

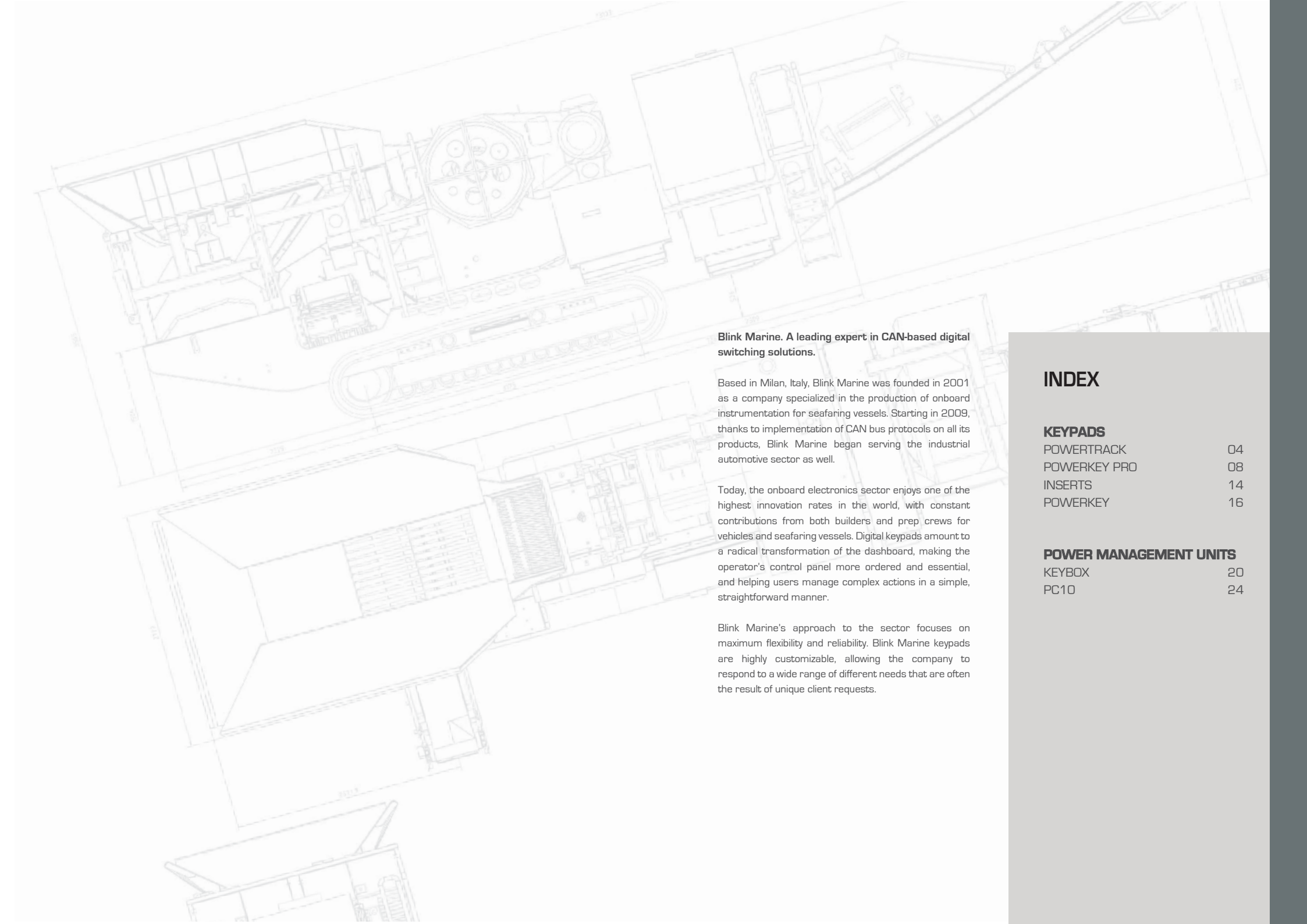


## DIGITAL SWITCHING SOLUTIONS

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PRODUCT RANGE

FEBRUARY 2017

A detailed technical line drawing of a ship's interior, showing various compartments, machinery, and structural elements. The drawing is oriented diagonally across the page. It includes a large circular structure, possibly a radar or sensor, and various rectangular and cylindrical components. Dimensions and alphanumeric labels are scattered throughout the drawing.

**Blink Marine. A leading expert in CAN-based digital switching solutions.**

Based in Milan, Italy, Blink Marine was founded in 2001 as a company specialized in the production of onboard instrumentation for seafaring vessels. Starting in 2009, thanks to implementation of CAN bus protocols on all its products, Blink Marine began serving the industrial automotive sector as well.

Today, the onboard electronics sector enjoys one of the highest innovation rates in the world, with constant contributions from both builders and prep crews for vehicles and seafaring vessels. Digital keypads amount to a radical transformation of the dashboard, making the operator's control panel more ordered and essential, and helping users manage complex actions in a simple, straightforward manner.

Blink Marine's approach to the sector focuses on maximum flexibility and reliability. Blink Marine keypads are highly customizable, allowing the company to respond to a wide range of different needs that are often the result of unique client requests.

## INDEX

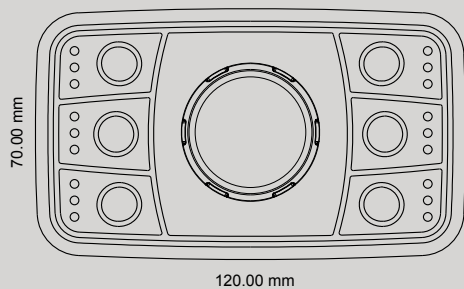
### KEYPADS

POWERTRACK	04
POWERKEY PRO	08
INSERTS	14
POWERKEY	16

### POWER MANAGEMENT UNITS

KEYBOX	20
PC10	24

# POWERTRACK



PowerTrack is a vehicle display controller working with several CAN bus protocol. The PowerTrack keypad and its rotary encoder were both designed by Blink Marine as a natural evolution of the Powerkey 1000, from which it has inherited the same attractive and compact visual design.

Together with the six quick-pick keys, the addition of a rotary pushbutton knob makes it possible to manage complex scroll functions on the display, and can interface with onboard systems thanks to CANbus protocols. PowerTrack boasts numerous personalization options, thanks in part to the flexible management of multicolor LEDs.





SHOP YOUR  
KEYPAD ONLINE

## ERGONOMIC

PowerTrack was designed to guarantee a comfortable grip in any given situation thanks to a rubber insert that wraps all the way around the knob. Together with the six quick-pick keys, the addition of a rotary pushbutton knob makes it possible to manage complex scroll functions on the display.

## CAN BUS PROTOCOL

Fully compliant with Device Profile 401d, PowerTrack can interface with onboard systems thanks to CANbus protocols.

## CUSTOMIZABLE

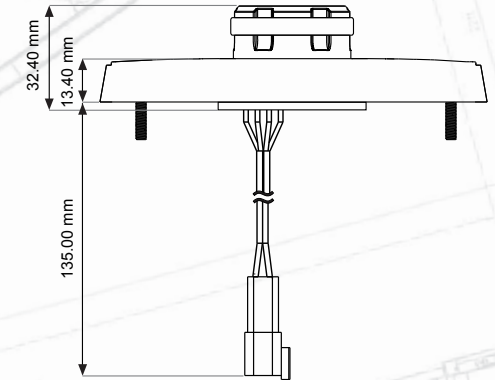
PowerTrack boasts numerous personalization options, thanks in part to the flexible management of multicolor LEDs. The intensity of the LEDs can be adjusted, whilst any LED indicator - whether fixed or blinking - can be personalized according to color preference. Backlighting for the keypad is also adjustable.

## STANDARD FEATURES

- Custom laser etched icons
- High intensity led status indicators
- Multicolor LED backlight
- CANopen compliant
- Event status transmission
- Periodic status transmission
- Green/red LED indicators
- Compact design
- Vertical or horizontal mount
- Protected from inverted polarity
- Encoder with pushbutton
- Periodic Heartbeat
- LED acknowledgement

## OPTIONAL FEATURES

- Blue/orange LED indicators
- J1939 Communication
- RS485 Communication



## POWERTRACK

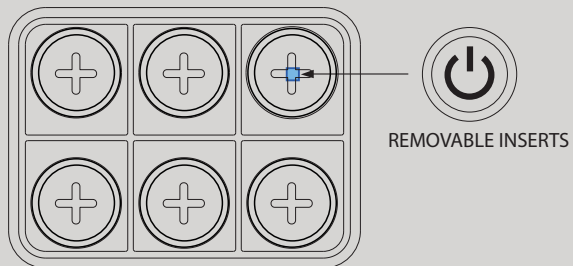
<b>ELECTRICAL</b>	
Supply Voltage	12-24Vdc Nominal (8-32VDC)
Standby Current	<50 mA
Communication BUS	CANopen, J1939
<b>MECHANICAL</b>	
Connector	Deutsch DT04-4P
Switch Life	3 million operation minimum
Encoder pushbutton life	1 million operations minimum
Encoder rotation life	100.000 cycles minimum
Mounting Studs	#10-32 CDA-510 phosphor bronze, electroplated right tin
Keypad	Silicone rubber with polyurethane hardcoat
PC Board	1,6mm thick, Nema Grade FR-4, double clad with 1oz copper
Operating Temperature	-40°C to +70°C
Storage Temperature	-40°C to +85°C
UV Protection	UVB 400 hours
Salt Spray	Per ASTM B117
Chemical Resistance	Deet, Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Orange Citrus Cleaner
Ingress protection Rating	IP54
<b>SPECIFICATIONS FOR STANDARD KEYPADS</b>	



## MARKETS

- Industrial
- Heavy Duty/Specialty Vehicles
- Marine
- First Responders
- Agriculture
- Electric Cars

# POWERKEY PRO



Keypads in the PRO series are the only ones currently on the market that boast keys with removable inserts. The symbol on each PowerKey PRO is laser-etched on a plastic insert that can easily be removed and replaced without needing to take apart the rest of the keypad or cockpit.





PowerKey PRO 2200 and 2400 (respectively 4 and 8 keys) offer large keys (24mm), enabling the user to read quickly and apply secure pressure even when using the keypad while wearing gloves.



### POWERKEY PRO 2200

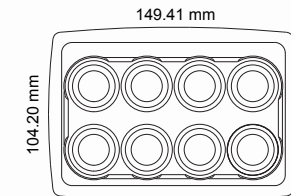
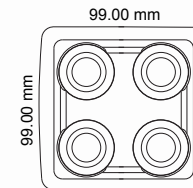
### POWERKEY PRO 2400

ELECTRICAL	
Supply Voltage	12-24Vdc Nominal (8-32VDC)
Standby Current	<50 mA
Communication BUS	RS485, CANopen, J1939
MECHANICAL	
Connector	Deutsch DT04-4P, Molex 19418-0004, Micro-C and more
Switch Life	3 million operation minimum
Mechanical Shock	X, Y, Z 50Gs 11ms
Vibration	X,Y, Z 10 - 150Hz 0.15mm amp
Mounting Studs	#10-32 CDA-510 phosphor bronze, electroplated bright tin
Keypad	Silicone rubber with polyurethane hardcoat
PC Board	1,6mm thick, Nema Grade FR-4, double clad with 1oz copper
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Thermal Shock	-40°C to +72°C @ 4°C/Min
Humidity	0 to 98% (no condensation)
UV Protection	UVB 400 hours
Salt Spray	Per ASTM B117
Chemical Resistance	Deet, Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Orange Citrus Cleaner, Muriatic Acid
Ingress protection Rating	IP67 / NEMA6

**SPECIFICATIONS FOR STANDARD KEYPADS**

ELECTRICAL	
Supply Voltage	12-24Vdc Nominal (8-32VDC)
Standby Current	<50 mA
Communication BUS	RS485, CANopen, J1939
MECHANICAL	
Connector	Deutsch DT04-4P, Molex 19418-0004, Micro-C and more
Switch Life	3 million operation minimum
Mechanical Shock	X, Y, Z 50Gs 11ms
Vibration	X,Y, Z 10 - 150Hz 0.15mm amp
Mounting Studs	#10-32 CDA-510 phosphor bronze, electroplated bright tin
Keypad	Silicone rubber with polyurethane hardcoat
PC Board	1,6mm thick, Nema Grade FR-4, double clad with 1oz copper
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Thermal Shock	-40°C to +72°C @ 4°C/Min
Humidity	0 to 98% (no condensation)
UV Protection	UVB 400 hours
Salt Spray	Per ASTM B117
Chemical Resistance	Deet, Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Orange Citrus Cleaner, Muriatic Acid
Ingress protection Rating	IP67 / NEMA6

**SPECIFICATIONS FOR STANDARD KEYPADS**



DESIGN YOUR OWN PROTOTYPE ONLINE



SHOP YOUR KEYPAD ONLINE

#### BUILT TOUGH

Designed for even the harshest conditions, the PowerKey PRO withstands the cleaning force of pressure washers and holds on IP67 rating, making it immune to waste, mud, soil, sand, oil, chemicals or anything else thrown at it.

#### CAN BUS PROTOCOL

Fully compliant with Device Profile 401d. Assign any valid CAN address to the keypad while also assigning the same or a different RS485 address. Communicate on either BUS simultaneously.

#### CUSTOMIZABLE INSERT

The replacement system for individual inserts makes modifying the keypad layout simpler and more economical. Hundreds of different pre-existing keys can be viewed, and it is possible to order customized inserts.

#### EASY TO READ

With simple icons, large buttons and bright LED indicators, the PowerKey PRO can-bus keypad is easy to read in any situation. The multi-colored LED status rings also allow you to set specific colors for specific functions.

#### STANDARD FEATURES

- Reconfigurable keys
- Relegendable buttons
- LED state & status configurable
- Vertical or horizontal mount
- Flush or front mount
- LED backlit icons
- Multicolor indicator rings
- Overlay
- Laser etched inserts
- Pad print
- ON/OFF, momentary, toggle & scroll
- Hundreds of stock icons to choose from

#### OPTIONAL FEATURES

- Programmer's manual available to help support plug-and-play reconfigurability
- Available in fixed legends

**PowerKey PRO 2300 and 2600 (respectively 6 and 12 keys)** are high-density keypads with small keys (15mm); compact and rational, they guarantee maximum control with minimum size.



THE MOST FLEXIBLE CAN KEYPAD ON THE MARKET.

The use of open protocols makes keypads in the PRO series perfect for both automotive and nautical markets.

### POWERKEY PRO 2300

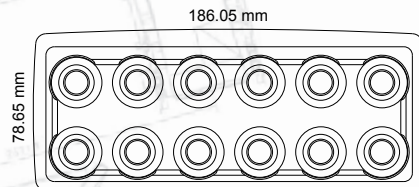
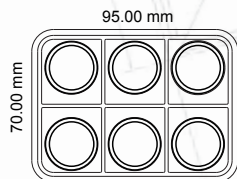
### POWERKEY PRO 2600

ELECTRICAL	
Supply Voltage	12-24Vdc Nominal (8-32VDC)
Standby Current	<50 mA
Communication BUS	RS485, CANopen, J1939
MECHANICAL	
Connector	Deutsch DT04-4P
Switch Life	3 million operation minimum
Mounting Studs	#10-32 CDA-510 phosphor bronze, electroplated bright tin
Keypad	Silicone rubber with polyurethane hardcoat
PC Board	1,6mm thick, Nema Grade FR-4, double clad with 1oz copper
Operating Temperature	-40°C to +70°C
Storage Temperature	-40°C to +85°C
UV Protection	UVB 400 hours
Salt Spray	Per ASTM B117
Chemical Resistance	Deet, Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Orange Citrus Cleaner, Muriatic Acid
Ingress protection Rating	IP67/NEMA6
EMC	Regulation 10 Rev. 5

SPECIFICATIONS FOR STANDARD KEYPADS

ELECTRICAL	
Supply Voltage	12-24Vdc Nominal (8-32VDC)
Standby Current	<50 mA
Communication BUS	RS485, CANopen, J1939
MECHANICAL	
Connector	Deutsch DT04-4P, Molex 19418-0004, Micro-C and more
Switch Life	3 million operation minimum
Mechanical Shock	X, Y, Z 50Gs 11ms
Vibration	X,Y, Z 10 - 150Hz 0.15mm amp
Mounting Studs	#10-32 CDA-510 phosphor bronze, electroplated bright tin
Keypad	Silicone rubber with polyurethane hardcoat
PC Board	1,6mm thick, Nema Grade FR-4, double clad with 1oz copper
Operating Temperature	-40°C to +50°C
Storage Temperature	-40°C to +85°C
Thermal Shock	-40°C to +72°C @ 4°C/Min
Humidity	0 to 98% (no condensation)
UV Protection	UVB 400 hours
Salt Spray	Per ASTM B117
Chemical Resistance	Deet, Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Orange Citrus Cleaner, Muriatic Acid
Ingress protection Rating	IP67/NEMA6

SPECIFICATIONS FOR STANDARD KEYPADS



### MARKETS

- Industrial
- Heavy Duty/Specialty Vehicles
- Outdoor equipment
- Marine
- First Responders
- Material Handling
- Race Cars
- Agriculture
- Electric Cars

# INSERTS



One of the most important aspects of the CAN keypads produced by Blink Marine is its ease-of-use for people who have to work with it, in other words for those who use the keypad on a daily basis, often in an intensive manner, whether for work or in their free time.

In order to make its keypads easier to use, Blink Marine carefully oversees even the smallest details of its product design, crafting them to be not only resistant but also intuitive and simple to understand.

The choice and design of the icons that designate the functions of each individual key are one of the most crucial aspects of the design for the efficiency and ease-of-use of CAN Blink Marine keypads.

The keys must not only be easy to recognize, but also integrate fully with the rest of the control panel, and eventually with other HMIs present onboard.

The careful attention the company pays to this aspect is one of the reasons Blink Marine keypads are so successful.



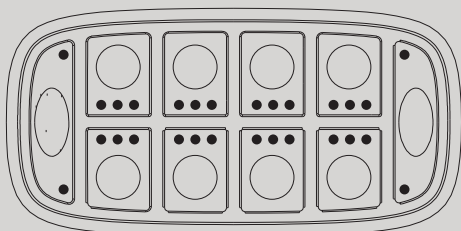
## CUSTOMIZE YOUR ICONS

Choose the icons you want for your keypad. You can search and select the “solid black” icon if you want to leave a position empty, or you can request a “custom” icon.





# POWERKEY

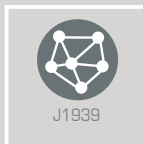


Blink PowerKey CAN keypad series combines the styling and compact package size of the PowerKey family with the software features and network capabilities of Blink popular PowerKey Pro family.

The PowerKey CAN keypad is the perfect lightweight and flexible solution for any application.



CANopen



J1939





## MARKET

- Industrial
- Heavy Duty/Specialty Vehicle
- Outdoor equipment
- Marine
- First Responders
- Material Handling



## POWERKEY 1000

<b>ELECTRICAL</b>	
Supply Voltage	12-24Vdc Nominal (8-32VDC)
Standby Current	<50 mA
Communication BUS	RS485, CANopen, J1939
<b>MECHANICAL</b>	
Connector	Deutsch DT04-4P
Switch Life	3 million operation minimum
Mechanical Shock	X, Y, Z 50Gs 11ms
Vibration	X, Y, Z 10 - 150Hz 0.15mm amp
Mounting Studs	#10-32 CDA-510 phosphor bronze, electroplated bright tin
Keypad	Silicone rubber with polyurethane hardcoat
PC Board	1.6mm thick, Nema Grade FR-4, double clad with 1oz copper
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Thermal Shock	-40°C to +72°C @ 4°C/Min
Humidity	0 to 98% (no condensation)
UV Protection	UVB 400 hours
Salt Spray	Per ASTM B117
Chemical Resistance	Deet, Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Orange Citrus Cleaner, Muriatic Acid
Ingress protection Rating	IP67 / NEMA6
EMC	Regulation 10 Rev. 5
<b>SPECIFICATIONS FOR STANDARD KEYPADS</b>	

## POWERKEY 1400

<b>ELECTRICAL</b>	
Supply Voltage	12-24Vdc Nominal (8-32VDC)
Standby Current	<50 mA
Communication BUS	RS485, CANopen, J1939
<b>MECHANICAL</b>	
Connector	Deutsch DT04-4P
Switch Life	3 million operations
Mechanical Shock	X, Y, Z 50Gs 11ms
Vibration	X, Y, Z 10 - 150Hz 0.15mm amp
Mounting Studs	#10-32 CDA-510 phosphor bronze, electroplated bright tin
Keypad	Silicone rubber with polyurethane hardcoat
PC Board	1.6mm thick, Nema Grade FR-4, double clad with 1oz copper
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Thermal Shock	-40°C to +85°C @ 2°C/Min
Humidity	0 to 98% (no condensation)
UV Protection	UVB 400 hours
Salt Spray	Per ASTM B117
Chemical Resistance	Deet, Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Orange Citrus Cleaner
Ingress Protection Rating	IP67 / NEMA6
<b>SPECIFICATIONS FOR STANDARD KEYPADS</b>	



SHOP YOUR  
KEYPAD ONLINE

## CUSTOMIZABLE RUBBER

Number of LEDs, buttons, company logo, all at one in keypad Powerkey can be adapted to your needs and your activities.

## CAN BUS PROTOCOL

Fully compliant with Device Profile 401d.

## RUGGED

Ready to challenge even the toughest conditions. With an ingress protection rate IP67, the Powerkey keypad is more resilient than you imagine in front of water, dust, salt but also the sun.

## EASY TO MOUNT

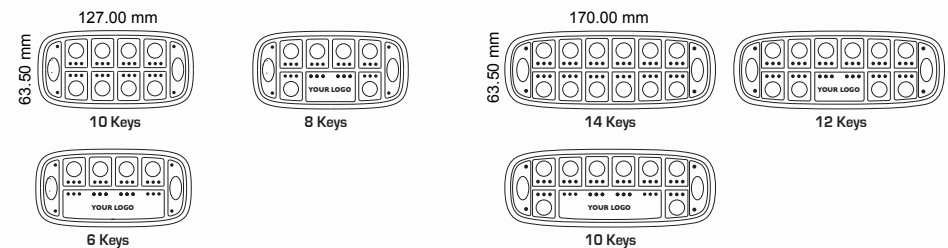
Perfect anywhere you want to have it, the CAN bus keypad Powerkey can be installed the way you want and gives you an absolute control of your vehicle in a few centimeters.

## STANDARD FEATURES

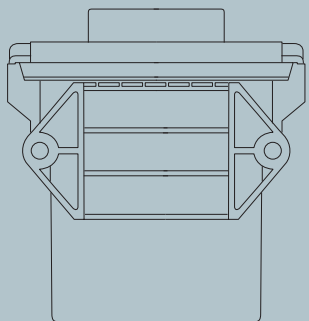
- LED state & status configurable
- Vertical or horizontal mount
- Flush or front mount
- LED backlit icons
- Multicolor indicator rings
- Overlay
- Laser etched rubber
- Pad print for logo
- ON/OFF, momentary, toggle & scroll

## OPTIONAL FEATURES

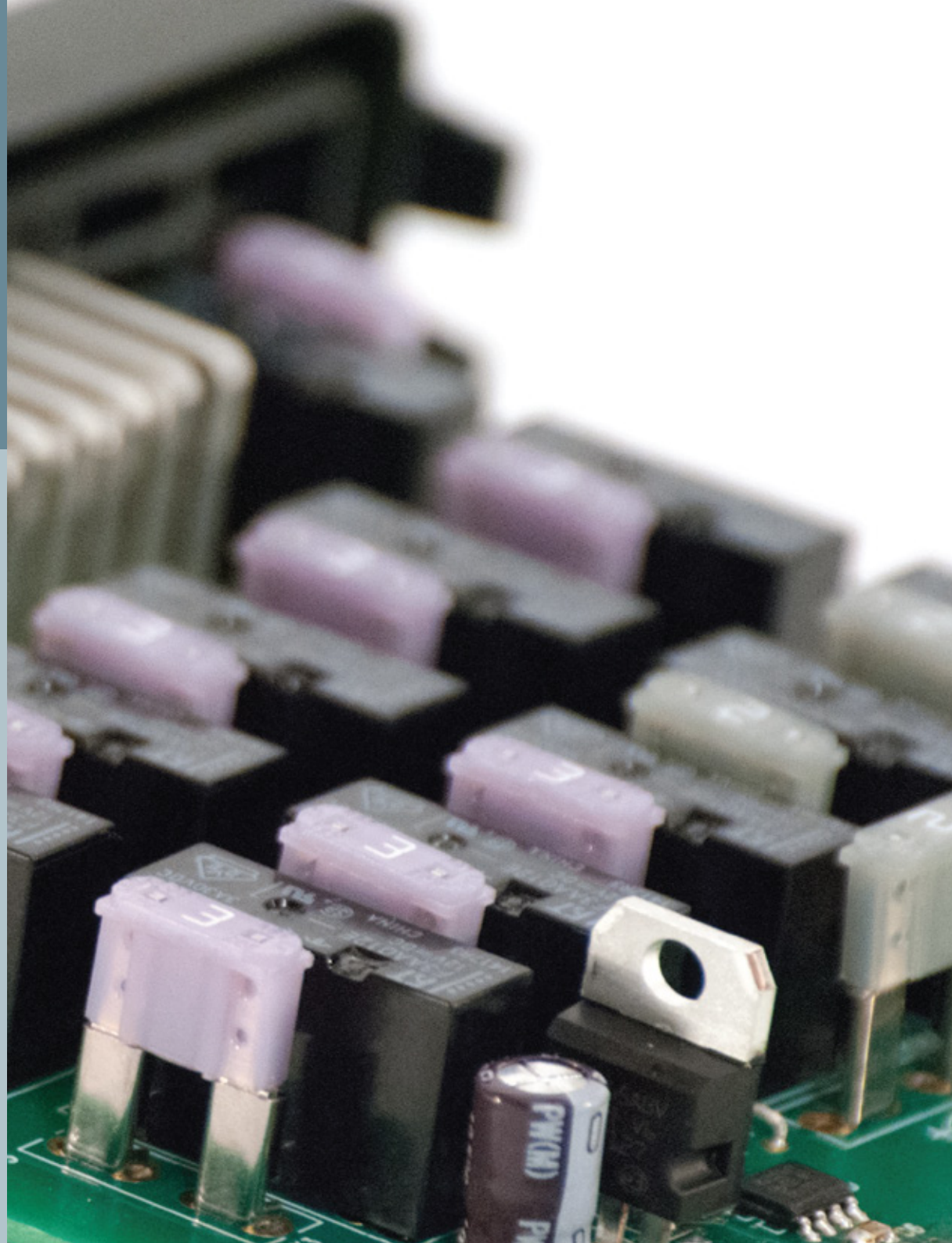
- Programmer's manual available to help support plug-and-play reconfigurability

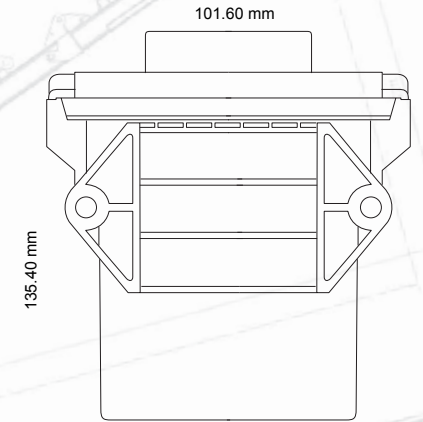


# KEYBOX



Keybox is a CAN bus relay module for electric loads designed by Blink Marine specifically for use in vehicles and boats. It is a small device which, once it's connected to various utilities (lights, electric motors, bilge pumps, mechanical arms), allows you to use Blink Marine keypads to control them.





## KEYBOX

<b>ELECTRICAL</b>	
Supply voltage	12V Nominal 9-16V or 24V Nominal 18-31V
Standby current	<30mA per PME
Load current	Max 5 A per output (resistive) @ 24V Max 10 A per output (resistive) @ 12V
Communication bus	RS-485 between keypad and PME CAN Bus Slave
Circuit protection	Automotive mini blade fuse
<b>MECHANICAL</b>	
Connector	Cinch 581-01-30-064
Mating connector	Cinch 581-01-30-029 with 4250000873
Housing / cover	33% Glass Filled Polymer
PC board	1,6mm thick, Nema Grade FR-4, Double clad with 2oz copper
<b>ENVIRONMENTAL</b>	
Operating temperature	-20°C to +70°C
Storage temperature	-40°C to +85°C
Humidity	0 to 98% (no condensation)
Salt spray	96Hrs
Ingress Protection Rating	IP67
<b>FEATURES</b>	
Circuits	13
Size mm	135,4 x 130,3 x 42,3
Low volt sense & lock down	Optional
Analog sense	N/A
Sense pins levels	N/A
Tachometer sense pins	N/A
Dimming/ PWM Features	N/A
Circuit status monitoring	N/A
Field re-programmable	Optional
External status communication on the bus	Optional
<b>SPECIFICATIONS FOR STANDARD KEYPADS</b>	

### THIRTEEN CONTACTS

Keybox comes equipped with up to 13 contacts, to which any electric device can be connected. It's also connected to one or more Blink Marine keypads via a communications BUS.

### SMART AND SMALL

Keybox gives you all the innovation of a Blink Marine keypad without the cost and complexity of a digital system.

### VERSATILE

Keybox is an extremely versatile CAN bus relay module. It was designed for producers, outfitters and anyone who owns a boat or vehicle that they'd like to make more innovative without spending an arm and a leg! But it can also be offered to anyone who simply wants to substitute old onboard switches in his vehicle or boat with a Blink Marine keypad.

### 3 MODELS AVAILABLE

- KB-12V-05A 13 relays (12 for CAN version) 12V 5A
- KB-12V-10A 13 relays (12 for CAN version) 12V 10A
- KB-24V-05A 13 relays (12 for CAN version) 24V 5A

### ELECTRICAL FEATURES

- 13 switched circuits that include:
  - Momentary, toggle, and time-out functions
  - Circuits rated up to 10 ampere at 12V and 5 ampere at 24V maximum continuous load (resistive)
- Isolated relay outputs
- Fuse protected circuits
- Input undervoltage lock down and overvoltage protection

### ENVIRONMENTAL FEATURES

- Operating ambient temperature: -20°C to +70°C
- Storage ambient temperature: -40°C to +85°C
- Humidity: 0 to 98% (non-condensing)
- IP67 enclosure

### SPECIAL FEATURES

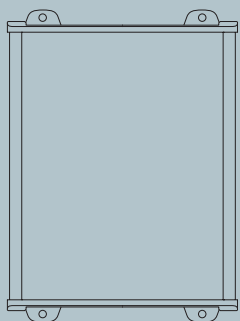
- CAN-bus compatible (CANopen)
- Configurator tool available for field programmability of electrical functions



### MARKETS

- Marine
- Outdoor equipment
- Heavy Duty/Specialty Vehicles
- Material Handling
- Agriculture
- Electric Cars

# PC10



The PC10 Solid State power management enclosure is a fundamental building block of Blink Marine switching solutions aimed at meeting the tough demand of today's marine and transportation markets.



# PC10

**blink**  
MARINE

www.blinkmarine.com - info@blinkgroup.com

ELECTRICAL	
Supply voltage	8-32VDC
Standby current	<30mA
Input current	100A max

ENVIRONMENTAL	
Operating temperature	-20° C to +85° C
IP Rating	IP65

**CAUTION!**  
DO NOT OPEN

ALL ELECTRONIC ASSEMBLY NO USER SERVICEABLE COMPONENTS HERE  
WARRANTY WILL BE VOIDED BY UNAUTHORIZED DIAGNOSTIC REPAIR OR REASSEMBLY  
CONTACT YOUR LOCAL DEALER FOR SERVICE AND REPAIR

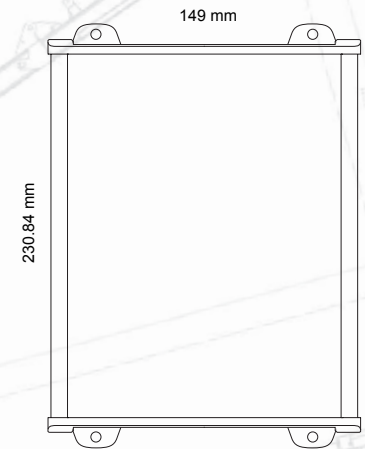


## ELECTRICAL FEATURES

- 12V or 24V nominal input voltage
- 100Ampere total PME input current carrying capability @ 12 volts
- 12 switched circuits that include:
  - Momentary, toggle, and time-out functions
  - Pulse-width modulation of output voltage for dimming capability
- 3 circuits rated up to 20A maximum continuous load, 9 circuits rated up to 15A
- 2 complete H-Bridge circuits for driving reversible motors
- Parallellable output increases current rating
- An electronic circuit breaker protects every circuits. The current rate for each circuit can be set independently.
- Remote reset of any output circuitry fault through keypad
- Input undervoltage lock down and overvoltage protection

## SPECIAL FEATURES

- CAN-bus compatible (CANopen/J1939 compliance available)
- Field programmability of electrical functions and current limit trip points available to authorized OEMs and Value-Added Resellers (VARs)
- 4-circuit bypass for essential functions
- Optional N.O. relay clean contact



## PC10

ELECTRICAL	
Supply voltage	12V and 24V Nominal Voltage (8-32VDC)
Standby current	<30mA per PME
Load current	Max 20A per output
Input current	100A max
Communication bus	RS-485 between keypad and PME CAN Bus Slave
Circuit protection	Electronic overcurrent short circuit protection Automotive mini blade fuse
MECHANICAL	
Connector	Molex MX150L #19427-0049 & 19427-0032
Mating connector	Molex MX150L #19418-0030 & 19418-0004
Housing	ALLOY 6060 and ZA4C1
Seal	TPV 8211-75
Power stud	3/8-16, Copper 110, Locknut Zinc-plated steel
PC board	1.6mm thick, Nema Grade FR-4, Double clad with 3oz copper
ENVIRONMENTAL	
Operating temperature	-20°C to +85°C
Storage temperature	-40°C to +85°C
Humidity	0 to 98% (no condensation)
Ingress Protection Rating	IP65
FEATURES	
Circuits	12
Size mm	280 x 215 x 76
Remote current trip reset	Standard
System reset	Optional
Status indicator	Standard
By-pass	4 outputs
Low volt sense & lock down	Optional
Pull down	4 outputs
"H" Bridge capability	2 outputs "H" bridges available
Sense pins levels	8 inputs
Dimming/PWM Features	Available on 10 outputs
Circuit status monitoring	Optional
Field re-programmable	Optional
External status comm. on the bus	Optional
N.O. relay contact	Optional

SPECIFICATIONS FOR STANDARD KEYPADS



## MARKETS

- Marine
- Outdoor equipment
- Heavy Duty/Specialty Vehicles
- Material Handling
- Agriculture
- Electric Cars