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## **20 Amp (2024-2) Ignition Control - Wiring Instructions**

**Note:** The 2024-2 is designed to be used either as a stand alone ignition in conjunction with an MSD Power Grid System Controller PN 7730, aftermarket EFI ECU's, OE LS ECU's or as a piggy back system on some CDI ignition controllers. Compatible CDI's are MSD 6 Series and the Digital 7 range of ignition controls. The 2024-2 must not be used with a 7AL-2, 7AL-3 or 8 Series ignition control. For compatibility with any other ignition control, please contact ICE Ignition.

**Also Required:** The 2024-2 must be used with either 2 x ICE 4100 or 2 x 4200 Pro Series Race Coils. Never use two different coil part numbers.

**Coil Loom:** The coil wires are finished as a loom ready for installation. This loom is always connected in the same way, irrespective of how the 2024-2 is triggered.

**Orange** - Connect to the positive (+) terminal of the first coil. Also run a jumper wire from the coil positive of the first coil to the coil positive of the second coil.

**Green** - Connect to the negative (-) terminal of the coil. Also run a jumper wire from the coil negative of the first coil to the coil negative of the second coil.

**Black** - Connect to true ground, ie: battery negative, battery negative junction or engine block (whichever is the shortest path for this black wire). The shorter this wire can be made, the better. Do not connect to the body, dash, etc.

**Note:** Junction or engine block must be connected to battery negative with battery cable of between 13mm to 15mm in diameter. The longer the distance between battery negative and the junction / block, the larger the diameter should be.

**Large Red Wire** - (Single wire with large terminal) Connects to a switched 12 volt source (minimum 13.8—14.8 volts when running). Eg: Dedicated ignition switch. This wire is always connected in the same way, irrespective of how the 2024-2 is triggered. **Note:** This wire carries a substantial load, so please ensure a good quality switch / relay combination supplies voltage. Relay should be a 5 pin 40A minimum with a 30A fuse on the supply wire to the relay. To determine the correct wire size / length for a 30 Amp circuit, please refer to a wire gauge versus amps chart. The three wires which make up this circuit are: 1) wire from power source to relay, 2) wire from relay to the large red wire on the 2024-2 and 3) black ground wire from the 2024-2 to true ground (refer above). The total length of these three wires will determine what gauge wire is required.

**NOTE: NEVER LEAVE THIS LARGE RED WIRE POWERED UP WHEN TUNING / DOWNLOADING THE ECU OR GRID IF THE ENGINE IS NOT RUNNING.**

**Triggering:** Only one of the three options below is ever used to effect triggering.

**4-Pin Grey Deutsch Connector** - Connects direct to Deutsch connector on MSD Power Grid Controller PN 7730. Connect orange and black wires as per MSD instructions. **Set Up** - For MSD Grid, in general set up, select Network Ignition from the options.

Also use this plug when triggering the 2024-2 from an aftermarket ECU. For aftermarket ECU's, the small red wire requires switched 12 volts (usually from the same 5 pin 40 Amp relay that supplies the main red wire - see above) and the white wire is the points output (rising edge) from the ECU. When used with an aftermarket ECU, the orange and black wires are left disconnected.

Further, whenever using the Deutsch plug, the single orange wire from the main 12 pin Delphi plug and the brown and purple wires should be left disconnected.

**Brown & Purple Wires** - These wires are used for triggering as a falling edge with both aftermarket and OE LS ECU's. In both cases, brown is spliced in to the main ground wire exiting from the ECU main wiring plug (as close to the ECU as possible) and purple is connected to the trigger wire in the ECU harness. Both these wires should be kept as short as possible and twisted together. Further, whenever using the brown and purple wires for triggering, the Deutsch plug and the single orange wire from the main 12 pin Delphi plug should be left disconnected.

**Single Orange Wire** - Connect to coil positive of MSD coil when 2024-2 is being used as a piggy back system. The Deutsch connector and purple / brown wires are left disconnected when the single orange wire is used.



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**Single Green Wire** - Tach output for aftermarket tachometers and other rpm activated devices. Does not provide a suitable signal for older factory tachometers.

**Timing** - The 2024-2 does not feature any timing functions. It is purely a spark generation module.

**Mounting** - Mount the unit using vibration mounts, inside the vehicle cabin, away from heat and moisture.

**NOTE:** If mounted in engine compartment or similar, warranty will be void.

**General:**

- # Keep all looms routed away from the high tension wires.
- # These measures are to ensure no noise enters the looms and disrupts the microprocessors inside the unit.
- # Avoid soldering wires, as they become brittle where the solder ends, flex at that point, then break.
- # To ensure unit functions correctly, the above steps must be adhered to.
- # All questions should be directed to the above contact numbers.