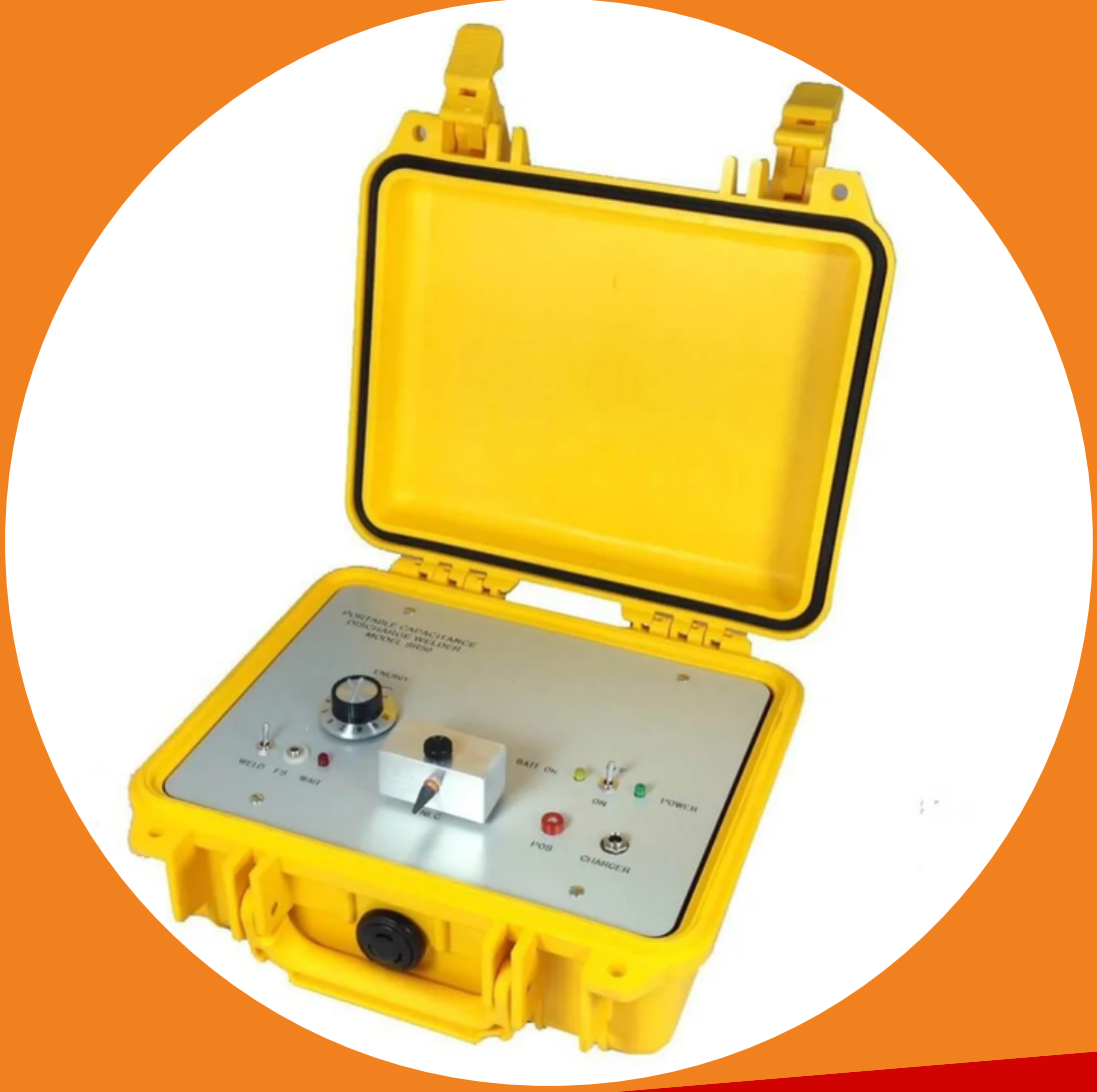

SR50 BENCH PORTABLE WELDER DATASHEET

PEAK SENSORS
temperature measurement & control

1.0 Specific applications.

1.1 Thermocouple junctions.

Thermocouple junction welds are the most common application for the SR50.

In summary, the thermocouple wires should be prepared as follows. Insulated wires should have their insulation stripped sufficiently to allow at least 2mm to protrude when gripped in the pliers. They should be laid side by side and in contact and the ends square and level. With smaller diameter wires it will be found advantageous to twist them together before trimming. This also applies when welding stranded wires together or stranded wires to solid wires, e.g. when fitting flexible leads to platinum detectors.

The prepared wires should then be gripped in the wire-holding pliers, making sure that they are in contact with each other, and then held lightly against the carbon electrode. The weld switch (or footswitch) is then depressed, the resulting discharge will weld the wires thus forming the thermocouple junction. See fig 1.1

1.2 Impact welding.

This is the term used for welding wires to a metal (conductive) surface. This type of application is common when thermocouples are required to be welded to a chassis or framework for testing or heat treatment applications.

The electrode housing should be removed and the welding clip attachment should be plugged into one of the exposed sockets on the instrument panel. The clip should then be attached to the surface close to where the wires need to be attached. (It should be noted that the electrode housing can also be extended by means of a wire attached to exposed sockets and the rear of the housing.)

The prepared wires are then gripped in the wire-holding pliers and then pressed onto the surface to which they are to be attached.

Fig. 1.1
Thermocouple Junction

Fig. 1.2
Impact Weld

1.3 Pt100 elements.

The SR50 can be used for attaching wires to Pt100 (or other types of sensing element) to manufacture resistance thermometers.

Where possible, the element lead wires should be lightly twisted around the prepared extension in the reversed plane (see fig 1.3a) wires to ensure good contact. These wires are then gripped in the wire-holding pliers. If the wires cannot be twisted (eg if using a multicore cable) then hold in pliers in a ‘V’ shape.

The wires should then be held lightly against the carbon electrode and the weld switch (or footswitch) should be pressed. The resulting discharge will weld the wires.

The element wires can then be straightened (see fig 1.3b) and insulated as appropriate.

Fig. 1.3a

Fig. 1.3b

1.4 Weld quality.

Examine the weld using the magnifying glass supplied. A good weld will produce a spherical ball of metal on the end of the wires. A flat bridge between the wires indicates too low an energy setting. A flattened hemisphere indicates that the energy setting is too high.

2.0 Specifications.

General Specifications:

- Energy output: 0 to 50Joules.
- Weld capacity: Up to 2 x 1mm dia.
- Battery life: At least 500 welds on full power.
- Charging time: 4 hours.
- Weight: 4Kg.
- Dimensions: 310 x 230 x 120mm.

Indicators and Controls:

- LED indication: Indicates battery status.
- Wait lamp: To prevent premature discharge.
- Weld switch: Releases energy from capacitors.
- Potentiometer: Sets energy level.
- On/off switch and power on indicator.

Accessories included:

- Mains-powered battery charger.
- Plier electrodes.
- Impact Weld Clip.
- Welding goggles.

Accessories optional:

- Footswitch.
- Tweezer Electrodes.

PEAK SENSORS
temperature measurement & control

www.peaksensors.com

pslsales@peaksensors.com

+44 (0) 1246 261999