

# High Frequency Ignition Transformers

The ZT 8 is designed for application with small fully automatic oil burners, blown gas burners and atmospheric gas boilers

## INTRODUCTION

The ignition transformer comprises a transistorised oscillator which produces a high frequency voltage. This voltage, at approximately 20 KHZ, is in turn applied to a conventional ironcored transformer which raises the voltage still further to that required for ignition purposes.

Depending upon the model number, the peak output voltage is between 10 KV and 14 KV, and the ignition spark produced is similar in characteristic to that of a conventional ignition transformer.

The oscillator and transformer sections are housed inside a tough plastic enclosure having high insulation properties, and forms an extremely neat and compact system.

General constructional details are in accordance with VDE regulations. Similarly some models are specifically approved for use in certain countries, e.g. ZT 812 approval by British Gas for use in the United Kingdom.

The dimensions and fixing arrangements allow it to be easily mounted in combination with the Satronic TF 800 and TFI 800 oil and gas burner safety controls series.

An input supply cable is provided, and depending upon the model, either one or two High Tension output cables are incorporated. The H.T. cables are insulated with superior quality Silicon and are available in various lengths, for precise details see specification table.

## INSTALLATION INSTRUCTIONS

Best results are achieved if installation is made in accordance with the following suggestions.

Observe correct wiring polarity, and where appropriate the earth wire must be connected, otherwise damage to the device may result.

H.T. cable runs to the ignition electrodes should be kept as short as possible, avoiding unnecessary bends or kinks with the insulation kept clear of any sharp edges.

The H.T. cable should not be run adjacent to other wiring. This is particularly important with regard to flame probe detector wiring on gas burners and gas boilers.

Correct setting of the spark gap between ignition electrodes or electrode and earth is very important to avoid trouble-free operation. Very low ambient temperature and low voltage conditions will give rise to problems if these settings are incorrect, see General Technical Data for recommended gap settings.

Avoid positioning the device where the ambient temperature exceeds 60° C.



## APPLICATION NOTES

Various models are available covering different supply voltages, e.g. 110 V, 230 V, 240 V and applications requiring either 1 or 2 H.T. outputs.

In general terms, oil burners will usually employ 2 ignition electrodes and therefore models ZT 801, ZT 802 etc. having 2 H.T. cable outputs should be used for this type of application. It should be noted that these types of ignition transformer are only suitable for small oil burners. To determine suitability, application tests should therefore be carried out to ensure that the volume of combustion air passing across the ignition spark, is not excessive to cause a reduction in spark temperature sufficient to prevent satisfactory ignition.

Gas burners usually employ only 1 ignition electrode, the ignition spark taking place between this and an earthed area of the burner. Models such as ZT 812, ZT 812B, ZT 815 etc with 1 H.T. output cable will therefore be suitable for this type of application.

Blown gas burners using ionisation or flame probe detection will often be affected by ignition spark interference to the flame signal current. The H.T. ignition spark can produce its own ionisation current, the polarity of which is random and therefore often in direct opposition to the flame signal current. If sufficient, the interference will swamp the flame signal with the result that nuisance shut-downs can occur. Certain models in the range therefore specially incorporate a power diode in the H.T. output stage. This effectively polarises the ignition ionisation current such that it is in the same direction as the flame signal current and nuisance shut-downs due to ignition interference are therefore avoided. For model details with output diode, see specification table.

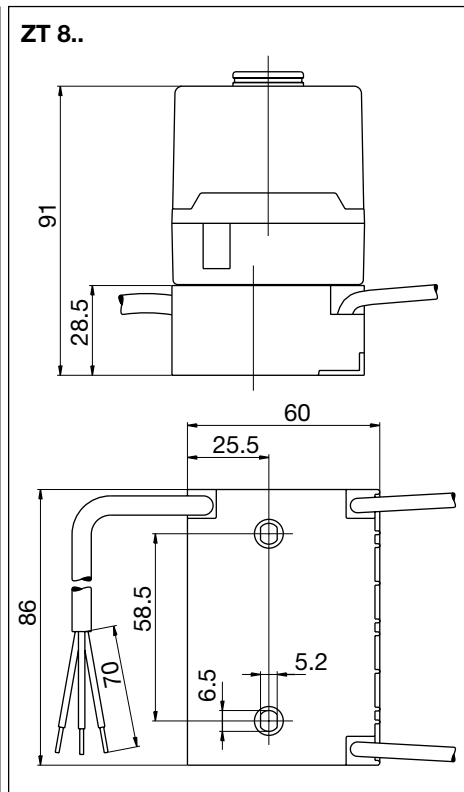
The ZT 800 series high frequency ignition transformers are rated for intermittent operation only. Their use with burner safety controls which provide unduly long periods of ignition coupled with frequent on-off cycling should be avoided. This is less critical in the case of most gas burner applications where the ignition period provided by the burner safety control is usually of very short duration.

**GENERAL TECHNICAL DATA**

Model No	ZT 801	ZT 802	ZT 812	ZT 812B	ZT 815
Supply Voltage (+10%, -15%)	230 V	240 V	220/240 V	220/240 V	110 V/120 V
Supply Frequency (+ / -20%)	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Power Consumption	50 VA	50 VA	50 VA	50 VA	50 VA
Secondary Voltage $\hat{u}$	2 x 7 kV	2 x 7 kV	10 kV	11,5 kV	8 kV
Secondary Current $I_k$	17 mA	16 mA	16 mA	19 mA	16 mA
Max. spark gap setting in mm	3-5 mm	3-5 mm	2-3 mm	2-4 mm	2-3 mm
Output Frequency	20 kHz				
Max. working ambient temperature	-10 bis +60° C				
Rating	Intermittent, 25% E.D.in 3 minutes				
Mounting attitude	Any				
Weight	approx. 230 gr.				
H.T. cable only	Silicon insulated, temperature rating 175° C				

Applicable to all types

Article No.	Model No.	Supply Voltage	H.T. Power	H.T. Cable			Supply cable L.mm
				L.mm	Ømm	No.	
12000	ZT 801	230 V	no	400	5	2	400
1200001	ZT 801	230 V	no	500	7	2	300
1200002	ZT 801	230 V	no	400	7	2	300
1200003	ZT 801	230 V	no	400	5	2	160
1200004	ZT 801	230 V	no	400	7	2	160
1200006	ZT 801	230 V	no	1000	7	2	300
1200007	ZT 801	230 V	no	400/500	7	2	180
12100	ZT 802	240 V	no	400	7	2	300
12400	ZT 815	110 V	yes	400	7	1	300
1240001	ZT 815	110V/120V	yes	1000	7	1	300
12600	ZT 812	220/240V	yes	400	7	1	300
1260001	ZT 812	220/240V	yes	1000	7	1	300
1260008	ZT 812	220/240V	yes	1500	7	1	300
1260002	ZT 812	220/240V	yes	1500	7	1	650
1260007	ZT 812 B	220/240V	no	400	7	1	180
1260004	ZT 812 B	220/240V	no	400	7	1	300
1260003	ZT 812 B	220/240V	no	1000	7	1	300
1260006	ZT 812 B	220/240V	no	1500	7	1	300



Specifications subject to changes without notice

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**satronic**

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