
MARINE

Drives and motors for electrically driven deck machinery and offshore winches



- Working in close cooperation with winch manufacturers, we've incorporated our extensive experience into the drives that work with various marine and offshore winch types.
- Pair our drives with our LV marine motors for a one-stop supplier that is backed by a global service and support network.

Performance. Speed. Reliability. Safety.

Everything counts.

With the help of application expertise gained over many years, we've developed drives and motors that enable precise, smooth, dependable and safe winch operation, while reducing wear on the ropes and winch. Because everything counts.

Deck machinery winch solution with +N5100 software option

Deck machinery winches are used for handling anchor with chain and for mooring or tensioning it with ropes.

The electrical driven winch enables precise, smooth, dependable and safe winch operation, while reducing wear on the ropes and the winch. Our offering is a dedicated solution for new and retrofit installations.

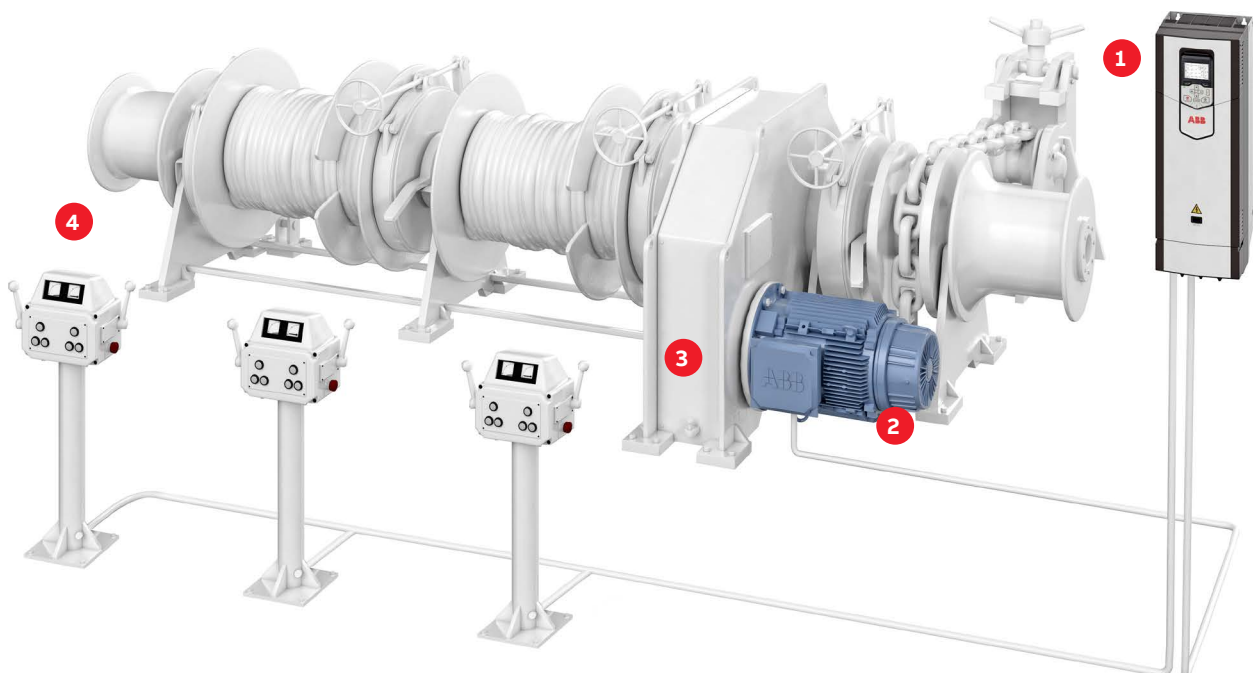
Deck machinery solutions typically have open loop motor control (without encoder) or S2-30% motor duty without motor cooling (IC-410).

Anchoring/mooring winches

Built-in winch control program includes features like anchor control, hand mooring mode, auto-mooring mode, clutch control mode, mechanical motor brake control, and master-follower operation for controlling multiple winches.

Open loop motor control (without encoder) is a benefit on deck machinery solutions where the environment is harsh.

- 1 Winch control included in the drive**
– no need for external controllers
- 2 Full control of speed and torque without a shaft encoder**
- 3 Automoooring is possible without a load cell sensor**
- 4 Multiple control stands connect directly to the drive**





Offshore machinery winch solution with +N5800 software option

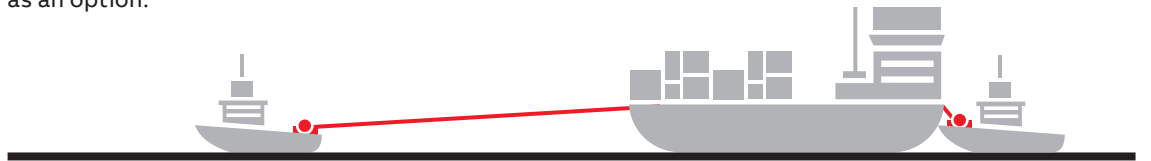
Offshore machinery winches are used for applications such as:

- Towing (escort tow & push tasks)
- Fish trawling (dragging & pulling tasks based on true line force)
- Umbilical & tether cable management
- Active Heave Compensation (AHC) for LARS & oceanographic operations

Offshore machinery solutions typically have closed loop motor control (with encoder on motor or load side) or S1 motor duty with motor cooling.

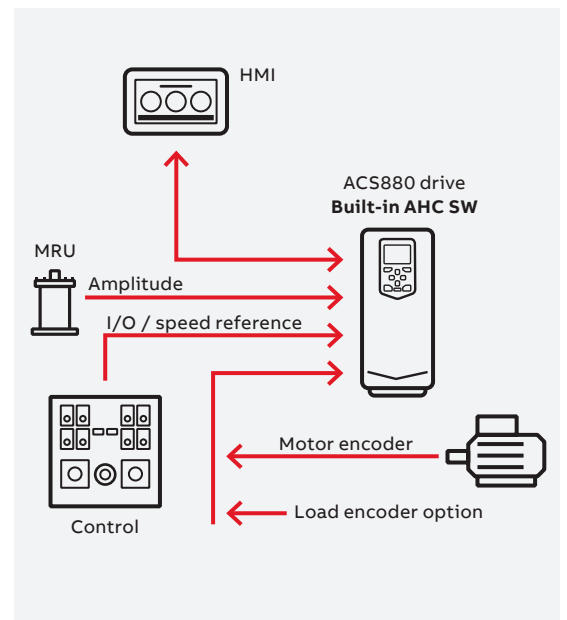
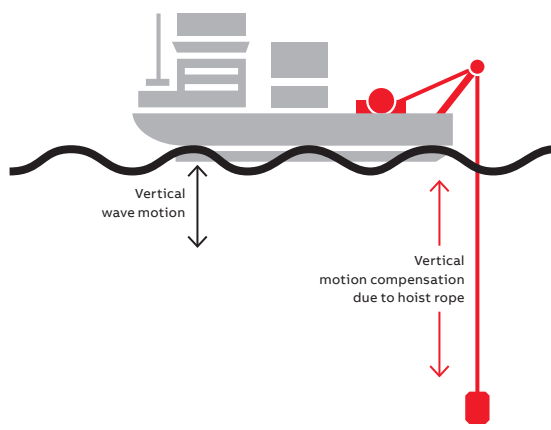
Tugboat towing winches

Escort and push mode operations for safe tugboat control. Roll compensation with a motion reference unit (MRU) is available as an option.



Active Heave Compensation (AHC)

AHC built into the drive for controlling remotely operated vehicle (ROV) and launch and recovery system (LARS) winches. MRU is connected directly to the drive via Ethernet interface.



ACS880 drives with built-in winch control software

Minimize your engineering time

Our marine-certified ACS880 drives provide reliable operation and performance where it's needed the most. They offer accurate speed and torque control for wide range of motor types, and are suitable for new installs and retrofits of existing winches.



ACS880 drives are available in the 0.5-5,600 kW range and voltages of 400, 440, 500 and 690 V. Enclosure class options are IP20, IP21 and IP55.



Removable memory unit

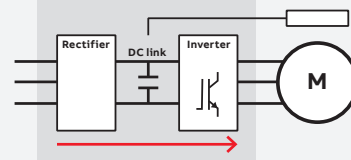
Stores the drive's software and settings for fast and easy commissioning and maintenance.

ACS880 marine winch control software ordering codes

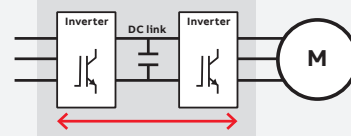
- For deck machinery, anchoring/mooring and multi-motor/master-follower winches: +N5100
- For offshore, tugboat and AHC winches: +N5800 (limited release)

Braking options

Dynamic braking/resistors



Regenerative braking



HES880 drives

Liquid-cooled heavy-duty electric drive

For hybrid or full electric marine applications

HES880 Mobile Drive has been designed from the ground up as a compact drive that can tolerate harsh conditions and heavy operation. These design features make it ideal for small vessels where it is not possible to protect the drive in special cabinets.



HES880 drives are available with power range up to 600 kW and voltages of 230 - 500 V

The HES880 is easy to use and commission in all aspects. It shares the same tools and parameter structure as our very popular ACS880 industrial drive family. The HES880 module hardware is designed so that it can support three different operation modes. This means that the it can act as an inverter, line converter or DC/DC converter.

HES880 is suitable for many shipboard applications like propulsion, generators, DC/DC conversion (energy to and from batteries and super capacitors), cranes, and winches. Thanks to the very compact size and IP67 cast aluminum enclosure HES880 is very well suited especially for smaller vessels where drives need to be installed in tight spaces with limited/no protection from the elements.

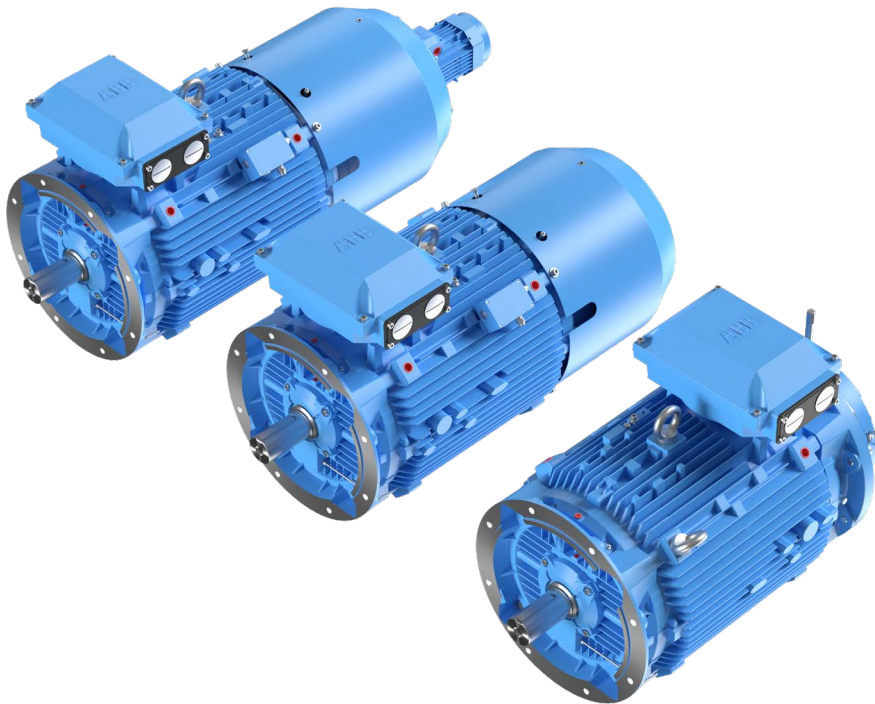
Key features

- Off-grid functionality ensures high quality grid on board
- High environmental protection class, IP67
- Withstands heavy vibration and shocks
- Wide ambient temperature range, -40 to +85 °C (-40 to 185 °F)
- Liquid cooling with high liquid input temperature, up to 70 °C (158 °F)
- Can be installed on deck or in machine room
- Dual winding control for higher power or redundant installation
- CAN-bus control interface
- Certified Safe Torque Off (STO) as a standard

Low voltage marine motors for winches

Made to last in demanding conditions

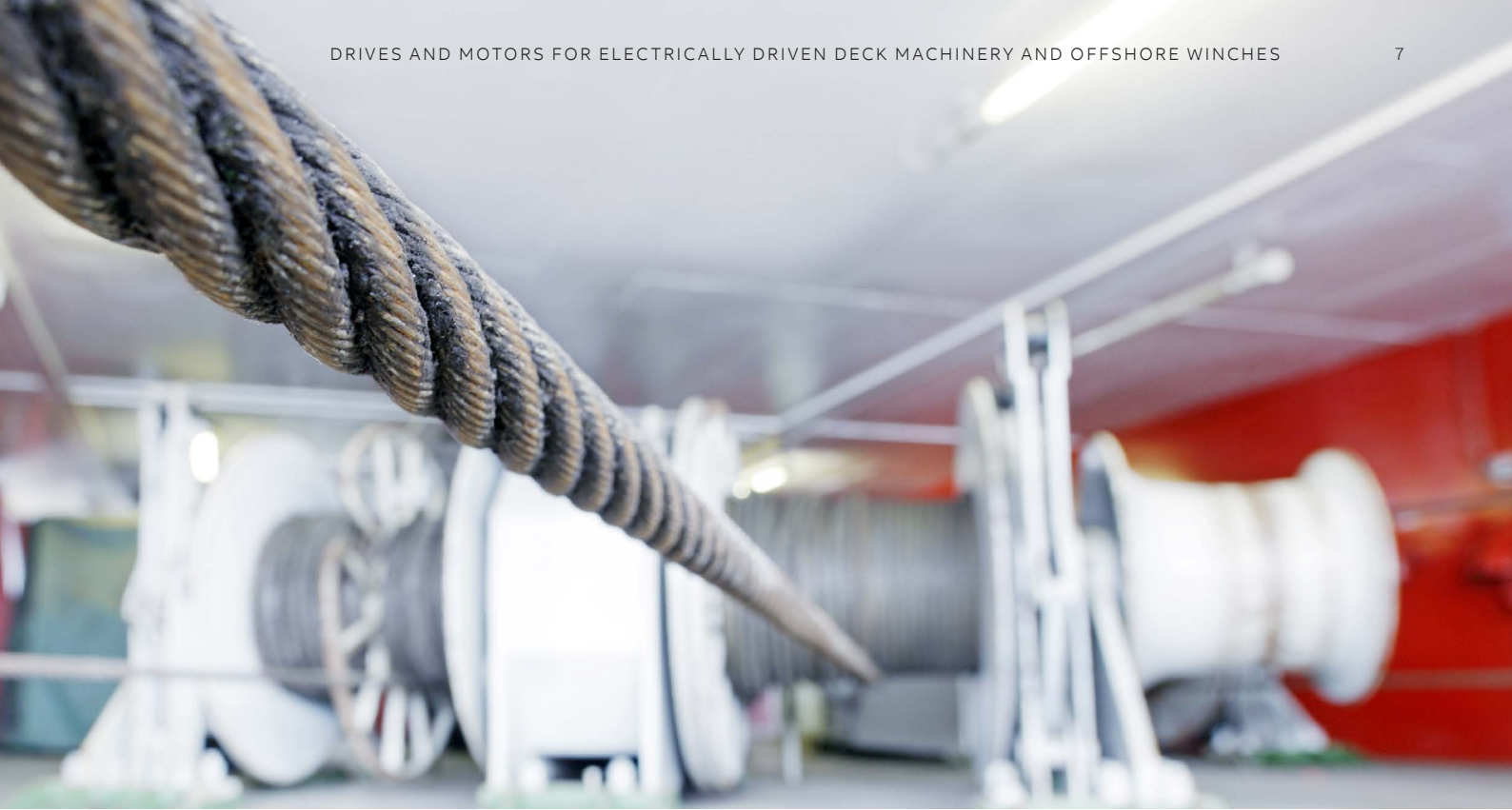
Our range of open-deck motors are designed to withstand salt, humidity and waves washing over the deck. They deliver reliably high performance for your winches, day after day.



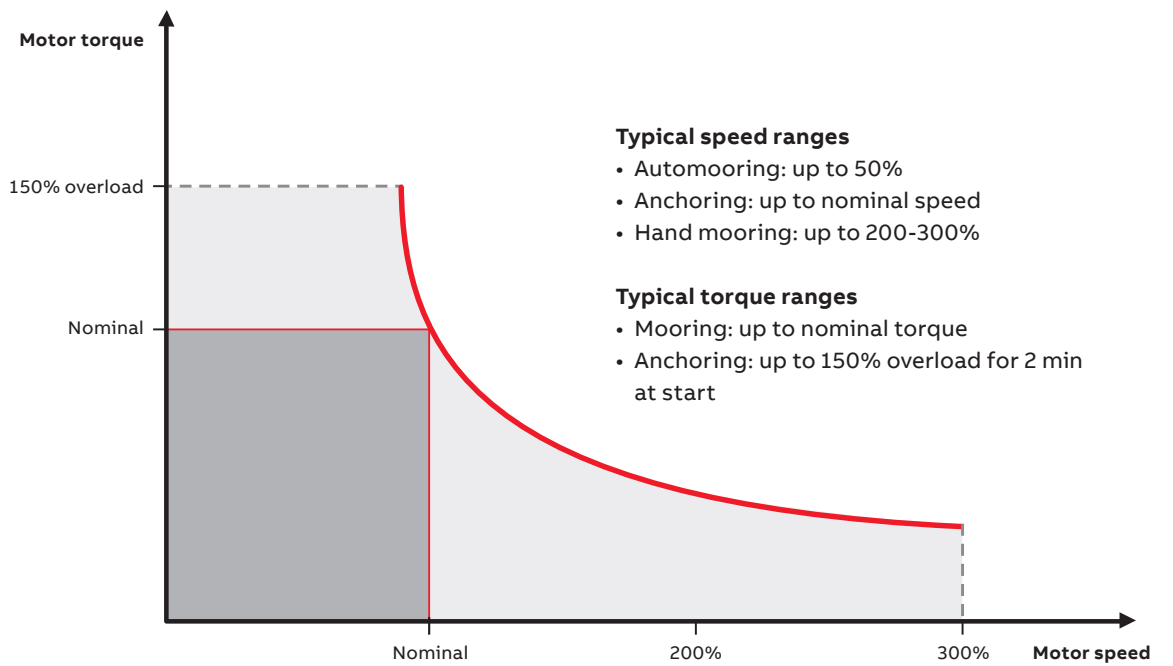
Key benefits of ABB's low voltage brake motors for winches

- Our motors are designed to comply with stringent safety criteria while providing the highest reliability. At the same time, special attention is paid to marine classification requirements.
- ABB Marine Process Performance brake motors consist of three flexible designs for customized configurations: 1) totally enclosed non-ventilated TENV (IEC 410); 2) totally enclosed fan cooled TEFC (IEC 411); 3) enclosed forced ventilated TEFV (IEC 416).
- IP56 open deck protection (highest protection class for motors, standard IP56 is not adequate).
- Built-in marine IP67 brake options from all major brake manufacturers.
- Selection of encoders designed for harsh marine and offshore conditions.
- Wide range of painting systems, including the NORSOK-approved system.
- Availability of watertight enclosure IP67 open deck-type terminal box.
- Robust, low-temperature-resistant designs can be supplied for vessels that operate in Arctic or Antarctic waters. Ex-protected versions are also available.

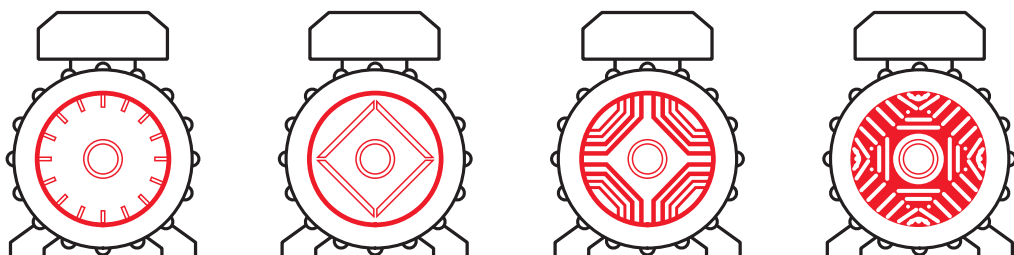




Typical electrically driven winch motor performance



Available motor technologies for winches – induction, permanent magnet, SynRM and PMASynRM motors





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For more information, please contact
your local ABB representative or visit

new.abb.com/drives/segments/winches
new.abb.com/motors-generators/segments/marine