKES offers the right combination for every requirement: from the smallest AMAXX® receptacle combination with one segment, to the largest with five segments, and extending to the suspended receptacle combinations. They can be fitted with an extensive range of options in six different enclosure sizes, and as always in an appealing design: With AMAXX® from MENNEKES virtually an infinite number of combination possibilities open up for the qualified electrician.

1

AMAXX® receptacle combinations.

- For different applications
- Modular structure
- Self-explanatory operability

2

AMAXX® receptacle combinations, special solution

- Individual project planning
- Customer-specific solutions
- Virtually an infinite number of combination possibilities



1

AMAXX® receptacle combinations

2

AMAXX® receptacle combinations, special solution

Fixed applications for shipyard halls

Special solutions – custom-manufactured, easily installed, unit-tested.

For special requirements, together with you we plan the appropriate special solution, which we develop and implement as a custom solution for you. MENNEKES has extensive experience in the implementation of such customer-specific solutions, for the shipbuilding industry in particular.

For us at MENNEKES the intensive dialogue with our customers is the most important driving force for innovation and development. This provides us with a continuous, as well as intensive and unfalsified impression of what is required in everyday practice.

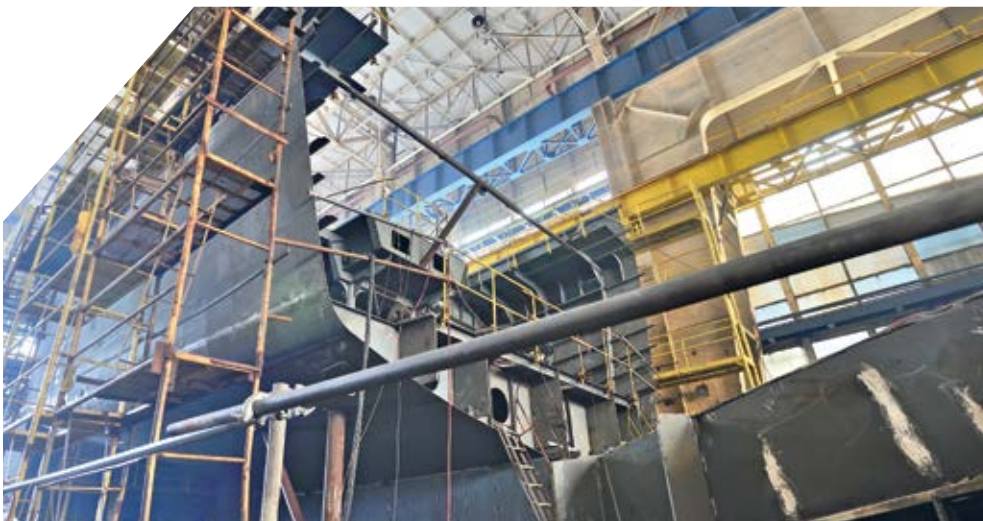
Often impetus arises from such individual insights that drive us to new product innovations. Not rarely, series production products are developed from individual solutions, or we learn things from individual solutions that we can transfer into series production.

Thus our strength in such individual solutions becomes our engine for permanent further development and our lived proximity to our customers and their needs.

1

Special wall combinations

- Shore connection is possible
- Integration of diverse switchgear is possible



1

Special wall combinations



Mobile solutions for the shipbuilding industry

Applications within the shipyard.

In shipyard halls permanently installed electrical installations are available for energy supply outside of the ship. If energy is brought onto the ships and into the ship segments through large mobile distributors, things can get quite busy and crowded. Man and material must be heaved through the manholes, which serve as accesses to the tanks. As a rule, there are a number of welders with their equipment at the plant – a special challenge for organization of the electrical supply cables. MENNEKES also has the right solutions on hand for this particular environment.

MENNEKES not only offers mobile solutions for the shipbuilding industry, but also permanently installed electrical installations on the vessel. Thus MENNEKES quality also remains on board as part of the shipbuilder's workmanship.

1

EverBOX – mobile distributors

- Robust
- Stackable
- Easy handling due to integrated carrying handles

2

EverBOX GRIP – mobile distributors

- Compact
- Low-weight
- Can be suspended, can be used horizontally, and vertically
- Robust, impact-resistant enclosure
- Can also be grasped effectively with protective gloves

3

EverGUM® compact and receptacle strips

- Signal yellow enclosures
- Available in various sizes

4

Rework trolleys

- Safe and mobile solution that meets customer-specific requirements



1

**EverBOX –
mobile distributors**



2

**EverBOX GRIP –
mobile distributors**



3

**EverGUM® compact
and receptacle strips**



4

Rework trolleys

Mobile applications for shipyard halls

Mobile distributors.

It is likely that the mobile distributors are primarily exposed to the most extreme stress. Just the constant transport in the shipyard halls alone imposes particular requirements on the stability of the products.

The robust, stackable, insulated enclosures from MENNEKES are optimally suited to withstand this stress in indoor and outdoor use. They protect the receptacles and installed devices through their stable enclosure frame.

The enclosures of our EverGUM® distributors are made of a solid rubber mixture. The material has a high resistance to disruptive current and tracking.

1

EverBOX – mobile distributors

- Can be fitted with up to 125 A
- Protection against condensation with IP 67
- Robust enclosure

2

EverGUM® compact and receptacle strips

- Impact-resistant
- High dielectric strength and creep resistance
- Compact: underpart of the enclosure with 77 mm ground clearance
- Receptacle strip: possible window size for six or eight module widths



1

EverBOX –
mobile distributors

2

EverGUM® compact
and receptacle strips



MENNEKES only works with materials that can meet the most rigorous requirements – materials suitable for the most extreme conditions!

The optimal shipyard distributor: EverBOX GRIP!

For the ship or the ship segments that are being built at the moment, the energy supply comes from the large distributors within the shipbuilding hall. They need to be sub-distributed to supply welders and other building trades with power.

Mobile, stable, and handy! These qualities are at the heart of the specification for this new mobile solution. And the implementation is just as consistent and uncompromising.

It all started in an intensive dialogue with a customer in the shipbuilding sector. Here the harshest conditions that could be found for a mobile distributor predominate. In this sector, mobile means "highly mobile", stable means "virtually indestructible" and handy means it must be possible to maneuver it through the most narrow areas". The result was so convincing that we have further developed it into series production maturity.

EverBOX GRIP – a firm grip on mobile distribution!

1

EverBOX GRIP – mobile distributors

- Four standard fitting variants
- Grips can be selected in red or black
- Stackable

DESIGN PLUS
powered by: **light+building**



1

EverBOX GRIP –
mobile distributors

EverBOX GRIP – mobile distributors

Feature overview.

NEW

1

Large grips

Lateral grips offer good handling possibility and simultaneously act as bumpers for the actual distributor enclosure.

2

Fusing is protected, but easily reachable

Fusing under transparent covers. Easily accessible protective devices.

3

Robust and impact-resistant enclosure

The actual PE enclosure of the distributor is extremely robust and offers excellent protection for the fitting options – additionally safeguarded via the grips as exterior bumpers.

4

Grips can be selected in two colours

All EverBOX GRIP combinations can be equipped either with red or black grips.

5

Protection class

The EverBOX GRIP offers the IP 44 degree of protection.

6

Easy storage

Thanks to the grips up to four EverBOX GRIP distributors can be stacked one on top of the other.

7

Receptacles that can be operated from above

The receptacles that can be operated from above offer optimal access thanks to their angled position.

8

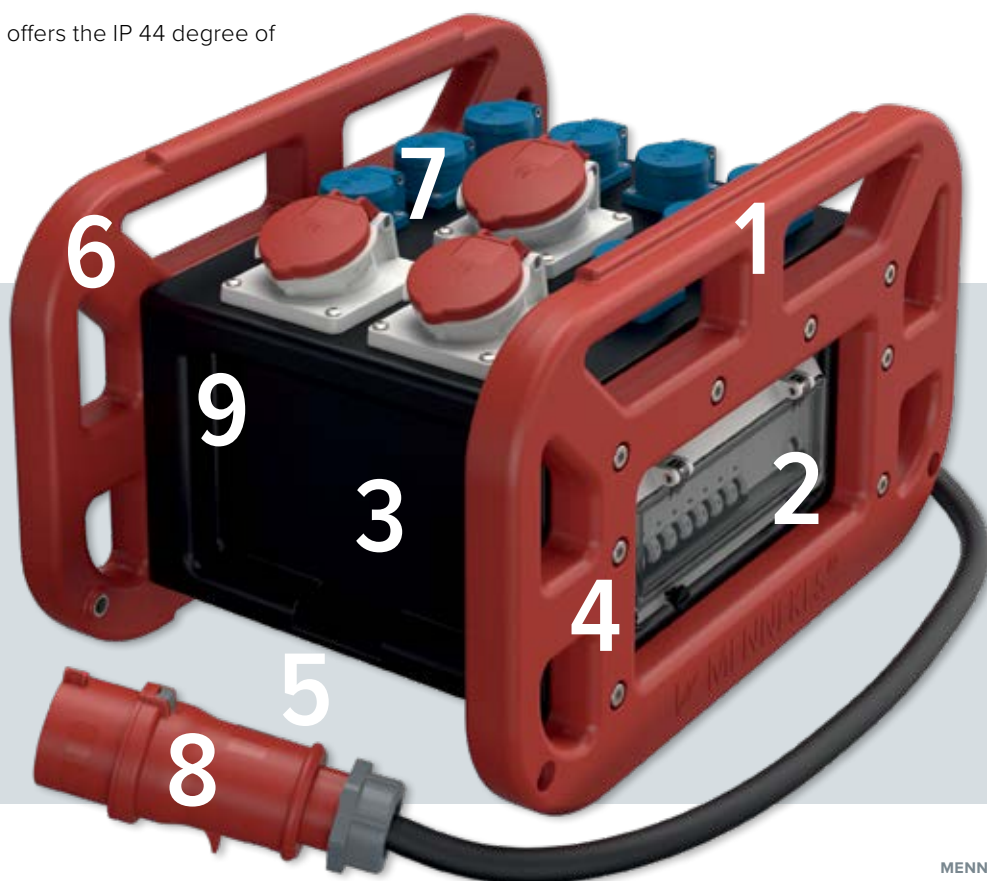
Connection

The EverBOX GRIP is available with a permanently installed supply cable (2 m).

9

Dimensions

530 x 370 x 320 mm



Mobile applications for shipyard halls

Special solutions.

Based on our years of experience working together with shipyards, we see a special requirement for individual solutions, particularly in the planning of mobile distribution in shipyards and on the dock. Since, to a great extent, mobile distribution must be matched to the specific production processes, here as well the need for customer-specific solutions is greatest.

Consequently we have already implemented many mobile distributors as special solutions in accordance with specific customer requests. Contact us. The earlier you integrate us in your planning, the better we can respond to your specific requirements. Plan with MENNEKES, then you can count on a solution that is perfect for your desires, particularly when the objective is flexible applications in shipyard halls.

1

Rework trolleys

- Mobile and crane-compatible
- Wind-up mechanism for the supply cable



1

Rework trolleys

Applications on the ship

MENNEKES quality also installed on the vessel.

High-quality solutions for industrial plugs and sockets are also in high demand on ships. Particularly in the function areas of the ship – from the galleys to the plant rooms, from the engine rooms to the storage and container areas – there is also a need at many locations for the proven MENNEKES quality in running operation of the finished ship.

Thus, for example, MENNEKES supplies AMAXX® receptacle combinations for cruise ship fleets. MENNEKES is also represented on-board other ships, with DUO devices.

But MENNEKES quality is not only in demand in the cruiser segment, it is also in demand in the container shipping segment as well. For example container ships have been equipped with reefer container plugs and sockets from MENNEKES.

MENNEKES is not only found in the shipyard or in the shipbuilding industry, it is also installed on-board the ship whenever the most rigorous requirements must be met.

1

Wall mounted receptacles SCHUKO®

- Resistant to pressurized water
- The first choice for flooding or spray water

2

Wall mounted receptacles DUO

- switched and interlocked
- If the receptacle is switched on it is not possible to remove the plug



1

Wall mounted receptacles SCHUKO®



2

Wall mounted receptacles DUO



Solutions for container ports

Made for the most demanding environments.

As the specialist for industrial plugs and sockets, in area of container shipping MENNEKES is the first address for the highest quality and the most demanding environments.

Whether AM-TOP® plugs and sockets, switched wall mounted receptacles or AMAXX® receptacle combinations – MENNEKES has the right solution for the wide range of requirements imposed on energy distribution for container ships or at the container terminal.

For example, there is the AM-TOP® container plug with rotor for changing the earth-pin position.

With this plug and a screwdriver the earth-pin position can be changed from 6 h (industry-standard) to 3 h (container-standard). Through this measure the service life of the plug is significantly extended.

1

AM-TOP® plugs and sockets

- Stable, single part body
- Threaded fitting ensures hold and protects against self-loosening

2

Wall mounted receptacles

- Available with or without fusing
- Highly heat-resistant contact carrier
- Nickel plated contacts

3

AMAXX® receptacle combinations

- Robust enclosure
- Modular design



1

AM-TOP® plugs and sockets



2

Wall mounted receptacles



3

AMAXX® receptacle combinations

We clear the decks in energy distribution With MENNEKES on board.

MENNEKES is the partner for energy distribution at shipyards and in the shipbuilding industry. Whether for construction of luxury yachts, cruise ships, or container vessels – MENNEKES has years of experience and profound expertise relative to the needs and concerns of shipbuilders.

Many well-known shipyards around the world have already put their trust in MENNEKES when the issue is energy distribution in the hall, on the dock, at the shipyard, and on the ship. In this regard, the fact that MENNEKES also supplies parts of the finished vessel in the form of plugs and sockets onboard is

an indication of the trust that is placed in the quality offered by MENNEKES. However, it is not only the typical high quality that characterizes us as a reliable partner in the shipbuilding industry, it is also and quite particularly our competence in the planning and implementation of custom-made solutions that is highly esteemed. Because in this area, in particular, we can incorporate our industry competence and knowledge of the specific procedures individually towards optimal solutions for you.

Look to MENNEKES if you are looking for a safe harbor for your energy distribution!

Shipbuilding solutions and
shipyard solutions from
MENNEKES implemented
throughout the world



**Container Terminal
Le Havre, France**



**HDW Schiffbau,
Kiel, Germany**



**Jos.-L.-Meyer-Werft,
Papenburg,
Germany**

**MENNEKES set
standards – in quality of
products, as well as in
consulting and planning!**



**Megayard Singapore,
Singapore**

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- Lloyd-Werft, Bremerhaven, Germany
- Lürssen-Kröger Werft, Schacht-Audorf, Germany
- MW Werften, Rostock, Germany
- MW Werften, Wismar, Germany
- MW Werften, Stralsund, Germany
- Neptun-Werft, Rostock-Warnemünde, Germany
- Neue Jadewerft, Wilhelmshaven, Germany
- Norderwerft, Hamburg, Germany
- Peene-Werft, Wolgast, Germany
- Thyssen-Krupp Marine-Systems, Kiel, Germany
- Karstensen Skibsværft A/S, Denmark
- Meyer Turku Oy, Finland
- STX, France
- DCMS, France
- Fincantieri, Italy
- Mitsubishi Heavy Industries, Japan
- Megayard Singapore, Singapore





My Power Connection Made in Germany

Founded in 1935 in Kirchhundem (Sauerland), MENNEKES has actively accompanied the fast-paced entry of electricity into all industry sectors right up until the present day, and has influenced the industry with products and solutions for industrial plugs and sockets. And not only in Germany. With a workforce of 1,000, today the family-owned company has an international presence and is one of the leading providers in the electrical industry. MENNEKES industrial plugs and sockets, and electric mobility products, are used in over 90 countries. Where high currents have to be transferred safely and economically, our customers and partners can always rely on MENNEKES.

And the EU too has gone for the highest quality: in 2014, type 2 charging connectors by MENNEKES were declared the standard by the European Parliament. A pioneering milestone. But we have been making more than plugs for the world for a very long time. We think holistically and create innovative solutions that manage and distribute energy more intelligently. We also like to think about things from the user's point of view when we are developing our products and solutions.

MENNEKES – MY POWER CONNECTION



Innovative power combined

At MENNEKES we set ourselves the goal a long time ago of creating innovative connections between industry and infrastructure, between energy and electric mobility. Our range comprises of more than 15,000 different industrial plugs and sockets, and electric mobility solutions in a variety of versions and designs. It doesn't matter whether it's a series or an individual special development, the MENNEKES brand stands for something extra right from the start – for an intelligent, sustainable solution combined with the highest quality, reliability and safety.



Intelligent e-mobility charging solutions for:

- companies
- private households
- fleet operators
- cities
- hotels
- shops and restaurants
- multi-story car parks
- landlords

Reliable plugs and sockets for:

- industrial plants
- mining
- chemical and petrochemical industries
- railway and transport companies
- shipyards
- food industry
- trade fairs and exhibitions
- data centres
- trade
- production industry





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