

Honeywell

ET401RC Ignition Transformer

PRODUCT DATA



APPLICATION

The ET401RC is an Ignition Transformer for use on commercial or industrial gas burners.

FEATURES

- **Ignites interrupted gas pilots with electrode spacings between 0.12 to 0.20 inches (3 to 5 mm).**
- **Prevents detection of the ignition spark when properly applied in a flame detection system with the C7027, C7035, or C7044 Minipeeper® or C7061 Dynamic Self-Check Ultraviolet Flame Detector.**
- **Ignition spark and ultraviolet detector are synchronized by the alternating current supply voltage; spark occurs on one half of the ac cycle and detector operates on the opposite half cycle.**

- **ET401RC has 14.0 kV output peak voltage for a reliable light-off.**
- **The ET401 design minimizes electromagnetic interference and complies with EN55014-2.**
- **ET401RC ignition transformer combines low power consumption with a low inrush current.**
- **Weights 1.3 pounds (0.58 kilograms).**
- **Meets UL Standards 1012 and 506.**

SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, this unit may not match the listed specifications exactly. Also, this product is tested and calibrated under closely controlled conditions and some minor differences in performance can be expected if those conditions are changed.

Model: ET401RC single high voltage electrode, with Rajah connector.

Electrical Ratings:

Voltage and Frequency:

(min) 110 VAC (-15%) 50/60 Hz

(max) 120 VAC (+10%) 50/60 Hz

Output peak voltage: 14.0 kV.

Secondary Frequency: 14.0 kHz

Interrupted Ignition only:

ET401RC - Duty cycle 33%; 60 seconds on/120 seconds off.

Spark Characteristics:

Spark Gap:

ET401RC - 0.12 to 0.20 in. (3 to 5 mm).



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Ambient Temperature Range: 5°F to 140°F
(-15°C to 60°C).

Insulation Standard: IP40

Weight: 1.25 lb. (0.57 kg).

Dimensions: See Fig. 1.

Approvals:

Underwriters Laboratories Inc. Component Recognized: Certificate No. 20180201-E494797.

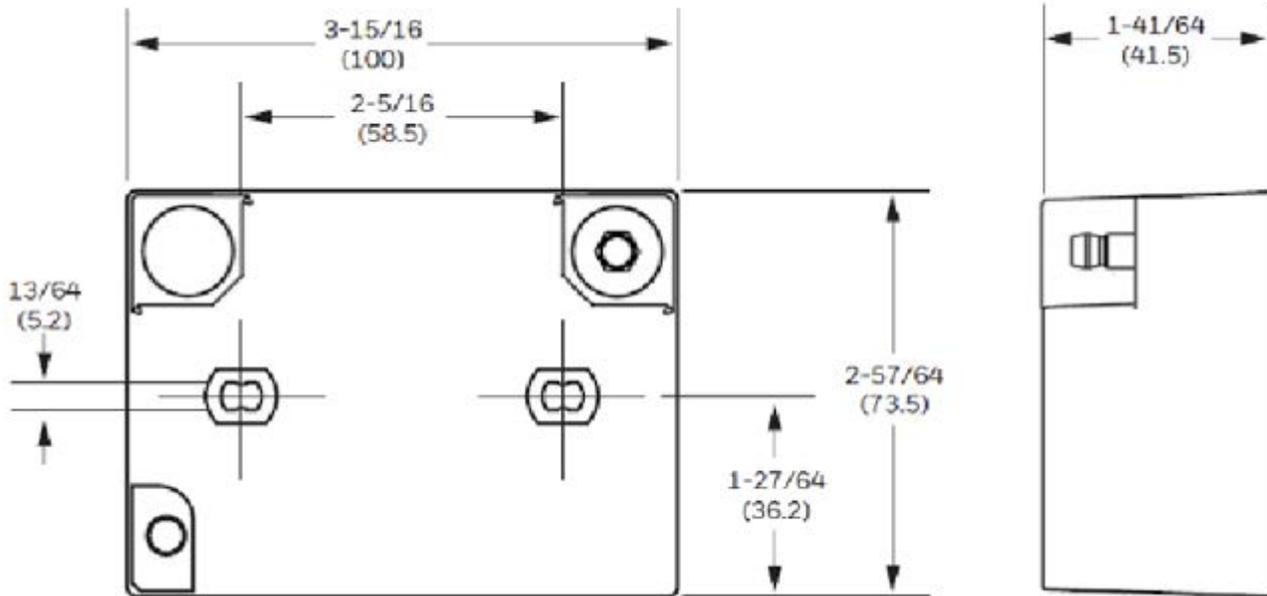


Fig. 1. ET401RC dimensions in in. (mm).

INSTALLATION

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced, flame safeguard control technician.
4. Particular attention must be given to the method used to install the high voltage cables.
 - a. Avoid unnecessary lengths, sharp bends over hard edges, extremely high temperatures, etc., any of which could potentially reduce performance or possible returns.
 - b. The length of the power line is about 1.6 feet (0.5 m).
 - c. Connect the wires with their terminals: brown - L1 (120 Vac) wire, blue - L2 (neutral), yellow/green - ground.
 - d. Insert high voltage cable to the Rajah connector.

CHECKOUT

After the ET401RC installation has been completed, make the following checks to ensure that the system is working properly.



CAUTION

Equipment Damage Hazard.

Improper grounding can damage equipment.

Be sure that the mounting chassis of the ET401RC is properly grounded at all times, even during bench testing. Otherwise, device may burn out.

Ignition Spark Response Test

The flame relay should not respond (pull in) to ignition spark. To determine flame detector sensitivity to ignition spark, perform the following steps:

1. Shut off the fuel supply to both pilot and main fuel valve manually.
2. Start system by raising controller set point or pressing Start button.
3. Energize the ET401RC Solid State Spark Generator so that ignition spark is produced between electrode and ground.
4. Check to be sure that ignition has not occurred (there should be no flame). Repeat steps 1 through 3 above until there is no flame.
5. Check the flame relay on the flame safeguard control. If the relay has not pulled in, the system is operating properly. Continue checkout with the pilot turndown test.

6. If the flame relay pulls in, stop the system, replace the ET401RC, and repeat steps 2 through 5.
7. If the flame relay pulls in after replacing the ET401RC, stop the system, replace the flame safeguard control, and repeat steps 2 through 5.
8. If the flame relay pulls in after replacing the flame safeguard control, contact the local Honeywell branch office.

Pilot Turndown Test

Refer to the flame safeguard control instructions for the exact procedure to be used in performing the pilot turndown test.

Final Checkout

After other checks have been completed, restore the system to normal operation and observe at least one complete cycle to be sure of satisfactory burner operation.

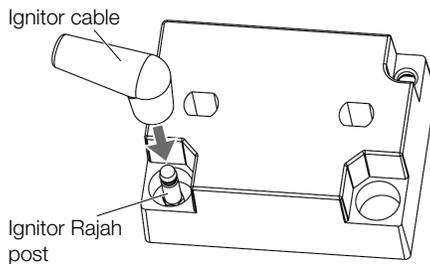


Fig. 2.

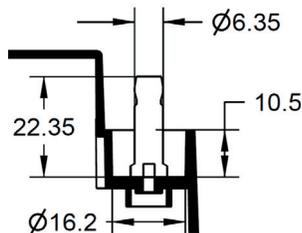


Fig. 3. dimensions in mm

⚠ WARNING

Electrical Shock Hazard.

Can cause serious injury, death or property damage.

Disconnect power supply before beginning installation to prevent electrical shock and equipment damage. More than one disconnect may be required.

IMPORTANT

1. All wiring must comply with applicable local electrical codes, ordinances and regulations.
2. Make sure the ET401RC is properly grounded.

⚠ CAUTION

Equipment Damage Hazard.

Improper grounding may burn out device. Ground ET401 at all times, even for bench testing. Otherwise, device may burn out.

3. For trouble-free operation:
 - a. Verify the spark gap at the ignition electrode complies with the ET401RC Spark Gap specification.
 - b. Ensure supply voltage reductions of -15%.
 - c. Verify temperatures comply with the specified operating range.
 - d. The positioning of the high voltage ignition cables with regard to TV and radio interference is extremely important.
 - e. Cables should be kept short, run as close together as possible and should not cross or be in contact with any other power cables or fittings.
 - f. Follow specifications provided in Table 1.

ET401RC IGNITION TRANSFORMER

Model	ET401RC
Power supply	(min) 110VAC (-15%), 0.3A, 50/60 Hz (max) 120VAC (+10%), 0.3A, 50/60 Hz
Ignition Voltage Output	> 14 kV amp
High Voltage Output Connection Pin	Rajah connector
Secondary Current	30 mA rms (±20%)
Secondary Frequency	14 kHz (±10%)
Rating	33 % E.D. in 3 minutes
Spark Gap	3-5 mm
Insulation Standard	IP40
Permissible Ambient	5°F to 140°F (-15°C to 60°C)
Weight	1.3 lbs (0.58 kg)
Install Screw Recommended	2 x M5 x 20
Connection Cable Specifications	
Cable Jacket Material	High Voltage Silicone
Isolation Voltage	>17kV
Wire Diameter	7 mm
Recommended Wire Length	9.8 ft (3 m)
Line voltage power cable connection type	Factory mounted molded 3-wire cable (L/N/G) with stripped ends, 0.5 m length

Table 1.

For More Information

The Honeywell Thermal Solutions family of products includes Honeywell Combustion Safety, Eclipse, Exothermics, Hauck, Kromschröder and Maxon. To learn more about our products, visit ThermalSolutions.honeywell.com or contact your Honeywell Sales Engineer.

Honeywell Process Solutions

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