



STRONGER

Simple & reliable

**Інструкція з безпеки, монтажу та експлуатації регулятора
положення трансд'юсера ехолота**

**Safety, installation and operating manual for the echo
sounder transducer position regulator**

**Инструкция по безопасности, монтажу и эксплуатации
регулятора положения трансдьюсера эхолота**



Please, READ this manual carefully before installing and operating the regulator!!!

If you still have any questions after reading the manual, please call the service centre using the numbers shown in the warranty card on business days, 9 A.M. to 6 P.M., taking into account your local time.

Please follow all safety instructions in this manual to prevent injury or damage to the regulator.

Carefully study the manual to ensure correct installation, use, operation and maintenance of the device.

Only persons familiar with the safety and operating instructions shall be allowed to use this product.

This device will help fishermen and water-based activities enthusiasts to lift and lower the echo sounder transducer. When speeding on water, you can raise the transducer above water level in order to prevent the echo sounder transducer from being plugged with air, thus improving the fishing quality, as well as water safety due to clear information that could be read from the screen of your echo sounder device!

And of course, you can significantly save on the purchase of new sensors (transducers) needed to replace these damaged while driving on water!

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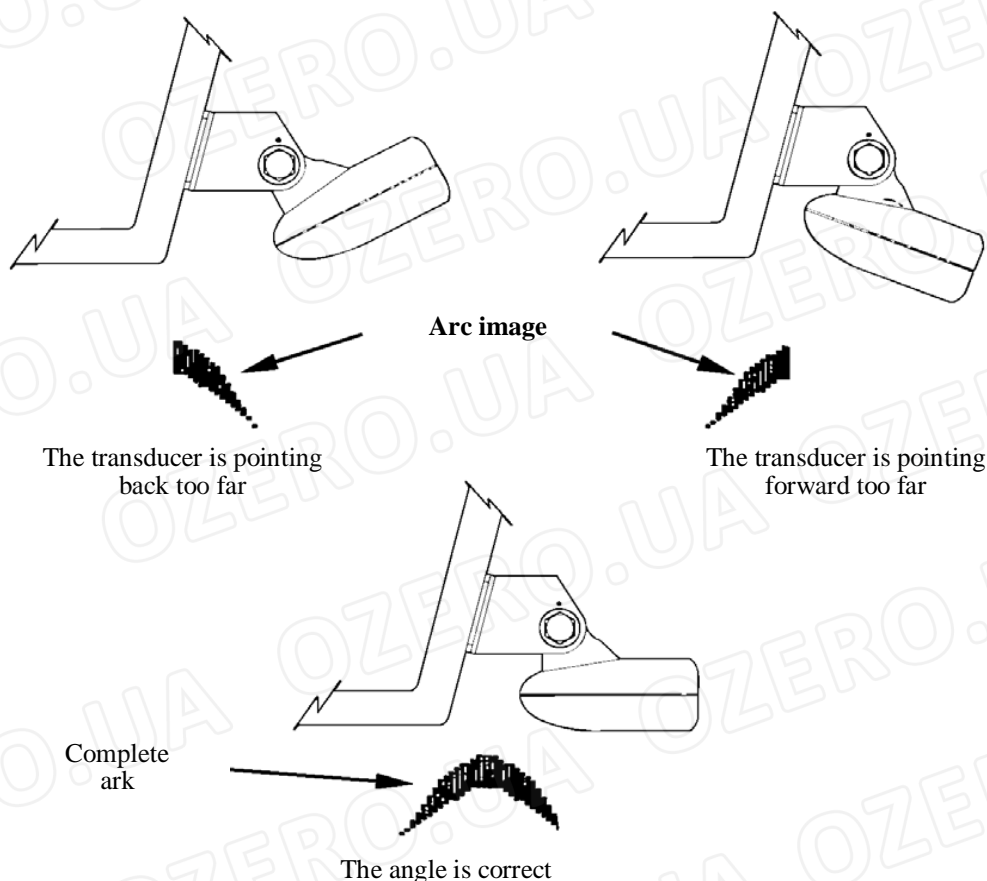
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1 DESCRIPTION

Transducer position regulator by STRONGER is intended for lifting/lowering and adjusting the correct tilt angle of the echo sounder transducer. It is required for accurate display of echolocation data in cases of different trim by bow or stern. For the correct display of data, the transducer must be strictly parallel to the water surface (horizon). Almost all manufacturers of echo survey equipment recommend installing their transducers in this position. In this case the reflected signal received by the transducer will display information correctly on the screen of your device!



The figure above shows possible tilt angles of the transducer, as well as options for drawing fish on the echo sounder screen. The two upper pictures show incorrect position of the transducer; such device position is possible either due to incorrect initial installation, or in the case of a longitudinal boat trim by the stern or by the bow (more often – by the stern). Only when the transducer is positioned strictly parallel to the horizon, the information on the screen of your echo sounder/scanned structure is displayed clearly and without distortion (bottom picture). Similar situation occurs when drawing the waterway bottom. If the transducer is in the wrong position, real picture on the screen of your device is badly distorted. Therefore it is very important to get the correct tilt angle of the transducer!

The boat, depending on the number of carried passengers and load, as well as its weight and location, lends itself to longitudinal axial heeling (pitching), which, in turn, can be directed both towards the bow and stern of the boat. As a result, a standard transducer does not always display information correctly in different situations.

Our device is specially designed to ensure remote electronic fine adjustment of the transducer tilt angle.

2 DELIVERY SET

Model	PRO
Regulator 200	1 pcs
Control key	1 pcs
Control panel	option
Extension cable, 4m	option
Controller	option
User manual	1 pcs
Fixing kit	1 pcs

3 TECHNICAL SPECIFICATIONS

Model	LIFT
Axial load	200 N
Load current	250 mA
No-load current	75 mA
Voltage	12 V
Lifting/lowering speed	3.5 mm/s
initial cooling environment	air
cooling method — direct	water-air
weight of the transducer	max. 1000 g
continuous operation time	2 min
overall dimensions of the regulator	360x80x65 mm
overall dimensions when packed	420x250x65 mm
weight	1 kg

STRONGER reserves the right to change specifications without notice!

4 SAFETY DURING OPERATION

1. Do not let your transducer to protrude below the boat stern! In this case, water resistance at speed can damage the regulator!
2. When speeding on water, always lift the transducer by pressing the up key. This way you'll protect the device from damage and keep your transducer intact from collisions with water.
3. If the regulator is adjusted using a standard switch coming together with the winch, always return the key to the neutral position after adjusting the transducer.
4. Never obstruct the regulator operation with hands or inappropriate items. This may damage the device.
5. Make sure the ambient temperature during the use is above 0 °C. Also make sure that there is no ice or any foreign items on the water and on the device itself, or under its top cover.
6. Make sure your battery is charged and voltage corresponds to the factory recommendations. The device may work incorrectly if the battery voltage drops below 11 volts.
7. The device is intended only for operation with an echo sounder transducer. Use with other devices and objects is prohibited. This may damage the regulator.
8. When mooring alongside or when approaching the shore, make sure that no objects contact the regulator. This may destroy the device and damage it.
9. Be sure to turn off the power in the boat when you finish using the device to prevent discharge of the battery.
10. It is forbidden to use the device with transducers weighing more than 1000 grams.
11. Never insert or force any foreign items under the regulator cover, as this can result in serious injury or damage to the device.
12. Do not use the device under the influence of drugs or alcohol.
13. Persons under legal age shall not be allowed to use the regulator.
14. Never attempt to repair the control unit and the electrical circuit of the regulator by yourself. This may lead to the fire.

15. It is forbidden to use the regulator if your battery does not hold the load when testing it with a load plug or if the battery voltage drops below 9 volts — this may result in failure of the regulator control unit. In this case, its repair will be at the buyer's expense and will not be covered by the warranty.

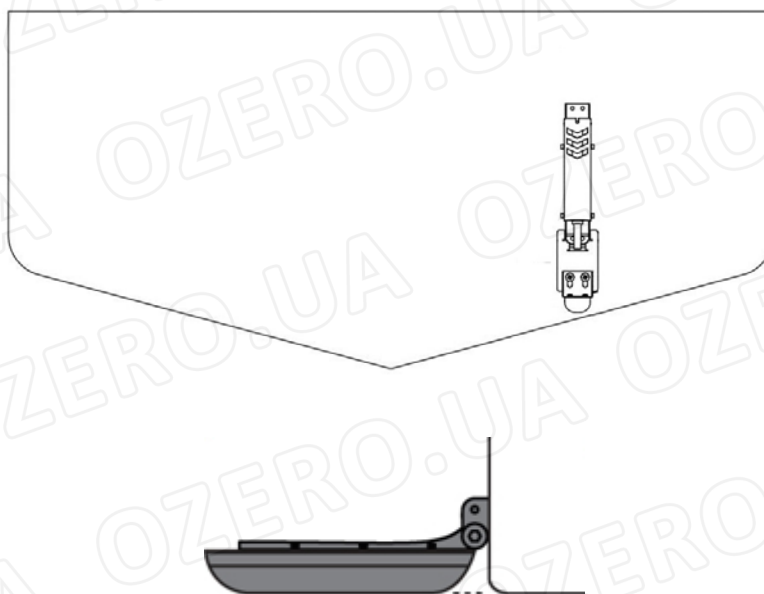
5 REGULATOR INSTALLATION

Unpacking

When unpacking, pay attention to any damage that may have occurred during transportation and delivery of the regulator. In case of any transportation damages contact your carrier with a request to reimburse your losses associated with unsatisfactory delivery.

Installation

The regulator is installed the same way as a regular attachment of the transducer to the boat stern. It is important that the transducer does not protrude below the boat stern and thus does not create additional load on the regulator. This will also allow to get rid of interference in the echo sounder operation and prevent possible collisions with obstacles on the water. The figure below shows the recommended installation of the device to the boat stern:



Mounting the regulator with control key



Install the transducer control key 3 in a convenient location.

Connect connectors 1 and 2. Connect cable 4 to a 12V power source, observing the polarity (the boat's on-board network can be used).

If you want to install the control key on the boat dashboard, please order optional 4m extension cable. Lay the extension cable all the way from the dashboard to the boat stern, and connect it with connectors 2 and 1.



Mounting the model with panel



Install the control panel 6 in a convenient place.

Fix the controller 7 in a place protected from water and direct sunlight. Connect the controller flat cable 5 to the control unit 6.

Connect connectors 1 and 2. Connect cable 4 to a 12V power source, observing the polarity (the boat's on-board network can be used).

If you want to install the control panel on the boat dashboard, please order optional 4m extension cable. Lay the extension cable all the way from the dashboard to the boat stern, and connect it with connectors 2 and 1.

Mounting the regulator

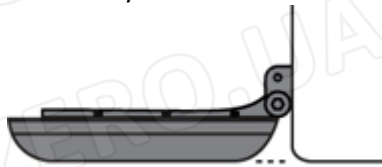
Attach masking tape on the boat transom in the place of further transducer installation



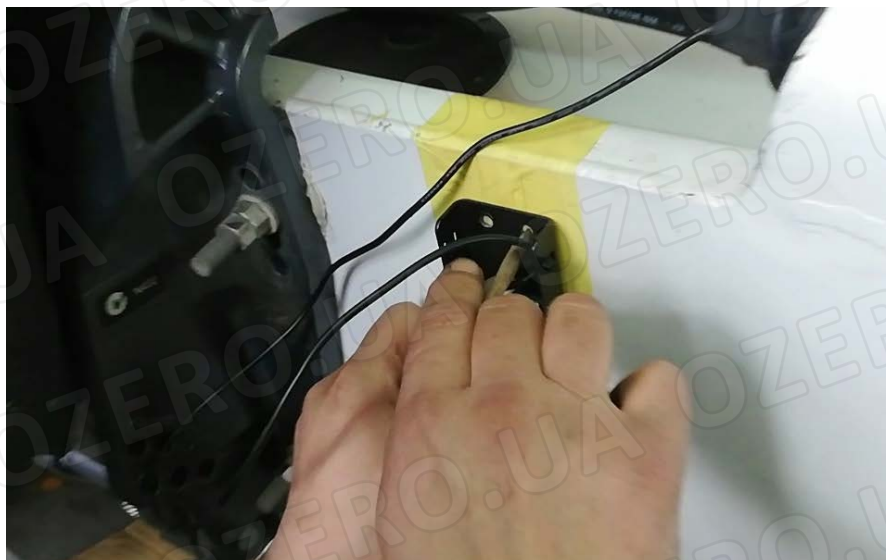
Mark axial position of the regulator for its further fastening. Please note that the centre line shall be strictly perpendicular to the horizon (the water surface).



Fix the echo sounder transducer on the regulator platform. Place the completely extended regulator with the transducer installed to the boat transom. Next, using the transducer mounting bracket, adjust the tilt angle and then fix its position with adjusting bolts so that the transducer is strictly parallel to the bottom of the boat and does not protrude beyond its limits.



Mark the mounting holes based on the centre line defined earlier.



Drill mounting holes in the boat transom for self-tapping screws ST 6.3 (the screws are included in the delivery set).



Fill the drilled holes with silicone sealant (sealant is not included in the delivery set).



Fix the regulator on the boat transom using the supplied screws.



Fasten the transducer cable to the regulator body with a mounting strap and then fix the regulator upper case.



Checking the device operation

If you need to connect 2 regulators, you'll have to order an optional splitter cable used to connect two regulators to one control panel. This way you'll ensure simultaneous positioning of two devices from one control panel!



Using this cable, you can control both regulators in synchronous mode.

OPERATION

Using the remote key to control the regulator.



This key enables you to completely raise or lower the regulator by pressing the required side of the key: up or down. You will also be able to manually adjust vertical position of the transducer remotely by shortly pressing the up or down key. But this adjustment option will be inaccurate and without the ability to save this priority position in the device memory. Always return the key to the middle neutral position.

Instructions for using the regulator with multifunctional wired remote control



The remote control consists of two blocks: control panel with indicator and keys and the controller



module

Operating modes of the control panel.

The control panel for lifting/lowering the echo sounder transducer has 5 keys, as well as a 10-segment LED indicator of the conditional angle of the echo sounder position.

When the device is turned on, all segments of the echo sounder position angle indicator light up for 1-2 seconds and go out (self-test mode), only two side segments remain lit. The device is ready for use.

The purpose of the control keys for lifting/lowering the echo sounder transducer:

Auto up/down keys — to lift/lower the transducer in automatic mode;

Man key (Manual) up/down — used only in the lower position for accurate lifting/lowering the device in manual mode;

M key (Memory) — for memorizing and recalling the preferred angle of the echo sounder transducer position from the memory (used in the lowermost end position of the transducer).

Using control keys in different modes.

Auto keys — automatic control mode:

Auto down — when the key is shortly pressed once (for about 1 second) and then released, the actuator motor is turned on and the echo sounder transducer is automatically lowered to the lowest position. At that the indicator shows the “running point” (or lighting of segments) moving downward.

This mode is used to quickly lower the transducer automatically.

Auto up — when the key is shortly pressed once (for about 1 second) and then released, the actuator motor is turned on and the echo sounder transducer is automatically lifted to the uppermost position. At that the indicator shows the “running point” moving upward.

This mode is used to quickly lift the transducer automatically e.g. to prevent damage to the lifting/lowering mechanism or the echo sounder itself when the boat is loaded onto a trailer, when mooring alongside, and in other cases.

Man keys (Manual) — manual control mode.

Man key (Manual) up/down:

For correct operation of the manual control keys, first lower the echo sounder sensor (transducer) to the lowermost position in the automatic mode (with the Auto down key).

— When the key is shortly pressed once (for about 1 second) and then released, the actuator motor turns on and a short single-step lifting or lowering of the echo sounder transducer occurs in manual mode, while 1 segment on the indicator goes out for each step of pressing the key.

— Effective lifting/lowering height adjustment for the echo sounder transducer is within the range of up to 5-6 steps of the actuator motor. As you continue lifting or lowering the transducer step by step, the indicator segments will go out one by one, displaying the conditional height of the echo sounder transducer, until the two uppermost or the two lowermost indicator segments remain lit and will not go out. At that, the second to last segment will blink if you try to lift or lower the transducer. This is an indication that further lifting or lowering of the transducer in manual mode is inappropriate.

M key (Memory).

For correct operation of the M key (Memory), first lower the echo sounder sensor (transducer) to the lowermost position in the automatic mode (with the Auto down key), and then use the manual control/fine adjustment keys for fine adjustment of the transducer height. The preferred height position (lifting or lowering) is defined and memorized from the lowermost position of the transducer.

M key (Memory) — has two modes of use: storing to memory and recall memory.

Long press of the key (not less than 4 seconds) — the data on the echo sounder position angle is stored in the non-volatile memory of the device. The indicator will blink 3 times, indicating that the transducer position angle is stored in the memory.

Short press (1 second) — recalls previously stored data on the echo sounder height position from the non-volatile memory of the device. The indicator will blink once, indicating that the transducer position has been recalled from the memory. At that the actuator motor is turned on and the echo sounder transducer is set to the previously memorized preferred position (error +/- 5-10%). The display shows the memorized preferred position of the transducer. If a more precise setting is required, the angle of the transducer position can be adjusted in Manual mode with the Man up/down keys.

The memorized preferred position of the echo sounder transducer is permanently stored in the non-volatile memory of the device, the data on the transducer position angle is not erased when the device is powered off, and can be recalled by briefly pressing the M key after turning on the device or lowering the transducer to the lowest position with the Auto down key.

IMPORTANT! It is not recommended to press the Auto and/or Man up and down keys in the uppermost and lowermost (respectively) positions of the echo sounder transducer due to possible breakdown of the actuator motor and the device control unit!

It is also not recommended to simultaneously press several Auto and/or Man up and down keys due to the possible incorrect operation of the device.

In case of any improper operation of the device, it is recommended to restart/reset it by turning off the power supply for about 30 seconds.

If after repeated lowering/lifting the echo sounder transducer using the Auto and/or Man up and down keys, M key (Memory), there is desynchronization between the echo sounder position displayed by the indicator and its actual position, it is recommended to lift the echo sounder transducer to the uppermost position and turn off power supply for about 30 seconds to restart/reset the device. It is expected that the device will work correctly after restarting.

It is strictly forbidden to disassemble the device (control panel and automation unit) as well as to expose electronic modules of the device to water and other liquids. It can result in electric shock, injury, and will automatically void of the product warranty.

The device is powered from 12 VDC on-board network or from a separate 12V battery with a capacity of at least 7A/h. When connecting the power supply, it is important to observe the polarity, otherwise the device may fail, which is not a warranty case!

8 WARRANTY

This warranty is provided to the direct buyer, without the right to transfer to third parties. STRONGER reserves the right, at its sole discretion, to repair or replace any part in the regulator that may fail or be defective within the warranty period that starts from the date of purchase. For warranty repair or replacement of the winch, the buyer must provide a warranty card confirming the date of purchase and notify the dealer by all convenient means and contacts about the warranty repair.

Disclaimer of warranty:

Failure to follow the instructions in this regulator manual will void the warranty. This warranty covers defects in the materials the regulator is made of.

Product warranty will be void in the event of improper use or handling, improper installation, accident, use of the product while intoxicated, changes in the construction, or improper maintenance.

Any damage resulting from improper use of the regulator is not covered by the warranty. The costs of installation or dismounting the product in the event of return, as well as its shipment and delivery to customers, will not be refunded.

This is an exclusive remedy, and our company does not bear any responsibility for any incidental or consequential damages or expenses. This express limited warranty gives you specific legal rights, and you may also have other rights that vary by state.

In the event of disputes that cannot be resolved through negotiations, you have the right to resolve the issues in court.

It is strictly forbidden to disassemble the device (control panel and automation unit) as well as to expose electronic modules of the device to water and other liquids. It can result in electric shock, injury, and will automatically void of the product warranty.

The device is powered from 12 VDC on-board network or from a separate 12V battery with a capacity of at least 7 A/h. When connecting the power supply, it is important to observe the polarity, otherwise the device may fail, which is not a warranty case!

10 Regulator structure

1. Linear electric drive
2. Protective bellow
3. Case
4. Pin
5. Pin
6. Threaded rivet nut
7. Pin
8. Case cover
9. Echo sounder sensor installation platform
10. Locking ring
11. Screw M3x10
12. Echo sounder cable fixing clip
13. Locking ring
14. Screw M5x8
15. Locknut M5

