

DBRQ Rechargeable 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, disassemble, 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

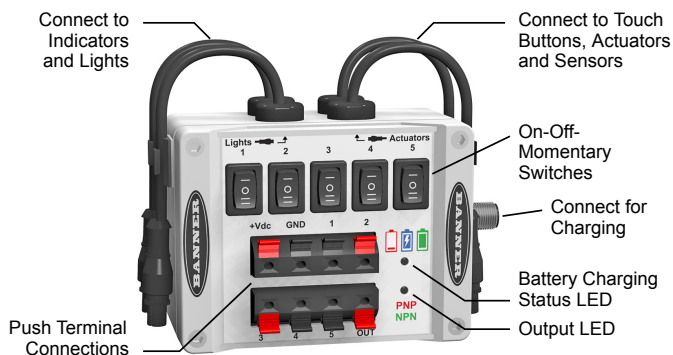


Figure 1. Features

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



Specifications

Input

Charging Voltage: 24 V DC $\pm 5\%$
Charging Current: 1 A minimum required

Output

Voltage: 24V DC $\pm 5\%$
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 $+45^{\circ}\text{C}$ ($+14^{\circ}\text{F}$ to $+113^{\circ}\text{F}$)

Storage Temperature: -20°C to $+45^{\circ}\text{C}$ (-4°F to $+113^{\circ}\text{F}$)

Charging Temperature: 0°C to $+40^{\circ}\text{C}$ ($+32^{\circ}\text{F}$ to $+104^{\circ}\text{F}$)

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

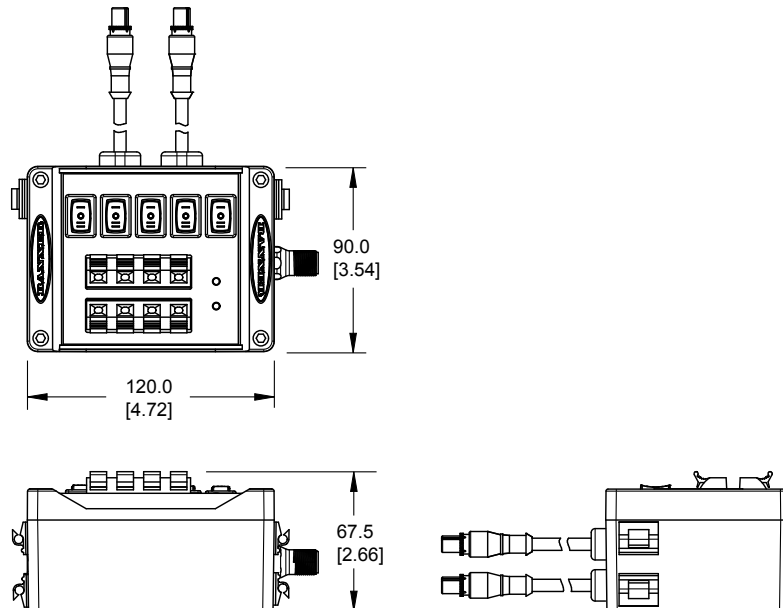
- When connected to devices that draw more than 1.4 A, the demo box must be connected to an external 24 V DC power supply that is also rated for 1.4 A or greater
- When connected to an external 24 V DC power supply, the Output LED begins to flicker blue if the power supply does not have enough output 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



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



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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.