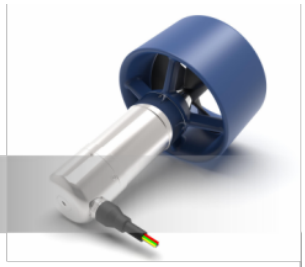
UNDERWATER THRUSTER

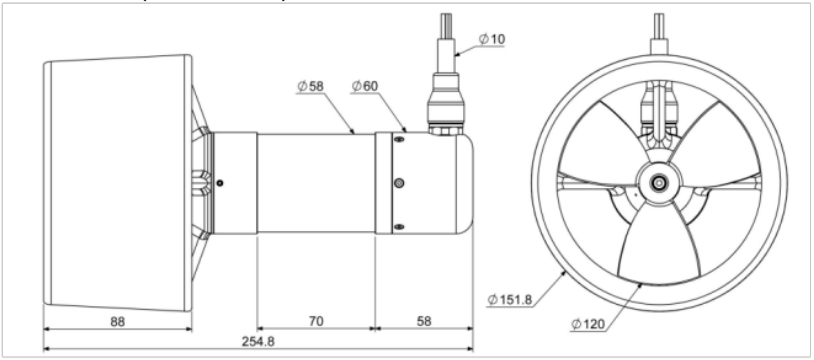
D4825

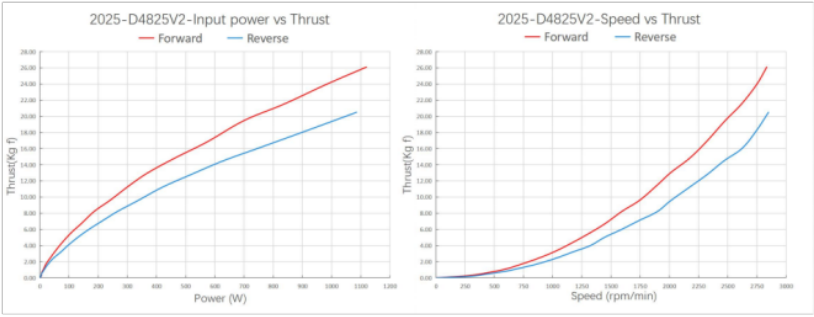


Parameter Introduction

- Motor type: Internal rotor brushless motor
- Operating Voltage: 48 V DC (supports wide voltage range of 38 V to 54 V)
- Rated thrust: Front 25 Kgf / Rear 20 Kgf
- Rated power: 1050 W
- Rated speed: 2850 rpm
- Working water depth: ≤300 m
- Control signal: PWM/CAN dual throttle
- Communication method: CAN bus (provides communication protocols)
- Feedback data: Speed, current, temperature, drive board status, fault code
- Drive type: Built-in FOC drive
- Protection mechanisms: Overcurrent, overheating, undervoltage, locked rotor
- Sealing method: Bidirectional hydraulic balanced rotary seal (Maintenance interval: 1000 hours of cumulative operating time or 1 year, depending on the propeller's operational condition)
- Shell material: 316L stainless steel
- Propeller material: Carbon fiber composite/aluminum alloy
- Propeller configuration: CW/CCW
- Flow guide cover material: POM
- Cable material: TPU (polyether polyurethane)
- Cable specifications: Outer diameter 10 mm, Length 1.5 m
  Core: 2x2.5 mm ²+ 2x2x22AWG
- Temperature: Storage: -10°C to 40°C; Working: -5°C to 37°C
- net weight：

Unit: mm (millimeters)





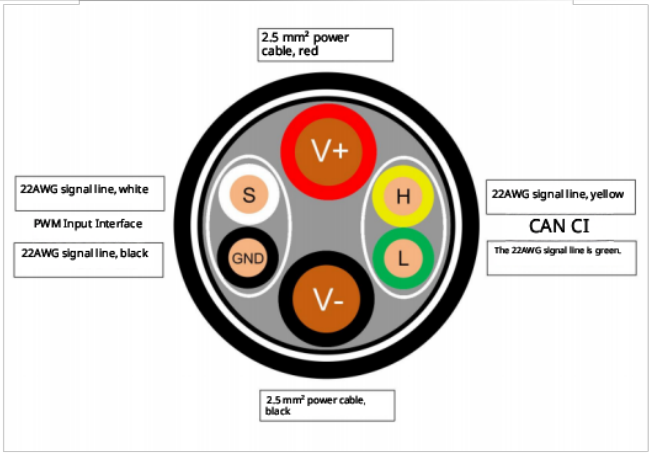
Wiring Definition and Control

This product is shipped with the wires exposed at the terminal connections.

- Number of conductors: 6 + 1 core
- Power line group: Red V+, Black V-
- PWM Signal Lines: White (S), Black (GND)
- CAN bus group: Yellow H, Green L
- Shield layer group: Silver circle marker
- Precautions for shielding layer wiring: It must be connected in parallel with the GND of the PWM signal group.

Control Precautions:

- The PWM input control signal is:
  1.0 ms (maximum backward push) – 1.5 ms (stop position) – 2.0 ms (maximum forward push)
- When PWM input control is used, the CAN bus serves solely for data reading.
- When using CAN bus control, keep the PWM input pin floating.
- When operating in PWM control mode, switching to CAN control requires a complete power cycle; the mode selected during power-on shall prevail.



Usage Precautions, Storage, and Transportation

- Do not use beyond the rated voltage to avoid damaging the propeller.
- The underwater propeller is specifically designed for subaquatic use and must be fully submerged during operation to ensure efficient heat dissipation.
- Do not operate in air or highly turbid sedimentary environments.**Continuous operation in air shall not exceed 10 seconds** to prevent seal damage, water ingress, or motor burnout due to inadequate heat dissipation.
- The maximum operating water depth must not exceed 300 m; otherwise, the propeller will fail.
- Do not reverse for extended periods to prevent propeller failure.
- To enhance after-sales service and product experience, the air deflector and propeller of this product are replaceable spare parts available for a fee.
- This product is a high-speed rotating power device equipped with blades. During operation, the propeller must be kept away from any foreign objects or body parts.
- The aircraft body is made of stainless steel and has passed extensive salt spray testing, ensuring its durability in seawater environments.
- For the cable section, avoid excessive bending to prevent internal breakage of the conductor.
- The wiring of the underwater propeller must comply with the "Wiring Specifications"; failure to do so may damage the propeller's drive circuit.
- It should be stored in a cool, dry, and well-ventilated location, protected from direct sunlight, and kept away from fire and high temperatures.
- If the underwater propeller has been stored for an extended period in sub-zero, icy conditions, it should first be thawed at room temperature before use.
- During transportation, the maximum temperature of underwater propellers must remain below 50°C, and they must not be subjected to heavy loads during transit.