

MODEL 4180002F

9-kv interrupted-duty Electronic Ignitor

Data Sheet

- 9,000-volt output
- Solid state technology yields high performance, long life and durability
- Interrupted-duty rated
- Low current draw saves electricity
- Epoxy sealant provides water resistance and heat dissipation
- Consistent voltage output across a wide range of input voltages

SPECIFICATIONS*

Power input	120 VAC, 60 HZ
Ignitor output	11 KV
Secondary grounding	Single pole endpoint grounding
Operating temperature limits	0°F to +140°F
Storage temperature limits	-40°F to 185°F
Spark connection	1/4" male Rajah connection
Agencies	UL Recognized – US & Canada (File #MH16422)

Power consumption	40VA
Interrupted ignition duty cycle	20%, 60 seconds on (Max.)
Spark gap	1/8"
Firing rate	23 KHz
Energy discharge	1.6 millijoule per spark
Discharge time	43 μSeconds
Weight	12 oz.

*Performance specifications under static air conditions.

Installing and Wiring

WARNING Carlin ignitors must be installed and serviced only by a qualified burner service technician. Always disconnect power source before wiring to avoid electrical shock or damage to electrical components.

NOTICE **Grounding** – The ignition circuit requires a reliable ground path back to the ground strap in the external mounting lug.

1. Disconnect wires from primary control to existing ignition transformer.
2. Remove any screws securing ignition transformer.
3. Observe the routing of electrical wiring from burner junction box to transformer.
4. Remove existing ignition transformer or ignitor.
5. Install new ignitor, reversing the above steps.
6. Mount the ignitor as described below.

NOTICE Ignitor Part Number 4180002F provides connection to a high voltage wire using a standard Rajah spring terminal with boot.

Mounting 4180002F Ignitor

1. Secure the 4180002F ignitor using two #10 screws through the external mounting lugs.

Wiring

1. Blue and Brown Wires: Connect the brown wire to the output terminal of your device and the blue wire to L2.
2. Install, connect and route the ignitor wiring the same as the ignition transformer or ignitor wiring was originally installed.
3. Make sure the ignitor is firmly attached to the burner housing and that all electrical connections meet local codes before applying power.
4. The ignitor ground strap must be in contact with a bare metal area on the mounting plate.

Ignition (Secondary) Wiring

1. Keep the secondary cable as short as possible to keep radio frequency interference (RFI) to a minimum. Use suppression style cable whenever possible.
2. If the high voltage cable is longer than 24 inches (610mm), modify it with insulating material in such a way that it stays more than 2 inches (51 mm) away from the ground terminal.
3. The ignition cable has a Rajah type connection. Use ignition cable rated for continuous duty at 350°F (177°C) and 20,000 volts. **IMPORTANT:** The ignition cable should not exceed 15 feet (4.6 meters) in length.
4. Make sure the ground connection between the 4180002F and the burner body is secure.

Electrode Setting and Positioning for Gas Burner Systems

Ignition electrode location must be set according to the burner manufacturer's instructions:

1. Ignition electrodes must not interfere with the normal flame pattern.
2. Ignition electrodes should not be positioned such that they will be overheated by the flame.
3. The flame detection device must not be adversely affected. In the case of flame rod sensors make sure that the ignition spark does not disturb the flame signal unduly. See Ignition Spark Test

NOTE: For ultraviolet (UV) sensors, ensure that the spark does not give a false flame indication. See Ignition Spark Test.

Field Check

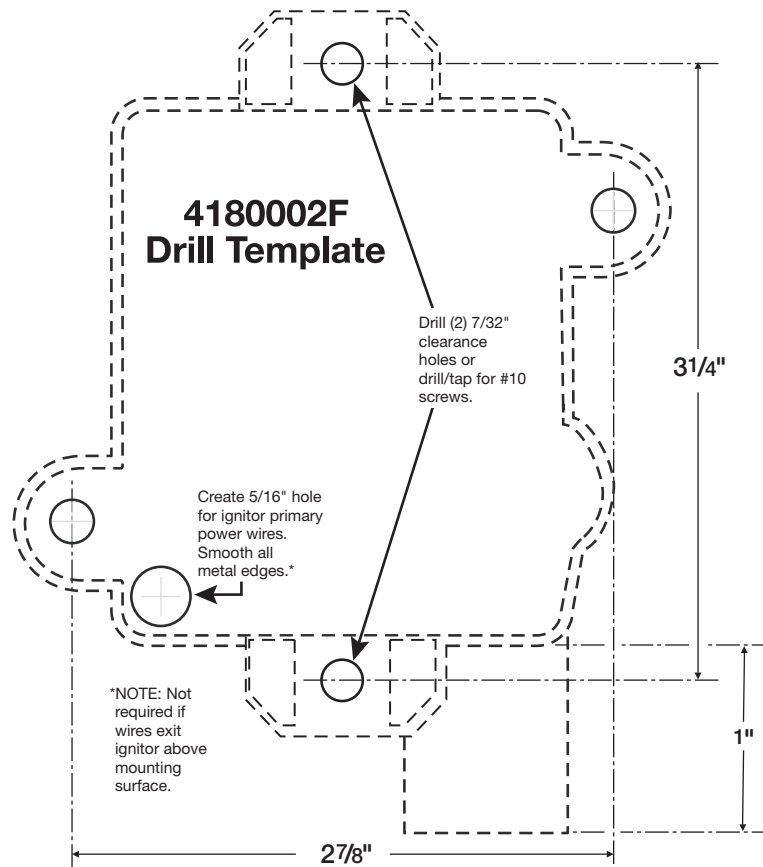
WARNING Never test an ignitor by placing a screwdriver (or other metallic object) across the high voltage terminals or from high voltage terminal to ground. Serious injury and damage to the ignitor could result.

1. You must use the burner's ignition device to test the ignitor. This is because there must be a reliable ground path to the ground strap in the external mounting lug.
2. Turn off the burner gas supply and start the burner. Observe the burner ignition electrode to see if spark operation is correct.
3. If ignition spark is not acceptable, check ground path back to ignitor mounting plate or j-box. Verify ignition electrode is not in contact with any grounded surface and electrode insulators are in good condition.

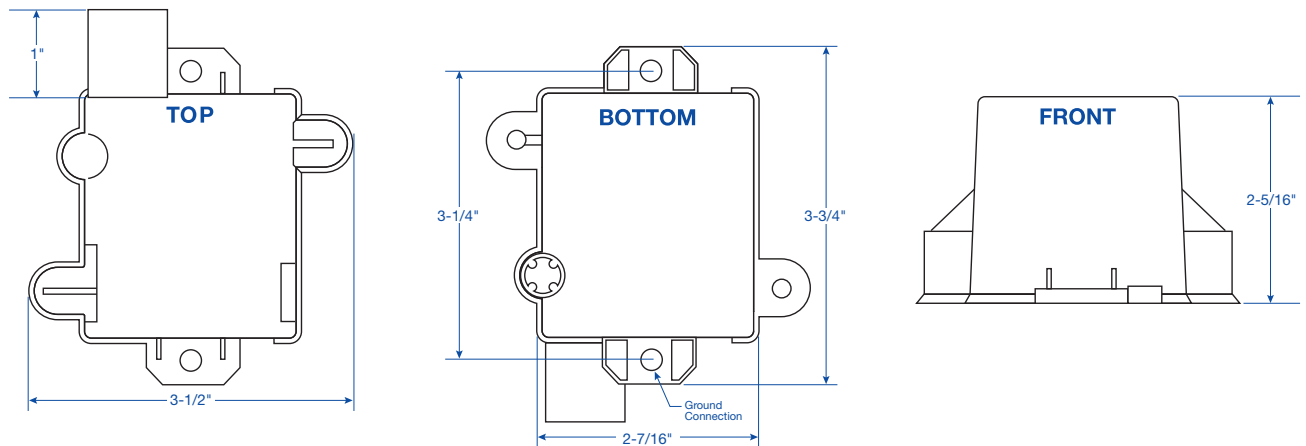
Ignition Spark Test

If an ultraviolet flame sensor is being used in your application, the UV detector may pick up UV radiation being emitted by the electrical spark. To test whether the UV detector is picking up the ignition spark and to eliminate the condition, take the following actions:

1. Shut off fuel supply to both pilot and main fuel.
2. Enable system by raising controller set point or by pressing the Start button.
3. Turn on the ignitor so that the ignition spark is produced between electrode and ground.
4. Test to make sure that ignition has not occurred. There should be no flame sensed. If detected, reverse the leads.
5. Test the flame relay on the flame safeguard control. If the relay has not pulled in, the system is functioning properly. Turn on the fuel supply and continue to check out with the pilot turn-down test (if applicable).



Model 4180002F Dimensions



NOTICE

For applications requiring burner cover plate mounting, contact Carlin factory for availability and part numbers of cover plate kits.