DBRQ Rechargable Demo Box

Datasheet

24 V DC rechargeable demonstration box for use with sensors, touch buttons, push buttons, indicators, and task lights



- Rechargeable lithium ion battery for long-term, repeated use
- 1.4 A output capacity for easy demonstration of Banner devices, including higher current task lights
- Five on-off-momentary rocker switches for control of device inputs
- Includes four M12/Euro-style connections to 5- and 8-pin indicators, actuators, and sensors
- Push terminal connections for devices with flying leads
- LED indicators display battery and output status for easy troubleshooting and device output identification

WARNING:
- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

CAUTION: Risk of electric shock if you open, dissemble, or modify this device, or if you use a damaged device.

Important: Fully charge the demo box before first use.

Note: The internal battery pack is certified to UN38.3, is safe for travel (including air travel), and is under 50 Wh nominally.

Features and Indicators

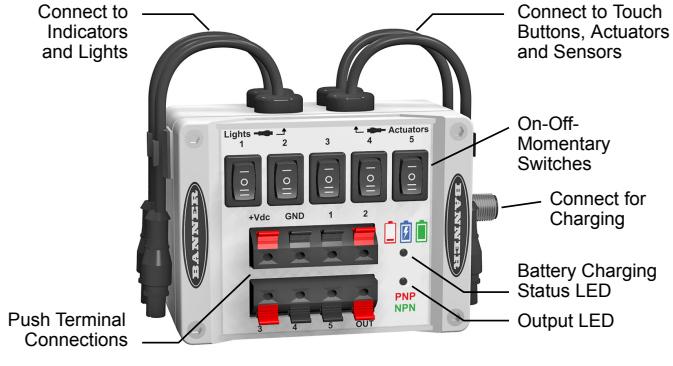


Figure 1. Features

Status Indicators

Battery Charging Status LED
- Red: Battery low
- Green: Battery charged
- Blue: Battery charging

Output LED
- Red: PNP
- Green: NPN
- Blue: Battery charging error

Wiring

Connection	V+	GND	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Output
5-Pin Light	-	Pin 3, Blue	Pin 4, Black	Pin 1, Brown	Pin 2, White	Pin 5, Gray	-	-
8-Pin Light	-	Pin 7, Blue	Pin 6, Pink	Pin 2, Brown	Pin 1, White	Pin 5, Gray	Pin 4, Yellow	-
5-Pin Actuator	Pin 1, Brown	Pin 3, Blue	Pin 2, White	Pin 5, Gray	-	-	-	Pin 4, Black
8-Pin Actuator	Pin 2, Brown	Pin 7, Blue	Pin 3, Green	Pin 8, Red	Pin 4, Yellow	Pin 5, Gray	Pin 6, Pink	Pin 1, White

Note:
- Connect only one device to the demo box at a time, otherwise improper operation of powered devices may result
- Compatible with actuator products with no inputs and complimentary outputs (H logic); device displays PNP output; switch 1 must remain off, otherwise the NPN output on actuator enters short circuit mode
- K50 Pro Touch models with a second output enabled are not compatible with this demo box

Original Document
215848 Rev. A

18 February 2020

215848

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Specifications

Input
Charging Voltage: 24 V DC ±5%
Charging Current: 1 A minimum required

Output
Voltage: 24V DC ± 5%
Current: 1.4 A maximum, 1.7 Amp-Hours

Standby Current Draw
1.5 mA (demo box only with nothing connected)

Input and Output Protection Circuitry
Protected against reverse polarity, transient voltages, and output short-circuit

Operating Conditions
Operating Temperature: –10 °C to +45 °C (+14 °F to +113 °F)
Storage Temperature: –20 °C to +45 °C (–4 °F to +113 °F)
Charging Temperature: 0 °C to +40 °C (+32 °F to +104 °F)

Environmental Rating
IEC IP20

Construction
Housing: Polycarbonate/ABS blend

Typical Battery Life
500 charge/discharge cycles
When fully charged, the battery will last approximately 6 weeks before needing to be recharged

Connections
Two 5-pin and two 8-pin female 150 mm (5.9 inch) PVC cables with a M12/Euro-style quick disconnect for connecting to devices with integral quick disconnect
Eight push terminals for connecting to devices with flying leads
One 4-pin male integral M12/Euro-style quick disconnect for charging

Application Notes
Charging the demo box
- Fully charge the demo box before first use
- When connecting the demo box for charging, the Output LED flashes briefly before the status displays on the Battery Charging Status LED
- If the battery is fully charged and reconnected for charging, the Battery Charging Status LED displays a blue charging status for up to 10 minutes before returning to a green fully charged status
- When connected for charging, and if the demo box does not have any charge, the Battery Charging Status LED is magenta to indicate that it is in a low battery state but still in a charging status. It remains magenta until the battery becomes sufficiently charged

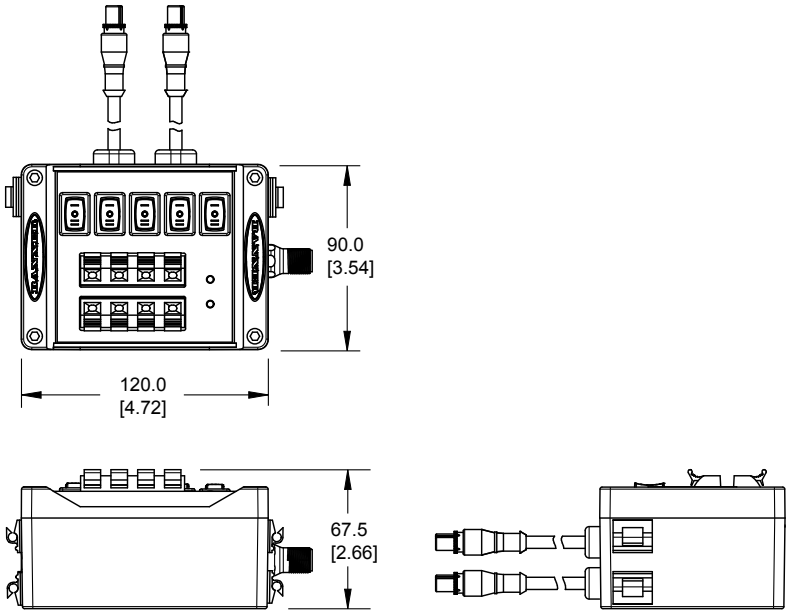
Powering the demo box
- When connected to devices that draw more than 1.4 A, the demo box must be connected to an external 24 V DC power supply that is also rated for 1.4 A or greater
- When connected to an external 24 V DC power supply, the Output LED begins to flicker blue if the power supply does not have enough output capacity to power the connected device. In this case, connect to a larger external 24 V DC power supply
- If the demo box becomes unresponsive, connect it to an external 24 V DC power supply to reset it

Certifications

UN38.3 PASSED
Transport Safety Certified

Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise.



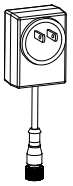
Accessories

PSD-24-4
- 90 to 264 V AC 50/60 Hz input
- Includes a 1.8 m (6 ft) US style 5-15P input plug
- 24 V DC UL Listed Class 2 M12/Euro-style connector output
- 4 A total current



PSW-24-1

- 24 V DC, 1 A Class 2 UL Listed power supply
- 100 V AC to 240 V AC 50/60 Hz input
- 2 m (6.5 ft) PVC cable with M12/Euro-style quick disconnect
- Includes Type A (US, Canada, Japan, Puerto Rico, Taiwan), Type C (Germany, France, South Korea, Netherlands, Poland, Spain, Turkey), Type G (United Kingdom, Ireland, Singapore, Vietnam), and Type I (China, Australia, New Zealand) AC detachable input plugs



Banner Engineering Corp. Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.

FCC Part 15 and CAN ICES-3 (A)/NMB-3(A)

This device complies with part 15 of the FCC Rules and CAN ICES-3 (A)/NMB-3(A). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules and CAN ICES-3 (A)/NMB-3(A). These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

© Banner Engineering Corp. All rights reserved