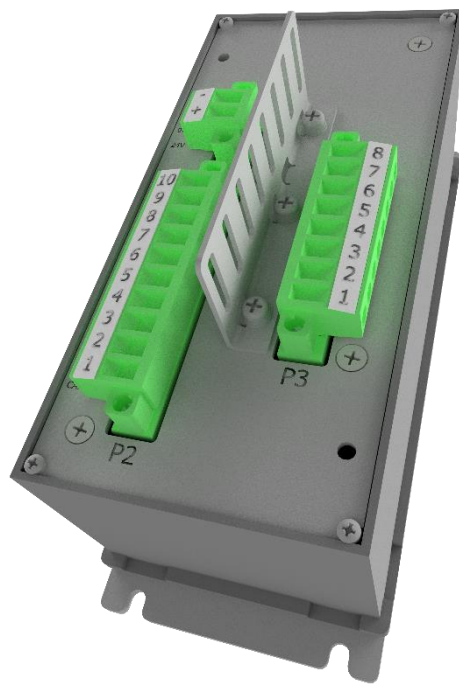




ALPHATRON  
Marine



# FU Tiller BB

Operation Manual

[www.alphatronmarine.com](http://www.alphatronmarine.com)



## Contents

Preface .....	3
Revision History .....	4
Glossary .....	5
Abbreviations .....	5
Definitions.....	5
Safety Information.....	6
Warranty .....	7
Introduction.....	8
Enabling FU control.....	9
Control allowed/not allowed.....	9
Control handover .....	10
Take control .....	10
Release/take control .....	10
Steering .....	11



## Preface

The Alpatron AlphaPilot MFM system is a type approved heading control system, designed to fit vessels of any size, including high speed crafts.

The FU Tiller BB is part of the AlphaPilot MFM system and is used for steering in manual FU steering mode.

- Thoroughly read this operation manual before operating the equipment.
- We recommend keeping this manual nearby the equipment to ensure ready access to it.



Revision History

Revision No.	Date	Description	Author
1.0	12-05-2020	First release	J. Kreeft

## Glossary

The glossary contains a list of abbreviations and a list of definitions.

### Abbreviations

Abbreviations as used in this manual are explained in the table below.

FU	Follow-Up
PS	Port Side
SB	Starboard Side

### Definitions

The meaning of standard definitions as used in this manual are explained in the table below.

Alarm	Audio and visual signal announcing a condition requiring attention. The audio continues until acknowledged. The acoustic noise pressure of the alarm is at least 75 dBA but not greater than 85 dBA at a distance of 1 m (IEC 60945). The visual indication continues until the alarm condition is removed.
AlphaPilot MFM	Alphatron brand name for the heading control system.
Autopilot	A Heading Control System.
Indication	Visual display of any message to the user which may be accompanied by a low intensity acoustic signal to gain attention.
Steering mode selector	A switch provided for the selection of manual steering modes and automatic steering devices.
Tiller	A device that is used to turn the rudder, which then steers the boat.

## Safety Information

The signal words DANGER, WARNING and CAUTION used in this manual indicate the degree of hazard that may be encountered by the user. These words are defined as follows:

**DANGER**

Indicates a hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.

**WARNING**

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION**

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

The signal word NOTICE used in this manual indicates information considered important but not related to injury. It is typically used to prevent damage to equipment or property.

To safely operate this system, the following DANGERS, WARNINGS, and CAUTIONS must be adhered to. Failure to comply with the precautions or with specific dangers, warnings, and cautions elsewhere in this manual violates safety standards of design, manufacture, and intended use of the equipment. ALPHATRON MARINE assumes no liability for the customer's failure to comply with these requirements.

**WARNING**

Do not disassemble or modify the equipment. Otherwise, it may cause a fire, or you may suffer an electrical shock.

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**WARNING**

Immediately turn off the power and disconnect the power supply cable if the equipment is generating any smoke or odour or is overheated. Immediately inform your local service agent of the symptom to have it repaired. Prolonged equipment operation under such a condition can cause a fire or electric shock.

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**WARNING**

Do not place a container containing liquid on the equipment. Otherwise, it may cause a fire, or you may suffer an electrical shock if knocked over.

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**WARNING**

When unplugging the instrument, be sure to remove the cord terminal correctly. If the cord is pulled, the cord may get damaged resulting in a fire or an electrical shock.



## Warranty

To not to adversely affect the warranty, the following notices must be adhered to.

**NOTICE** Operating personnel must not remove equipment covers. Only personnel trained and certified by ALPHATRON MARINE must make component replacement and internal adjustment.

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**NOTICE** Do not disassemble or modify the equipment. Failure to observe this instruction may cause equipment failure, and it will void the warranty.

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**NOTICE** Any modification to this equipment without prior written permission from ALPHATRON MARINE will void the warranty.

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**NOTICE** Installation of this product shall only be done by a certified installation company approved by either ALPHATRON MARINE or by an official ALPHATRON MARINE distributor. Acting otherwise will void the warranty.

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**NOTICE** This product contains no operator serviceable parts. Service and repair shall only be carried out by personnel trained and certified by ALPHATRON MARINE.

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**NOTICE** Do not place a container containing liquid on the equipment. The equipment can be damaged if knocked over.

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**NOTICE** When cleaning the surface, do not use any organic solvent such as thinner or benzine. Otherwise, the paint and markings on the surface may get damaged. For cleaning the surface, remove the dust and debris and wipe with a clean dry cloth.

## Introduction

The FU Tiller BB is part of the AlphaPilot MFM system and is used for steering in manual FU steering mode. The FU Tiller BB is typically used in combination with an AlphaPilot MFM control unit, AlphaPilot FU Tiller Button and AlphaPilot FU Tiller Handle.

The FU Tiller Button is used to release/take FU control, and the FU Tiller Handle is used to steer (step less control).

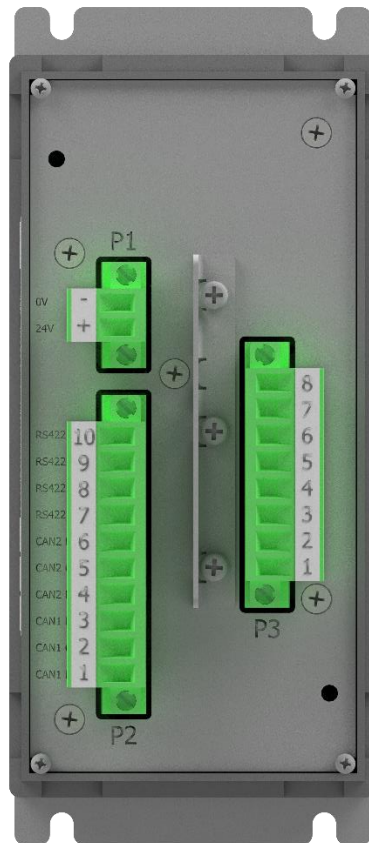


Figure 1: FU Tiller BB



Figure 2: FU Tiller Button



Figure 3: FU Tiller Handle



## Enabling FU control

Push the FU Tiller Button to enable FU control\*. The Autopilot will go into Manual mode (it will show the corresponding symbol **M**), meaning that Autopilot is not in control and FU mode via FU Tiller Handle is enabled.

\*Note that control must be allowed, see subsection 'Control allowed/not allowed' on page 9. Note that another active controller may need to allow control handover first, see subsection 'Control handover' on page 10.

### Control allowed/not allowed

When not in control, the FU Tiller BB is in standby mode and the via FU Tiller Handle is disabled (the Autopilot is not in Manual mode).

FU control is steering in manual FU steering mode; therefore, the Mode Switch must be in position **MAN** (Mode Switch 3 Pos) or **AUTO|MAN** (Mode Switch 2 Pos).

FU control is not allowed when the Mode Switch is in position **NFU** (Mode Switch 2 Pos & Mode Switch 3 Pos) or **AUTO** (Mode Switch 3 Pos).

### Control handover

If applicable, handover of control must be allowed first by the active controller to allow the FU Tiller BB to take control (i.e. enable FU control).

The method for control handover is pre-set during commissioning. Two system settings are possible, namely 'Take control' or 'Release/take control'.

### Take control

*Any controller can take control. Control handover allowance is not applicable.*

Procedure for FU Tiller BB:

- Push the FU Tiller Button to enable FU control. Autopilot will go into Manual mode (it will show the corresponding symbol **M**), meaning that Autopilot is not in control and FU mode via FU Tiller Handle is enabled.

### Release/take control

*Any controller can take control, only when the active controller allows control handover.*

Procedure for FU Tiller BB:

- Take control  
Allow control handover from the active controller (refer to the respective operation manual for the procedure). Push the FU Tiller Button to enable FU control. Autopilot will go in Manual mode (it will show the corresponding symbol **M**), meaning that Autopilot is not in control and FU mode via FU Tiller Handle is enabled.
- Release control  
To allow control handover to another controller, push and hold the FU Tiller Button for three seconds.  
NOTE: The FU Tiller BB stays in control until control is transferred to another controller.  
NOTE: The FU Tiller BB goes into standby mode when control is transferred to another controller.



## Steering

In FU control, the steering gear will move the rudder as per FU value command (rudder angle).

Moving the handle to the neutral position will cause the rudder to move to the centre position.

Turning the handle farthest to the left will cause the rudder to move to a predefined maximum rudder angle, turning the handle farthest to the right will cause the rudder to move to the predefined maximum rudder angle in the opposite direction.