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## ELECTRIC PROPULSION SYSTEMS



### Intro







### Electric boating starts at Bellmarine.

In the world of electric propulsion systems Bellmarine is the standard. Years of experience, quality, innovation and durability are a quarantee for pure boating pleasure.

#### Perfection in every detail

All parts installed below decks have to be of the highest quality; Moisture and salt will take their toll and have effect on the durability of your drive system. Only the best materials are suitable and each have been carefully selected by Bellmarine.

#### **E-motion in propulsion**

The Bellmarine systems are developed and produced in Italy and in the Netherlands. With thousands of electric propulsion systems in use Bellmarine has set the standard.

You are assured the highest quality and service. Also the price of a complete system will be a pleasant surprise.







## Certificates

#### **Batteries**









(ES-TRIN)





### Electric Motors 👅 Motor controllers



Only for 288V and 384V



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- All images are for reference only
- All data can be changed without notice

# Reference















## Master Info

- 1 All motors are Permanent Magnets AC, high efficiency, IP65
- 2 Intermittent kW: S3 10% 10' (1 minute at intermittent power then reduced for 9 minutes to return to stable temperature)
- 3 Battery: 48V, 96V and 144V can be of any chemistry and brand; 288V and 384V need to be Transfluid's battery.

BATTERY	max [Vdc]	min [Vdc]
48	61	44
96	115	82
144	169	121
288	346	247
384	462	330

To evaluate the battery characteristics in case of customer's supply please use the following formula giving the max (A) current required by Transfluid's motors:

$$I(A) = \frac{kW \times 1000}{V} \times 2$$

#### 4 - RATINGS:

- Cruising speed: 70% of rated motor rpm
- Light Duty: air cooled motor, up to 200 hours/year, intermittent kW allowed
- Medium Duty: air cooled motor, up to 500 hours/year, only nominal kW allowed
- Medium Duty: liquid cooled motor, up to 1000 hours/year, intermittent kW allowed
- Heavy Duty: liquid cooled motor, up to 3000 hours per year, intermittent kW allowed, max 80% of time at rated rpm and load
- 5 Separate thrust bearing is mandatory above 20 kW
- 6 For Torque calculation use the formula:  $T(Nm) = \frac{kW}{rpm} \times 9550$

## DriveMaster

Permanent magnet motors for installation on shaft lines; available with air or liquid cooling. Maximum efficiency, silent and compact solution. Regeneration via trailing propeller possible.

### Air Cooled

#### Including:

- Motor with mounting brackets and silent blocks
- Motor with integrated thrust bearing (max 20kW)
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 12 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)
- Drop box DP280 (ratio i= 1.59 2.01 2.41 2.87 3.35 3.97 5.01)
- Regeneration kit



#### **Light & Medium Duty**

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV101489A	DriveMaster 2A	180-4	1.5	2	48	1500
BV100854A	DriveMaster 5A	180-8	4	5	48	1500
BV101529A	DriveMaster 7A	180-12	5	7	48	1500
BV101808A	DriveMaster 10A	220-20	8	10	48	1500
BV102008A	DriveMaster 8A	180-12	6	8	96	1500
BV102015A	DriveMaster 15A	220-20	10	15	96	1500
BV101288A	DriveMaster 25A	220-35	20	25	144	1500
BV102035A	DriveMaster 35A	300-50	30	35	144	1500
BV102050A	DriveMaster 50A	300-75	35/40	45/50	144	1350/1500

• Complete the scope of supply with accessories from p. 17



## DriveMaster

## Liquid Cooled

#### **Including:**

- Motor with mounting brackets and silent blocks
- Motor with integrated thrust bearing
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 12 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- Inlet and outlet liquid connections
- key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)
- Drop box DP280 (ratio i= 1.59 2.01 2.41 2.87 3.35 3.97 5.01)
- Regeneration kit





#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV101608W	DriveMaster 3W	180-4	2.5	3	48	1500
BV100854W	DriveMaster 7W	180-8	5	7	48	1500
BV100808W	DriveMaster 10W	180-12	8	10	48	1500
BV100810W	DriveMaster 15W	220-20	10	15	48	1500
BV101610W	DriveMaster 20W EVO	220-20 (*)	15	20	48	1500
BV100812W	DriveMaster 20W	220-20	15	20	96	1500
BV101288W	DriveMaster 30W	220-35	25	30	144	1500
BV101642W	DriveMaster 45W	300-50	35	45	144	1500
BV101580W	DriveMaster 55W	300-75	40/45	50/55	144	1350/1500

<sup>(\*)</sup> Special

<sup>•</sup> Complete the scope of supply with accessories from p. 17

## ModularMaster

Pair of permanent magnet motors, liquid-cooled and assembled parallel for high power with low voltage. Ideal for anyone requiring system redundancy with flexible installation and compactness.

### Liquid Cooled

with SPD11 Split Power Drive

#### Including:

- True redundancy in case of one motor failure
- Aluminum made split power drive
- Mounting brackets and silent blocks
- Live PTO available
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 12 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- Inlet and outlet liquid connections
- Closed loop liquid cooling
- Key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)
- Drop box DP280 (ratio i= 1.59 2.01 2.41 2.87 3.35 3.97 5.01)







#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV201450W	ModularMaster 40W EVO	2x220-20 (*)	30	40	48	1500
BV101485W	ModularMaster 40W	2x220-20	30	40	96	1500
BV101480W	ModularMaster 60W	2X220-35	50	60	144	1500

(\*) Special

• Complete the scope of supply with accessories from p. 17



## TorqueMaster

Permanent magnet motors with a mechanical reducer in various gear ratios; available with air or liquid cooling. A compact solution designed to couple to any propeller.

#### Air Cooled

reduction ratio i= 1.59 - 2.01 - 2.41 - 2.87 - 3.35 - 3.97 - 5.01 Propeller rpm = motor rpm/i

#### Including:

- Motor with mounting brackets and silent blocks
- Drop Box with integrated thrust bearing 225 mm offset
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 12 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- Dropbox aluminum made no cooling needed low noise and low vibration
- Oil temperature sensor
- Elastic coupling between motor and Dropbox
- DIN120 output (SAE 1410 upon request) "U" drive possible
- Key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)
- Regeneration kit

#### Light & Medium Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV101716A •••	TorqueMaster 20A	220-20	15	20	96	3000
BV102025A •••	TorqueMaster 25A	220-20	20	25	144	3000

( •• •) According to reduction ratio

### Liquid Cooled

reduction ratio i= 1.59 - 2.01 - 2.41 - 2.87 - 3.35 - 3.97 - 5.01 Propeller rpm = motor rpm/i

#### Including:

- As above
- Inlet and outlet liquid connections
- For 288/384V systems Throttle lever TFC
- For 288/384V systems DC-DC 24 Vdc
- Key panel

#### Optional:

As above



#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kw	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV101740W •••	TorqueMaster 20W EVO (*)	220-20 (*)	15	20	48	1500
BV101716W •••	TorqueMaster 25W	220-20	20	25	96	3000
BV101717W •••	TorqueMaster 35W	220-20	30	35	144	3000
BV102045W •••	TorqueMaster 45W	220-35	35	45	288	3000
BV102065W •••	TorqueMaster 65W	300-50	50	65	288	3000
BV102100W •••	TorqueMaster 100W	300-75	75	100	288	3000
BV102130W •••	TorqueMaster 130W	300-75	100	130	384	3000

(•••) According to reduction ratio

<sup>(\*)</sup> Specia

<sup>•</sup> Complete the scope of supply with accessories from p. 17

## ShaftMaster

Permanent magnet motors with mechanical marine gear with various gears available for every need; liquid-cooled. Solution designed for commercial applications with a high number of reversals, PTO up to 3000rpm.

## Liquid Cooled

Reduction ratio i= 1.40 - 1.88 - 2.25 - 2.75

Propeller rpm = motor rpm/i

#### Including:

- Mounting brackets and silent blocks
- Live PTO available
- Marine gear with integrated thrust bearing (up to 130 kW)
- Oil temperature sensor
- Output offset 103 mm
- Elastic coupling between motor and transmission
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 12/24 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- Inlet and outlet liquid connections
- Throttle lever (TFC)
- · Self priming pump (mechanical) mounted aboard
- Oil-water cooler mounted aboard
- Closed loop liquid cooling
- Key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)
- Drop box DP280 (ratio i= 1.59 2.01 2.41 2.87 3.35 3.97 5.01)



#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV230025W •••	ShaftMaster 25W	220-20	20	25	96	3000
BV230035W •••	ShaftMaster 35W	220-20	30	35	144	3000
BV230045W •••	ShaftMaster 45W	220-35	35	45	288	3000
BV230065W •••	ShaftMaster 65W	300-50	50	65	288	3000
BV230100W •••	ShaftMaster 100W	300-75	75	100	288	3000
BV230130W •••	ShaftMaster 130W	300-75	100	130	384	3000

<sup>( •• •)</sup> According to reduction ratio







<sup>·</sup> Complete the scope of supply with accessories from p. 17



## SternMaster

Permanent magnet motors with steerable and trimmable Stern Drive transmission; available with air or liquid cooling.

#### Air Cooled

Reduction ratio i= 2

Propeller rpm = motor rpm/i

#### Including:

- Motor with mounting brackets and silent blocks
- Motor with integrated thrust bearing
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 12 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- Throttle lever with mechanical actuator (TFC)
- Elastic coupling between motor and transmission
- Trim kit
- Key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)



(Propeller not included)

#### **Light & Medium Duty**

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV330020A	SternMaster 20A	220-20	15	20	96	3000
BV330025A	SternMaster 25A	220-20	20	25	144	3000

## Liquid Cooled

Reduction ratio i= 2

Propeller rpm = motor rpm/i

#### Including:

- As above
- Inlet and outlet liquid connections
- Key panel
- for 288V system DC-DC 24 Vdc

#### Including:

As above



#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV330025W	SternMaster 25W	220-20	20	25	96	3000
BV330035W	SternMaster 35W	220-20	30	35	144	3000
BV330045W	SternMaster 45W	220-35	35	45	288	3000
BV330065W	SternMaster 65W	300-50	50	65	288	3000
BV330097W	SternMaster 97W	300-75	75	97	288	3000

<sup>•</sup> Complete the scope of supply with accessories from p. 17

### DriveMaster 260w

#### Including:

- · With foot mountings and silent blocks
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 24 Vdc
- Key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)



#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV102260W	DriveMaster 260W	375-200	200	260	384	2300

## ShaftMaster 260w

### Liquid cooled

reduction ratio i = apply to Transfluid

#### Including:

- With mounting brackets and silent blocks
- Marine gear with integrated thrust bearing
- Inlet and outlet liquid connections
- Throttle lever (TFC)
- Oil temperature sensor
- Oil-water cooler mounted aboard
- Closed loop liquid cooling
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 24 Vdc
- Elastic coupling between motor and transmission
- Key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)



#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV230260W	ShaftMaster 260W	375-200	200	260	384	2300

• Complete the scope of supply with accessories from p. 17



## SternMaster 130w

## Liquid cooled

reduction ratio i = apply to Transfluid

#### Including:

- Motor with mounting brackets and silent blocks
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 24 Vdc
- Elastic coupling between motor and transmission
- Trim kit
- Key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)



### Ginera

#### Medium & Heavy Duty

PRODUCT CODE DESCRIPTION		MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV330130W	SternMaster 130W	300-100	100	130	384	3000

## SternMaster 260w

### Liquid cooled

reduction ratio i = apply to Transfluid

#### Including:

- · Motor with mounting brackets and silent blocks
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 24 Vdc
- 5m cable for display, lever, key
- Elastic coupling between motor and transmission
- Trim kit
- Key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)



#### Medium & Heavy Duty

PRODUCT CODE DESCRIPTION		MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV330260W	SternMaster 260W	375-200	200	260	384	2300

<sup>•</sup> Complete the scope of supply with accessories from p. 17

## SailMaster

Permanent magnet motors with Sail Drive transmission; available with air or liquid cooling. Ideal for sail boats with regeneration via trailing propeller.

### Air Cooled

Reduction ratio i= 2

Propeller rpm = motor rpm/i

#### Including:

- Motor with mounting flange
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 12 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)





(Propeller not included)

#### **Light & Medium Duty**

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kw	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV101492A	SailMaster 2A	180-4	1.5	2	48	1500
BV101611A	SailMaster 5A	180-8	4	5	48	1500
BV101901A	SailMaster 7A	180-12	5	7	48	1500
BV101922A	SailMaster 10A	220-20	8	10	48	1500
BV101933A	SailMaster 8A	180-12	6	8	96	1500
BV101955A	SailMaster 12A	180-12	8	12	96	3000
BV101944A	SailMaster 15A	220-20	10	15	96	1500
BV101476A	SailMaster 20A	220-20	15	20	96	3000

<sup>•</sup> Complete the scope of supply with accessories from p. 17



## SailMaster

## Liquid Cooled

Reduction ratio i= 2 Propeller rpm = motor rpm/i

#### Including:

- Motor with mounting flange
- Vector control inverter IP65
- Precharge circuit
- DC-DC converter 12 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- Inlet and outlet liquid connections
- key panel

#### Optional:

- Main switch and main fuse (only for battery w/o internal switch and fuse)
- NMEA2000 compatible (with TFEasy display)
- Regeneration kit





(Propeller not included)

#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV100881W	SailMaster 3W	180-4	2.5	3	48	1500
BV100882W	SailMaster 7W	180-8	5	7	48	1500
BV101474W	SailMaster 10W	180-12	8	10	48	1500
BV101475W	SailMaster 15W	220-20	10	15	48	1500
BV101955W	SailMaster 18W	180-12	12	18	96	3000
BV101476W	SailMaster 25W	220-20	20	25	96	3000

• Complete the scope of supply with accessories from p. 17

## OutboardMaster

Permanent magnet motors in the Outboard version; available with air or liquid cooling. Long-lasting outboard designed for work boats or for frequent use. Air or liquid cooled.

#### Air Cooled

Reduction ratio i= 2 Propeller rpm = motor rpm/i

#### Including:

- Motor with mounting brackets
- Vector control inverter IP65
- Anti ventilation / cavitation plate (incl. anode)
- Precharge circuit
- DC-DC converter 12 Vdc
- 5m cable for display, lever, key
- Quick install / easy connect / plug and play
- Key panel

#### Optional:

• Main switch and main fuse (only for battery w/o internal switch and fuse)

NMEA2000 compatible (with TFEasy display)



(Propeller not included)

**Light & Medium Duty** 

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV101966A	OutboardMaster 7A	180-12	5	7	48	1500
BV101978A	OutboardMaster 10A	220-20	8	10	48	1500
BV101977A	OutboardMaster 8A	180-12	6	8	96	1500
BV101500A	OutboardMaster 12A	180-12	8	12	96	3000
BV101988A	OutboardMaster 15A	220-20	10	15	96	1500
BV101999A	OutboardMaster 20A	220-20	15	20	96	3000

## Liquid Cooled

Reduction ratio i= 2 Propeller rpm = motor rpm/i

#### Including:

- As above
- Inlet and outlet liquid connectors

#### Medium & Heavy Duty

PRODUCT CODE	DESCRIPTION	MOTOR SIZE	NOMINAL kW	INTERMITTENT kW	BATTERY Vdc	MOTOR rpm
BV101966W	OutboardMaster 10W	180-12	8	10	48	1500
BV101977W	OutboardMaster 15W	220-20	10	15	48	1500
BV101500W	OutboardMaster 18W	180-12	12	18	96	3000
BV101988W	OutboardMaster 25W	220-20	20	25	96	3000

<sup>•</sup> Complete the scope of supply with accessories from p. 17



## Propeller shaft assembly

#### Motor – Propeller Shaft Couplings

PRODUCT CODE	DESCRIPTION	
101219A •••	Motor - shaft clamping Ø 25 mm bore	To be used in combination with propeller shaft Ø 25 mm. (produced in Stainless Steel)
101220A •••	Motor - shaft clamping Ø 30 mm bore	To be used in combination with propeller shaft Ø 30 mm. (produced in Stainless Steel)
GAB3M20 •••	Motor - shaft B3M20 coupling	To be used in combination with propeller shaft Ø 35 mm or Ø 40 mm with rubber blocks (needs separate thrust bearing)

(•••) According to machined bores





#### Ecoline 25 propeller shaft system (without bracket – without propeller)

PRODUCT CODE	Ø DIA mm	TORQUE Nm	LENGHT mm	STERNTUBE
B0100427	25	50	1500	SS316

## Liquid Cooling

#### Fresh water cooling

PRODUCT CODE		DESCRIPTION	
100798A	12V	Freeh weter easling kit	Includes: self priming pump, 2 x hull fittings, ball valve, bronze water strainer,
100798B	24V	Fresh water cooling kit	5 m hose, hose barbs and SS hose clamps.











#### Closed loop cooling

PRODUCT CODE		DESCRIPTION		SIZE	POWER ADVISE
101446	12V		Includes: circulation pump, self priming pump,	S	Up to 20 kW
101447	12V	Cooling System with	heat exchanger, 2x hull fittings, ball valve,	М	20 to 55 kW
101447A	24V	install connections kit	bronze water strainer, 5 m hose, expansion	IVI	20 to 55 KW
101448A	24V		vessel, hose barbs and SS hose clamps.	L	55> kW



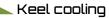










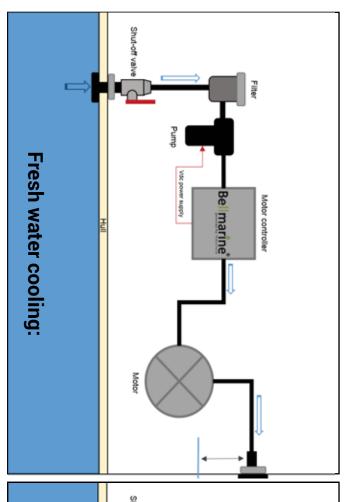


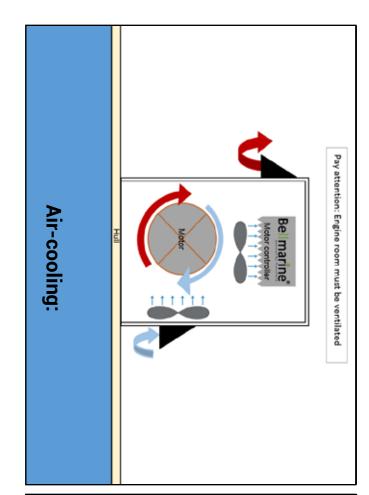
PRODUCT CODE		DESCRIPTION	
101531A	12V	Cooling System with	Includes: Circulation pump, 5 m hose, expansion vessel, 2x hull fittings, 2x
101531B	24V	install connections kit	ball valves, and SS brackets, hose barbs and SS hose clamps.

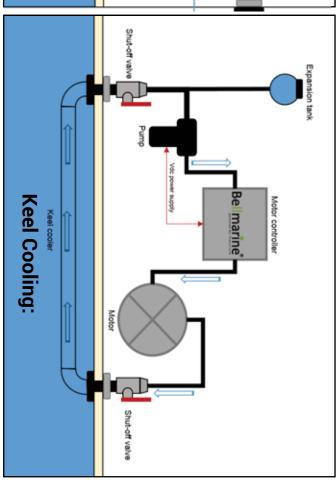


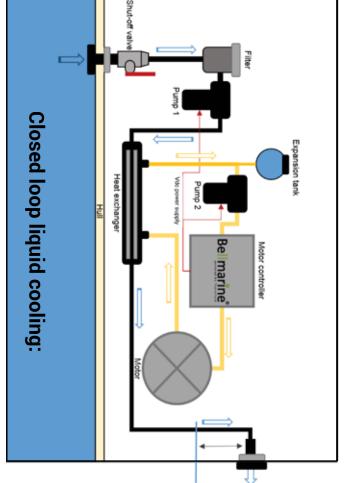














## **Bellcontrol Throttle**

- Water resistant (IP67)
- Electronic hall-sensor technology 0-5 Volt.
- With adapter cable
- Double control station available upon request

### Top mounting single

P. CODE	DESCRIPTION	TYPE	TOP MOUNT
BVTE 3284AA	Bellcontrol Casual - SS	TC1-11	Stainless Steel version with black delrin base, top mount, IP67 (contactless hall effect sensor, 0-5V output)
BVTE 3284AE	Bellstyle	TC1-15	Stainless Steel version with black delrin base, top mount, IP67 (contactless hall effect sensor, 0-5V output





#### Side mounting

P. CODE	DESCRIPTION	TYPE	SIDE MOUNT
BVTE 3284AC	Bellcontrol Casual - SS	S11	Stainless Steel version, side mount, IP67 (contactless hall effect sensor, 0-5V output)
BVTE 3284AF	Bellstyle	S15	Stainless Steel version, side mount, IP67 (contactless hall effect sensor, 0-5V output)





### Top mounting dual

P. CODE	DESCRIPTION	TYPE	TOP MOUNT - DUAL CONTROL
BVTE 3284BA	Bellcontrol Sport - SS	TC2-13	Stainless Steel version with black delrin base, dual joystick top mount, IP67 (contactless hall effect sensor, 2x 0-5V output)
BVTE 3284BC	Bellstyle	TC2-15	Stainless Steel version with black delrin base, dual joystick top mount, IP67 (contactless hall effect sensor, 2x 0-5V output)



TC2-13

TC2-15

## TFcontrol Throttle

- Water resistant (IP67)
- · With adapter cable
- Double control station available upon request
- Mandatory for 288 and 384V systems

P. CODE	DESCRIPTION	TYPE	TOP MOUNT
BVTE3274A	Single station for single screw	TFC1-11	Stainless handle, top mount, IP67 (0-5V output)
BVTE3274B	Single station for twin screw	TFC2-11	Stainless handle, top mount, IP67 (0-5V output)



TFC2-11



### Bellmarine MFD with Axiom+

by Raymarine

Bellmarine designed hard and software which easily combine with the powerful range of nautical products of Raymarine.

The Axiom multifunction displays deliver the speed and simplicity of the Lighthouse III user interface, which ensures smooth operation of the touchscreen.

Now it is possible to integrate your electric propulsion 1 or 2 Bellmarine motor system information into your complete boat system and have everything on one well-arranged screen including GPS speedometer and chart plotter.

With the standard integrated Wi-Fi function, you will always have an extra screen on your tablet or smartphone.





Raymarine display – Axiom+ 7, 9 & 12

#### Our system is supplied complete with special motor controller software and adapter cable installed

Your choice is supplied with the Actisense NMEA 2000® backbone in a single device and is pre assembled with the Bellmarine custom page.

- Every display / cable set is supplied with the Actisense NMEA2000 backbone and 2m cable
- Adding the 'NMEA2000 configuration kit' for visualizing all system features see on P.22

PRODUCT CODE	MODEL	DESCRIPTION
BV101516A	Bellmarine MFD Axiom+ 7	7" Multi functional display incl. integrated Wi-Fi incl. A2K-SBN4, cable set
BV101517A	Bellmarine MFD Axiom+ 9	9" Multi functional display incl. integrated Wi-Fi incl. A2K-SBN4, cable set
BV108128	Bellmarine MFD Axiom+ 12	12" Multi functional display incl. integrated Wi-Fi incl. A2K-SBN4, cable set

• Models with integrated RealVision sonar module on request





## Display

For every System a display and cable set is highly recommended for monitoring and control.

• With cable adapter



TF Easy



TF1

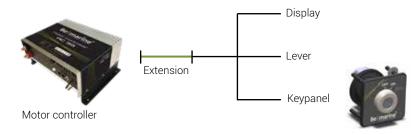






TF2

PRODUCT CODE	DESCRIPTION	
BVTE3281C	TF Easy	Display with battery status indication, motor power, motor rpm, motor temperature, controller temperature, eco meter, battery amps, battery voltage and mode selection. For any type of battery. NMEA2000 communication protocol. Incl. cable set for monitoring and control
BVTE3281D	TF Pro - Full Colour	Colour display with battery status indication, motor power, motor rpm, motor temperature, controller temperature, eco meter, battery amps, battery voltage and mode selection. For any type of battery. Incl. cable set for monitoring and control
BVTE3281A	TF1 - Full Colour	Colour display with battery status indication, motor power, motor rpm, motor temperature, controller temperature, eco meter, battery amps, battery voltage and mode selection. For any type of battery.  Incl. cable set for monitoring and control
BVTE3281B	TF2 - Full Colour	Colour display for twin screw system with battery status indication, motor power, motor rpm, motor temperature, controller temperature, eco meter, battery amps, battery voltage and mode selection. For any type of battery. Incl. cable set for monitoring and control
BVTE3280A	Extension cable length 2,5m	
BVTE3280B	Extension cable length 5m	
BVTE3280C	Extension cable length 10m	Signal cable between dashboard and engine room
BVTE3280D	Extension cable length 15m	
BVTE3280E	Extension cable length 20m	



## ACUITY - Battery condition monitoring system

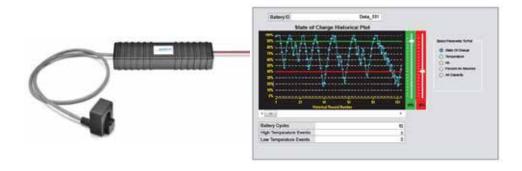
All our propulsion Systems can be enhanced with a "state of art" battery condition monitoring system.

ACUITY constantly measures and logs the precise condition of your battery. This detailed information will be displayed on your display, including the multifunctional displays from Raymarine.

Also the historic data can be downloaded to a PC with a USB interface.

Acuity requires special motor controller software.

Only available for Lead acid battery technology.



## Acuity accurate battery management

PRODUCT CODE	MODEL	
BVTE3285A	Acuity 24-48 VDC	Standalone unit
BVTE3285B	Acuity 72-144 VDC	Standalone unit
BVTF7147AC	Acuity USB Interface + Software	Configuration and monitoring PLC software and interface

## Option kits

PRODUCT CODE	DESCRIPTION
BVTF7150AB	Regeneration / during sailing Includes custom cable set and motorcontroller setup
BVTF7150AC	Help and Configuration on Distance interface: Diagnose or configurate your Bellmarine system on distance: USB / Inverter interface (48/96/144 Vdc)
GATF6338BC	USB / Inverter interface (288/384 Vdc)
BVTE3281E	NMEA2000 configuration kit Includes display TF Easy for diagnostic + Software
GMTE3318AA	GPS (Only for TF display)





## **Bow Adjust Control**

### Universal Proportional Bow Thruster Motor Controller

Bow Adjust Control is a universal proportional motor controller for every type of Bow thruster, it gives you the perfect control of your boat.

Also perfect for any 48V propulsion system since no additional battery bank and charger is required.

#### Complete including.:

1x Control panel B02 + cable and connection materials

PRODUCT CODE	DESCRIPTION		P-Max 12V	P-Max 24V
102005	BowAdjust Pro 12/24V 400A	BowAdjust motor controller. In (12-48V); Out 12/24V	4.8 kW	9.6 kW
102006	BowAdjust Pro 12/24V 750A	BowAdjust motor controller. In (12-48V); Out 12/24V	9.0 kW	18.0 kW

<sup>•</sup> If 2 controllers are ordered (Bow and Stern) a dual control panel can be supplied.



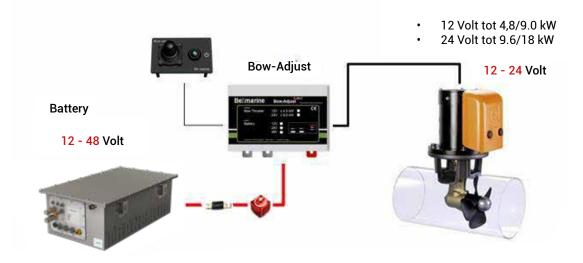
Type: B-02



#### **Additional Control Panels**

• Each panel is supplied with 10 meters connection cable

PRODUCT CODE	DESCRIPTION	TYPE	
101554	Additional control panel	B-02	Single control panel for controlling a bow thruster from an additional location finger tip version
101068	Switch box double control		Automatic switch box to switch between the 2 control panels. Including 10 meters connection cables.



23

### Inverter 230/400 Volt AC

Pure sinewave output provides the ideal power source for modern electronics.

Short-circuit proof robust design that protects itself against AC shorts. Sophisticated circuitry provides protection against overload, short circuit and over temperature.

Some of main features and benefits include:

Ruggedisation enhanced inverter protection to withstand high vibration and movement.

A must-have for all mobile and marine applications.

- Allows the inverter to be connected to a secondary power source (eg. Generator, Grid).
- Peak efficiency 97 %.



PRODUCT CODE	TYPE	BATTERY VOLTAGE V	CONT. POWER kW	OUTPUT VOLTAGE Vac
102003	Mastervolt Combi	48	3.5	230
101511	LS-3596	96	3.5	230
101639	LS-35125	144	3.5	230
GMTE3282AA	HV inverter kit	288	60*	3x400
GMTE3282BA	HV inverter kit	384	80*	3x400

<sup>\*</sup> with Power Factor 0,8

#### DC-DC converter

- Isolated switching regulator:
- Encapsulated IP65
- Vibration resistant
- Short circuit protection
- Connector Molex Mini-Fit Sr. 42816 over temperature protected (LV)
- Compact design
- On / Off Key switch input
- Wide input range
- Contact cooling (LV)



PRODUCT CODE	TYPE	BATTERY VOLTAGE V	OUTPUT VOLTAGE V	POWER W
		LOW VOLTAGE	E (LV)	
NE2170AU	DC4812450	36/48	12	450
NE2170AX	DC4824450	36/48	24	450
NE2170AV	DC9612450	96	12	450
NE2170AW	DC9624450	96	24	450
NE2170AY	DC14412450	144	12	450
NE2170AZ	DC14424450	144	24	450
		HIGH VOLTAGE	E (HV)	
GMTE3277AA	DVCH-1503-400-12	288/384	12	1500
GMTE3277AB	DVCH-1503-400-24	288/384	24	1500
GMTE3277AC	DVCH-3003-400-12	288/384	12	3000
GMTE3277AD	DVCH-3003-400-24	288/384	24	3000



#### TF LiFePO4 battery charger

- Battery state of charge readable from display (only TF battery)
- End of charge led
- Air cooled



PRODUCT CODE	ТҮРЕ	BATTERY VOLTAGE Vdc	CHARGE CURRENT Adc	INPUT VOLTAGE Vac
GMTE3239AA	DC230 48 3K	48	40	230
GMTE3239AB	DC400 48 7K	48	100	3 x 400
GMTE3239BA	DC230 96 3K	96	25	230
GMTE3239BB	DC400 96 7K	96	65	3 x 400
GMTE3239CA	DC230 144 3K	144	20	230
GMTE3239CB	DC400 144 9K	144	55	3 x 400
GMTE3239DA	DC400 288 9K	288	25	3 x 400
GMTE3239DB000	DC400 288 18K	288	50	3 x 400
GMTE3239EB	DC400 384 9K	384	18	3 x 400
GMTE3239ED000	DC400 384 18K	384	36	3 x 400

More Models Available upon Request (also 115Vac input)

#### Shore power cable 230V 16A - 400V 32A



PRODUCT CODE	DESCRIPTION
BVTE 3329AA	Set with: 15m cable (3G4mm2), Stainless 16A 230V inlet
BVTE 3329AB	Set with: 25m cable (3G4mm2), Stainless 16A 230V inlet
BVTE 3329BA	Set with:20m cable (5G6mm2), Stainless 32A 400V inlet

## Battery LiFePO4

Based on lithium iron phosphate cells (LiFePO4), a technology that is safe and has the best performance/cost ratio, with integrated BMS to maintain the cells always equalized and efficient. Box is stainless steel IP65.

#### Long lifespan

More than 4,000 cycles

The lifespan is 3 times longer than traditional batteries, making the cost per cycle lower. Maintenance-free, planned service is avoided, having no need of topping up or periodical checks. The conditions of the battery can be easily verified thanks to integrated diagnosis systems. No gas emissions during charge and discharge, so no special charging rooms are required. They may be charged at any place with maximum safety.

#### Suited for every application

Having no gas emissions, these batteries are suited also for marine and many industrial applications.

Apply Transfluid-Bellmarine for CAN-bus wires kit; 2m, 5m, 10m, 15m, 20m. (for battery and battery charger)

## Battery LiFePO4

Capacity Ah	Contin. discharge A	Pulse discharger A	Continuous charge A	Pulse charge A	Operating Temperature °C	Box Material	Protection class	
100	100	200	80	120				
200	200	400	160	240	-20 / 60	SS316L		
300	300	600	240	360			000161	IP65
400	400	800	320	480			(No cooling required)	
600	600	1200	480	720				
800	800	1600	640	960				

#### 48V

Energy kWh	Architecture	Dimension Single Box **	Number Of Modules	Total Weight
10.3	Single Module	620x677 h352 mm	1	113 kg
20.5	2P	620x677 h352 mm	2 + MCR*	226 kg
30.8	3P	620x677 h352 mm	3 + MCR*	339 kg
41.0	4P	620x677 h352 mm	4 + MCR*	452 kg

#### 48V (without DNV certification)

Energy	Architecture	Dimension	Number	Total
kWh		Single Box **	Of Modules	Weight
10.7	Single Module	420x750 h275 mm	1	101 kg



#### 96V

Energy kWh	Architecture	Dimension Single Box **	Number Of Modules	Total Weight
9.6	Single Element	506x876 h293 mm	1	112 kg
19.2	Single Element	619x955 h352 mm	1	189 kg
28.8	3P	506x876 h293 mm	3 + MCR*	336 kg
38.4	2P	619x955 h352 mm	2 + MCR*	378 kg
57.6	3P	619x955 h352 mm	3 + MCR*	567 kg
76.8	4P	619x955 h352 mm	4 + MCR*	756 kg

#### 144V

1 44 V				
Energy kWh	Architecture	Dimension Single Box **	Number Of Modules	Total Weight
30.8	3S	619x677 h352 mm	3	320 kg
61.4	3S - 2P	619x677 h352 mm	6 + MCR*	640 kg
92.2	3S - 3P	619x677 h352 mm	9 + MCR*	960 kg
122.9	3S - 4P	619x677 h352 mm	12 + MCR*	1280 kg

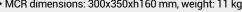
#### 288V

Energy kWh	Architecture	Dimension Single Box**	Number Of Modules	Total Weight
28.8	3S	506x876 h293 mm	3	326 kg
57.6	3S	619x955 h352 mm	3	566 kg
86.4	3S - 3P	506x876 h293 mm	9 <b>+ MCR</b> *	978 kg
115.2	3S - 2P	619x955 h352 mm	6 <b>+ MCR</b> *	1132 kg
172.8	3S - 3P	619x955 h352 mm	9 <b>+ MCR</b> *	1698 kg
230.4	3S - 4P	619x955 h352 mm	12 + MCR*	2264 kg

#### 384V

Energy kWh	Architecture	Dimension Single Box**	Number Of Modules	Total Weight
38.4	4S	506x876 h293 mm	4	448 kg
76.8	4S	619x955 h352 mm	4	764 kg
115.2	4S - 3P	506x876 h293 mm	12 + MCR*	1344 kg
153.6	4S - 2P	619x955 h352 mm	8 + MCR*	1528 kg
230.4	4S - 3P	619x955 h352 mm	12 + MCR*	2292 kg
307.2	4S - 4P	619x955 h352 mm	16 + MCR*	3056 kg

- \* MCR dimensions: 300x350xh160 mm, weight: 11 kg
- \* Collector box included \*\*

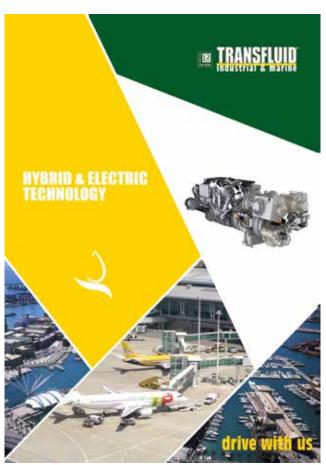


\*\* Indicative dimensions. Ask for official drawing



## See also Transfluid Hybrid & Electric Technology catalogue















## **Electric Boating starts at Bellmarine**





TRANSFLUID





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