

Inductive Transformers

COFI's traditional electro-magnetic transformer is available in distinct series, each with several variations. This document focuses on specific TRE and TRS models, commonly in stock at Combustion 911.

TRE series: Compact Ignition Transformers, Spark & Sense

These compact ignition transformers achieve the same performance as medium-sized transformers with a smaller footprint, and are often used for igniting oil and gas burners.

The TRE series is available with insulated secondary winding* suitable for single-electrode operation ("spark + sense").

Model	Primary	Freq.	Secondary	Output Current	Duty Cycle	Output	Note
TRE820PISO1	115V	50/60Hz	1x8kV	20mA	19% 3 min.	Grounded pole	*Insulated
TRE820PISO3	230V	50Hz	1x8kV	20mA	19% 3 min.	Grounded pole	*Insulated

TRS series: Conventional Ignition Transformers

Medium-size conventional ignition transformers, suitable for all kinds of gas and oil burners, where continuous or intermittent power and higher voltages and currents are required.

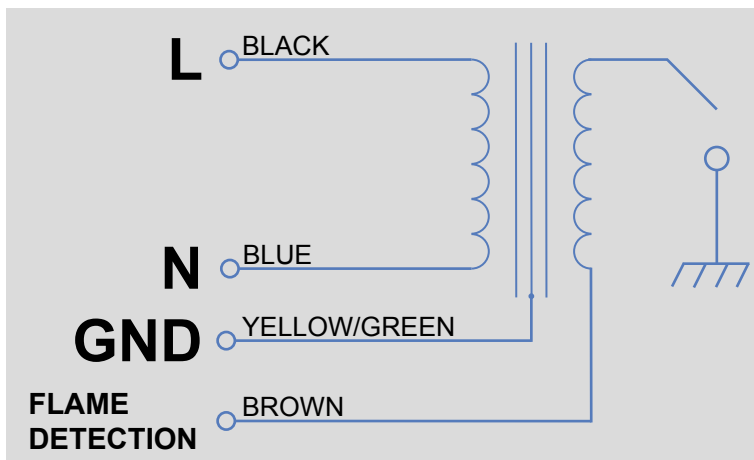
Model	Primary	Freq.	Secondary	Output Current	Duty Cycle	Output
TRS610PC/1	110V	50Hz	1x6kV	10mA	100%	Grounded pole
TRS818PC/1	110V	50/60Hz	1x8kV	18mA	100%	Grounded pole

Cofi inductive transformers are designed for ambient temperatures up to 35°C (95°F).

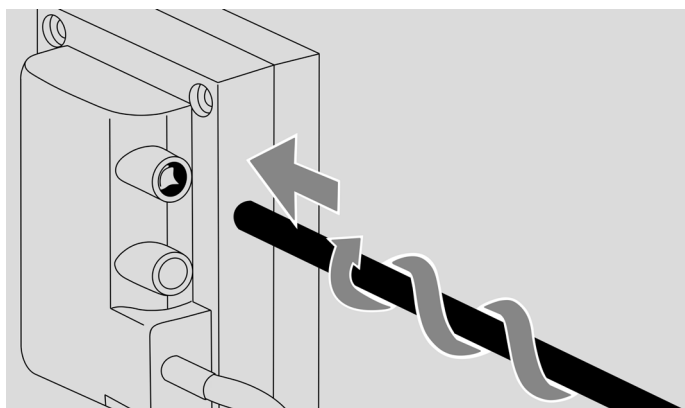
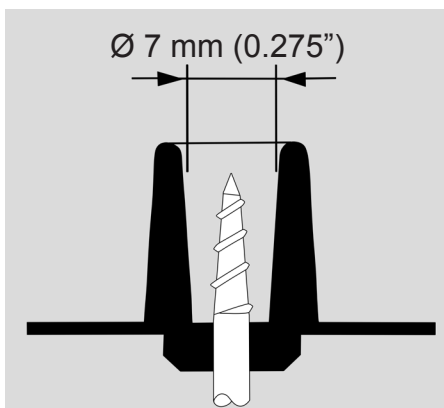
Single electrode operation, unirod, spark & sense; whatever you choose to call it, it's a common design practice often seen on pilot burners and industrial burners alike. Using a single electrode rod to “spark” (light the burner) as well as “sense” (detect the presence of flame) can simplify your system, as long as you have the right ignition transformer.

All ignition transformers have three wires for the primary voltage, corresponding to Live, Neutral, and Ground. Ignition transformers suitable for single electrode operation have a fourth wire, for Flame Detection.

Transformers built with an insulated secondary winding are compatible with spark & sense operation as this allows the flame signal to travel back through the transformer. The fourth wire is therefore used to signal to the flame safeguard whether or not flame is present.



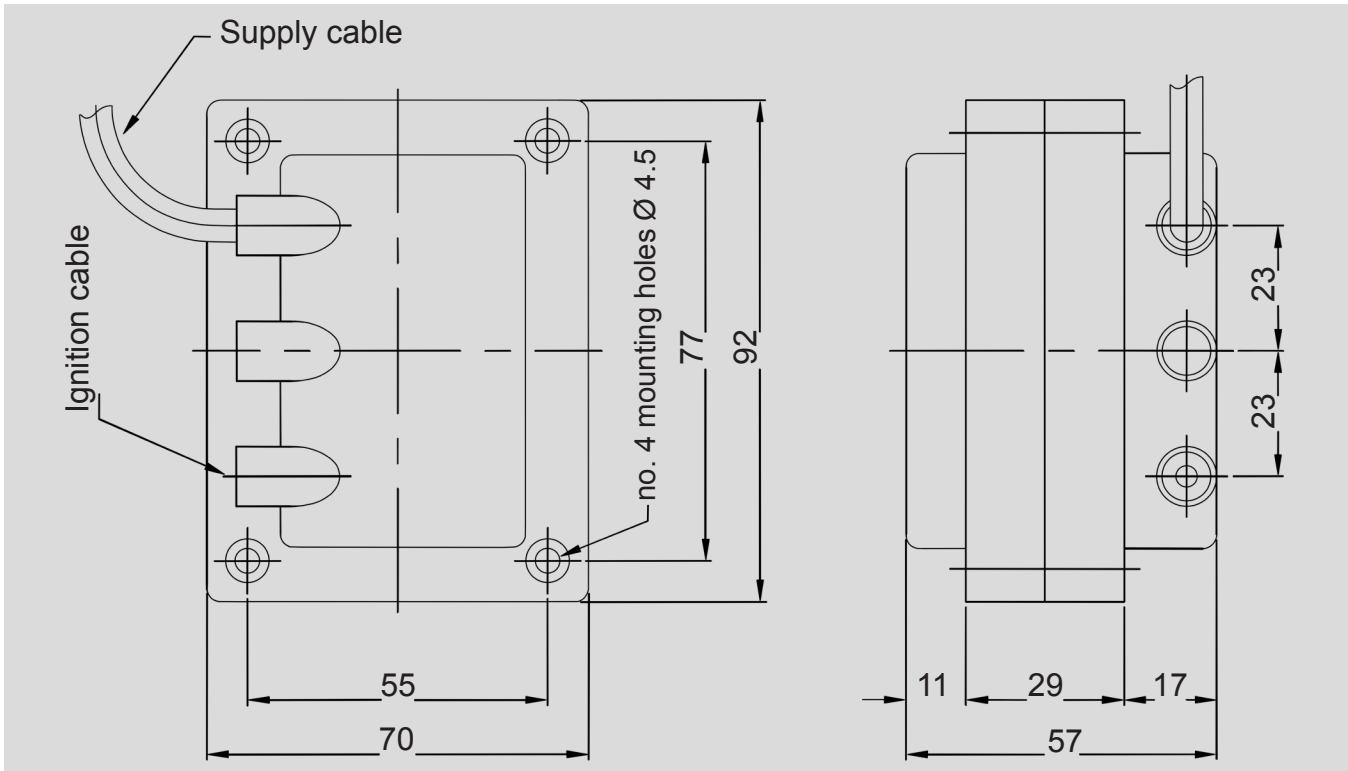
Ignition Cable



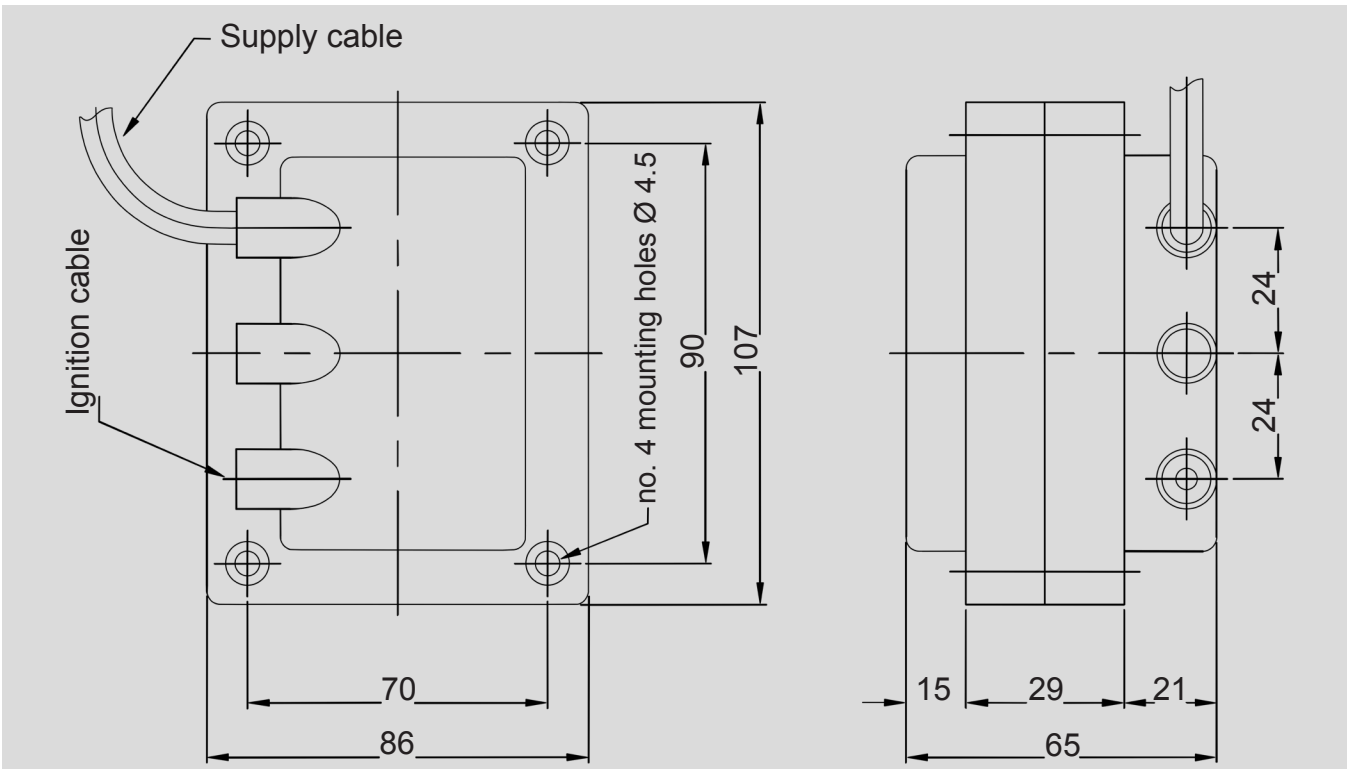
These transformer models use a spearlock connection and accept 7 mm ignition cable. Install the ignition cable by “twisting” or “screwing” it into the spearlock connection, which resembles the business end of a screw. Once installed, tug on the ignition cable firmly to ensure an adequate connection. Use of excessive force is not necessary, and may damage the equipment.

Be aware, automotive ignition cable is not suitable for industrial applications. Combustion 911 stocks 7 mm ignition cable in Kent, OH (p/n 41661-K). It is sold by the foot. Review the technical literature for your flame safeguard for recommended ignition cable lengths (typically 1 m — 5 m).

TRE series



TRS series



Cofi transformers can operate, depending on the model, on continuous or intermittent duty in accordance with the technology applied to the burner and the control device. Intermittent duty transformers are designed for specific ON and OFF times. Please check the label of the transformer in question. Note, the duty cycle decreases proportionately if the transformer is subject to ambient temperatures in excess of the design spec., which is 35°C (95°F) in this case.

ED=19% on 3 min. (180s)

The transformer can operate for 34 seconds and should be turned off for the remaining 146 seconds. Since the transformer is only active during burner ignition, and assuming a 5 second spark time, it appears the transformer can attempt six burner ignition trials in 180 seconds, or two per minute.

ED=25% on 4 min.

This notation means the transformer can be switched ON for one minute, and must then be OFF for at least three minutes. The total cycle time is four minutes, and the ON time is 25% of the total cycle time.

ED=33% on 3 min.

This notation means the transformer can be switched ON for one minutes, and must then be OFF for at least two minutes.

ED=100%

These transformers can operate continuously.

Certification



Manufactured in accordance with IEC EN 61558-2-3, IEC ED 55014-1, low voltage directive 2014/35/EU, and electromagnetic compatibility directive 2014/30/EU.

Please contact Combustion 911 for Cofi products in the USA.



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The information in this document contains technical information based on current specifications. Cofi srl reserves the right to make changes in specifications and models as design improvements are introduced, without prior notice.



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