

MODEL 2010 DC BRUSHLESS THRUSTERS

For many years the standard electric thruster for the mid-sized work ROV, the Model 2010 has also been used on AUV's, manned submersibles, US Navy programs and work platforms. Though recently upgraded to the more efficient and powerful Model 2020 specification, Tecnadyne will continue to supply the Model 2010 to support the large number of current users for many years to come. Producing over 93kg forward thrust, the Model 2010 weighs only 8kg in water.



As with all Tecnadyne thrusters, the propeller of the Model 2010 is magnetically coupled. With this design, a magnet array in the hub of the propeller is driven by a matching magnet array attached to the drive motor. By eliminating the rotating drive shaft and shaft seals that always seem to leak over time, the Model 2010 achieves extremely high reliability. Additionally, the magnetic coupling will ratchet if overloaded, preventing damage caused by objects jammed in the propeller. And since the water lubricated propeller bearings are external to the pressure housing, they can be easily replaced in several minutes.

Employing a high RPM, low inertia DC brushless motor, coupled to a 6.7/1 ratio planetary gearset, the Model 2010 delivers maximum reliability, high efficiency and high power in an extremely compact, lightweight and easy to maintain package. The stainless steel propeller, available in both right and left hand rotations, combined with a custom designed kort nozzle, give the Model 2010 extremely high bollard thrust and open water efficiency.

The standard configuration utilizes 1 atmosphere pressure housings, rated to 750m depth, and houses the electronics controller with the motor. For full ocean depth rating, the electronics module is installed in a remote, one atmosphere housing (either the customer's housing or one supplied by Tecnadyne) and the thruster is oil filled.

The Model 2010 is available for operation at voltages from 48vdc to 330vdc (260vdc standard) supplied by a well filtered battery bank, rectified and filtered AC or a DC power supply. In addition to the main power, a +/-5v analog speed and direction control signal is required. Alternately, a full servo RS232 or RS485 input controller is available and must be installed in a remote, one atmosphere housing. Please visit the Tecnadyne website for detailed installation and interface instructions.

The standard depth rating of the Model 2010 is 750 meters. Full ocean depth rating with pressure compensated housings and remote electronics is also available. Customer specified subsea connectors and cables, stainless steel or titanium housings, custom mountings and custom propeller and kort nozzle combinations are also available.

MODEL 2010 SPECIFICATIONS

Bollard Output

205lbf (93kg) forward
115lbf (52kg) reverse
w/ either right hand or
left hand stainless steel
propeller

Input

260vdc, 17A power
(4.5 KW at alternate
voltages)
+/-5v analog speed
command

Weight

23.2lb (10.5kg) in air
17.4lb (7.9kg) in water

Depth Rating

2,500ft (750m) standard
and full ocean depth (oil
filled)

(Specifications subject to change
without notice)

(1,000m & greater depth subject to
US Govt. export approval)

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Part Number: 2010 -

- (44-52vdc) 048
- (65-75) 070
- (140-175vdc) 150
- (165-185vdc) 175
- (250-300vdc) 260

- 0750 (750 meter depth rating)
- OFRE (Oil filled, remote electronics)
- Ln (SeaCon LMG-6-FS w/ cable of n meters)
- Mn (Impulse MSAL-8-CCPOF w/ oil filled cable of n meters)
- X (Customer specified connector)

