PRODUCT LINE OVERVIEW

See Retail Price List for full List of Product Line.

NAMING CONVENTIONS

Software (OBN App Etc):

Graphic User Interface (GUI) Device Names	
New Device Name	**Description**
Minn Kota Controller 4.0	4.0 (Advanced GPS) Controller
Minn Kota Remote 4.0	4.0 (Advanced GPS) Remote
Ultrex 1.5	Ultrex 1.5 (BM) Motor Controller
Ultrex 2.0	Ultrex 2.0 (Quest) Motor Controller
Ulterra 2.0	Ulterra 2.0 (Quest) Motor Controller
Instinct 1.0	Instinct 1.0 (Quest) Motor Controller
PowerDrive 3.5	PowerDrive 3.5 (BM) Motor Controller
Terrova 2.5	Terrova 2.5 (BM) Motor Controller
Terrova 3.0	Terrova 3.0 (Quest) Motor Controller

Serial Number Tags/Product Descriptions:

Motor Naming Abbreviations (JDE/Serial Number Tag)			
DSC	Dual Spectrum CHRIP	MR	Micro Remote Included
MDI	MEGA Down Imaging	BLK	Black Saltwater Motor
MSI	MEGA Side Imaging	C	Carbon Shaft
WR	Wireless Remote Included	FP	Foot Pedal Control Only

Other Common Abbreviations			
BM	Permanent Magnet Brushed DC Motor	4.0	Adv. GPS Nav (IP 4.0)
BL	Brushless DC Motor		

SIMPLIFY PRODUCT OFFERING:

- Streamline product lines, make it easier for consumers to choose the right product for them
- Leverage Humminbird/Minn Kota Brand Connectivity.
  - New motors include all Humminbird Adapters in box
  - i-Pilot is eliminated, everything connects.
  - Fewer hand held remote offerings
  - Single Mobile App for all products from both brands

PRODUCT FEATURES/OPTIONS:

BUILT IN SONAR

All Sonar equipped motors will have the Apex/Solix connector as the terminal connector coming off of the motor.

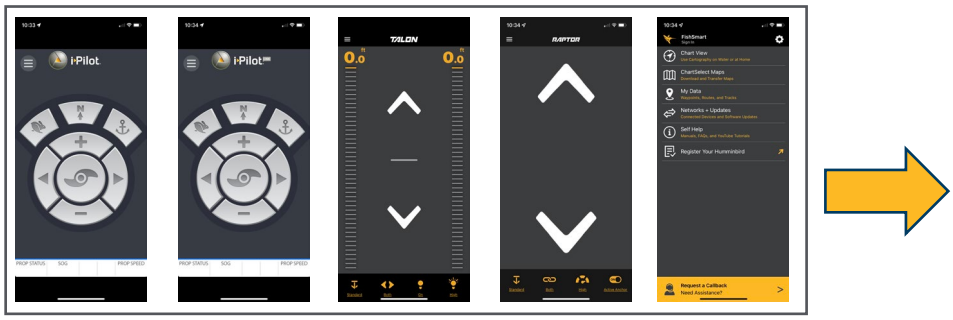
- Dual Spectrum Chirp Replaces US2 as 2D Sonar option
  - Humminbird CHIRP (Compressed High Intensity Radar Pulse) Transducer
  - Better Target Separation, Clearer Fish Arches, Less Interference/Noise
  - Direct Connection to Apex/Solix, Helix Connector In box (MKR-MI-1)
    - Lowrance and Garmin Adapters offered, no qualification of competitor units.
- Mega Down Imaging Optional on Brushed Motors
  - Direct Connection to Apex/Solix, Helix Connectors in box (MKR-MI-1 & MKR-MDI-2)
- Mega Side Imaging Optional on Quest Motors.
  - Direct Connection to Apex/Solix, Helix Connector In box (MKR-MI-1)

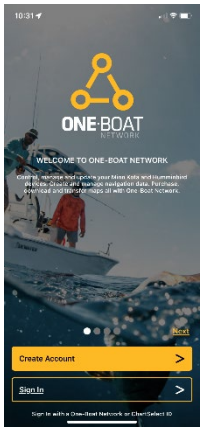
REMOTES

CoPilot, Micro Remote, i-Pilot Remote, and i-Pilot Link remote consolidated to Micro Remote and Wireless Remote.

APP OFFERING

Humminbird Fish Smart App, Minn Kota Talon, Raptor, and Advanced GPS Control all in one App, the One Boat Network App.





In addition to consolidating into one app, the OBN App has full motor control

i-Pilot and i-Pilot Link apps will continue in app stores for existing motors.

Raptor and Talon Apps are no longer offered, all Talon, Raptor and new motor controls and updates are supported in the OBN app only.

Humminbird Fish Smart Features including mapping and unit updates are included in the OBN App

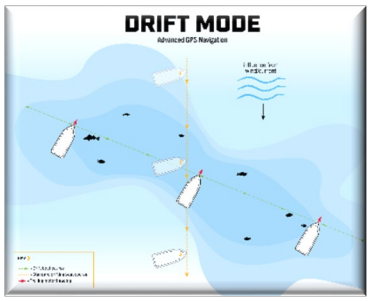
Download OBN App on Android

Download OBN App on iPhone

NEW NAVIGATION FEATURES

Dodge Mode, Improved Follow the Contour, and Follow Shore line Added. Headline new feature is “Drift Mode”.

When Drift Mode is engaged the user sets speed and direction. The motor then maintains speed in the selected direction, even if that means pointing into the wind/current to slow the boat down to the desired speed in the direction of intended travel.



QUEST

Ultrex, Terrova, Ulterra, an RT Instinct Quest Motors are an extension of the Minn Kota Product Line. This new platform will live alongside existing motors and will utilize brushless motor design and be a platform for new technology development.

PHYSICAL ATTRIBUTES

- QUEST motors are **re-engineered** from the ground up
- **Larger & stronger mount** to accommodate extra thrust and torque
- **Carbon Fiber shafts** for enhanced durability
- New propellers ensure **peak performance and power efficiency**
- New **lift-assist assembly (Ultrex)** to make getting the motor in and out of the water **effortless**

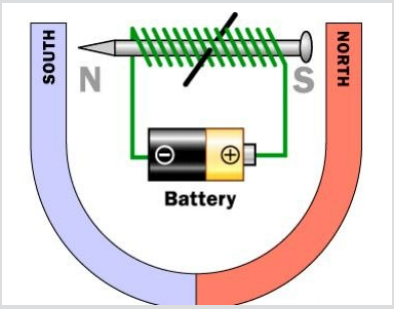
TECHNOLOGY ATTRIBUTES

- New motor controller and software changes have made it the **most power-efficient motor** on the market
- New **battery monitoring system** for real-time monitoring of power and **automatic power saving mode** when batteries reach 20% charge
- Motor and software designs have made QUEST the **most powerful line of trolling motors ever**
- Includes new **updated GPS system** adding features and accuracy

PRINCIPLES OF BRUSHLESS MOTORS

ELECTROMAGNETISM AND ELECTRIC MOTORS

- An iron bar with wire wrapped around it will act as a magnet while electric current is flowing through the wire.
- The North and South Pole of this magnet is defined by the direction of the current.
- Like Magnetic poles repel each other, opposite magnetic poles attract each other.



- Switching the current in an electromagnet that is in the proximity of another magnet causes motion.
- This is the basis for basis of any electric motor.

PERMANENT MAGNET BRUSHED MOTORS

The “Permanent Magnet” in a Brushed DC Motor:

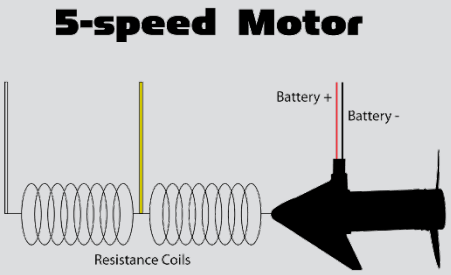
- The Center Section is Permanently Magnetized.
- This Creates a static Magnetic Field that the Electromagnet of the Armature will Act against.

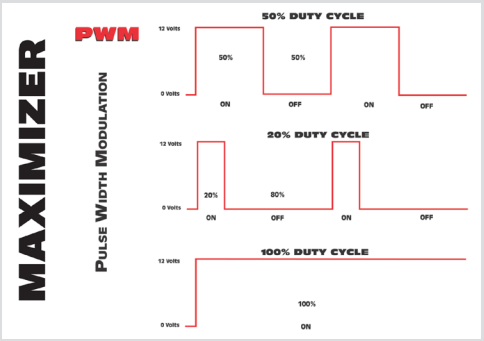
Commutation:

- The Brushes Contacting the Commutator send current through a set of windings causing the Armature to become an Electromagnet
- The Armature moves due to the Magnetic Force
- The brushes contact with commutator changes direction of current in the armature windings maintaining magnetic fields in the proper polarity and position to continue movement.

The higher the voltage at the brushes the faster the motor spins. Speed control is a matter of reducing the voltage at the brushes.

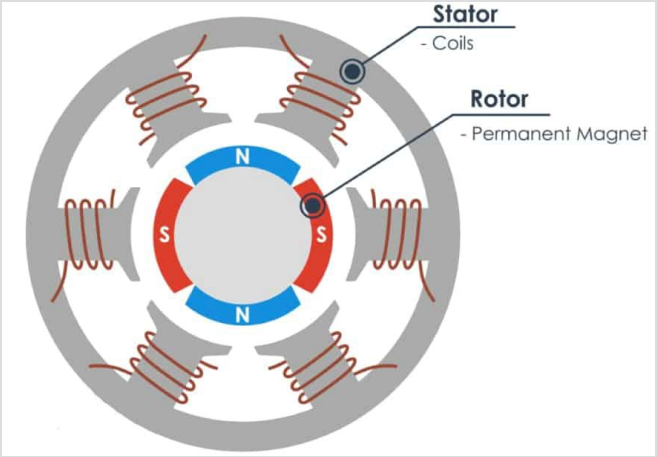
Minn Kota uses 2 methods of voltage reduction for speed control, resistive coils in the 5 speed motors and pulse width modulation in the Maximizer equipped/variable speed motors.





BRUSHLESS MOTORS

- Brushless motors are essentially inside out brushed motors.
- The Rotor replaces the Armature and is permanently Magnetized.
- Stators are electromagnets in the motor center section
- The controller senses rotor position and "fires" stators based on desired operating speed.



- 👍 The rotor can be a more powerful magnet, making the motor more efficient.
- 👍 Direct speed control by the Inverter ("Controller in the diagram") allows the same motor to be safely operated at full speed at different voltages.
- 👍 "Noise" both audible and electronic are more controllable.
- 👎 More expensive to produce and service.

KEY POINTS OF DIFFERENTIATION

1. **Motor Longevity:** Less contacting parts = less friction and wear = longer life
2. **Efficiency:** Battery power is utilized more efficiently = longer run time on a single charge
3. **Power:** Quest motors will be the most powerful motors series ever. Motor power is made up of multiple variants.
    - **Thrust:** Motors will have slightly more actual thrust
    - **Torque:** Considerably more torque means it will cut through weeds with ease and provide precise maneuverability even in extreme conditions.
    - **Prop:** New prop design balances better than ever weedless design with motor efficiencies.
    - **Construction:** A beefed-up motor mount, shaft, and pivot points to accommodate the increase in power.
4. **Quiet:** These motors are taking quiet operation to a new level.
5. **Real-time battery monitoring:** Check battery power levels while the motor is in use, real-time timer till the battery is drained, with a notification when battery power is reduced to 20%.
6. **Programmable foot pedal:** User-programable button on the foot pedal to keep the most used feature a tap away.
7. **Built-in MEGA Side Imaging:** Only available on Quest series motors.
8. **No Performance Loss:** As the battery voltage drops, there will be no loss in motor performance (similar to lithium battery operation)

QUEST BATTERY MONITORING

QUEST Battery Monitoring System

- Monitors trolling motor batteries
- Displays remaining battery life in 1% increments
  (remote measures in 20%)
- Displays remaining battery life and run-time to empty
- Battery life can be measured while the prop is on *(currently prop has to be off)*

Example of Solix/Apex Display

- At 20% charge, a prompt will display to change to ECO mode
- Interface available on Humminbird unit only.

PRODUCT LINE DETAILS

See Retail Price List for full List of Product Line.

ACCESSORIES

See Retail Price List for full List of Product Line.

Notable Additions/Changes:

- MKR-27, 60A Circuit Breaker, 1865115
- Ultrex Lift Assist Cylinders to support installation of both Humminbird 360 and Target Lock
  - Prior generation required complete mount replacement to support increased lift.
  - On Quest Motors only the “Stow” cylinder gets replaced
- MKR-28, TM Plug and Receptacle, 1865120
  - Includes support for larger wire gauges to the receptacle
- MKA-30, TM Remote Power Switch, 1865130
  - Power on Ulterra Quest or RT Instinct Quest from switch panel
- MKA-64 and RTA-62 replace MKA-53 and RTA-54
  - Reworked Hardware for improved corrosion resistance no other changes
- Quick Release Brackets for Terrova Quest, Ulterra Quest and RT Instinct Quest Motors.
  Not compatible with prior motors or Brushed motors. Quest Motors only.
  - RTA-55 Heavy Duty Composite (White)
    - Ulterra Quest, Terrova Quest, RT Instinct Quest, RT Terrova Quest
  - MKA-56 Heavy Duty Composite (Black)
    - Ulterra Quest, Terrova Quest, RT Instinct Quest, RT Terrova Quest
  - MKA-57 Aluminum Slide Bracket
    - Ulterra Quest, Terrova Quest, RT Instinct Quest, RT Terrova Quest
- MKA-58 Deck Reinforcement Plate

    - Multiple Hole options on boat side to allow 6 holes to be used to fully support the motor.
- Ultrex Quick Release Plates
    - MKA-61 Cable Steer Quick Release Bracket (Short)
        - Replaced MKA-42
        - 5/16” mounting holes for Quest Motors (Brushed Motors do still use ¼” hardware)
    - MKA-62 Cable Steer Quick Release Bracket (Short)
        - Replaced MKA-52/62
        - 5/16” mounting holes for Quest Motors (Brushed Motors do still use ¼” hardware)

POWERDRIVE & RT POWERDRIVE

1. **CoPilot:** CoPilot models are being obsoleted and replaced by GPS-enabled (4.0) models shipped with micro remote.* *- Significant feature upgrade to base PowerDrive models.*
2. **i-Pilot:** i-Pilot models are being obsoleted and replaced by GPS-enabled (4.0) models that are fully compatible with Humminbird fish finder units. *– Simplifies product line and allows for PowerDrive motors to take advantage of Humminbird integration.*
3. **Adapters:** All adapters and cables needed to connect GPS-enabled models to Humminbird fish finders will be included in the box. *– Simplifies the consumer buying and rigging experience.*
   -Connectors included with DSC equipped motors: AS-EC-QDE, MKR-MI-1
   -Motors without Sonar include AS-EC-QDE
4. **Built-in 2D Sonar:** Universal Sonar 2 models are being obsoleted and replaced by models equipped with Dual Spectrum CHIRP (DSC). *– Provides better clarity to the built-in 2D sonar offering.*
   -Connectors will exist for connecting some competitor units to DSC, Humminbird Connectors are in box.

❖ **NOTE:** Foot Pedal and GPS control are still mutually exclusive, you cannot use a foot pedal on a motor with Advanced GPS Control

TERROVA, ULTERRA, & ULTREX

1. **ADVANCED GPS NAVIGATION:** i-Pilot models are being obsoleted and replaced by GPS-enabled (4.0) models that are fully compatible with Humminbird fish finder units. *– Simplifies product line and allows for PowerDrive motors to take advantage of Humminbird integration.* **Heading Sensor is included, same heading sensor as BT IP/Link**
2. **Adapters:** All adapters and cables needed to connect GPS-enabled models to Humminbird fish finders will be included in the box. *– Simplifies the consumer buying and rigging experience.*
   -Connectors included with DSC equipped motors: AS-EC-QDE, MKR-MDI-2, MKR-MI-1
   -Motors without Sonar include AS-EC-QDE

1. **Built-in Sonar:** Universal Sonar 2 models are being obsoleted and replaced by models equipped with Dual Spectrum CHIRP (DSC). – *Provides better clarity to the built-in 2D sonar offering.*
   Built-in Mega Down Imaging will be available; Built-in Mega Side Imaging will not be offered in these models.
   -Humminbird Connectors are in box.
   -Connectors will exist for connecting some competitor units to DSC
2. **Ultrex 1.5:** Ship with Micro Remote; most Ultrex Users do not want/use full Remote. Mount has larger Lift Assist Cylinder, Cylinder Replacement only will accommodate Humminbird Mega 360 and Mega Live Target Lock.
3. **Terrova 2.5:** No lift Assist. Still Available in Riptide and Freshwater Models.
4. **Ulterra 1.5:** RT Ulterra Obsolete.

ULTREX QUEST

1. **Ultrex Quest** motors will be GPS-enabled models that are fully compatible with Humminbird fish finder units. – *Simplifies product line and allows for most Terrova motors to take advantage of Humminbird integration right out of the box.*
   All Ultrex include Micro Remote MR, this matches the preference of most users, motors are compatible with the full remote WR
2. **Adapters:** All adapters and cables needed to connect GPS-enabled models to Humminbird fish finders will be included in the box. – *Simplifies the consumer buying and rigging experience.*
3. **Built-in 2D Sonar:** Universal Sonar 2 models are being obsoleted and replaced by models equipped with Dual Spectrum CHIRP. – *Provides better clarity to the built-in 2D sonar offering.*
4. **Built-In MEGA Side Imaging** – Only available on Quest models
5. **Most powerful Minn Kota** ever developed - thrust, torque, prop design, mount
6. Brushless motor technology – more power, quieter operation, more run-time, dual 24V/36V
7. **Integrated heading sensing** – Steering position tracking allows calculated heading using the Compass in the GPS Head
8. Motor shafts infused with **Carbon Fiber** - additional strength that still allows for flexibility
9. Props: Both the **weedless and high-efficiency props** will be included in the box

RIPTIDE INSTINCT QUEST & ULTERRA QUEST

1. **Riptide Instinct:** New family of auto stow/deploy motors specifically designed for harsh saltwater environments
2. Most powerful Minn Kota ever developed - thrust, torque, prop design, mount

3. Brushless motor technology – more power, quieter operation, more run-time, dual 24V/36V
4. Integrated heading sensing – Steering position tracking allows calculated heading using the Compass in the GPS Head
5. Motor shafts infused with Carbon Fiber - additional strength that still allows for flexibility
6. Upgraded Wireless Remote – GPS-enabled models will include a newly redesigned wireless remote that is smaller, lighter, and more functionality
7. Prop: Ships with a high-efficiency prop included in the box
8. Stabilizer: 72" and longer shaft models will include a motor stabilizer kit included in the box
9. **GPS-Enabled:** All Riptide Instinct models come standard with advanced navigation features and are fully compatible with Humminbird fish finder units.
10. **Adapters:** All adapters and cables needed to connect with Humminbird fish finders will be included in the box.

TERROVA QUEST & RT TERROVA QUEST

1. **Terrova Quest and Riptide Terrova Quest** motors will be GPS-enabled models that are fully compatible with Humminbird fish finder units. – *Simplifies product line and allows for most Terrova motors to take advantage of Humminbird integration right out of the box.*
2. **Adapters:** All adapters and cables needed to connect GPS-enabled models to Humminbird fish finders will be included in the box. – *Simplifies the consumer buying and rigging experience.*
3. **Built-in 2D Sonar:** Universal Sonar 2 models are being obsoleted and replaced by models equipped with Dual Spectrum CHIRP. – *Provides better clarity to the built-in 2D sonar offering.*
4. **Built-In MEGA Side Imaging** – Only available on Terrova Quest models
5. **Quest Models Only:** New models specifically designed for the harshest environments and fishing conditions.
6. **Most powerful Minn Kota** ever developed - thrust, torque, prop design, mount
7. Brushless motor technology – more power, quieter operation, more run-time, dual 24V/36V
8. **Integrated heading sensing** – Steering position tracking allows calculated heading using the Compass in the GPS Head
9. Motor shafts infused with Carbon Fiber - additional strength that still allows for flexibility
10. Longer Shafts – Addition of 100" shaft models in the Riptide Terrova Quest family

SERVICE

SERVICE PLAN

As of October 1, 2023, the following Quest Motors are shipping-

- Ultrex Quest
- Terrova Quest
- Riptide Terrova Quest

As of 12/31/2023 the following Quest Motors will also be shipping-

- Ulterra Quest
- Riptide Instinct Quest

If any Quest motor requires service, do not initiate repair on the motor without contacting the ASC Hotline. Prior to contacting us via ASP (800-558-8088) hotline or email (support@asplibrary.zendesk.com) please:

- Verify there is not a boat/power supply issue by checking the following.
  - Load test batteries
  - No loose or corroded connections between batteries and motor
- Check for error codes that the motor has displayed.
  - Error Codes can be read via full wireless remote or OBN App.

When contacting us, Include the serial number, error code information, and that you have verified the power supply in your email or call to the ASC Hotline.

Upon contact we will either;

- Facilitate repair
  - Authorize a Warranty Claim for the motor.
  - Send return shipping label for evaluation of replaced parts.
- Arrange replacement of the motor.
  - Send replacement motor to the Service Provider
  - Send return shipping label for evaluation of replaced motor
    - Packaging may be provided for return of replaced motor.
  - Labor codes will exist

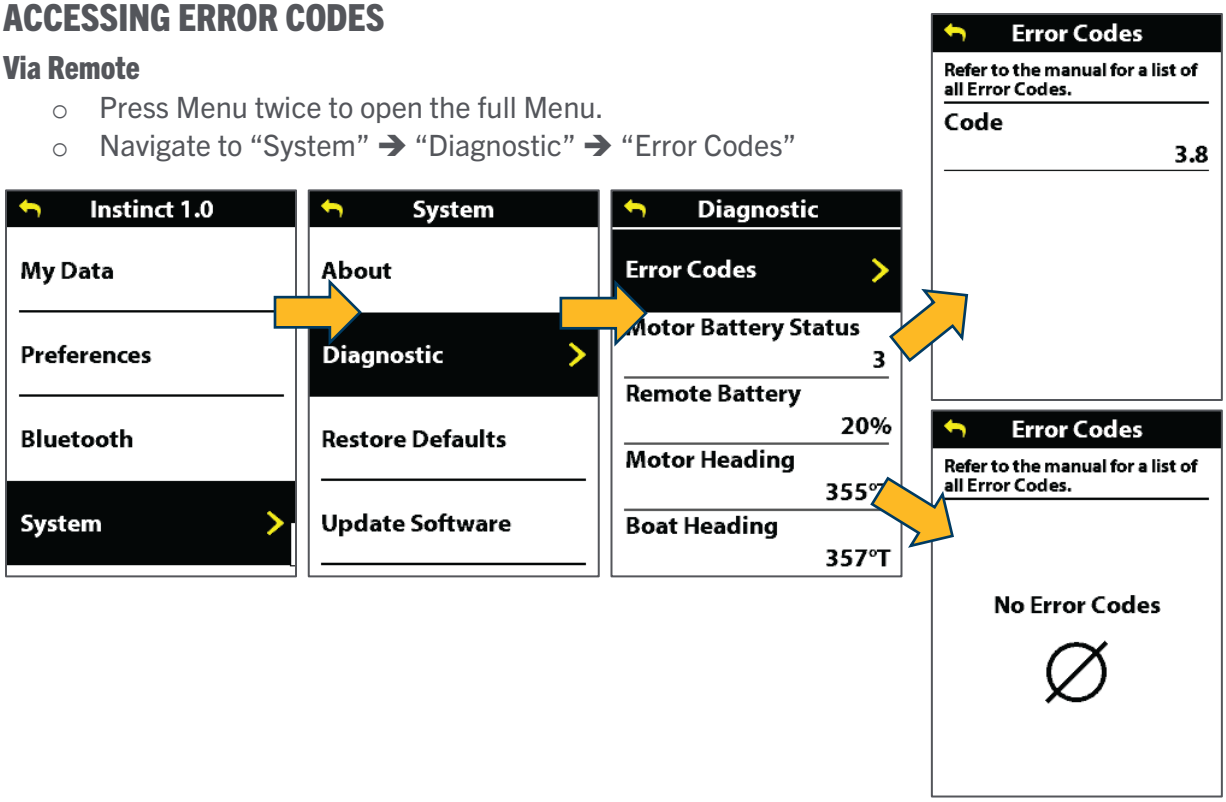
Please note the above is only in reference to Quest Motors.

The 2024 Brushed models with Advanced GPS (4.0) are similar enough to the Bluetooth models they will not require replacement. *However, if the Advanced GPS Controller or Remote needs to be replaced c*ontact us via ASP (800-558-8088) hotline or email (support@asplibrary.zendesk.com) so we can provide a return shipping label.

ACCESSING ERROR CODES

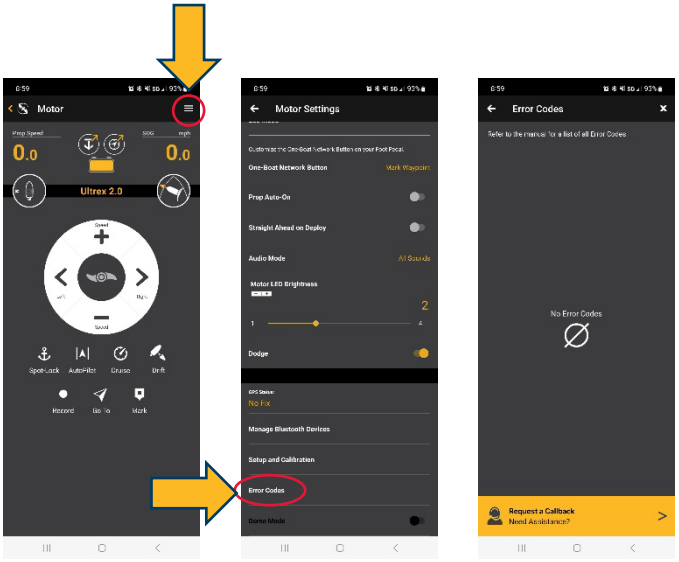
Via Remote

- Press Menu twice to open the full Menu.
- Navigate to "System" ➔ "Diagnostic" ➔ "Error Codes"



Via OBN App

- On the Motor Screen Select the Menu Icon
- Scroll down to the bottom of the menu
- Select "Error Codes"



ERROR CODE LIST

ERROR CODE	ERROR NAME	MOTOR EFFECT	ACTIONS
1.1	Battery voltage too high	LED flashes red. Lower unit turns off. Prop and steering are disabled.	Check voltage of batteries. If high, check for battery charger malfunction, or check if too many batteries are connected in series. Power cycle to reset.
1.2	Battery voltage too low	LED flashes red. Lower unit turns off. Prop and steering are disabled. Trim and steering are disabled (RT Instinct QUEST/Ulterra QUEST/Ulterra).	Check battery connection. Charge trolling motor batteries. Power cycle to reset.
1.3	Steering circuit failure	LED flashes red. Lower unit turns off. Prop and steering are disabled.	Power cycle to reset.
1.4	Lower unit over-heated	LED flashes red. Lower unit turns off. Prop and steering are disabled.	Lower unit needs to cool down. Power cycle to reset.
1.5	Excessive current to lower unit	LED flashes red. Lower unit turns off. Prop and steering are disabled.	Power cycle to reset.
1.6	Excessive current to lower unit when Prop is off	LED flashes red. Lower unit turns off. Prop and steering are disabled.	Power cycle to reset.
1.7	Pre-charge circuit failure	LED flashes red. Lower unit turns off. Prop is disabled. Steering is disabled on Terrova QUEST and Ultrex QUEST.	Power cycle to reset.
1.8	Stow/deploy horizontal sensors are reporting active at the same time	Prop, trim, steering and stow/deploy are disabled.	Service required; contact Minn Kota Authorized Service Center for service.
1.9	Small motor pre-charge failed	LED flashes red. Trim, steering, and tilt are disabled on Ulterra QUEST and RT Instinct QUEST.	Power cycle to reset.

ERROR CODE	ERROR NAME	MOTOR EFFECT	ACTIONS
2.1	Over-current trip on lower unit/inverter	The inverter stops the motor.	Toggle the Prop after the fault is cleared.
2.2	Lower unit/inverter synchronization error	The inverter stops the motor.	Toggle the Prop after the fault is cleared.
2.3	Loss of communication to inverter	The inverter stops the motor.	A loss of communications may require a power cycle. If communication is not restored, contact Minn Kota Authorized Service Center for service.

ERROR CODE	ERROR NAME	MOTOR EFFECT	ACTIONS
3.1	Steering position sensor communication error	Limited steering speed. No steering feedback. No Auto Park or Straight Ahead Deploy.	Try power cycle to reset. Contact Minn Kota Authorized Service Center for service.
3.2	Trim position sensor communication error	Reduced trim speed. Can only manually trim for 2 second intervals. No automatic stow or deploy.	Try power cycle to reset. Contact Minn Kota Authorized Service Center for service.
3.3	Loss of magnet from steering position sensor	Limited steering speed. No steering feedback. No Auto Park or Straight Ahead Deploy.	Try power cycle to reset. Contact Minn Kota Authorized Service Center for service.
3.4	Loss of magnet from trim position sensor	Reduced trim speed. Can only manually trim for 2 second intervals. No automatic stow or deploy.	Try power cycle to reset. Contact Minn Kota Authorized Service Center for service.
3.5	Stow/deploy sensor error	Prop turns off and stow LED turns off. Disables stow/deploy for RT Instinct QUEST/Ulterra QUEST.	RT Instinct QUEST/Ulterra QUEST: Check if actuator is stuck or if the magnet fell out. Terrova QUEST: If ramps flipped up while deployed, flip them back down. If sensors are damaged, contact Minn Kota Authorized Service Center for service.
3.6	Deploy and horizontal sensors reporting active at same time	Prop, trim, steering, and stow/deploy are disabled.	Sensor is damaged. Contact Minn Kota Authorized Service Center for service.
3.7	Emergency release pin sensor is reporting inactive	Prop and stow/deploy process are disabled.	Sensor is damaged. Contact Minn Kota Authorized Service Center for service.
3.8	End-of-Travel/Foot Pedal sensor reporting active at same time	Steering is not active.	Sensor is damaged. Contact Minn Kota Authorized Service Center for service.

ERROR CODE	ERROR NAME	MOTOR EFFECT	ACTIONS
3.9	Foot pedal pressure sensor failure	Steering is not active from the foot pedal.	Sensor is damaged. Contact Minn Kota Authorized Service Center for service.
3.10	Stow/lever sensors reporting active at the same time	Prop off and stow LED is off. Steering could be limited.	Sensor is damaged. Contact Minn Kota Authorized Service Center for service.
3.11	Stow/deploy/lever sensor reporting active	Prop off and stow LED is off. Steering could be limited.	Sensor is damaged. Contact Minn Kota Authorized Service Center for service.
3.12	Steering calibration values are out of range	Steering range is limited.	Contact Minn Kota customer service or Authorized Service Center to perform steering calibration.

ERROR CODE	ERROR NAME	MOTOR EFFECT	ACTIONS
4.1	Steering motor exceeds current limit	Steering time-outs will occur if current limit can be maintained or until torque on shaft is reduced.	Re-initiate steering by steering left or right.
4.6	Trim motor exceeds current limit	Disables trim.	Reinitiate trim by trimming in opposite direction.
4.8	Tilt motor exceeds current limit	Stops stow/deploy.	Auto-cleared. Re-initiate stow or deploy.