

zRID Installation Instructions

Receiver: Mount receiver (black box) in an external (preferred) or internal location on the welder with the least magnetic influence (i.e. away from transformers and welding cables) and best all-round reception.

Magnetic Sensor: Toroid or Reed switch.

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

Attach reed switch with cable ties across the output cable or busbar inside the welder and connect to the ZRID 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 ZRID unit by unplugging and plugging in the cable or maintaining colour continuity from the black four-core cable when soldering.

Connect Receiver: Connect the two red wires to a 12-24V AC/DC, 50mA power source from the welding machine. *(240V AC version device available on request)*

"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 ZRID 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.

Programming the trigger to the unit (ZRID unit must be powered)

- Press and hold the red button on the ZRID receiver unit (Red light should turn on).
- Press the trigger 3 times (ensure ZRID unit light blinks after each press).
- When constant red light is on the receiver, release red button. To confirm if trigger is coded, press trigger button to see if red light flashes momentarily on the receiver, output of welder becomes active.

Note: Trigger has 4 operational modes via selection of dip switches on the PC Board of the trigger, 0 - instantaneous, 1 - time delay, 2 - double press, 3 - PTT(Permanent Transmission Trigger when held down) If the red button on the receiver unit is held for more than 5 seconds, code of trigger is deleted from receiver.

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

- On the ZRID unit the green light is ON
- Pressing the handpiece trigger causes the receiver red warning light to flash and the output to become live.
- 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.

Switch Holder: Can be used on smaller electrode holders. With switch and switch holder on the smaller electrode holder, use a heat gun to shrink the underside of the switch holder to the size of the smaller electrode holder.

Switch can be removed from holder and be used as a foot control (pedal) or by an observer.

Antenna: When installing the ZRID device internally or if the welding machine has a metal casing, then the antenna (Grey) wire must be placed outside the welder. For longer range or improved all-round reception as may be required on an engine-driven machine the antenna wire can be extended up to 2 times by multiple lengths of 82mm for 915 MHz or 92mm for 868MHz and fitted through the tubing of an (optional) external antenna socket.

Momentary Manual Deadman Switch operation is available via connection of any N/O switch to the black twin cable

Dip-switches (inside unit)

Switch No 1. Radio Frequency, this is set by manufacturer

Switch No 2&3. Setting of limited arc initiation period as permitted by IEC 60974.1 and AS 1674.2

Switch 4. End time delay of 0.3s when in ON position.

TROUBLESHOOTING

Trigger: A light on the trigger indicates both battery level and transmission function. If the trigger doesn't operate the ZRID unit, try reprogramming or an alternative trigger.

Note: The ZRID unit will only accept the key from the assigned trigger and exclude all others, to assign a different trigger see programming. If transmission length has decreased, the transmitter battery requires replacing.

Operation and use: The zRID uses magnetic sensing and radio transmission 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.

Transmitter Repeater: Can be used for difficult operations such as in tanks, pipes, deep trenches, underwater welding or wherever the signal may have difficulty reaching the antenna of the receiver unit.

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

