



# MODELS **41800** **42800**

## 9-kV interrupted-duty **Electronic ignitors**

### Data sheet



- 9,000-volt output for smooth gas ignition
- 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
- Model 42800 models can be mounted on standard 4x4 j-box
- Model 42800 model primary power wires can be routed through bottom or side of housing

#### 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.

#### 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 3/4" sheet metal screws inserted from the bottom.

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Ignitor model	41800	42800
Power input	120 VAC, 60 HZ, 40 VA	120 VAC, 60 HZ, 40 VA
Ignitor output	9 KV, 45 mA RMS #16 AWG STYLE 3239, 150°C, 25 KVDC; exit bottom or side	9 KV, 45 mA RMS Rajah connector, housing side
Secondary grounding	Single-pole endpoint grounding	Single-pole endpoint grounding
Operating temperature limits	+32°F to +140°F	+32°F to +140°F
Storage temperature limits	-40°F to +185°F	-40°F to +185°F
Agencies	UL recognized (US) / CSA certified (Canada)	

**Installing and wiring** *(continued from front page)*

**Mounting 42800 ignitors**

1. Carlin 42800 series ignitors can be mounted:
  - on a 4 x 4 junction box. – or –
  - directly on top of the burner housing or other location, in the same manner as standard transformers. Contact factory for availability and part numbers of available kits.
2. Secure the 42800 ignitor using at least two #10 x 3/4" sheet metal screws inserted from the bottom; or two #8 x 1 1/4" screws inserted from the top threaded into the mounting plate below.
3. When mounting screws pass through the ignitor (junction box mounting, for example), use a Phillips screwdriver or small drill bit to knock out the plastic skin over the clearance holes on corners to be used. Do not try to drill out the holes. This could damage the ground straps inside the holes. Use only #8 screws, minimum 10 1/4" long.

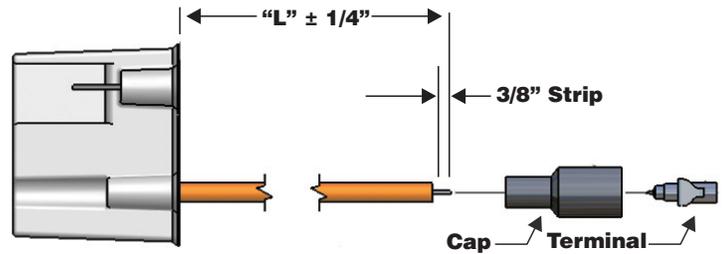
**Wiring**

1. Install, connect and route the ignitor wiring the same as the ignition transformer or ignitor wiring was originally installed. With Model 42800 ignitors, you can route the ignitor power supply wires through the 1/2" conduit knockout in the side of the ignitor housing or through the junction box or space below the ignitor mounting plate.
2. Make sure the ignitor is firmly attached to the burner housing and that all electrical connections meet local codes before applying power.

**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.



<b>L =</b>	<b>10"</b>	<b>EZ-Gas</b>
<b>L =</b>	<b>5"</b>	<b>201GAS, 202GAS</b>
<b>L =</b>	<b>14" (as supplied)</b>	<b>301GAS</b>

1. **Cut wire (if required) to "L" dimension show in chart above.**
2. **Seat stripped wire completely in cap.**
3. **Load terminal onto #2 phillips screwdriver.**
4. **Thread terminal into cap until it stops.**

**42800 Drill template**

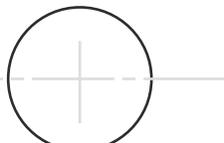
**Secure with at least two screws.**

**For tapped holes in plate:**

Drill #29 & tap for #8 screw or use #8 self-tapping screws.

**For clearance holes:**

Drill 1/4" diameter



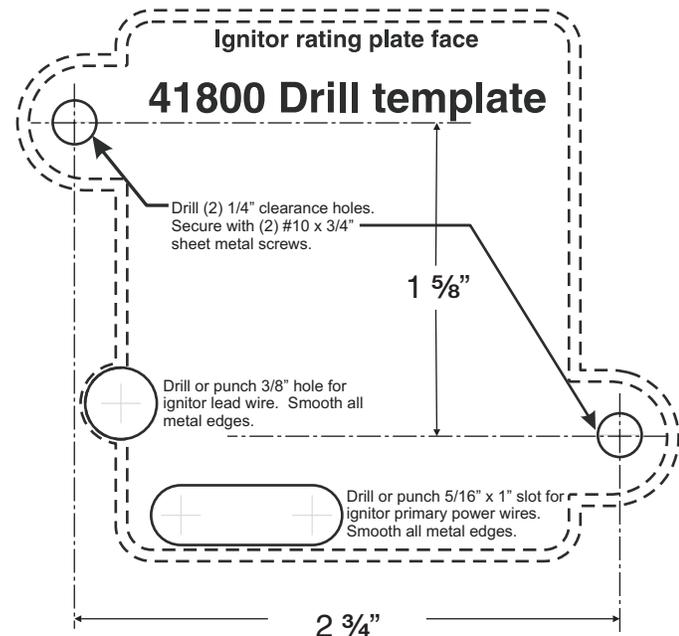
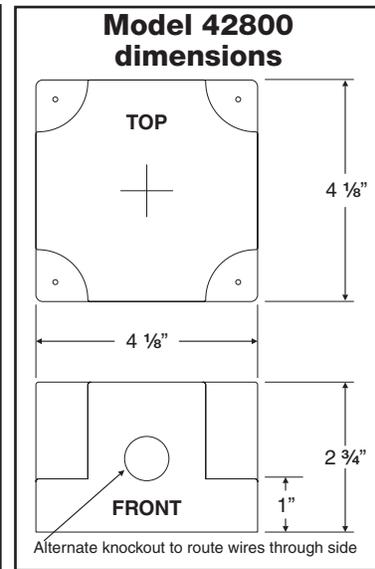
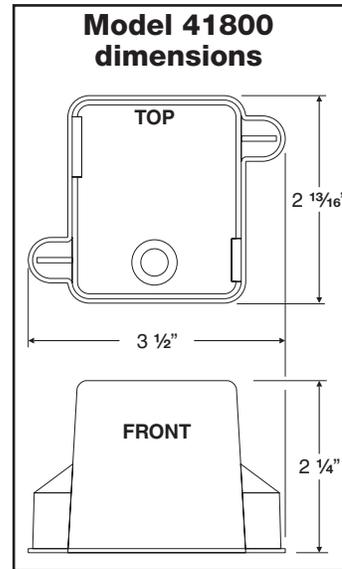
**Cover plate installations:**

Drill or punch 3/4" hole to route wires.

For metal mounting plated, insert a strain-relief bushing before mounting ignitor.

**4 Holes:**

Use #8 screws when inserted from top. Use #10 sheet metal screws to secure from bottom.



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