



BVR

Bramco Voltage Reducer

Operation Manual

BVR Manual

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Safety

Risk of electric shock or electrocution of the welding operator is reduced by installing the BVR on all suitable welding machines.

Extract AS1674.2-1990 - Both AC and DC welding power sources need to be in sound condition, properly installed, regularly inspected, and maintained in good working order.

We would recommend a weekly test of the BVR output with a meter to confirm the non-welding output voltage is less than 12VAC/DC.

1. Features

The Bramco Voltage Reducer (BVR) is designed to reduce the welding electrode voltage to typically 6V, when not welding.

The BVR is designed to operate on any **CONSTANT CURRENT** welder:
See NOTE below re **CONSTANT VOLTAGE** welders.

- Universal AC/DC operation (see Specification panel). DC only some models.
- Easy to install with built-in **increased safety features**.
- Rugged solid state power components are used to achieve low power loss at high welding currents and assisted cooling at elevated temperatures is used to achieve the high duty cycle rating.
- On striking the electrode, i.e. when the resistance falls below 100 ohms, full voltage is available immediately for welding.
The BVR output recovers to the safe mode the moment the electrode is lifted from the work.
- **Weld starting and restrike performance is exceptional.**
- **Status LED** to indicate BVR operational status.
- Unit **Faulty Alarm** and **Fault Test** button is provided to warn of an unsafe condition of the BVR failing short circuit, which would put the operator at risk of an electric shock.

NOTE:

The BVR when used on **CONSTANT VOLTAGE** welders:

- The **Faulty Alarm** feature may operate **while welding or gouging**.
i.e. **Status LED** will be **SOLID RED** and an audible alarm will sound.
- When the arc ceases, the **Status LED** should go back to **SOLID GREEN**,
i.e. safe mode, ready to strike again when required.
- If **Status LED** remains **SOLID RED**, **DO NOT USE BVR IN THIS STATE.**

2. Specifications

Input voltage	40 to 90 V AC, 40 to 120V DC
Output voltage	about 6 volts (at no load)
Strike resistance	less than 100 ohms typical
Arc Strike time max	5 mS maximum
Turn Off Time	100 mS typical
Operation	AC/DC (low frequency) DC Only for some models.
Duty Cycle	100% @ 40°C mounted vertically.
Status L.E.D	Solid State bi-colour LED, 40mm (diameter) bezel mounted on BVR, option to mount this display up to 1.2m from BVR for machine front panel indication.
Enclosure	Stainless Steel, Rated IP53, when mounted horizontal.
Weight	Max 9Kgs
Size	370mmL x 180mmH x 195mmW (including mounting feet)

3. Operation

The BVR operating mode is indicated by the **Status LED**, positioned on the side of the BVR or welding apparatus.

Status L.E.D is **SOLID GREEN** when the BVR is ready to strike.

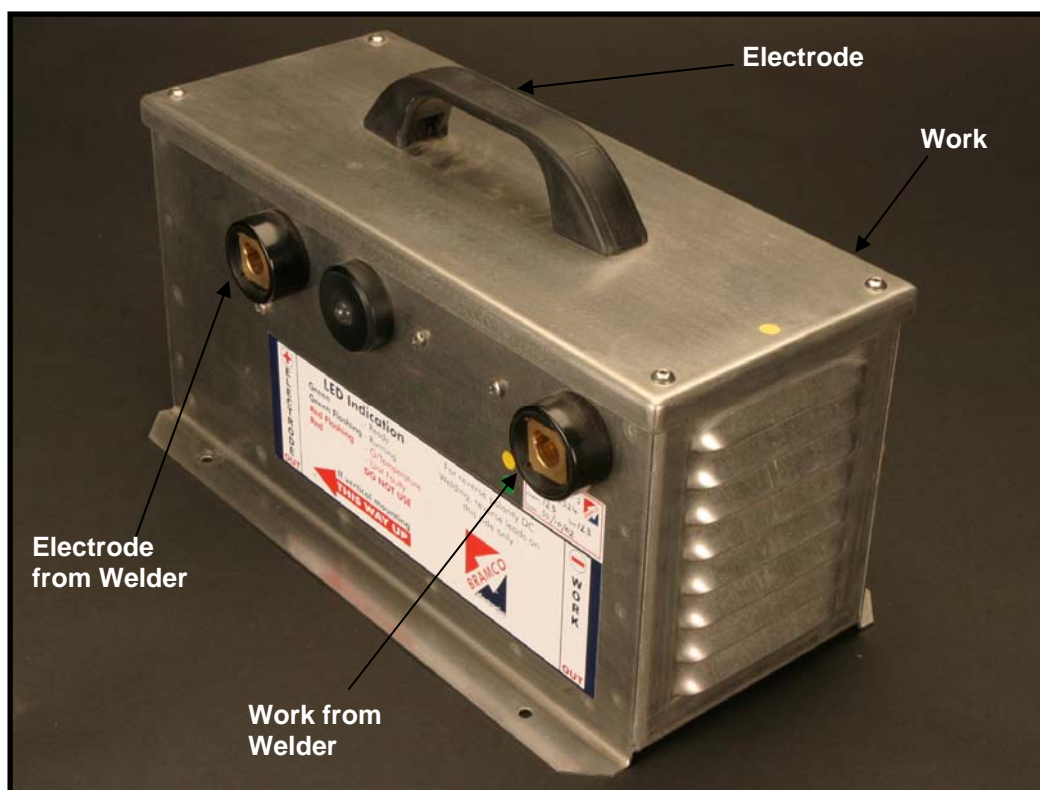
BVR turns on immediately the electrode resistance to work goes below 100 ohms. When welding, the **Status L.E.D** will **FLASH GREEN**.

When the arc ceases, the Status L.ED goes back to SOLID GREEN, i.e. safe mode, ready to strike again when required.

An internal cooling fan may operate when the BVR requires additional cooling. The **Status L.E.D** will **FLASH RED**, and the BVR will shut off, stopping welding, if the internal temperature becomes too high.

4. Installation

The BVR is connected between the welder and the welding leads as follows. The BVR has 4 possible connection points. Either, Binzel 2x male/2x female plugs are supplied, or, 4 x M10 bolted connections as an option.



5. Additional Safety Features

Faulty Alarm:

Should the BVR fail shorted, or the BVR output is not operator safe, the **Status L.E.D** will be **SOLID RED**, and an **audible alarm** inside the BVR will sound –

THE UNIT MUST NOT BE USED IN THIS STATE.

Faulty Alarm Test:

Press the **Fault Test** button for 5 seconds once every week.

The **Status L.E.D** should go **SOLID RED**, and an **audible alarm** inside the BVR should sound –

This confirms the Fault Alarm circuit is operational.

Megger Testing:

NOTE: Do NOT megger test the BVR, unless the following steps are carried out.

- Temporary link ALL BVR power terminals together.
- Apply the 1000V (maximum) megger voltage between the linked power terminals and frame.
- Remove temporary link when done.

(BVR contains solid state electronics, which may be damaged by high voltage)