

DC POWER MANAGEMENT

# JY-PBI-5113 Programmable Battery Isolator

Smart dual-battery control and protection

A smart dual-battery isolator using a 3-digit LED display and microprocessor control to monitor and manage the main and auxiliary batteries. It supports 12 V / 24 V DC systems, 120 A continuous current control and integrated protection functions.



**120 A**

CONTINUOUS CURRENT

**12 / 24 V**

DUAL SYSTEM VOLTAGE

**130 mV**

VOLTAGE DROP @120 A

**IP67**

PROTECTION RATING

**CE**

EN STANDARDS

## 01 KEY FEATURES

Product Highlights

### High-current Control

Supports 120 A continuous current control in 12 V and 24 V DC systems.

### High-efficiency MOSFET Switching

MOSFET switching minimizes voltage drop and heat loss compared with diode-based isolation.

### 3-digit LED Monitoring

Displays main/auxiliary battery voltage, connection status and protection messages.

### Remote LED / Over-ride

Provides low-voltage warning indication and a manual emergency connection function.

### IP67 Durability

Corrosion-resistant alloy housing with water- and dust-resistant construction.

### Four Protection Functions

Includes low-voltage, overvoltage, overcurrent/short-circuit and overtemperature protection.

## 02 TECHNICAL SPECIFICATIONS

### Technical Specifications

| PARAMETER                      | SPECIFICATION                                                        |
|--------------------------------|----------------------------------------------------------------------|
| Model                          | JY-PBI-5113                                                          |
| Rated continuous current       | 120 A (12 V / 24 V DC)                                               |
| Operating voltage range        | 9-17 V DC (12 V) / 18-34 V DC (24 V)                                 |
| Default combine voltage        | 13.7 V DC (12 V) / 27.4 V DC (24 V)<br>Setting: 9.2-16 V / 18.4-32 V |
| Default isolate voltage        | 12.8 V DC (12 V) / 25.6 V DC (24 V)<br>Setting: 9-15.8 V / 18-31.6 V |
| Default alert voltage          | 12.0 V DC (12 V) / 24.0 V DC (24 V)<br>Setting: 9-15.9 V / 18-31.8 V |
| Voltage drop @120 A            | 130 mV (main battery → auxiliary battery)                            |
| Ingress / thermal construction | IP67 (internal components), corrosion-resistant alloy housing        |
| Operating temperature          | -20 °C to +60 °C                                                     |
| Dimensions / weight            | 90 x 90 x 85 mm / 0.6 kg (1.3 lbs)                                   |
| Safety / certification         | CE (EN 61000-6-1, EN 61000-6-3, EN 50498)                            |

03 PROTECTION & DIAGNOSTICS

Protection & Diagnostics

| CODE | FUNCTION                     | TRIP / RECOVERY CONDITION                                                                                      |
|------|------------------------------|----------------------------------------------------------------------------------------------------------------|
| OUP  | Over Voltage                 | Disconnect when main voltage >16 V / auto-recover at 15.5 V or below                                           |
| OCP  | Over Current / Short Circuit | Disconnect when current >120 A / auto-recover after 1 minute. Safety reset required after 3 consecutive events |
| tP   | Over Temperature             | Disconnect at internal temperature of 90 °C / auto-recover below 70 °C                                         |
| LUP  | Low Voltage                  | Disconnect when main voltage <8 V / auto-recover when voltage rises above 10 V                                 |

04 OPERATING HIGHLIGHTS

Operating Highlights

LED MONITORING

01

The 3-digit display shows main/auxiliary battery voltage, connection status and protection messages.

REMOTE / OVER-RIDE

02

Remote LED and manual Over-ride support status indication and emergency manual connection.

RUGGED HOUSING

03

A corrosion-resistant alloy housing and IP67 construction support vehicle and camping applications.



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