LVD AC/DC

LVD unit
installation instructions inside

Product Specification

Input	12-24V AC/DC 50mA
Switching current	5 Amps, 240V
OCV	4-Volts
Switching Resistance	200 Ohms

Made in Australia

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LVD Installation Instructions

Secure LVD: Find a suitable place inside the welder, preferably away from strong magnetic fields to fit the LVD (max 300mm from front panel). Secure the unit.

LED Light: Installing the LED light involves drilling a 5mm hole in the front panel. Insert the LED light through the hole and super glue/silicon the back of it to the panel.

Magnetic Sensor: Toroid or Reed switch.

(Reed Switch) – *For DC machines only when welding with currents above 40Amps* – Stick, Mig, Plasma.

Attach reed switch with cable ties across the output cable or busbar inside the welder and connect to the LVD unit using the blue and white wires from the black four-core cable.

Cut and insulate red and black wires separately.

(Toroid) – *Used on AC/DC machines with welding currents above 20Amps*. Disconnect the positive or negative output welding cable inside the machine and slide the ring over the cable, connect to the LVD unit by unplugging and plugging in the cable or maintaining colour continuity from the black four-core cable when soldering.

Connect LVD: Connect the power supply wires (single red wires) with an in-line fuse holder (if required 50mA) to a 12-24V AC or DC power source from the welding machine. Polarity is automatic. Selected source must be capable of delivering 30mA.

Note: if a power source suitable for the LVD is not available within the welding machine the LVD will require an additional transformer module, connected to the main power supply.

Sensing Wires: Connect the black twin wires to the positive and negative output terminals.

Warning: If connecting the LVD to a welder with High Frequency option do not connect the black or green wires to the output terminals but to the PC Board specified by the manufacturer of the welder.

"Control Circuit" wire: Connect the Violet & White (N/C) or the Orange & White (N/O) with any of the following identified switching location:

- In parallel with the remote switching wires that operate the hand or foot control switches from the amphenol socket on the welder.
- N/O wires in series with a N/O thermostat circuit
- N/C wires in parallel with a N/C thermostat circuit
- N/O wires in series with the control circuit of a primary or secondary switching relay, gate of power transistors or mosfets, etc
- Install a contactor of suitable current capacity for your welding machine in series with the positive output welding cable inside the machine. Then connect the N/O wires from the LVD unit in series with a DC power supply to the coil of the contactor.

Note: The ZRID relay contact is rated at 5A, 240 Volts.

Verification: When installation is complete, switch on welding machine, and check the following,

- Green light is ON (safe OCV 4V) - measure with multimeter, if not 4V check “control circuit” wiring if connected to correct location.
- Operation causes LVD red warning light to flash (full OCV can be present at the value specified by the manufacturer of the welding machine).
- If light flashes orange it indicates a fault in the installation process or in the sensing system (cannot start arc).

Set up equipment for normal welding and initiate an arc. If the arc is maintained for only a short duration (<1.5 sec); move the reed switch or toroid to a new location, and check welding operation again.

When satisfactory, secure reed switch or toroid ring on cable with the use of silicon and cable ties to prevent movement of the sensor.

TROUBLESHOOTING

Operation and use: The LVD uses magnetic sensing for operation. Before installing this device, the installer must evaluate the potential electromagnetic problems that may arise in the surrounding area. The user is responsible for the installation and the use of the equipment according to the manufacturer's instructions.

Not able to establish arc:

- Welding equipment (electrode holder, earth clamps, welding cable, mechanical connectors) should be in good condition and the resistance of the welding circuit including the equipment should not exceed 200 Ohms for the LVD unit to work in a satisfactory condition.
- If not starting after installation re-check installation and ensure everything is connected correctly.

For more information or drawings, please refer to our website www.zrid.us