Carlin®
Combustion Technology

MODEL 41800

9-kV interrupted-duty Electronic Ignitor

Data Sheet

4180002S1
Shown

4180002F
Shown

- 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, 40 VA
Ignitor output	9 KV, 45 mA RMS
Secondary grounding	Single pole endpoint grounding
Operating temperature limits	0°F to +140°F
Storage temperature limits	32°F to 140°F (-40°F to 185°F for model 418992F)
Agencies	UL Recognized – US & Canada

Part No.	Spark Connection	Cable Length
4180002S	High voltage supression ignition cable with booted 1/4" female Rajah connection	14" (used on Carlin 301 Gas Burners)
4180002S1		12" (used on Carlin EZ-Gas Burners)
4180002S2		6" (used on Carlin 201 and 202 Gas Burners)
4180002F	1/4" Male Rajah Connection	n/a

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 at least one of the ground straps in the ignitor mounting holes.

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 spring terminal with boot, identical to terminal/boot on 4180002.

Mounting 41800 Ignitors

1. Carlin 41800 series ignitors can be mounted directly on top of the burner housing or other location, in the same manner as standard ignitors.
   a. Model 418002RES ignitors are pre-mounted on a base plate for use on EZ-Gas burner.
   b. Model 418002SCS ignitors are pre-mounted on a base plate for use on 201GAS and 301GAS burners.
   c. Contact factory for availability of mounting plates and pre-mounted ignitors for other applications.
2. Secure the 41800 ignitor using two #10 x ¾" sheet metal screws inserted from the bottom.

Wiring

1. Install, connect and route the ignitor wiring the same as the ignition transformer or ignitor wiring was originally installed.
2. Make sure the ignitor is firmly attached to the burner housing and that all electrical connections meet local codes before applying power.
3. The ignitor ground tab must be in contact with a bare metal area on the mounting plate.

Field Check

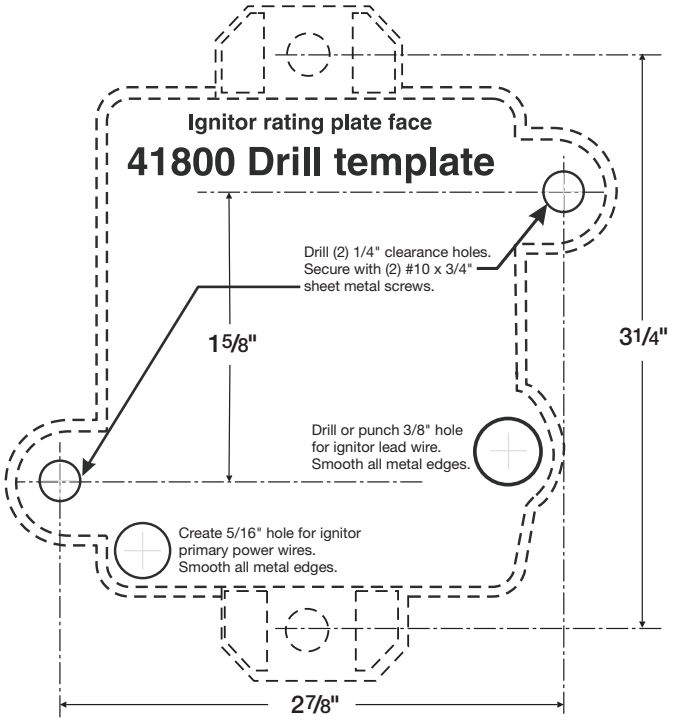
WARNING Never test an ignitor by placing a screwdriver (or other metallic object) across the high voltage terminals or from high voltage terminal to ground. Serious injury and damage to the ignitor could result.

1. You must use the burner's ignition device to test the ignitor. This is because there must be a reliable ground path to at least one of the ground straps in the ignitor mounting holes.
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 insulators are in good condition.

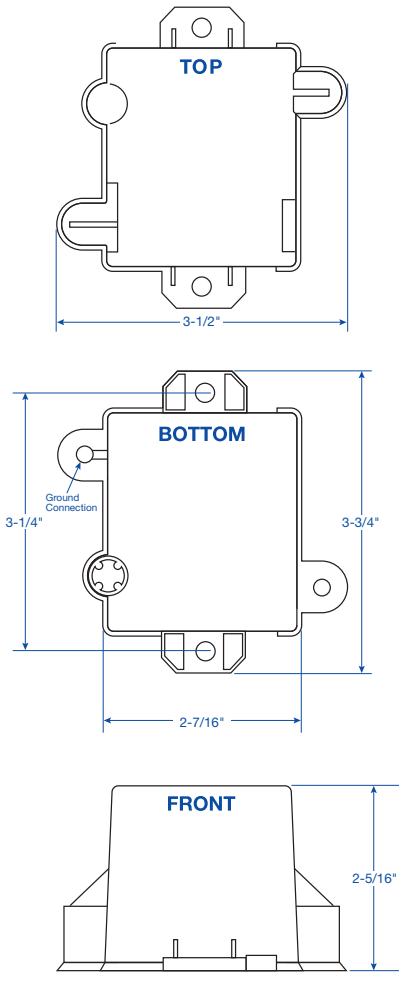
Ignition Spark Test

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:

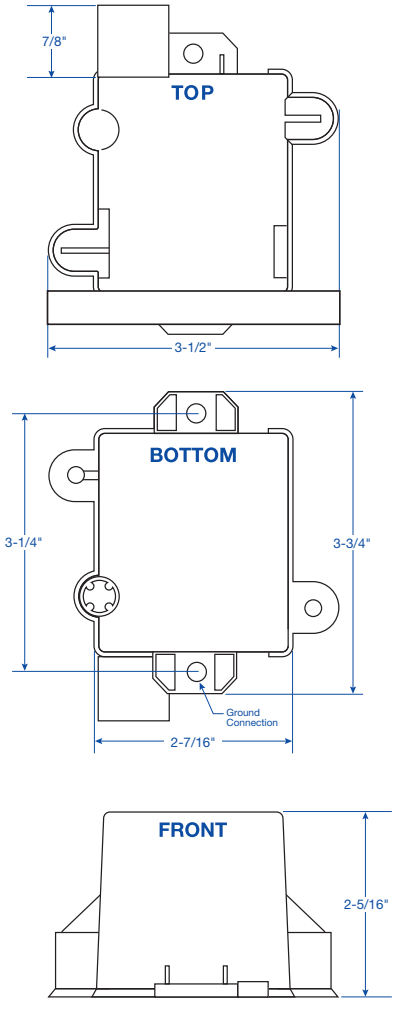
1. Shut off fuel supply to both pilot and main fuel valve manually.
2. Enable system by raising controller set point or pressing the Start button.
3. Turn on the 41800 solid state spark igniter so that the ignition spark is produced between electrode and ground.
4. Test to make sure that ignition has 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.



Model 41800 Dimensions



Model 4180002F Dimensions



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