

Installation and maintenance manual

SINGLE LEVER CONTROL



ENGLISH

B505

CE



ULTRAFLEX





Dear Customer,

Thank you for choosing an **ULTRAFLEX** product.

ULTRAFLEX has been making steering and control systems for pleasure and working craft for many years. **ULTRAFLEX** has always been synonymous with reliability and safety.

All **ULTRAFLEX** products are designed and built to provide the best possible performance for the purpose for which they were designed.

To protect your safety and maintain top quality, **ULTRAFLEX** guarantees its products only if they are used with original parts (refer to "Application Spare Parts" annex).

ULTRAFLEX and **UFLEX**'s Quality Management Systems are CISQ-IQNet certified by DNV in accordance with standard UNI ES ISO 9001:2008. **ULTRAFLEX** Certificate no. 6669/02/S (formerly 420/96). **UFLEX** Certificate no. 8875/03/S.

The Quality System gets all company resources and processes involved, starting with design, in order to:

- provide customers with a guarantee of product quality;
- identify actions for maintaining and improving quality standards with time;
- continually improve the efficacy and efficiency of processes in order to respond to the demands of the market and improve customer satisfaction;
- ensure compliance with the requirements of directive 94/25 EC, standard ISO 10592 and ABYC (American Boat Yacht Council) standards.



"With more than 85 years of experience in boatbuilding, **ULTRAFLEX** is a world leader in the production of mechanical, hydraulic and electronic steering systems, control systems and steering wheels for motorboats for pleasure, fishing or working uses, of all sizes and with all types of engines.

The reliability of our products and our pre- and post-sales service, the quality of our company's organisation and use of human resources and our ongoing investment in research and development are key factors in explaining our products' growing success all over the world".

ULTRAFLEX S.p.A.

16015 Casella (Genova) Italia - Via Crose, 2

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USE OF THIS MANUAL AND SYMBOLS

THE INSTALLATION AND MAINTENANCE MANUAL is the document coming with the product from sale to replacement and disposal, and should be considered an integral part of the product. Read the manual before undertaking ANY ACTIVITY involving the product, including movement and unloading from the vehicle on which it is delivered.

In order to protect the user's safety and guarantee correct functioning of the product, this manual uses the symbols described below.


DANGER


Immediate damage **CAUSING** serious injury or death.


IMPORTANT


Damage or unsafe practices which **COULD** lead to serious injury or death.


WARNING

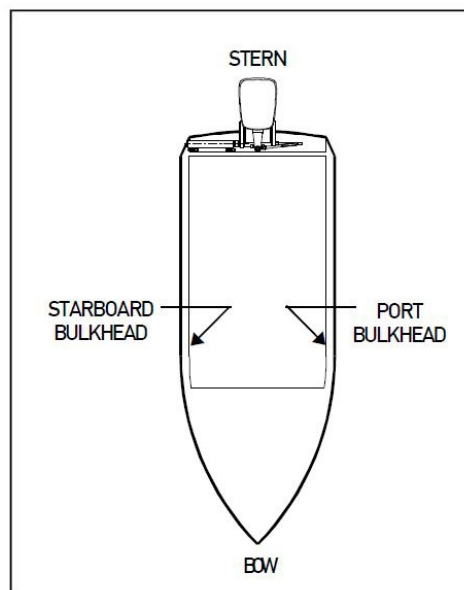

Damage or unsafe practices which **COULD** lead to minor injury or damage to the product or to property.

NOTE


Information considered important for adequate installation and maintenance which cannot cause damage.



Operations which should be performed by qualified or specialized personnel to avoid risks are identified by the symbol shown here. Provide the personnel who will be installing the product with appropriate training and make sure that they understand and implement the instructions provided.



NOTE

This installation and maintenance manual constitutes an integral part of the product and must be made easily accessible for personnel using the product and performing maintenance work on it.

ULTRAFLEX shall not be held liable for any inaccuracies due to printing errors contained in the manual. Without altering the basic features of the product described, **ULTRAFLEX** reserves the right to make any changes to descriptions, details and illustrations that it may consider appropriate for its improvement or for manufacturing or commercial reasons at any time, without being required to update this publication immediately.

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IMPORTANT

The product must be installed by experienced personnel to ensure correct functioning of the product and its components. In the event of breakage of components or malfunctioning, please contact specialized personnel or our Technical Assistance Service.

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TECHNICAL ASSISTANCE SERVICE

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WARRANTY

ULTRAFLEX warrants that its products are built according to the standards of good workmanship and are free of defects in materials or workmanship.


This warranty is valid for two years starting on the date of manufacture, with the exception of cases in which products are installed and used on working vessels or on vessels for commercial use, in which case the guarantee is limited to 1 year from the date of manufacture.

This warranty is limited to free replacement or repair of the item, which must be returned freight paid, provided we find it to be effectively defective in materials and/or workmanship.

The warranty does not cover any direct or indirect damages. The warranty specifically does not cover, and we shall not be held liable for (except for replacement or repair of defective items under the terms and conditions set forth above), malfunctioning of our products if their failure or poor functioning is due to incorrect installation or to negligent or improper use.

This warranty does not cover products installed on racing boats or used in a competitive context. The descriptions and illustrations in this manual are indicative only.

Please contact our Assistance Service for more detailed information.

The components of **ULTRAFLEX** steering and control systems are marked  as required by directive 94/25/EC and conform to ABYC standards (U.S.A.).

Note that on EC marked vessels it is obligatory to install steering and control systems with EC marked components. (See Art. 3 and Art. 5 of directive 94/25/EC.) Note that the **ULTRAFLEX** warranty shall be automatically forfeited if any **ULTRAFLEX** components are installed in a steering and control system along with products of other brands.



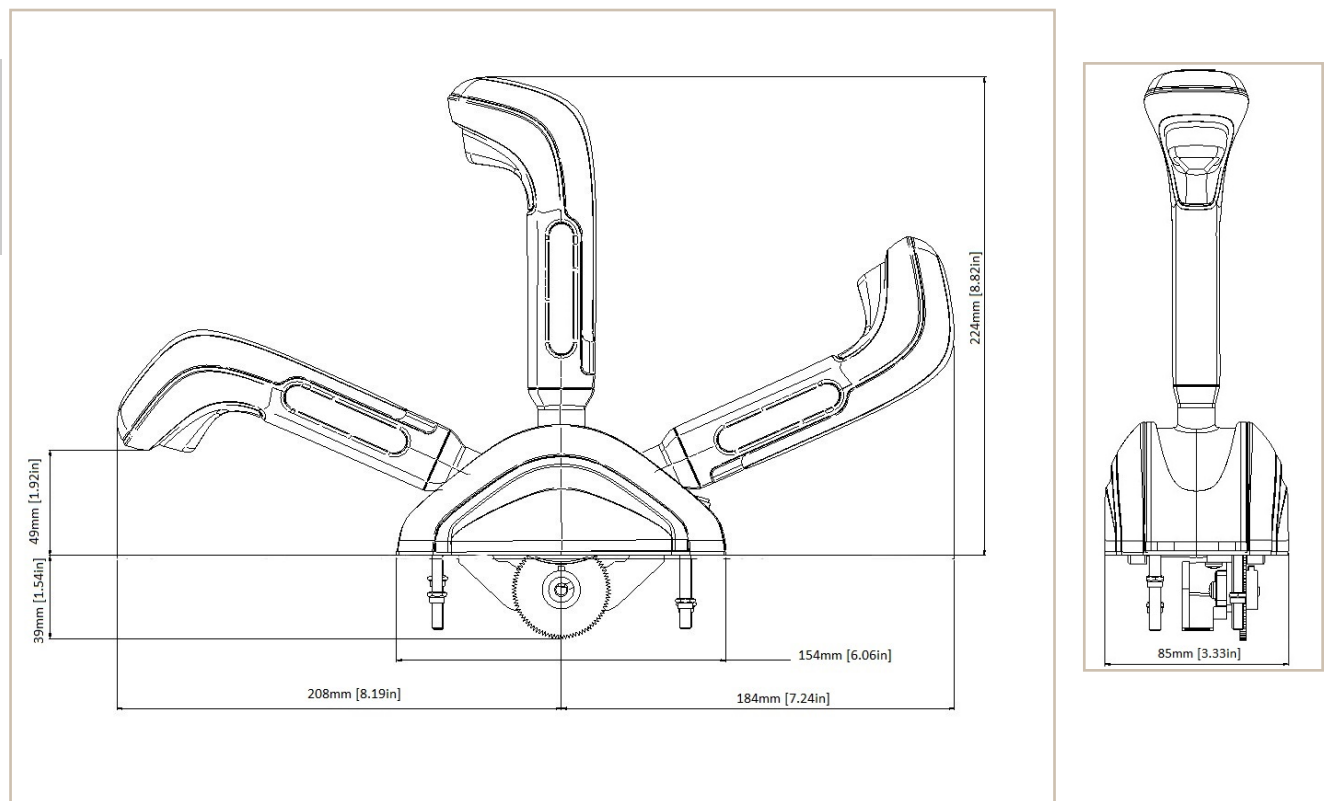
1 PRODUCT DESCRIPTION

1.1 Product description and recommendations for use

The lever control is assembled on the dashboard close to the vessel's helm. The lever has an adjustable clutch and the neutral defent has an adjustable defent force.
The B505 has the possibility of many customizations. See the chart 3.

1.2 Dimensions

The figure below shows the overall dimensions of the B505 control.

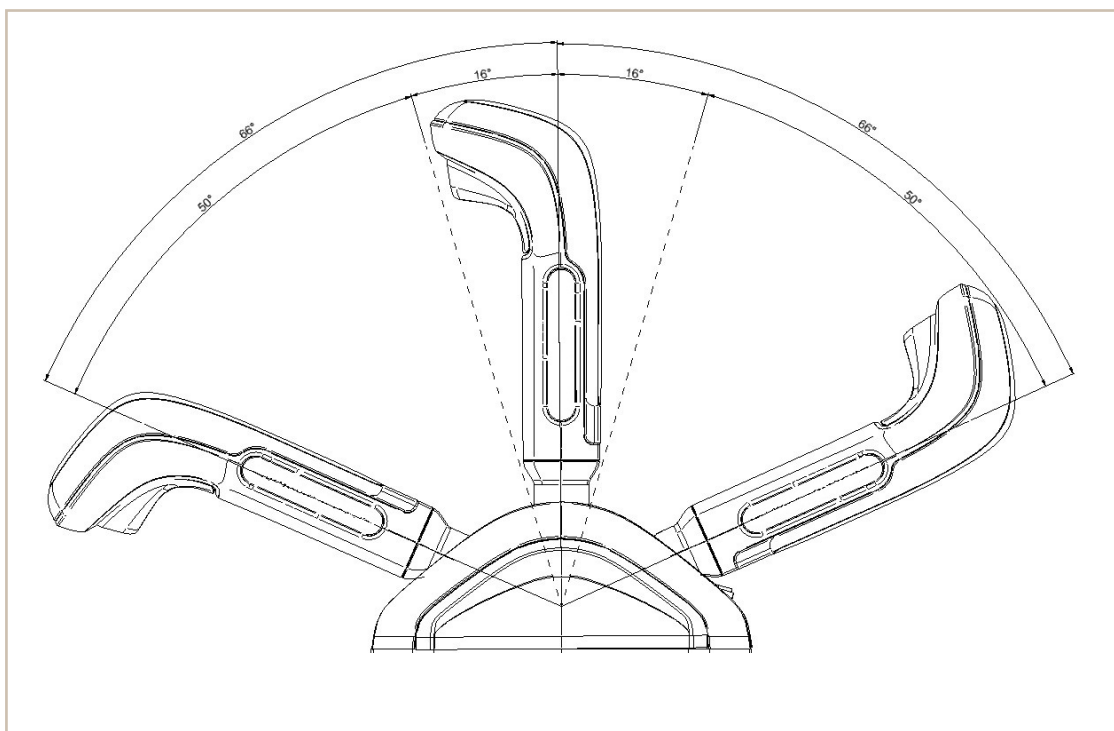


NOTE

Make sure that the lever can turn freely and its travel is not blocked by obstacles on the dashboard.



The figure below shows the stroke angles of the B505 control.



2 INSTALLATION



2.1 Tools required



Phillips screwdriver (Ø4)
and flat-tip screwdriver (Ø6)

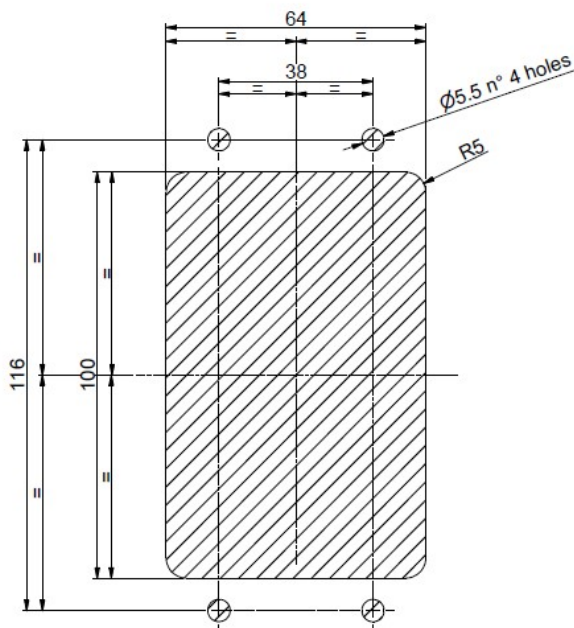


Allen Wrench (Ø3)
Allen Wrench (Ø4)

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2.2 Installation of the control on the dashboard

- 1 Refer to the footprint dimensions given in point 1.2 to check that the control can effectively be installed in the desired position. Install the mechanism after connecting the wiring if you have not access to the bottom of the control when installed. Take care not to damage the sensor during installation.
- 2 After determining the appropriate location, cut the hole required to install the control using the template provided.



WARNING

Dispose of packaging in accordance with the law.



2.3 Detent and clutch adjusting

- 1 To change the load on the neutral detent, at first you have to shift the side cover (right to the keyboard) downward to dismount it. Now you have access to the hole in which you can find a threaded screw. Use an allen wrench (Ø4) to regulate it, untill you find the desired neutral detent force. Turn it clockwise to risen the force on the detent, turn counterclockwise to lower it



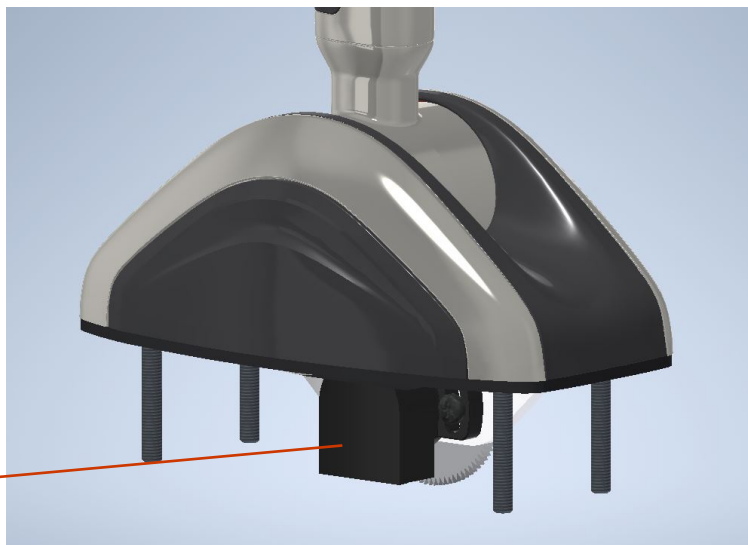
- 2 To change the clutch load on the lever, at first you have to shift the side cover (left to the keyboard) downward to dismount it. Now you have access to the hole in which you can find a threaded screw. Use an allen wrench (Ø3) to regulate it, untill you find the desired clutch force. Turn it clockwise to risen the force on the clutch, turn counterclockwise to lower it



3 CUSTOMIZABLE SYSTEMS

3.1 Throttle Sensor

The B505 lever has the possibility to install two different throttle sensors: the first with CAN BUS output, the second one with output voltage.



Throttle Sensor

3.1.1 CAN BUS Throttle Sensor

The B505 lever can install the CAN BUS Throttle sensor. This kind of component can be programmed by **ULTRAFLEX** with the technical characteristics requested by the Customer. It is possible to modify the feeling, the throttle curve and the reactivity. This will allow the communication between the system and the engine. Contact our Technical Assistance Service to customize the CAN BUS sensor.

IMPORTANT

A wrong connection can cause serious injuries due to unexpected starting of the engine

3.1.2 Voltage Throttle Sensor

The B505 lever can install the Voltage Throttle sensor. In this case, the output is a tension in a range between the 0.5V to 4.5V. It is possible to modify the Throttle curve, the feeling and the reactivity of the lever. Contact our Technical Assistance Service to customize the Voltage sensor.

IMPORTANT

A wrong connection can cause serious injuries due to unexpected starting of the engine

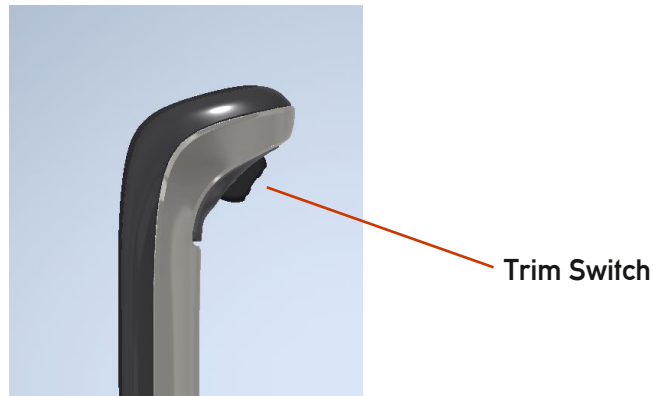


3.2 Trim Switch - Neutral Safety Lock

The B505 can be supplied with the Trim Switch or the Neutral Safety Lock underneath the handle.

3.2.1 Trim Switch

If the B505 lever has the Trim switch, it is possible command the position of the Trim Tabs on the stern of the boat.



The Trim Switch has three positions:

- Top: move up the blades on the stern of the boat
- Center: the blades remains into the position desired
- Bottom: move down the blades on the stern of the boat

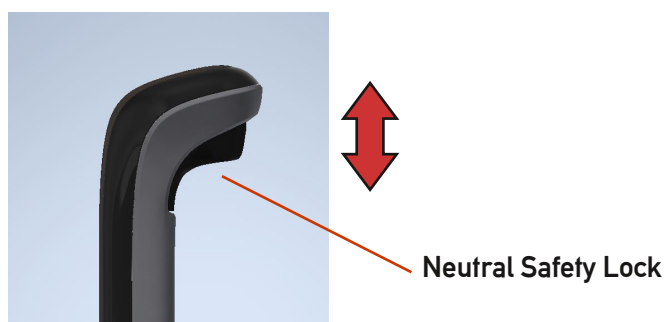
The top and the bottom positions are temporary positions.

IMPORTANT

A wrong connection can cause serious injuries.

3.2.2 Neutral Safety Lock

The B505 lever can install the Neutral Safety Lock instead of the Trim Switch.



This system locks the lever in the neutral position to avoid moving the lever accidentally. If the lever comes back into the neutral position, the neutral safety lock will block the lever automatically.



3.3 KEYBOARD

The B505 lever has got a keyboard in the rear side. It has three rubber button integrated in the styling of the lever.



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Buttons are simple ON/OFF inputs signals. Buttons can be personalized or left black.

ULTRAFLEX can modify the labels on it depending to the customer request.

IMPORTANT

The keyboard has three normally open switch inside. A wrong connection can cause serious injuries.



4 SAFETY WARNINGS

This section shows the safety regulations to be applied for proper use of the apparatus. Read this section very carefully and also read the manuals supplied with other components of the single lever control.

4.1 Safety during installation and use



PLEASE FOLLOW CAREFULLY the precautions and safety criteria indicated below.

ULTRAFLEX shall not be held liable for the user's failure to observe these precautions and criteria and shall not be held liable for any negligence in use of the system.



DANGER

- NEVER PUT YOUR HANDS BETWEEN MOVING PARTS
- Do not deactivate safety devices or make them non-operative.
- Do not modify the system or add devices to it without written authorization or the intervention of an **ULTRAFLEX** technician describing the change made in the description of the work performed.
- Do not use the apparatus for any purpose other than its intended use as specified in the installation and maintenance manual.
- Do not allow untrained personnel to perform installation.

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IMPORTANT

- During installation of the system, take particular care to keep everything clean to ensure that no foreign bodies can get into the system. Even a tiny object can cause permanent damage which may not be immediately obvious.
- Do not let wires come into contact with sharp corners or edges.
- Do not let wires come into contact with heat sources.

4.2 Clothing



IMPORTANT

DO NOT wear necklaces, bracelets or any loose garments that could get caught in moving parts during installation, inspection or maintenance work.



5 MAINTENANCE

5.1 Ordinary maintenance



IMPORTANT

Failure to apply maintenance controls may result in loss of control when driving, which can result in damage to property and/or injury.

Maintenance requirements will vary depending on climate and frequency and type of use. Inspections must be conducted at least every two years by an experienced marine technician.

Perform the following maintenance operations:

- Periodically wash components with fresh water and remove any salt deposits.
- Once a month, check all nuts holding the system in place and tighten if necessary.



DANGER

Loosening or separation of nuts holding the system in place can cause not only malfunctioning of the control but damage or injury.

- Periodically check that there is no corrosion on metal parts of the cable terminals or abrasion on the sheath.
- Replace damaged parts that may compromise the integrity of the control.

5.2 Special maintenance



Technical assistance

For any information or assistance with particular applications, you are invited to contact our technical assistance service (refer to "Note").



6 DISMANTLING

6.1 Dismantling



If you intend not to use the single lever control system any more, dispose of it in an environmentally sound way.

Sheaths, hoses and components made of plastic or other non-metallic materials must be dismantled and disposed of separately.

