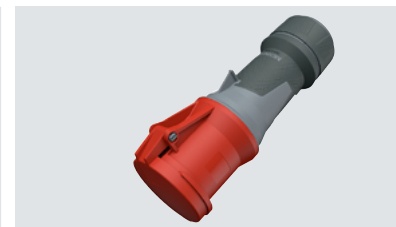


POWER YOUR WIND ENERGY



SOLUTIONS FOR WIND TURBINES

MENNEKES
MY POWER CONNECTION



 You can find more information on our website



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We are MENNEKES



Power supply for wind turbines

A major share of international power consumption is currently covered by wind energy – thus wind energy is an important pillar of our overall power generation. Obtaining energy through wind power is one of the most promising industry sectors of the future. For years MENNEKES has been working together with manufacturers, operators, and service providers in the wind energy segment; we offer an ever-expanding portfolio of suitable product solutions for many companies.

Our products are used in every step of the energy generation process. We provide robust combination units as well as plugs and sockets for manufacturing of onshore and offshore wind turbines, for local installation, and for ongoing operation of the wind turbines. In addition to our versatile AMAXX® energy distributor, and the robust PowerTOP® Xtra plugs and connectors, we also offer other product solutions that are ideally suited for the extreme strain. These solutions include plugs and sockets for voltages up to 690 V, sockets and combination units with an IP67 protection, and products with our proven TwinCONTACT screwless connection technology.

In this regard, our decades of experience help us support our customers in selecting the appropriate product solutions. We also support our partners in implementing their projects and we are always ready to respond to any subsequent questions.





Wind turbine operation

On land or sea, wind farms produce and distribute enormous amounts of energy and in doing so they are subject to high loads. MENNEKES offers robust plugs and sockets as well as combination units that are commensurate with these challenges that have been used around the world for many years.

The equipment of individual wind turbines must be designed for the special requirements of long-term operation. Our configurable energy distributors with robust enclosures and easy-to-maintain connections are suitable in this regard. Our AMAXX® combination units can be modularly configured to meet customer requirements and thus offer flexible implementation possibilities. Thanks to the exterior fastening you also save time and money on installation. Moreover, we offer additional wall mounted and panel mounted sockets. Our product solutions are configured for amperage from 16 to 125 A and for voltage up to 690 V.





Wind turbine operation

Onshore wind turbines



Wind turbines in on-shore wind farms have a service life between 20 and 30 years before they are dismantled and recycled. Consequently, all components of these wind turbines must function safely, long-term. Because wind turbines are often erected far from large cities and are often difficult to reach, easy and efficient maintenance tasks are required. This is where the benefits of the MENNEKES product solutions are readily apparent. Our combination units and plugs and sockets are safe, easy to handle and they offer a long service life in continuous use.

Our AMAXX® energy distributors have standardized enclosure sizes, in addition they can be custom-configured and custom-equipped. Our proven ErgoCONTACT® and SafeCONTACT connection technologies enable fast, one-man assembly when erecting wind turbines and easy maintenance in running operation thereafter. The screwless TwinCONTACT connection technology in our wall mounted and panel mounted sockets also permanently withstands the constant vibration in the tower caused by strong wind. This innovative spring terminal technology firmly fixes conductors in place with coded double clamps. This means that the individual wind turbine components require less maintenance and can remain in operation for many years.





Wind turbine operation

Offshore wind turbines

Wind turbines have now become a familiar sight on the high seas and in coastal areas. The high and constant wind speeds at sea are ideal for generating power through rotor turbines. The energy that is generated is transported to the coast by means of submarine cables and supplied into the power mix. In this process, offshore wind turbines are subjected to extreme weather conditions over many years and must function reliably.

Our plugs and sockets and combination units are made of high-quality materials and are ideally configured for continuous operation on offshore wind farms under harsh conditions. Nickel plated contacts in our plugs and sockets are particularly resistant to salty sea air; they are less susceptible to corrosion and require less frequent maintenance or replacement. Particularly for difficult to access power generators, such as offshore wind turbines and offshore substations, operating costs can be kept to a minimum.

Moreover, resistance to moisture and temperature fluctuations is critical for wind turbine equipment. Our AMAXX® combination units are available with protection rating IP67, this means that the enclosures are completely watertight. Membrane cable glands ensure that condensation within the power distributor is safely routed to the exterior.

Thanks to our worldwide network of MENNEKES offices and partners, our product solutions for wind energy generation systems are available everywhere in the world.

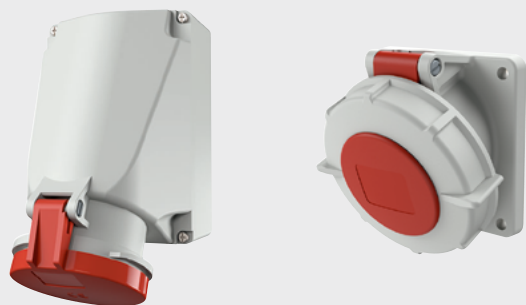




Wind turbine operation Portfolio

Plugs and sockets for the Wind turbines

We offer various wall and surface-mounted sockets for power distribution in the tower and nacelle of wind turbines. You can find the right product solutions here on the corresponding portfolio:



PORTFOLIO PLUGS AND SOCKETS

Combination units for the Wind turbines

Our individually equipable AMAXX® combination units and other wall-mounted power distributors for use within the systems can be found here:



PORTFOLIO COMBINATION UNITS

Accessories

Cable glands, protective caps and other accessories are available to match our plugs and sockets. Here you will find all additional parts for our product solutions for wind turbines:



PORTFOLIO ACCESSORIES



Production of wind turbines

Our product solutions are used even before energy is actually generated. The component parts of the wind turbine are produced modularly for fast and easy assembly later on site. Rotor blades, tower segments, and nacelles for onshore and offshore wind turbines are all produced in large production facilities. Given the ever-increasing worldwide demand for new wind turbines, production is in full swing and a reliable power supply is essential in this regard.

To ensure a secure power supply in production plants of this dimension, decentralized, large-scale energy distribution is required. Our AMAXX® combination units can be custom-equipped with CEE sockets and SCHUKO® sockets as well as data ports and compressed air connections. This means that you can reliably supply all areas of your plant with power and other media. In addition to AMAXX® combinations in various sizes and equipment options, we also offer our compact distributors with power sockets and data sockets.

The nickel plated contacts of our plugs and sockets are particularly resistant to the glass-fiber dust that accumulates during rotor blade production. We offer decades of experience in supporting our customers in the planning and implementation of their projects. Our product specialists are always available to you for any questions – before, during, and after your project is concluded.



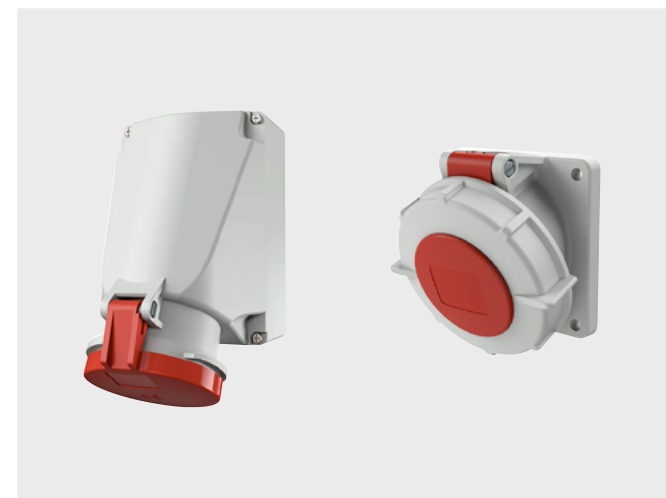


Production of wind turbines

Portfolio

Plugs and sockets for the Wind turbines

We offer various wall and surface-mounted sockets for power distribution in the tower and nacelle of wind turbines. You can find the right product solutions here on the corresponding product pages:



 PORTFOLIO PLUGS AND SOCKETS

Combination units for the Wind turbines

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 PORTFOLIO COMBINATION UNITS



Assembly of wind turbines

Wind turbines must be erected in record time and this requires trained fitters and heavy equipment. On open-air construction sites, extreme weather conditions also play an important role. This is where our impact-resistant and weather-resistant combination units and plugs and sockets really show their advantages. They are suitable for demanding assembly tasks and defy wet conditions, mud, and enormous strain.

Our EverGUM and EverBOX mobile combination units have been developed for work performed under harsh conditions. Practical handles enable easy transport and space-saving stacking of the power distributors. The robust plastic enclosure of the EverBOX is available with either an IP44 or IP67 protection rating, the solid rubber EverGUM meets the requirements for the IP44 protection rating. You have flexible options for customizing our combination units and thus adapting them perfectly to meet your project requirements.

The ergonomic design of our PowerTOP® Xtra plugs and connectors makes them handy and safe in operation – they are even suitable for use with protective gloves. They are also particularly resistant to water and dirt. Thanks to our X-CONTACT® contact sleeve technology, you also easily connect and disconnect the plugs on your own, moreover due to the slotted contact sleeves, dirt accumulations are simply wiped off in this process.





Assembly of wind turbines

Portfolio

Plugs and sockets for the Wind turbines

We offer robust CEE plugs and connectors for power distribution on the construction site during the installation of wind turbines. You can find the right product solutions here on the corresponding product pages:



 PORTFOLIO PLUGS AND SOCKETS

Combination units for the Wind turbines

You can find our customizable mobile distributors here:



 PORTFOLIO COMBINATION UNITS



Contact persons at MENNEKES.



Do you have questions about our solutions and products?

You can find our contact persons on our website:





MY POWER CONNECTION

We are MENNEKES.

The MENNEKES Group is the world's leading provider of industrial plugs and sockets and e-mobility charging solutions. Our „type 2“ charging plug has been the official standard connector for electric vehicles throughout the European Union since 2014. Since our family-owned company was founded in Germany's Sauerland region back in 1935, it has spread around the world and is currently represented in 90 countries by subsidiaries with a total workforce of around 1,600 employees.



We produce plugs and sockets and combination units in a vast range of types and models.

Our robust, long-lived solutions are deployed wherever electric power needs to flow reliably and consistently: in industrial applications, railway and transport companies, mining and shipbuilding industry, in container ports and at airports, on trade exhibitions, in stadiums and data centres. In the field of e-mobility, MENNEKES supplies appropriate solutions and equipment for future mobility. Our range includes charging plugs and cables, intelligent charging columns and wallboxes, billing services and a network of trained installers – for private, industrial, commercial and public applications. For the automotive industry and its suppliers, we also make charging inlets and cables for electric cars.

