

ELECTRONIC IGNITION TRANSFORMERS

This transformer is produced with the electronic technology, the system is vacuum impregnated to ensure the highest rate of insulation. The features of this transformer make it suitable for gas and oil burners where continuous power and size and weight that is less than conventional inductive transformers are required.

The Applications

The electronic ignition transformer is suitable to be applied to all kind of oil and gas burners, wall hang boilers, hot water high pressure cleaners and anti-mosquito equipment. These application are indicated by a symbol beside each type of product as follows.

Oil Burners



Gas Burners



Hot water high pressure cleaners



Anti-mosquito equipment



The inlets

These icons represents the inlets types available on every single product

Plug D



Plug K



The outlets


These icons represents the outlets types available on every single product

H plug, horizontal output plug, Ø 4mm
(13.5 mm deep)




V plug, Vertical output plug, Ø 4mm
(13.5 mm deep)



| CAPACITANCE DISCHARGE IGNITER TRW | Type | Vin | Pin | Iout cc | Energy | Vout | ED | Ta | Output |
|---|---------|------|-----|---------|--------|--------|------|------|---------------|
|  | TRW1P2R | 230V | 7W | 5mA | 5 mJ | 1x15kV | 100% | 60°C | Grounded pole |
| | TRW1P4 | 230V | 7W | 5mA | 5 mJ | 1x15kV | 100% | 60°C | Grounded pole |
| | TRW1S2M | 230V | 7W | 5mA | 5 mJ | 15kV | 100% | 60°C | Insulated |
| | TRW1S4 | 230V | 7W | 5mA | 5 mJ | 15kV | 100% | 60°C | Insulated |

This Ignition transformer is built to satisfy the power requirement of condensing and atmospheric boilers. Thanks to its particular electronic configuration it deliver a very high power output to ensure the ignition even on most difficult conditions. This product is available as "over the gas valve" mounting version. The integrated single pole flame detection signal is available.



| ELECTRONIC IGNITION TRANSFORMER TRJ | Type | Vin | Pin | Iout cc | Iout Burn* | Vout | ED | Ta | Output |
|---|------------|------|-----|---------|------------|--------|--------|------|---------------|
|  | TRJ1-30PVA | 230V | 50W | 30mA | 18mA | 1x15kV | 33% 3' | 60°C | Grounded pole |
| | TRJ1-30SVA | 230V | 50W | 30mA | 18mA | 15kV | 33% 3' | 60°C | Insulated |
| | TRW2-P4R | 230V | 7W | 5mA | - | 1x15kV | 100% | 60°C | Grounded pole |

This EXTREMELY SMALL transformer. The features of this transformer are comparable with the larger sized electronic transformer, with a lower cost and dimensions.



*Iout Burn.= Current measured on the burner with 6mm spark gap, blowing air and suppressed cables.

ELECTRONIC IGNITION TRANSFORMERS TRK



| Type | Vin | Pin | Iout cc | Iout Burn* | Vout | ED | Ta | Output | Notes |
|---------------|------|-----|---------|--------------|--------|--------|------|-----------------|----------------|
| TRK1-20CVD | 230V | 30W | 20mA | 12mA | 2x14kV | 100% | 60°C | Grounded center | |
| TRK1-30CVD | 230V | 30W | 26mA | 17mA | 2x12kV | 100% | 60°C | Grounded center | |
| TRK1-20PCVD | 230V | 30W | 18mA | 13mA | 1x15kV | 100% | 60°C | Grounded pole | |
| TRK1-30PCVD | 230V | 30W | 30mA | 16mA | 1x15kV | 100% | 60°C | Grounded pole | |
| TRK2-35 | 230V | 60W | 35mA | 19mA | 2x12kV | 33% 3' | 60°C | Grounded center | |
| TRK2-40VD | 230V | 65W | 35mA | 23mA | 2x12kV | 33% 3' | 60°C | Grounded center | |
| TRK2-40SHK | 230V | 65W | 35mA | 23mA | 15kV | 33% 3' | 60°C | Insulated | |
| TRK2-30PVD | 230V | 60W | 30mA | 20mA | 1x15kV | 33% 3' | 60°C | Grounded pole | IMQ |
| TRK2-30PFVD | 230V | 60W | 30mA | 20mA | 1x15kV | 33% 3' | 60°C | Grounded pole | Without filter |
| TRK2-40PVD | 230V | 65W | 30mA | 26mA | 1x15kV | 33% 3' | 60°C | Grounded pole | |
| TRK3-30CVD | 230V | 40W | 23mA | 25/20/17mA** | 2x12kV | 100% | 60°C | Grounded center | |
| TRK1-20CUVD | 120V | 25W | 20mA | 14mA | 2x12kV | 100% | 60°C | Grounded center | |
| TRK1-20PCUVD | 120V | 30W | 20mA | 14mA | 1x15kV | 100% | 60°C | Grounded pole | |
| TRK2-30UVDUS | 120V | 60W | 30mA | 20mA | 2x12kV | 33% 3' | 60°C | Grounded center | |
| TRK2-30PUVDUS | 120V | 60W | 30mA | 20mA | 1x15kV | 33% 3' | 60°C | Grounded pole | |
| TRK3-30CUVD | 120V | 50W | 30mA | 25/20/17mA** | 2x12kV | 100% | 60°C | Grounded center | |

This is the STANDARD electronic transformer. The features of this transformer make it suitable for gas and oil burners where continuous power and size and weight that is less than conventional inductive transformers are required. Many versions are available with a wide range of performance as power supply voltages, circuit configuration and duty cycles.



*Iout Burn.= Current measured on the burner with 6mm spark gap, blowing air and suppressed cables.
 **Temperature controlled transformer. Currents at -20°C/ +20°C /+60°C.

ELECTRONIC IGNITION TRANSFORMERS TRH



| Type | Vin | Pin | Iout cc | Iout Burn* | Vout | ED | Ta | Output |
|-----------|------|------|---------|------------|--------|--------|------|-----------------|
| TRH2-30CU | 120V | 70W | 30mA | 25mA | 2x12kV | 100% | 60°C | Grounded center |
| TRH2-30C | 230V | 60W | 30mA | 25mA | 2x12kV | 100% | 60°C | Grounded center |
| TRH2-30CQ | 400V | 60W | 30mA | 25mA | 2x12kV | 100% | 60°C | Grounded center |
| TRH2-60 | 230V | 100W | 50mA | 30mA | 2x12kV | 33% 3' | 60°C | Grounded center |

This is a HIGH POWER electronic transformer. The features of this transformer make it suitable for heavy gas and oil burners where high spark currents on continuous duty conditions and severe working temperatures are required as on Professional high pressure cleaners. It is available on 120V 230V and 400V versions.



*Iout Burn.= Current measured on the burner with 6mm spark gap, blowing air and suppressed cables.

ELECTRONIC IGNITION TRANSFORMERS TRL



| Type | Vin | Pin | Iout cc | Iout Burn* | Vout | ED | Ta | Output |
|-----------|--------|-----|---------|------------|--------|------|------|-----------------|
| TRL12-30C | 12V DC | 80W | 30mA | 22mA | 2x12kV | 100% | 60°C | Grounded center |
| TRL24-30C | 24V DC | 80W | 30mA | 22mA | 2x12kV | 100% | 60°C | Grounded center |

This is a 12 and 24 VDC HIGH POWER electronic transformer. The features of this transformer make it suitable for heavy gas and oil burners where the power supply is given by a portable system supplying 12V or 24V DC. It is very performant, with high spark currents on continuous duty conditions even on severe working temperatures as required by Professional portable high pressure cleaners.







*Iout Burn.= Current measured on the burner with 6mm spark gap, blowing air and suppressed cables.

INDUCTIVE TRANSFORMERS

Traditional electro-mechanic transformer, It can be customized in many different versions to fit the requirements of any kind of application like oil and gas burners, high pressure cleaners, anti-mosquito equipments, ozone generators.





The Applications

The conventional ignition transformer is suitable to be applied to all kind of oil and gas burners, hot water high pressure cleaners and anti-mosquito equipment. These application are indicated by a symbol beside each type of product as follows.

| | |
|----------------------------------|---|
| Oil Burners |  |
| Gas Burners |  |
| Hot water high pressure cleaners |  |
| Anti-mosquito equipment |  |







The inlets


These icons represents all the different kind of connection for each product

| | | | |
|-------------------------------|---|-------------|---|
| Standard buried cable L=380mm |  | COFI plug |  |
| Triangle plug |  | Flower plug |  |

The outlets

These icons represents the outlets types available on every single product




| | | | | | |
|---|---|---|---|---|---|
| Code SP, eccentric plug, Ø 4 (21.5 mm deep) |  | Code SPPRO, hole Ø 6, plug Ø 4 for cable Ø 5.2 (35 mm deep) |  | Code VIMAN, self-tapping screw with sleeve (25 mm deep) |  |
| Code SPMAN, plug Ø 4 with sleeve (23 mm deep) |  | Code SPRAS, flush plug, Ø 4 (13.5 mm deep) |  | Code VIRAS, flush self-tapping screw (18 mm deep) |  |

| Transformer TRZ | Type | Vin | Freq | Vout | Iout | ED | Output | Notes |
|---|------------|------|------|------|------|------|-----------------|-------------------|
|  | TRZ410CL | 230V | 50Hz | 4000 | 10 | 100% | Grounded center | Lamp power supply |
| | TRZ510C | 230V | 50Hz | 5000 | 10 | 100% | Grounded center | |
| | TRE4,509PC | 230V | 50Hz | 4500 | 9 | 100% | Grounded pole | |

The smallest conventional transformer of the range, especially developed for the anti-mosquito equipments, a version can be made with the optional integrated neon lamp power supply.



***The whole range is available with input voltages between 100 and 400V

| Transformer TRE | Type | Vin | Freq | Vout | Iout | ED | Output | Notes |
|---|------------|------|------|------|------|------|-----------------|---|
|  | TRE308C | 230V | 50Hz | 3000 | 8 | 100% | Grounded center | |
| | TRE510C | 230V | 50Hz | 5000 | 10 | 100% | Grounded center | |
| | TRE820 | 230V | 50Hz | 8000 | 20 | 19% | Grounded center |  |
| | TRE210PC | 230V | 50Hz | 2000 | 10 | 100% | Grounded pole | |
| | TRE410PC | 230V | 50Hz | 4000 | 10 | 100% | Grounded pole | |
| | TRE510PC | 230V | 50Hz | 5000 | 10 | 100% | Grounded pole | |
| | TRE820P | 230V | 50Hz | 8000 | 20 | 19% | Grounded pole |  |
| | TRE820PISO | 230V | 50Hz | 8000 | 20 | 19% | Grounded pole | Insulated |

Small dimension transformer, it achieve the same performances of medium size transformers with lower costs, largely used for oil and gas burners, available with the secondary insulated for flame detection by ionization of the flame. Can also be applied to anti-mosquito equipment or ozone generators.



***The whole range is available with input voltages between 100 and 400V

Transformer TRS



| Type | Vin | Freq | Vout | Iout | ED | Output | Notes |
|-------------|------|------|--------|------|------|-----------------|-----------|
| TRS513C | 230V | 50Hz | 5.000 | 10 | 100% | Grounded center | |
| TRS812C | 230V | 50Hz | 8.000 | 12 | 100% | Grounded center | |
| TRS818C | 230V | 50Hz | 8.000 | 18 | 100% | Grounded center | |
| TRS820 | 230V | 50Hz | 8.000 | 20 | 25% | Grounded center | |
| TRS1020 | 230V | 50Hz | 10.000 | 20 | 25% | Grounded center | |
| TRS1020 | 230V | 50Hz | 10.000 | 20 | 33% | Grounded center | |
| TRS1030 | 230V | 50Hz | 10.000 | 30 | 25% | Grounded center | |
| TRS1220 | 230V | 50Hz | 12.000 | 20 | 25% | Grounded center | |
| TRS404PC | 230V | 50Hz | 4.000 | 4 | 100% | Grounded pole | |
| TRS505PC | 230V | 50Hz | 5.000 | 5 | 100% | Grounded pole | |
| TRS508PC | 230V | 50Hz | 5.000 | 8 | 100% | Grounded pole | |
| TRS510PC | 230V | 50Hz | 5.000 | 10 | 100% | Grounded pole | |
| TRS515PC | 230V | 50Hz | 5.000 | 15 | 100% | Grounded pole | |
| TRS6.508PC | 230V | 50Hz | 6.500 | 8 | 100% | Grounded pole | |
| TRS606PC | 230V | 50Hz | 6.000 | 6 | 100% | Grounded pole | |
| TRS610PC | 230V | 50Hz | 6.000 | 10 | 100% | Grounded pole | |
| TRS708PC | 230V | 50Hz | 7.000 | 8 | 100% | Grounded pole | |
| TRS818PC | 230V | 50Hz | 8.000 | 18 | 100% | Grounded pole | |
| TRS820P | 230V | 50Hz | 8.000 | 20 | 25% | Grounded pole | |
| TRS723P US | 120V | 60Hz | 8.000 | 23 | 25% | Grounded pole | |
| TRS820PISO | 230V | 50Hz | 8.000 | 20 | 33% | Grounded pole | Insulated |
| TRS830P | 230V | 50Hz | 8.000 | 30 | 25% | Grounded pole | |
| TRS1815CISO | 230V | 50Hz | 2.000 | 15 | 100% | Grounded pole | Insulated |

Medium-size conventional transformer, suitable for all kinds of gas and oil burners, where continuous or intermittent power and achievement of higher voltages and currents are required. This range is available in a great number of variations. It suits very different uses such as burners, high-pressure cleaners, anti-mosquito electric equipment and ionizers.



***The whole range is available with input voltages between 100 and 400V

Transformer TRG



| Type | Vin | Freq | Vout | Iout | ED | Output | Notes |
|-------------|------|------|--------|------|------|-----------------|-------|
| TRG1015C | 230V | 50Hz | 10.000 | 15 | 100% | Grounded center | |
| TRG1020C | 230V | 50Hz | 10.000 | 20 | 100% | Grounded center | |
| TRG1035 | 230V | 50Hz | 10.000 | 35 | 25% | Grounded center | |
| TRG1035 US | 120V | 60Hz | 10.000 | 35 | 25% | Grounded center | |
| TRG1225 | 230V | 50Hz | 12.000 | 25 | 25% | Grounded center | |
| TRG1230 | 230V | 50Hz | 12.000 | 30 | 33% | Grounded center | |
| TRG1230 | 120V | 60Hz | 12.000 | 30 | 25% | Grounded center | |
| TRG623PC US | 120V | 60Hz | 6.000 | 23 | 100% | Grounded pole | |
| TRG820PC | 230V | 50Hz | 8.000 | 20 | 100% | Grounded pole | |
| TRG835P | 230V | 50Hz | 8.000 | 35 | 25% | Grounded pole | |
| TRG1020PC | 230V | 50Hz | 10.000 | 20 | 100% | Grounded pole | |
| TRG1035P | 230V | 50Hz | 10.000 | 35 | 25% | Grounded pole | |

Large-size conventional transformer, suitable for large-flow and heavy fuel burners, where continuous power and higher voltages or currents are required. The versions of this range are suitable for use in large-size transformers and industrial high-pressure cleaners.



***The whole range is available with input voltages between 100 and 400V

i-GAS

Automatic control for gas burners with ignition and flame detection integrated:



It is allowed the control of a single direct ignition burner till 350kW, with flame detection integrated (single electrode) or separate electrode. i-GAS can freely fit to many different application conditions thanks to its easy programmability. Some parameters are factory settled and password protected, directive compliant, others than customizable following customer's needs. An advanced self diagnostic provide through an alphanumeric display all information about the cycle, lock causes, or eventual applied device's failures, or burner's failures. The reset push button, and the warning light that indicate it, can be remoted through a socket connection. The ignition transformer provide a high energy spark that warrant the ignition in every situation. It is possible to use the same ignition electrode both to make ignition and flame readings, for ionization, or with a separate electrode (dedicated), plugging it directly to the control device socket. The socket give to the device easy serviceability. Allowing quick plug/unplug operability. i-GAS represent the burner's supervisor being active all the time the power is on, but the thermo switch do not require heat. All connected devices are than watched all the time, even in stand by condition. Any uneven failure might be detected before power heat is demanded by the thermo switch. The circuit configuration allow to simplify the manufacturer cable harness of its burner main case.

Technical specification

| | | | | | |
|---------------------------|----------------------|---------------------------------|-------------------|-----------------------------------|----------------|
| Power Supply | 230 V ±15% | Pre-blowing | 1÷250 s | Minimum ionization current | > 1 µA |
| Frequency | 50/60 Hz | Pre-ignition | 500 ms | ionization current limits | 0,5 mA |
| Power Consumption | 3 VA MAX | Safety time on ignition | 2÷25 s | Falme detection probe voltage | 250 V ac |
| Power dissipation | 2W MAX | Safety time running | 1÷12 s | Falme detection probe insulation | > 50 MΩ |
| Max output's current | 3 A @ 230 V cosφ 0.4 | Post-blowing | 1÷250 s | Falme detection probe wire lenght | < 30 m |
| Line Fuse | 5x20mm RAPIDO 3,15 A | Allowed Post-combustion time | < 20 s | Single electrode wire lenght | < 1 m |
| Working temperature range | 0÷60 °C | Auto shutoff & timer (opzional) | 00h05m ±20h50m | Output ignition Voltage | 1x15kV ± 10% |
| Storage temperature range | -20÷80 °C | Ignition Cycle counter | 524288 | Short circuit ignition current | 30mA rms ± 10% |
| Relative umidity | 45÷85 % | | | | |
| Enclosure Nylon UL94 V-0 | 115x97x41 mm | | | | |
| IP degree EN60529 | IP00 | | | | |
| Weight | 400 g MAX | | | | |

§ Sinusoidal, quasi-sinusoidal, square

Compliance

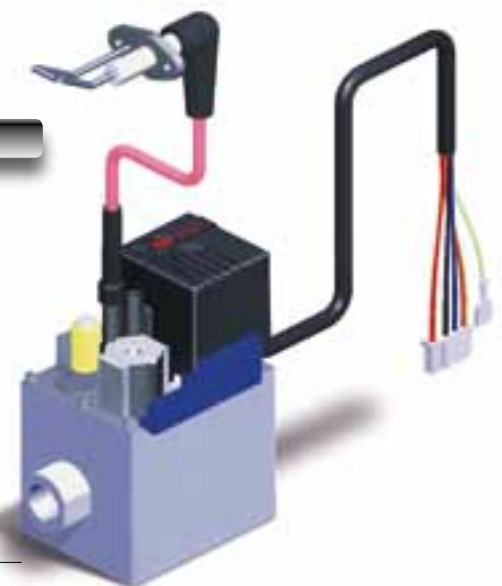
- Directive for Gas Devices (90/396/CEE)
- Directive Low voltage (73/23/CEE)
- Directiva Macchine (89/392/CEE)
- Directive EMC (89/336/CEE)
- Conform to EN298
- Conform to EN230
- Conform to EN746-2
- Conform to UNI10156
- DPR 15 November 1996 n° 661

The Applications

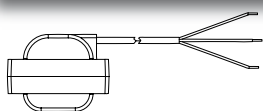


TOP MOUNTED VALVE IGNITER

Development of capacitance discharge igniters to be mounted directly on the gas valve's top. This igniter is been studied for the application on wall hang boilers where the spaces are narrow and the wiring harness need to be simplified. The transformer can drive the solenoid valves directly or with an inner DC converter. Only one wire is connected with the control device providing Ignition power, flame signal and valve driving power. The output wire is used both for ignition and flame detection with single electrode. Different version are available to be fitted on each valve.



Primary connections



Standard buried cable



Plug A



Plug B



Plug C



Plug D



Plug T



Plug K

High-voltage cables

Cofi manufacture high voltage ignition cable for all market needs. From the simple copper wire with connector to more complex cable with carbon fibre conductor, connector and moulded protections. The High voltage cables with resistive conductor in carbon fiber and semi-conductive rubber are used for shielding electromagnetic disturbances. Our EMC laboratory is fully equipped with instrument for EMC measurements for cable's and filters verifications.



SILICONE/CARBON FIBRE cable
1x1 diameter 7
Resistive cable 10 kOhm/m
Cable diameter 7 mm 35 kV
r.m.s. -40 +180°C
Sold in lengths or by meter
Code: 09CA091868



SILICONE/ CARBON FIBRE cable
1x1 diameter 5.2 mm
Resistive cable 10 kOhm/m
Cable diameter 5.2 mm 20 kV
r.m.s. -40 +180°C
Sold in lengths or by meter
Code: 09CA091869



SILICONE/COPPER Cable 1x1
diameter 7 mm
Tear-resistant silicone cable,
insulation
20kV EI 2 -50 +180°C
Sold in lengths or by meter
Code: 09CA091804



SILICONE/COPPER Cable 1x1
diameter 4.7 mm
Tear-resistant silicone cable,
insulation
15kV EI 2 -50 +180°C
Sold in lengths or by meter
Code: 09CA091807



OZONE, PVC/COPPER Cable 1x1
diameter 7 mm
PVC Cable insulation 20kV EI 2
-20 +90°C
Sold in lengths or by meter
Code: 09CA091803

Connessioni e protezioni



Connector for faston
2,8x0,8 mm
For cables with diameter
5 mm
Code: 11PC112031



Connector in phosphor
bronze
Diameter 4 mm for cable
with diameter 4.7 mm
Code: 11PC112004



Connector in phosphor
bronze
Diameter 4 mm for cable
with diameter 7 mm
Code: 11PC112010



Connector, diameter
6.3 mm, for cables with
diameters 4.7 - 5.2 - 7 mm
Straight without spring
Code: 11PC112013



Connector, diameter
6.3 mm, for cables with
diameters 4.7 - 5.2 - 7 mm
Straight with spring
Code: 11PC112011



Connector, diameter
6.3 mm, for cables with
diameters 4.7 - 5.2 - 7 mm
90° with spring
Code: 11PC112018



PVC over moulded Cap
D. 4 mm for cables with
diameter 4.7-5.2-7 mm
Code: 17GOST0000



PVC over moulded 90° Cap
D. 4 mm for cables with
diameter 4.7-5.2-7 mm
Used with electronic
transformers' "V" outlets.
Code: 17GOST000K



Silicone Cap L = 35 mm for
cables with diameters 4.7-
5.2-7 mm
Used with conventional
transformers' VIMAN and
SPMAN outlets
Code: 17GO172601



Terminal cap, type A, in
PBT, straight for cables with
diameters 4.7 - 5.2 - 7 mm
Code: 04PL041442

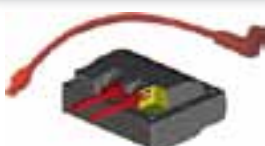


90° Silicone Cap for 6.3mm
connector for cables with
diameters 4.7-5.2-7 mm
Code: 17GO172605



90° Silicone Cap for 4 mm
connector for cables with
diameters 4.7-5.2-7 mm
Code: 17GO172604

Installed cable lengths



Complete high-voltage cables. Complete cable for high pressure cleaners. It ensures perfect sealing of the transformer outputs for perfect protection against humidity in dirty and contaminated environments. Cable in silicone/copper or silicone/ carbon fibre, diameter 7 mm. Custom-made length. Connector, diameter 4 mm, overmolded. 90° Connector, diameter 6.3 mm, with terminal cover. Code: 09SP01XXXX

Mounting brackets



40X40 mm galvanized bracket
Bracket for horizontal mounting of
transformer on any surface.
Code: 15MI152457
Kit with screws and nuts available



102X26 mm galvanized bracket
Bracket for vertical mounting of
transformer on any surface.
Code: 15MI152452
Kit with screws and nuts available

Filters



Emi disturbance suppression filter
Code: 06CE061517

ACCESSORIES