



## PowerTrack Series

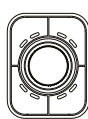
The **PowerTrack Series** is Blink Marine's latest generation of CANbus keypads, designed to operate onboard displays for menu scrolling and quick-pick selection. Using standard CANopen and J1939 protocols, all models feature smart RGB LED management and offer protection up to IP67-IP69K. At the heart of the design is a rotary encoder with integrated pushbutton and joystick capabilities, ensuring precise and responsive control across a wide range of applications.

### SPECIFICATIONS FOR STANDARD KEYPADS

PowerTrack



PWTR4



PWTR4-J



PWTR6



PWTR6-J



ELECTRICAL	PowerTrack	PWTR4	PWTR4-J	PWTR6	PWTR6-J
Supply Voltage	12-24Vdc Nominal (8-32VDC)				
Standby Current	<50 mA				
Communication BUS	CANopen, J1939				
MTBF	95049 hours	126756 hours	126756 hours	116056 hours	116056 hours (in accordance with MIL-HDBK-217-operating environment ground mobile)

MECHANICAL	PowerTrack	PWTR4	PWTR4-J	PWTR6	PWTR6-J
Standard Connector	Deutsch DT04-4P				
Switch Life	3 million operations				
Mounting Studs	4x #10-32 Stainless Steel	2x #10-32 Stainless Steel	2x #10-32 Stainless Steel	2x #10-32 Stainless Steel	2x #10-32 Stainless Steel
Rubber Specs	Silicone rubber with polyurethane hardcoat				
PCB	1,6mm thick, Nema Grade FR-4, double clad with 1 oz copper				
Ticks per revolution	20				
Operating Temperature	-40°C to +70°C				
Storage Temperature	-40°C to +85°C				
Thermal Shock	-40°C to +85°C 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 ASTM B117				
Chemical Resistance	Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Muriatic Acid				
Ingress protection Rating	IP67/IP69K				
Weight	180 gr	190 gr	200 gr	230 gr	240 gr

JOYSTICK	PowerTrack	PWTR4	PWTR4-J	PWTR6	PWTR6-J
Activation Force	N/A	N/A	5.5±3.5N (560±350gf)	N/A	5.5±3.5N (560±350gf)
Max. Angle	N/A	N/A	6°	N/A	6°
Operation Life	N/A	N/A	500,000 cycles min.	N/A	500,000 cycles min.

### STANDARD FEATURES

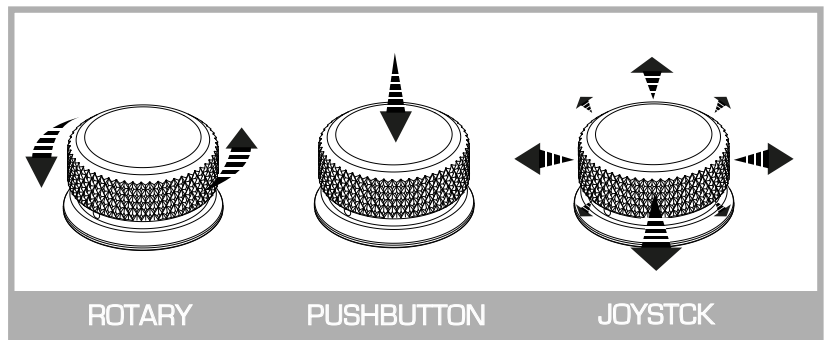
- Configurable LED
- Multicolor LED backlight
- High intensity LED status indicators
- RGB LED Indicators
- LED backlit icons
- Programmable functions (momentary, toggle, scroll...)
- Flush mount design (PWTR4)
- Vertical or horizontal mount
- Protected from inverted polarity
- Available with or without joystick function

### 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

### 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

### 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.

**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.

**The rubber is molded on the backside** in such a way that it acts as a gasket, blocking liquids and preventing them from leaking in through the attachment holes located on the support upon which the keypad is installed (PWTR4).

**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
- LED backlit icons
- Green/ red LED indicators
- Programmable functions (momentary, toggle, scroll...)
- Vertical or horizontal mount
- Protected from inverted polarity

### SOFTWARE FEATURES

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- LED acknowledgement
- Address claim transmission
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**Event Status Transmission** - The keypad can send messages to the BUS indicating a button press event or a button release event has occurred. This confirmation allows digital systems to have the same input acknowledgements as that of the latching positions of a mechanical switch.

**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** – The intensity of the LEDs can be adjusted, whilst any LED indicator – whether fixed or blinking – can be personalized according to color preference. Backlighting for the keypad is also adjustable.

### HARDWARE FEATURES

**Splashproof** – PowerTrack is resistant to impacts generated by water spray and other potentially damaging elements like dust, sand and mud.

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

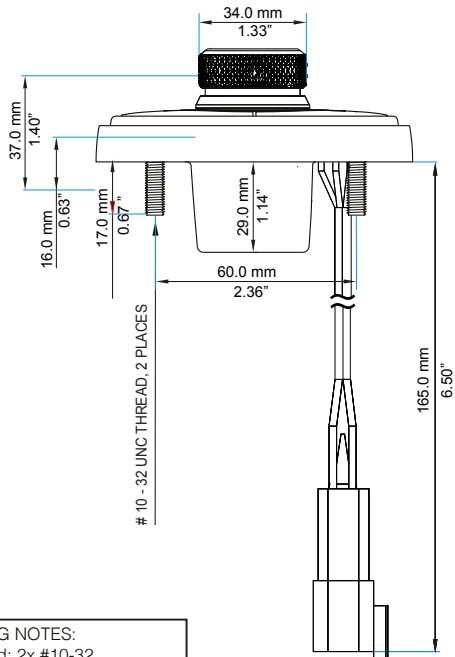
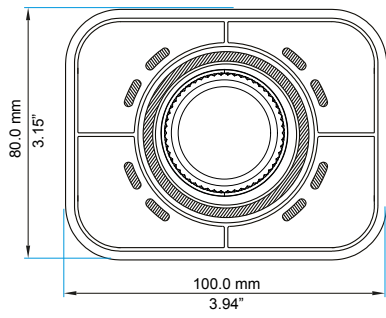
**Concave Keys** – The ergonomic design simplifies touch navigation of the quick-pick keys.

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

**An Ergonomic Knob** – This controller was designed to guarantee a comfortable grip in any given situation thanks to a rubber insert that wraps all the way around the knob.

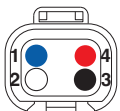
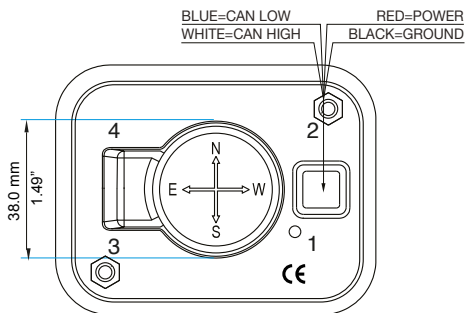
**Encoder With Pushbutton** – Use of the knob is both comfortable and immediate. For example, the knob allows its user to manage scroll & select operations without letting go of the handle.

PWTR4



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

All connection wires are the same length



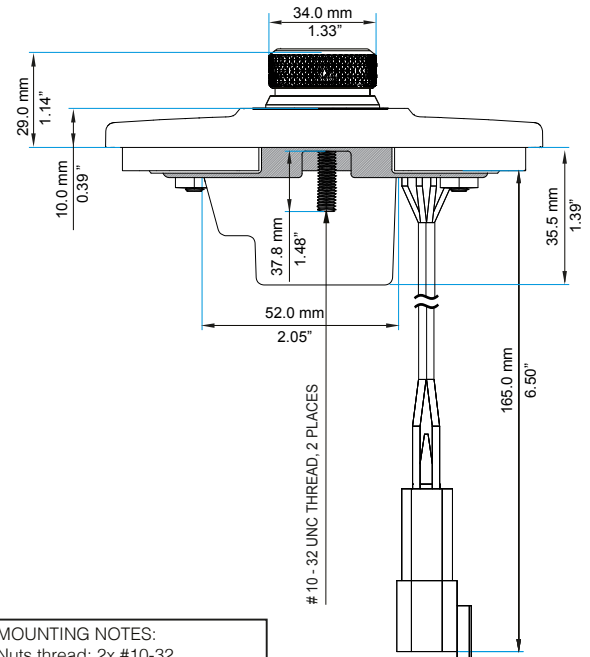
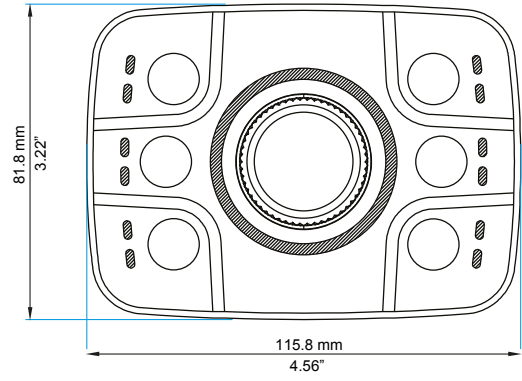
WIRE SIDE

CONNECTOR STANDARD PINOUT

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

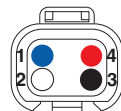
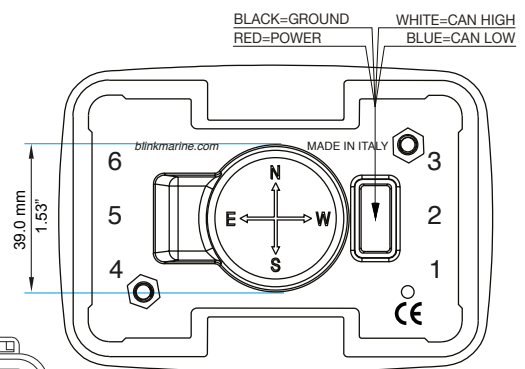
The one illustrated above is the standard pinout; however, some keypads may be supplied with alternative pinouts or connectors.

PWTR6



MOUNTING NOTES:  
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Maximum torque: 1,8Nm - 16lbf-in

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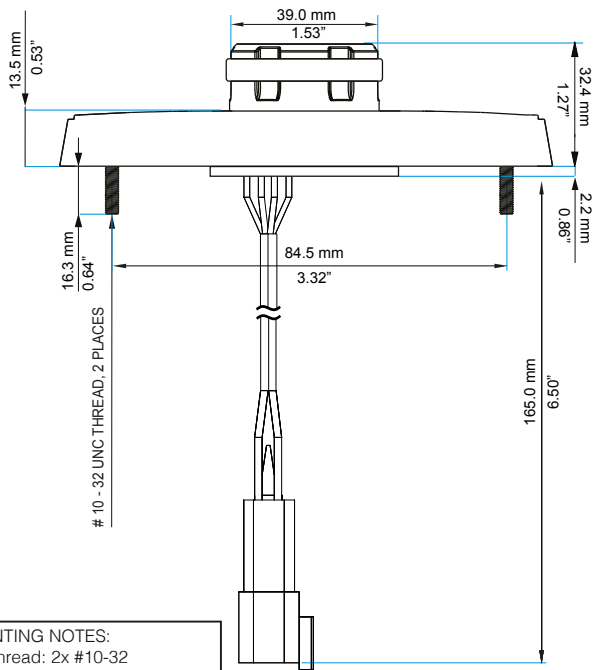
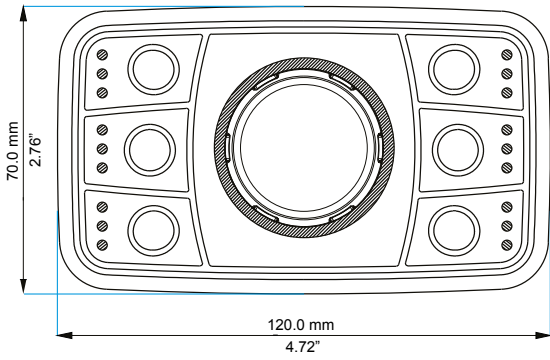
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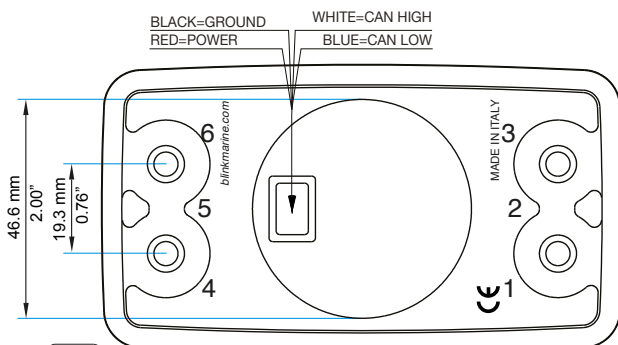
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**PowerTrack**



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