# PWTR6

**PWTR6** embodies an advanced CANbus keypad, featuring a rotary encoder and robust IP67 protection. The 6 quick-select buttons seamlessly complement the functionality of the pushable rotary encoder, which is also available in a joystick version (PWTR6-J). This combination provides precise and intuitive control of onboard displays, putting everything at your fingertips. Customization is tailored to your needs: you can personalize the rubber artwork and LED color of each button and backlighting. Powertrack is available with both CANopen and J1939 protocols.

## SOFTWARE FEATURES

**CAN Keypad Addresses –** Assign any valid CAN address to the keypad.

**CANopen Communications Protocol –** Fully compliant with Device Profile 401d.

**J1939 Address Claim Transmission –** Keypads no longer have to be pre-programmed to a specific address. This enables customers that work in applications in the field without access to a GUI to use any replacement keypad on-hand. The keypad can be configured to automatically announce its address and accept a new address assignment as appropriate.

**Event Status Transmission –** The keypad can send messages to the BUS indicating a button press event or a button release event has occurred. The event that triggers the message can also be caused by the movement of the joystick or the rotation of the encoder.

**Periodic Status Transmission –** The keypad sends a continuous broadcast of messages, indicating the status of each button, as well as the positions of the joystick and the encoder at that instance. The frequency of these messages can be adjusted in a wide range.

**Periodic Heartbeat –** The keypad sends a continuous broadcast of messages indicating it is functioning correctly. The frequency of these messages can be adjusted in a wide range.

**Smart LED Management –** Each light spot consists of three different colored LEDs (RGB). In this way it is possible to independently adjust color and intensity gradient of light spots.

**Backward-compatible –** PWTR6 uses the same CAN protocols as the legacy Powertrack model. This means that it is possible to replace a Powertrack with a PWTR6 with minor changes to the control unit.

## HARDWARE FEATURES

**IP67/IP69K Waterproof Rating –** Guaranteed to be dust tight and sealed against water immersion to a depth of 1 meter for up to 1 hour. The IP69K rating provides protection against high pressure water at high temperature spray downs.

**UV Protected –** UVB 400 hours: Keypad is highly resistant to deterioration caused by exposure to sunlight.

**Marked Keys –** The ergonomic design simplifies touch navigation of the quick-pick keys.

**A membrane compensation valve** which self compensate the internal pressure within the keypad, alleviating mechanical stresses that can be produced by shifts in external temperatures.

**Independent Key –** The device is able to support any multiple pressure key combination.

**Ergonomic Knob –** This controller is designed for a comfortable grip in any situation, thanks to the textured sides of the aluminum knob.

**Encoder With Pushbutton –** Use of the knob is both comfortable and immediate. For example, the knob allows its user to manage scroll & select operations without letting go of the handle.

**RGB LED –** Both the LED points on each key and the backlighting can be calibrated to display various colors within the RGB spectrum.

## STANDARD FEATURES

- Configurable LED
- Multicolor LED backlight
- High intensity LED status indicators
- RGB LED Indicators
- LED backlit icons
- Programmable functions (momentary, toggle, scroll...)
- Vertical or horizontal mount
- Protected from inverted polarity
- Available with or without joystick function

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## SOFTWARE FEATURES

- Change CAN keypad addresses independently
- Periodic Status transmission
- Heartbeat
- Event status transmission
- LED acknowledgement
- Address claim transmission
- CANopen and J1939 communication protocol
- Plug-and-play reconfigurability
- Detailed user manuals available

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## OTHER BENEFITS

- Custom laser etched icons
- Specific connectors and cables are available on request
- Anodized color options for the knob
- Custom knob shape
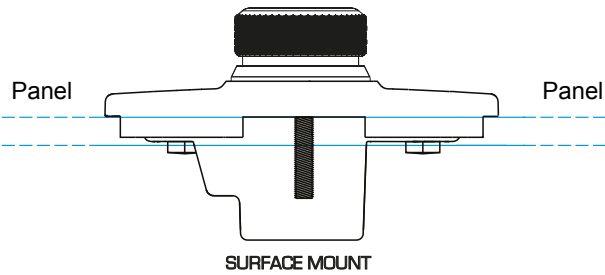- Pad printed logo

| ROTARY | PUSHBUTTON | JOYSTCK |
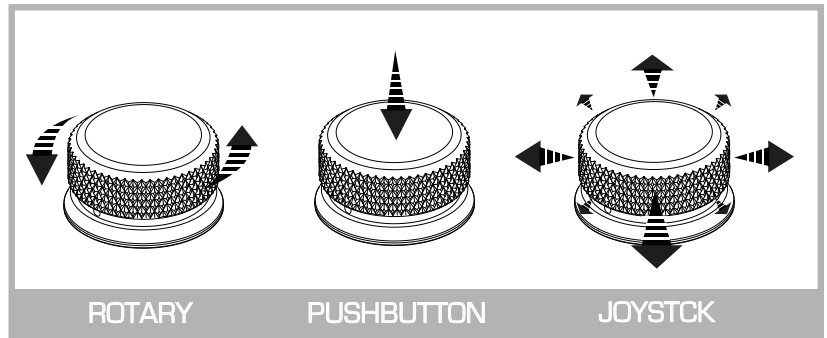
PWTR6 — Without Joystick

PWTR6-J — With Joystick

## SPECIFICATIONS FOR STANDARD KEYPADS

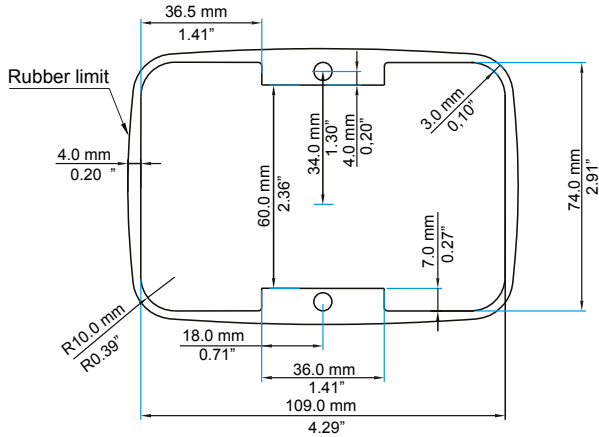| ELECTRICAL | PWTR6 | PWTR6-J |
|---|---|---|
| Supply Voltage | 12-24Vdc Nominal (8-32VDC) | |
| Standby Current | <50 mA | |
| Communication BUS | CANopen, J1939 | |
| MTBF | 116056 hours (in accordance with MIL-HDBK-217-operating environment ground mobile) | |

| MECHANICAL | PWTR6 | PWTR6-J |
|---|---|---|
| Standard Connector | Deutsch DT04-4P | |
| Switch Life | 3 million operations | |
| Mounting Studs | 2x #10-32 Steel | |
| Rubber Specs | Silicone rubber with polyurethane hardcoat | |
| PCB | 1,6mm thick, Nema Grade FR-4, double clad with 1oz copper | |
| Operating Temperature | -40℃ to +70℃ | |
| Storage Temperature | -40℃ to +85℃ | |
| Thermal Shock | -40℃ to +85℃ According to table 2 of ISO16750-4 | |
| Mechanical Shock Test | IEC 60068 2-27 3-axis X,Y,Z 50Gs 11ms | |
| Vibration Test | IEC 60068 2-6 3-axis X,Y,Z 10-150Hz 0.15mm | |
| UV Protection | UVB 400 hours | |
| Salt Spray | Per ASTMB117 | |
| Chemical Resistance | Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Muriatic Acid | |
| Ingress protection Rating | IP67/IP69K | |
| Weight | 230 gr | 240 gr |

| JOYSTICK | PWTR6 | PWTR6-J |
|---|---|---|
| Activation Force | N/A | 5.5±3.5N (560±350gf) |
| Max. Angle | N/A | 6° |
| Operation Life | N/A | 500.000 cycles min. |

Panel                    Panel

SURFACE MOUNT

115.8 mm
4.56"

81.8 mm
3.22"

36.5 mm
1.41"

Rubber limit

4.0 mm
0.20"

34.0 mm
1.30"

4.0 mm
0.20"

3.0 mm
0.10"

60.0 mm
2.36"

74.0 mm
2.91"

7.0 mm
0.27"

R10.0 mm
R0.39"

18.0 mm
0.71"

36.0 mm
1.41"

109.0 mm
4.29"

SURFACE MOUNT CUTOUT

34.0 mm
1.33"

29.0 mm
1.14"

10.0 mm
0.39"

37.8 mm
1.48"

35.5 mm
1.39"

52.0 mm
2.05"

165.0 mm
6.50"
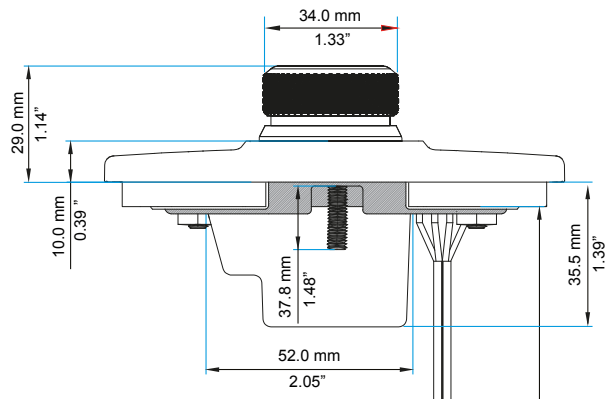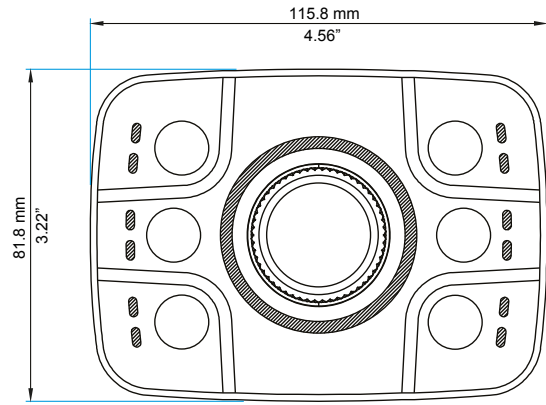
MOUNTING NOTES:
Nuts thread: 2x #10-32
Maximum torque: 1,8Nm - 16lbf-in

All conection wires are the same lenght

BLACK=GROUND          WHITE=CAN H
RED=POWER             BLUE=CAN L

blinkmarine.com          MADE IN ITALY

6        N        3
5    E       W    2
4        S        1

CE

39.0 mm
1.53"
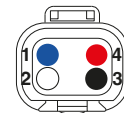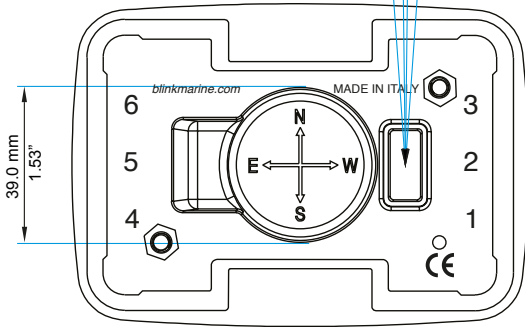
WIRE SIDE

## CONNECTOR STANDARD PINOUT

| PIN | COLOUR | FUNCTION |
|-----|--------|----------|
| 1 | Blue | CAN L |
| 2 | White | CAN H |
| 3 | Back | Negative battery |
| 4 | Red | Vbatt. (12-24V) |

The one illustrated above is the standard pinout; however, some
keypads may be supplied with alternative pinouts or connectors.

# blink
M A R I N E