

820 TEA Manual

700064 V3.1



INSTALLATION AND CONNECTION

WARNING: SECTION 1.0 – SAFETY, must be carefully read before installing or connecting the instrument and/or its accessories.

The 800 Series Thermal Energy Analyser is designed to be customer installable. However, should suitably trained personnel not be available, then please contact your Supplier who will be able to install the unit for you.

Familiarisation

The 800 Series Thermal Energy Analyser consists of a range of instruments, before proceeding, please ensure that you are aware of which model within the range you are working with.

Models available:

810 TEA is for nitro/nitroso compounds.

820 TEA has the added ability to analyse organic nitrogen using a catalyst.

There are also various interface lengths dependant on GC the TEA is attached.

The principal features of each of the models are shown in Figures 3.1 to 3.7.



Figure 3.1 Front of Unit

1. Display
2. Keypad
3. Sample Inlet
4. Access Door

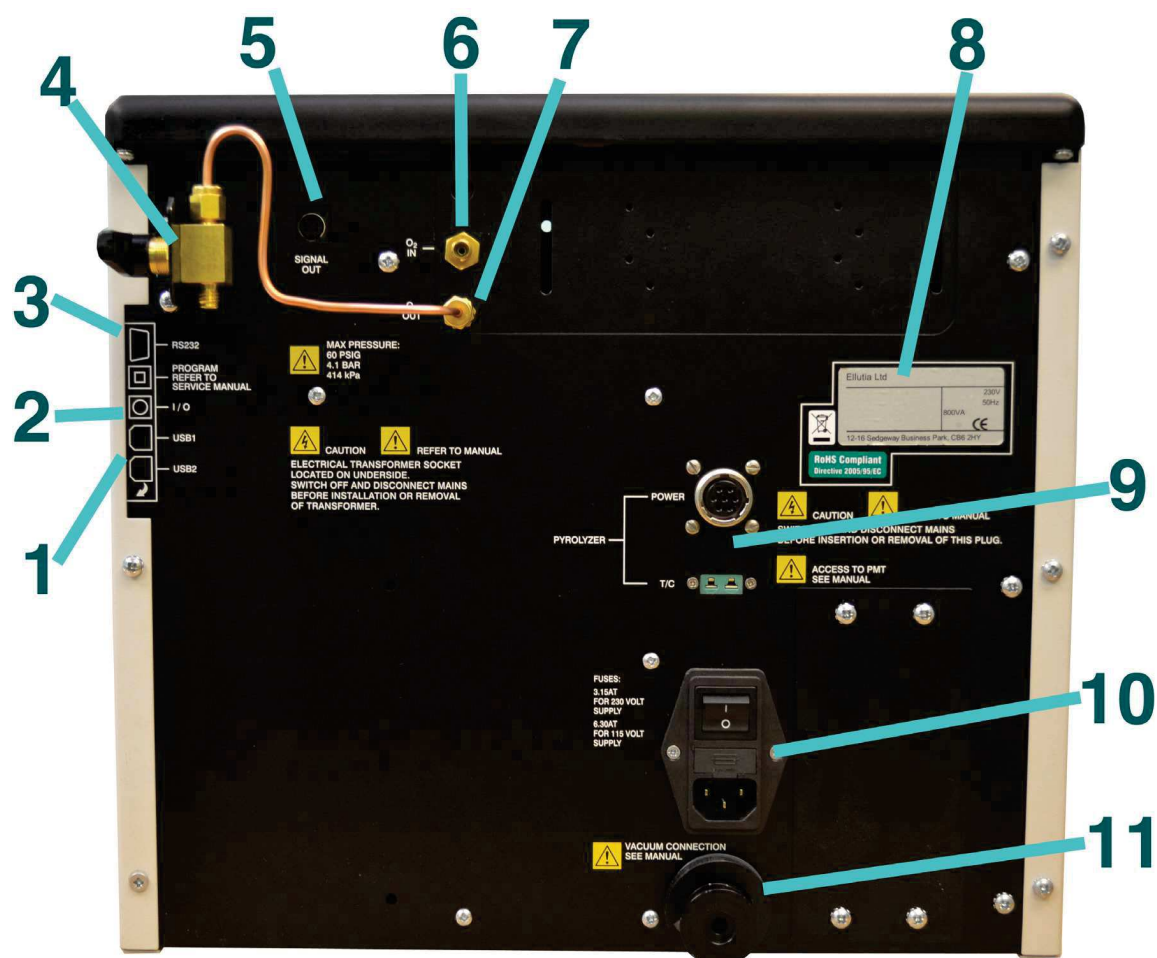


Figure 3.2 Back of Unit

- | | |
|------------------------------|---------------------------------|
| 1. USB Socket | 7. Reactant Gas Supply Coupling |
| 2. Input/Output Connector | 8. Instrument Identification |
| 3. RS232 Connector | 9. Pyrolyser Connectors |
| 4. 2-way Ball Valve | 10. Main Power Inlet and Switch |
| 5. Detector Signal Output | 11. Vacuum Connector |
| 6. Gas Supply Inlet Coupling | |

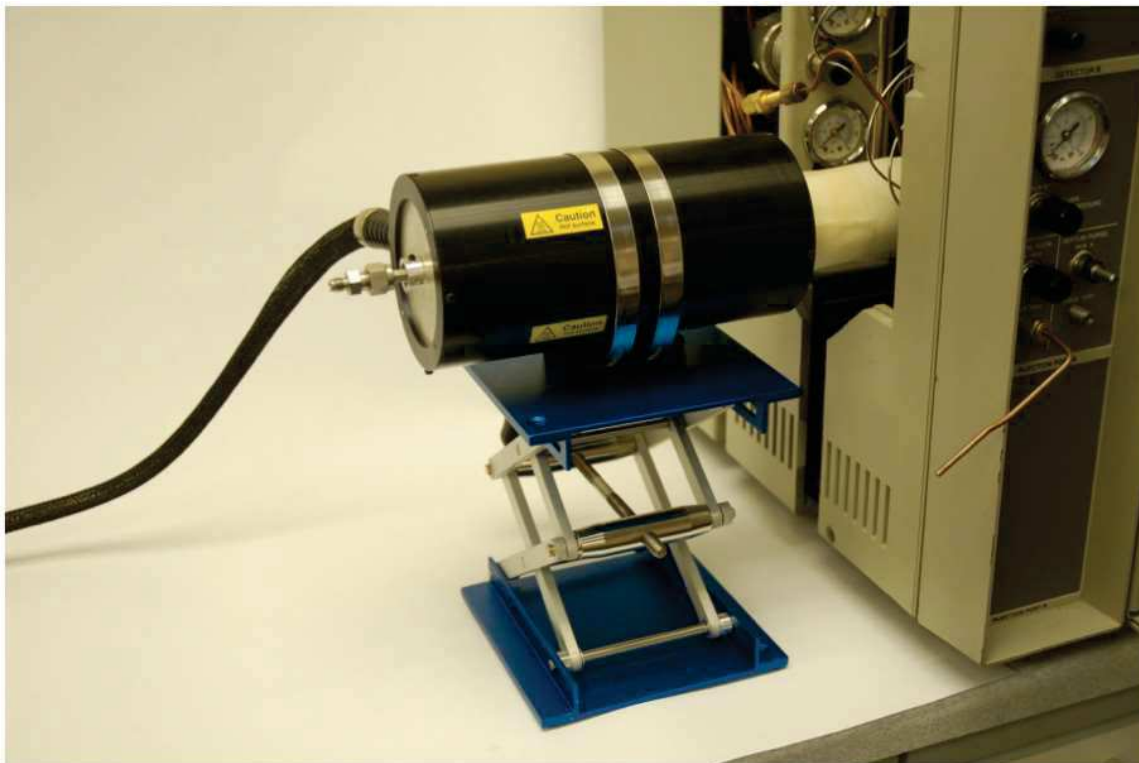


Figure 3.5 Pyrolyser

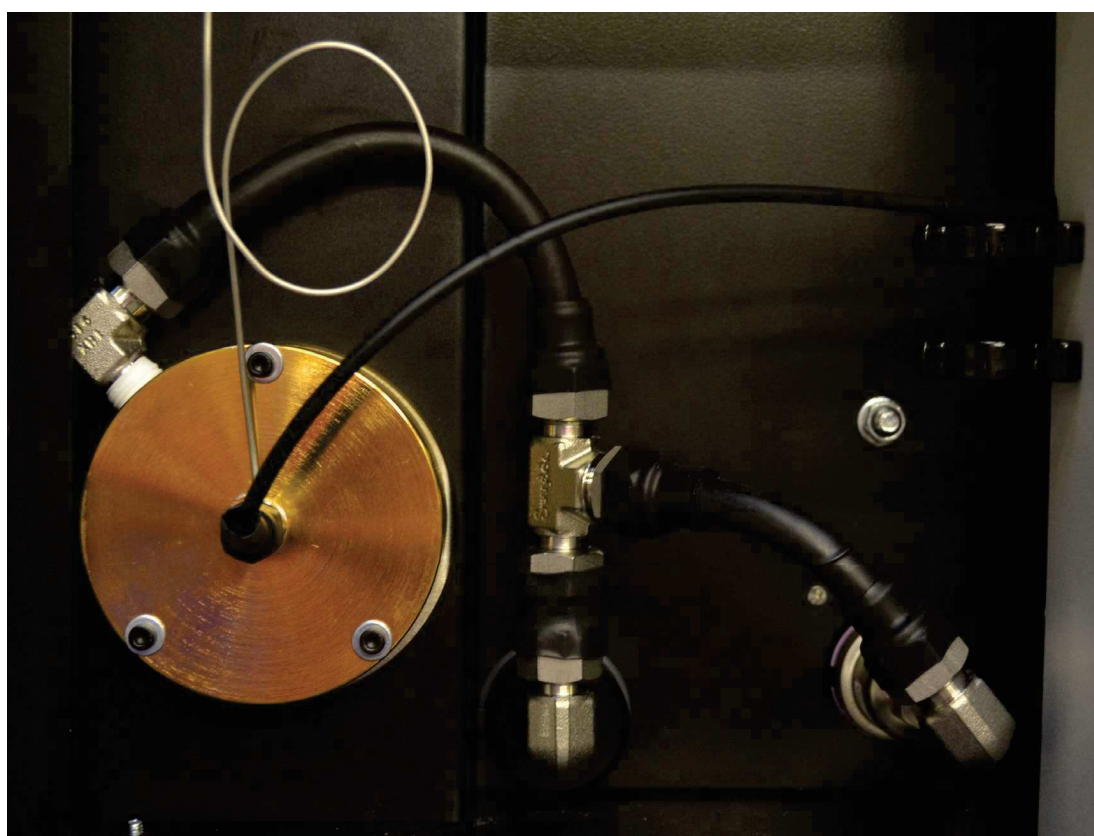


Figure 3.6 Inside Compartment

Mains Supply

Various models of the instrument operate from either a 230 V \pm 10% a.c. 50 Hz or 60 Hz supply or a 115 V \pm 10% a.c. 50 Hz or 60 Hz supply. Please ensure that the model you are working with is suitable for the supply provided by checking the supply rating on the label on the rear of the instrument.

Should the Mains Supply fall below the normal level of 115 V or 230 V, then the typical performance figures contained in TECHNICAL SPECIFICATION may not be achieved

Mains Cable Connection

For use in the UK, the mains cable supplied with the instrument is fitted with a flat, three pin 13 A plug constructed to British Standard 1363. For use on the continent of Europe, a mains cable fitted with a two pin 10 A plug, constructed to EEC regulations, is supplied. Should it be necessary to operate the instrument using any other type of plug, fit the three leads of the cable as follows;

Plug Pin	European Code	North American Code
Live (L)	Brown	Black
Neutral (N)	Blue	White
Earth (E)	Green/Yellow	Green

A good ground (earth) connection is essential for satisfactory operation of the instrument and the safety of the user. The mains plug must only be inserted into a socket outlet provided with an earth contact. This protective action must not be negated by the use of an extension cable without a protective conductor.

WARNING: Any interruption of the protective conductor inside or outside the instrument is likely to make the instrument dangerous.

Electrical connection is made at the back of the instrument, see Figure 3.2.

Please ensure that you have the necessary mains cable available as defined in 2.1 and then connect the instrument to the mains supply.

Switch on the unit at the back (see Figure 3.2) and check that the following sequence occurs;

ELLUTIA

then

THERMAL ENERGY
ANALYSER

then

SOFTWARE
VERSION X.YZ

then

INSTRUMENT
INITIALISING

If there is any deviation from the above sequence, please contact your Supplier immediately.

WARNING: Switch off the instrument and disconnect from the mains supply before proceeding with the installation.

Gas Supplies

Your 800 Series Thermal Energy Analyser is fitted with a built in ozone generator which requires the following gas: Oxygen

WARNING: Use gas supplies only in accordance with the manufacturer's instructions.

Gas Specifications

Oxygen

Purity: 99.995% Minimum/Medical Grade

Application: Used to produce ozone and/or reactant

Internally clean copper piping and couplings are provided with the instrument for connecting up to your gas supply. If a longer length of piping is needed, this can be purchased from your Supplier.

Connecting the Gases

Connections are made at the back of the instrument, please refer to Figure 3.2. Connect the appropriate gas to each line using the copper tubing and nuts provided.

Note that the connectors are 1/8" Swagelok couplings. Tighten and check for leaks.

I/O Connections

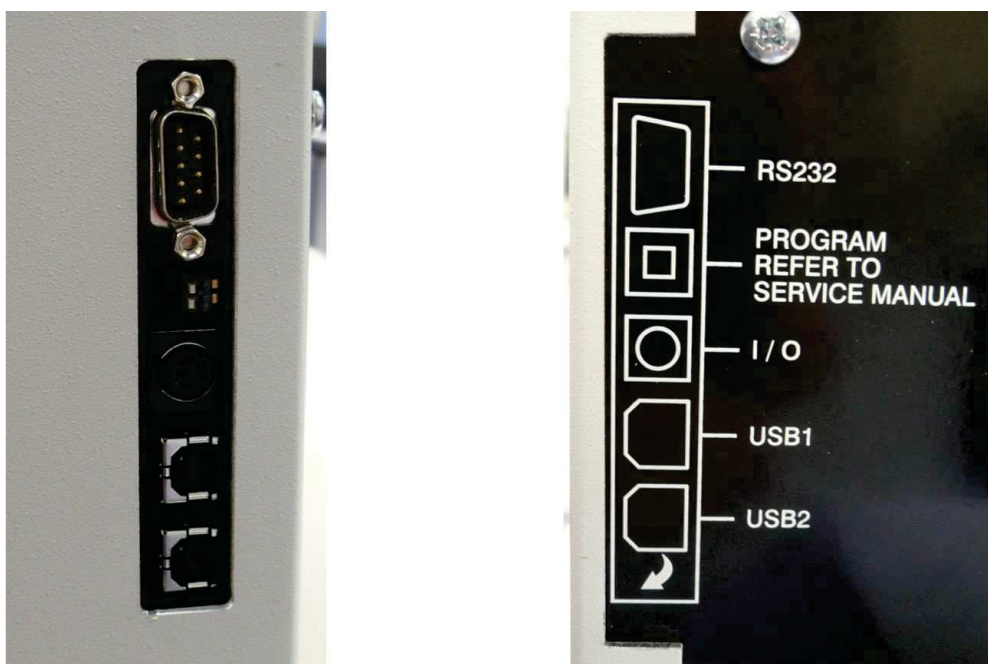


Figure 3.38 I/O Connection

Run Line Connection

Signal	Direction	Colour	Pin No.
Programmable	Input	Black	1
GND		White	2
Program		Red	3
Programmable	Output	Yellow	4
GND		Purple	5
Programmable		Blue	6

1 Volt Cable Connection

Connect the 1 Volt Cable to the socket on the back of the Thermal Energy Analyser (see Figure 3.2). The other end of the cable should be connected to your Integrator, referring to the relevant section in your Integrator Operating Manual.

Should further information be required, the following are the connections on the lead provided.

Signal	Direction	Colour	Pin no.
10 V	Output	Black	1
1 V		White	2
No Connection		Red	3
GND		Yellow	4