

## Introduction

---

The electrical Rim-Driven Thruster consist of an electric torque motor, which drives an inside propeller. This configuration allows very efficient, along with the special power electronics precisely controllable relapses, at a very high efficiency. The thruster is designed to be used in water depths up to 6,000 m.

1 Due to the consistent application of the pressure-tolerant technology the thrusters are very robust and nearly maintenance-free. They are responsive, powerful and easy to integrate and will provide a unique combination of ultra-compact power and high maneuverability.

## Benefits

---

- Unique technology without seals
- Two solid molded parts - No sealing needed, no oil or air inside
- High reliability, rugged design
- Only three moving parts – direct driven propeller – no gear
- High torque at low RPM
- Low friction Seawater lubricated bearings – simple to service
- Hub less propeller - low risk of entanglement
- Easy exchangeable propeller
- Symmetrical forward and reverse thrust
- Integrated temperature monitoring
- Diverse options for connections
- Different voltage and interface options

**Kraken Power GmbH**

Hansestraße 21  
D-18182 Bentwisch  
Germany

Fon: +49 (0) 381 66098699  
[www.krakenpower.de](http://www.krakenpower.de)  
[info@krakenpower.de](mailto:info@krakenpower.de)



Thruster T160 with cable

Thruster T160 with cable and duct.

2

## Specifications

- Operation depth: 6,000 m
- Thrust: up to 350 N (35.6 kgf)
- Power: up to 2,500 W
- Voltage nom.: up to 110 VDC
- Max. rpm: 1,400 rpm
- Weight: 5.6 kg

## Applications

- UUVs
- ROVs
- AUVs
- Manned underwater vehicles
- Surface crafts

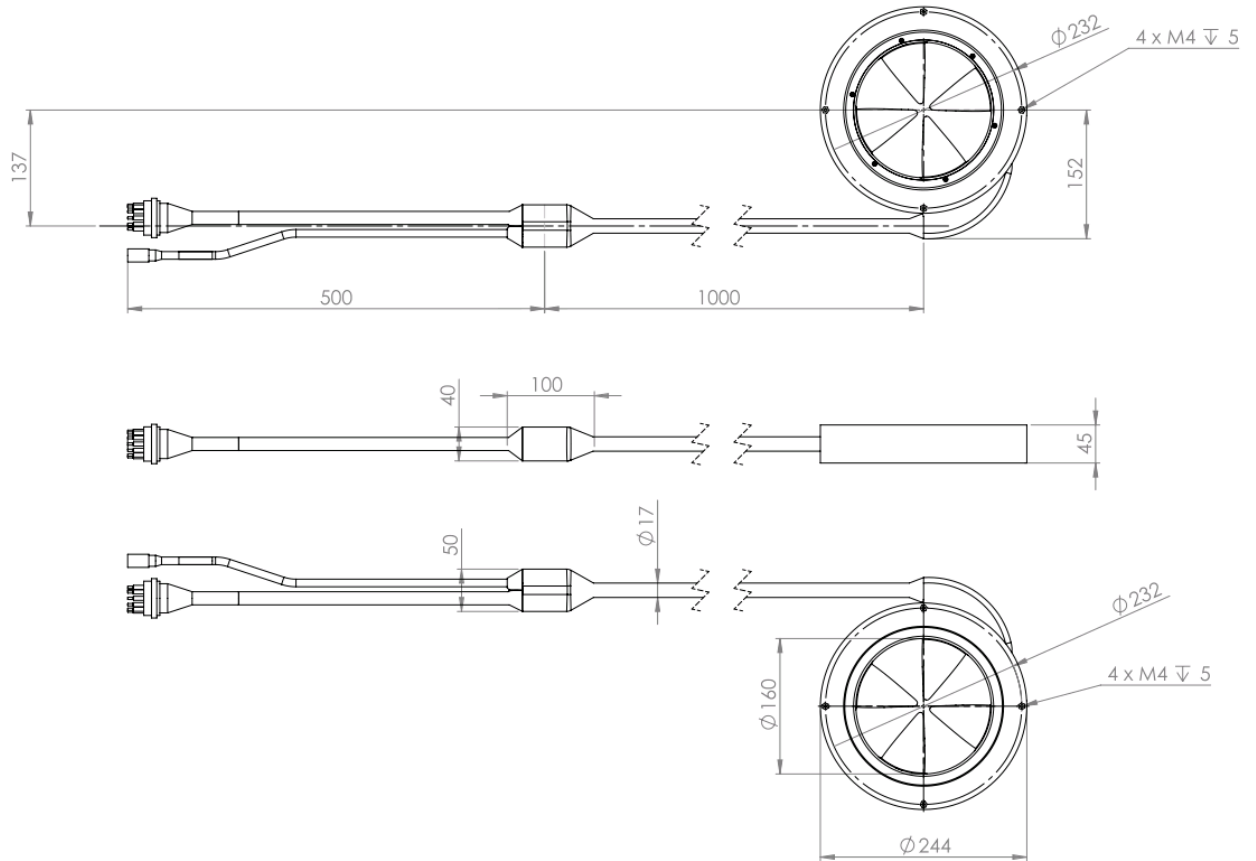
Kraken Power GmbH

Hansestraße 21  
D-18182 Bentwisch  
Germany

Fon: +49 (0) 381 66098699  
[www.krakenpower.de](http://www.krakenpower.de)  
[info@krakenpower.de](mailto:info@krakenpower.de)

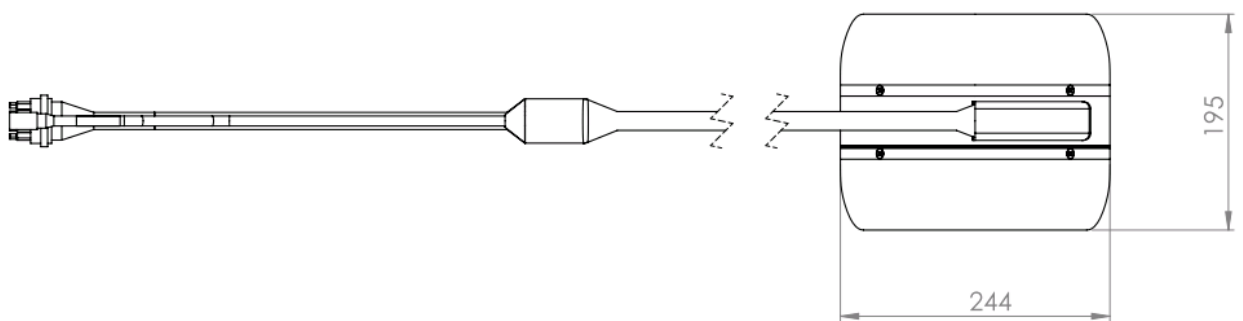


## Dimensions



3

## Dimensions with Duct



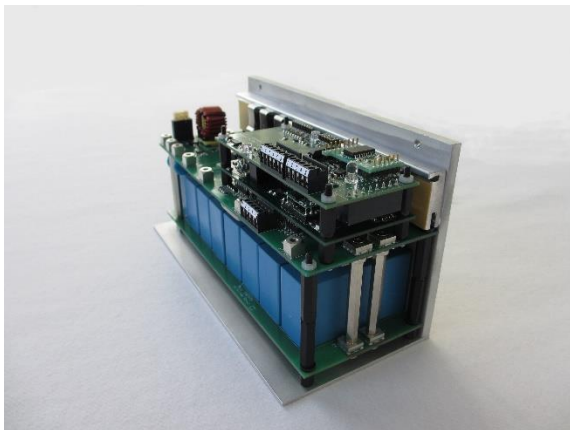
Kraken Power GmbH

Hansestraße 21  
D-18182 Bentwisch  
Germany

Fon: +49 (0) 381 66098699  
[www.krakenpower.de](http://www.krakenpower.de)  
[info@krakenpower.de](mailto:info@krakenpower.de)



## Control Electronic



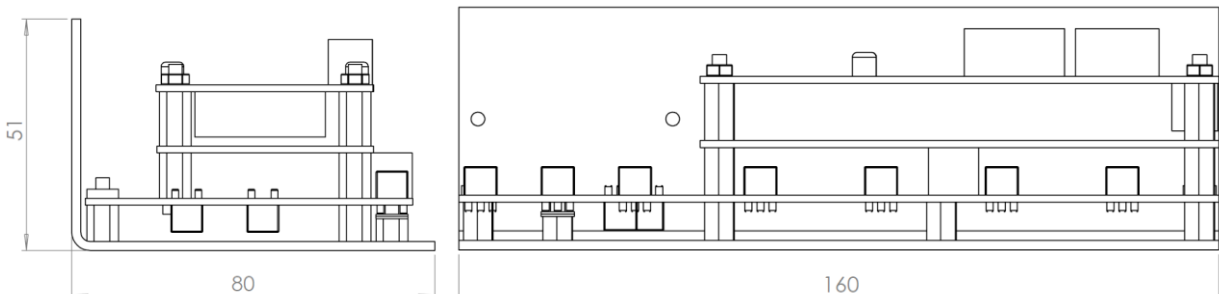
The Controller on the left is NoPT and on the right is PT.

## Specifications

4

- 2-Phase high current Microcontroller based thruster driver
- RPM- or Current control
- simple reprogramming
- Software package on demand
  
- Operation depth: pressure tolerant 6,000 m or your own pressure vessel
- Power: up to 1.8 kW
- Voltage: 24 - 120 VDC
- Interface: RS485; RS422; CAN; RS232; Analog  $\pm 5, 10, 24$  VDC

## Dimensions



Kraken Power GmbH

Hansestraße 21  
D-18182 Bentwisch  
Germany

Fon: +49 (0) 381 66098699  
[www.krakenpower.de](http://www.krakenpower.de)  
[info@krakenpower.de](mailto:info@krakenpower.de)



## Configurations and Part Numbering

---

### T160VvvvDddEFHG

#### vvv - Supply Voltage

024	24 VDC (18-30 VDC)
048	48 VDC (42-57 VDC)
072	72 VDC (65-86 VDC)
110	110 VDC* (85-114 VDC)
0HV	Please ask for higher bus voltage

#### dd - Working Depth

10	< 1,000 m
60	1,000 ⇔ 6,000 m
99	Full Ocean Depth on demand

#### E - Propeller Direction

L	CCW
R	CW
S	Symmetric

5

#### F - Duct

D	Ducted Thruster
N	No Duct
S	Special Duct

#### H - Controller Interface

0	RS422
1	RS485
2	RS232
3	CAN
4	Analog
5	PWM

#### G - Controller Design

A	NOPT - Open Frame Electronic Board
B	PBOF - Open Frame Electronic but pressure resistant to 6,000 m (20,000 ft)
C	PT - Pressure Tolerant Molded (DNS-Silicone)

Kraken Power GmbH

Hansestraße 21  
D-18182 Bentwisch  
Germany

Fon: +49 (0) 381 66098699  
www.krakenpower.de  
info@krakenpower.de