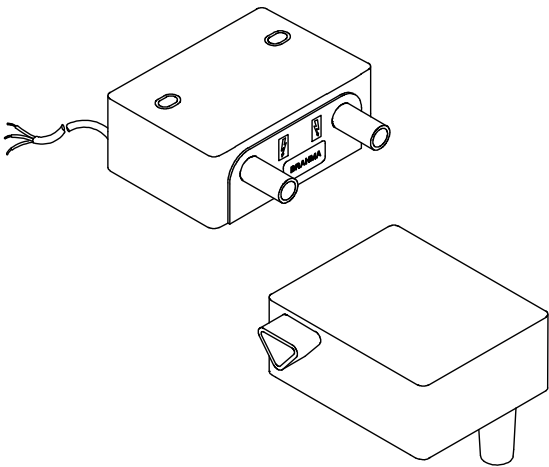
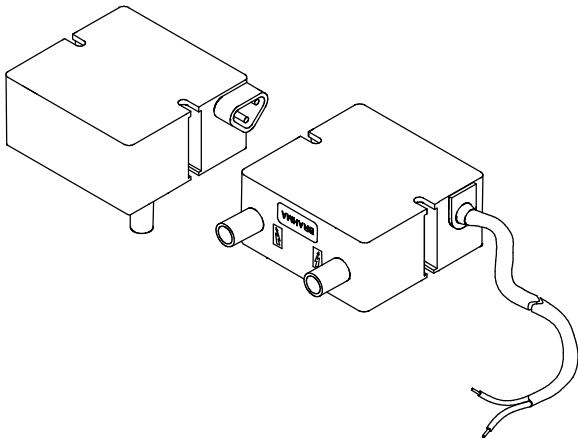


**ELECTRONIC IGNITION  
TRANSFORMERS FOR  
INTERMITTENT OPERATION  
WITH LOW VOLTAGE  
POWER SUPPLY**

**TC...A Series**



**TD...A Series**



**DESCRIPTION**

This range of electronic ignition transformers is characterized by extremely limited overall dimensions and is particularly suitable to equip forced draught burners for gas and light or heavy oil, for civil and industrial applications.

The working principle is based on a high frequency electronic oscillator; the voltage it generates is then increased by using a transformer with ferrite nucleus, reaching in this way output voltage values up to 15 kV.

**FEATURES**

The main features of this series are the following:

- 50% duty cycle in 2 minutes;
- high efficiency and ignition power;
- possibility of single-pole or double-pole high voltage output;
- limited weight and overall dimensions;
- different fixing and connecting systems;
- inbuilt protection against short circuit;
- **in oil and gas burners, the safety of the ignition transformers depends on the control unit.**

## TECHNICAL DATA

	TC1...A TD1...A		TC2...A TD2...A	
	24 Vdc	24 Vac	24 Vdc	24 Vac
Number of poles	1		2	
Output peak voltage kV (1)	15		2x12	
Rated output voltage kV (4)	5.5	6.2	2 x 4.5	2x4.7
Output peak current mA (2)	21	30	30	42
Rated output current mA (2)	17	19	25	26
Output voltage frequency kHz (1)	8		11	
Output voltage frequency kHz (2)	12		14	
Consumption (3)	38W	65VA ( $\cos\phi$ 0,7)	52W	79VA ( $\cos\phi$ 0,8)

- (1) No-load output and 30 pF load.  
 (2) Short circuit output.  
 (3) 3 mm spark gap.  
 (4) No-load output.

- **Supply voltage:** 24Vdc e 24Vac
- **Duty cycle:** 50% in 2 minutes
- **Operating temperature range:** -10°C +60°C
- **Protection rating:** IP00
- **Winding class:** H
- **Recommended distance between the electrodes:** 3÷5 mm
- **Max. ignition cable length:** 1.5 m
- **Standard supply cable length:** 560mm
- **Weight:** TC series 420g approx.  
TD series 360g approx.

## OVERALL DIMENSIONS

The TD series differs from the TC series for its more reduced overall dimensions; Fig.1, Fig.2, Fig.3 and Fig.4 show the main dimensions of both transformer series.

To fix the transformers, screws type M4 or M5 should be used; (in the transformers of the TC series, the oval holes enable a variation of the fixing wheel base between 57 mm and 64 mm).

### TC1L – TC2L

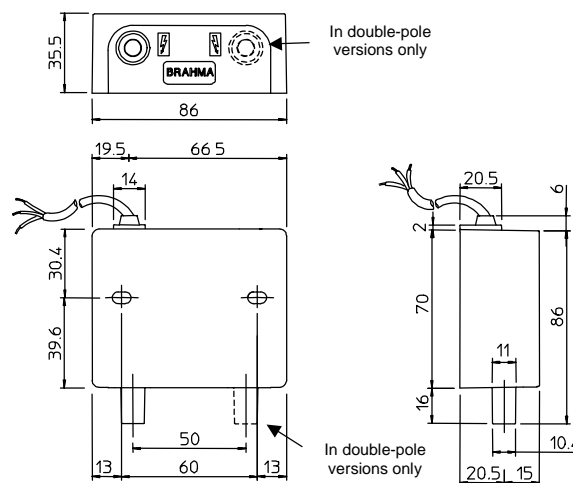


Fig. 1

## CONSTRUCTION

The working principle based on the use of a high frequency electronic oscillator has enabled to develop a device with limited dimensions and weight, but with high ignition power.

The electronic circuit and the transformer with ferrite nucleus are bathed in a special kind of resin with very good thermal conductivity and a specific coefficient of expansion, which ensures high resistance to temperature variations and to the overload due to protracted working.

The transformers of this series are available in different versions as regards the position of the isolators, the type of connection, the power supply connection; on this subject, see the following scheme:

### TC/TD X X X X A

- A: intermittent operation (50% duty cycle);
- C: cable power supply (Fig. 1, 2, 3 and 4);
- P: outlet power supply (Fig. 6 and 7);
- V: screw fixing system (Fig. 8);
- T: fixing system with terminal  $\varnothing$  4 (Fig. 8);
- L: lateral isolators (Fig. 1 e 3);
- S: bottom isolators (Fig. 2 e 4);
- 1: single-pole version;
- 2: double-pole version;

For instance, the designation TD2LTPA indicates that the transformer is provided with two lateral isolators, screw fixing system, outlet power supply, and that it is for intermittent operation.

### TC1S – TC2S

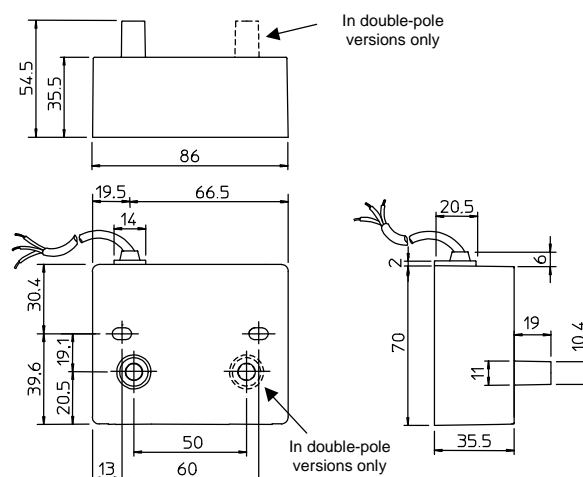


Fig. 2

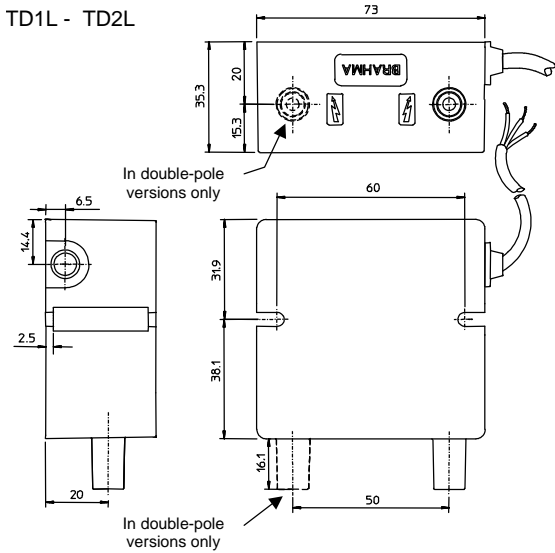


Fig. 3

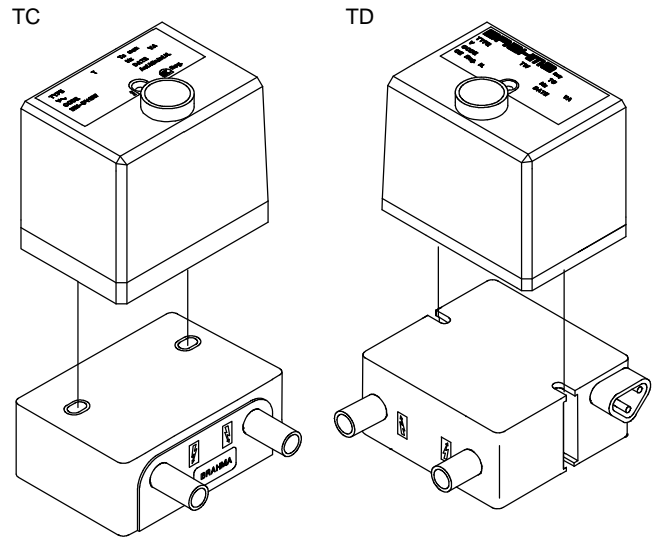


Fig. 5

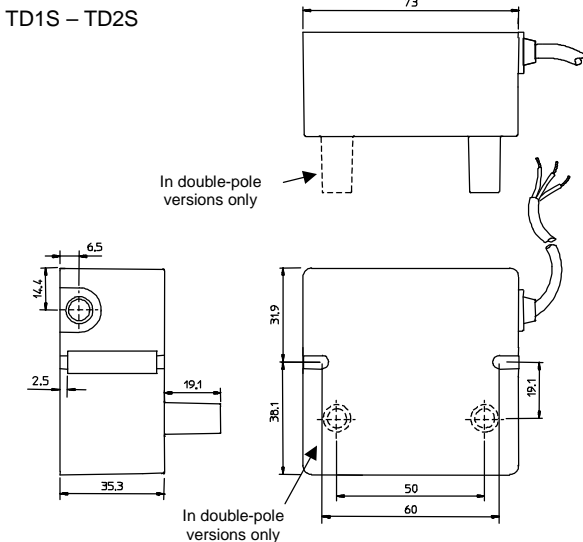


Fig. 4

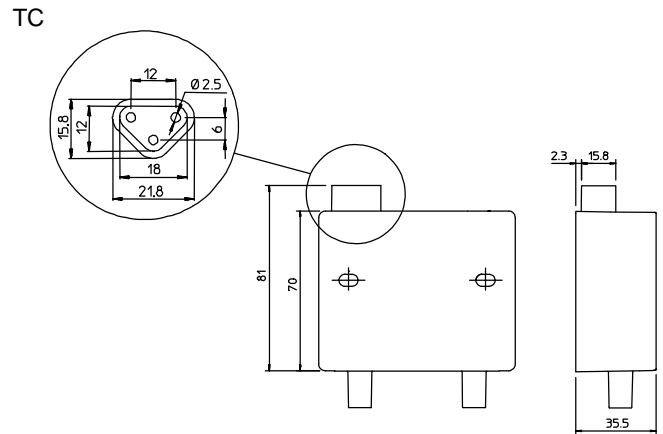


Fig. 6

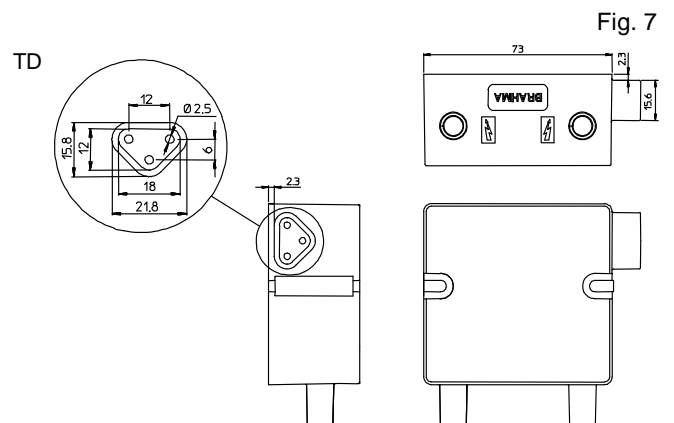


Fig. 7

## CONNECTION

This range of ignition transformers has been developed in order to be used with control boxes of our own production, which can be mounted on the ignition devices by means of fixing screws type M4x45, as shown in Fig. 5.

All transformers can be supplied with cable or power supply outlet; see, for instance, Fig. 6 and Fig. 7, which show the dimensions of a transformer provided with power supply outlet (with lateral isolators).

The connection of high voltage cables can be of two types, according to the terminals used inside the isolators: connections can be carried out by means of a screw or a cylindrical terminal with 4 mm diameter, as shown in Fig. 8. All connectors, including the ones complete with cable, can be supplied on request.

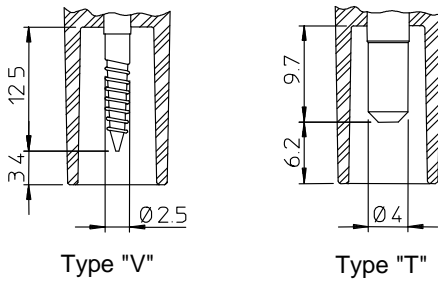


Fig. 8

## INSTALLATION



- Caution! There might be dangerous voltages.
- Connect and disconnect the ignition transformer only after interrupting the mains supply.
- Respect the applicable national and European standards (e.g. EN 60355-1 / EN 50165) regarding electrical safety.
- Make sure that the earth of the ignition transformer and the earth of the electrical system are well connected.
- The device can be mounted in any position.
- Avoid putting high voltage cables next to other cables.
- Ensure a protection rating suitable to the application.

Finally, in order to reduce the emission of electromagnetic interference, we recommend following the instructions listed hereunder:

- ignition cables should be as short as possible (this will reduce the stray capacitance and the possibility that cables may act as antennas, transferring electromagnetic interference to the nearby cables);
- use distributed resistance cables or mount a resistor near the ignition electrodes (few kΩs can reduce the current peak);
- let ignition cables follow a separate path, close to ground planes (this will reduce the influence of electromagnetic interference on the remaining electrical cables);
- make a single earth centre, preventing the earth conductors from creating circular paths.

**ATTENTION --> Company Brahma S.p.A. declines any responsibility for any damage resulting from Customer tampering with the device.**

### **BRAHMA S.p.A.**

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21/12/2010 subject to amendments without notice