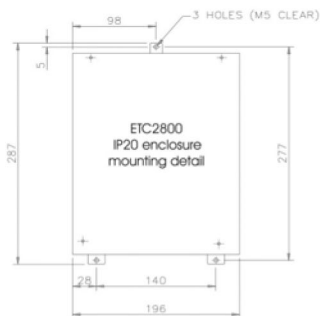
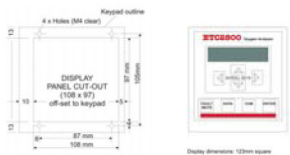


Technical Specification

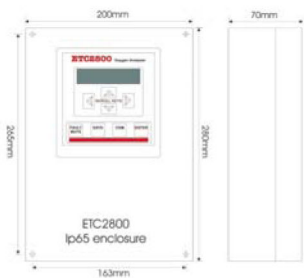


The analyser is designed for installation inside the burner cabinet. The analyser must be mounted as shown with minimum clearance of 80mm above and 20mm below and at each side of control. Maximum ambient temperature range inside the burner cabinet is 0 to 60 degrees C. The analyser must be installed in a clean environment as defined in EN6730-1.



Display dimensions: 128mm square
The display should be mounted on the front of the burner cabinet or similar accessible location. If display option is not the panel display panel thickness is 7mm.

Analyser Enclosure Dimensions



ETC

Energy Technology & Control Limited

25 North Street
Lewes
East Sussex BN7 2PE
United Kingdom

Telephone +44 (0) 1 273 480667
Facsimile +44 (0) 1 273 480652
Web <http://www.etc.itd.uk>

Supply

Supply voltage	115/230Vac +/- 15%
Power Consumption	Approx. 65VA
Supply frequency	50/60Hz +/- 5%

Enclosure

Operating temperature range (ambient)	0 to 60°C
Protection category (Aluminium casting)	IP65
Sheet metal	IP20

Display

Type	40 character dot matrix
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Analogue inputs

Number	4
Type	0-5V (1mA max)/4-20mA (switch selected)

Modulation input (required for gross efficiency calculation)

Type	0-5V (1mA max)/4-20mA (switch selected)
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Digital inputs

Number	3
Type	5Vdc 1mA max

Alarm outputs

Number	2
Type	Single pole change-over
Contact rating	2A at 230Vac RMS

Analogue outputs

Number	4
Type	4-20mA
Maximum loop resistance	750Ω
Isolation voltage	50V
Retransmission accuracy	+/- 0.1% of value

RS485

Type	2-wire (isolated) with ground
Isolation voltage	50V

Efficiency option

Inlet temperature input	2-wire R.T.D
Flue temperature input	Type K thermocouple
Number of fuels (max)	2

Accuracy

Display resolution	+/- 1 digit
Oxygen accuracy	+/- 1% of value
Temperature accuracy	+/- 2°C

Probe (General)

Type	In-situ zirconia
Flue gas temperature	540°C max
Probe head temperature	70°C max
Cable length	30 metres max
Probe interface	ETC specific

Optional probes available on request

Note The manufacturer of this equipment has a policy of continual product improvement and reserves the right to change the specification of the equipment and the contents of this datasheet without notice.

Issue 17/08/01

ETC 2800 Flue Gas Oxygen Analyser



- ETC "in-situ" zirconia oxygen probe
- Microprocessor controlled
- Oxygen measurement
- Flue temperature measurement
- Calculated CO₂
- Boiler Gross or Net Efficiency
- Factory configured or field programmable
- Display options
- Programmable 4 - 20mA outputs
- Programmable high/low limits/alarms
- Simple construction and installation
- IP20 or IP65 Analyser enclosures
- Optional weather shield for probe
- Auto, remote and manual calibration
- Communications software for local and remote connection to PC
- RS485
- Self diagnostics

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Benefits

- Continuous measurement of Oxygen for combustion efficiency, fuel savings, emissions reductions, extended boiler life and Normalisation of other emission measurements
- Internationally proven ETC oxygen probes with a reputation for accuracy, reliability and longevity
- For use on coal, wood, oil, gas and exotic fuels: suitable for Maritime applications
- Zirconia oxide sensor for precise oxygen measurement
- Minimal maintenance oxygen probe due to no moving parts
- Configurable to suit application and budget
- Simple connection to Building Management Systems for analysis and maintenance planning using 4 - 20 mA outputs and/or communications
- Communications software compatible with other ETC electronic boilerhouse and process products

Description

The ETC2800 is a family of microprocessor controlled boiler analysers. Configurations include simple oxygen analysers and efficiency meters with data logging options.

Each ETC2800 is factory configured by ETC for ease of commissioning. When the optional local display is chosen the product can be re-configured on site if required.

ETC's oxygen probes use zirconia technology which gives an inverse logarithmic output ensuring maximum signal resolution at lower oxygen levels. To ensure long-term stability the ETC probe houses the zirconia cell in an internal, temperature-controlled oven. Very high measurement accuracy and repeatability are achieved.

The output signal from the zirconia probe is connected to the analyser unit where it is amplified, converted and then linearised before being processed for display, transmission or alarm.

Retransmission can be via 4 - 20mA signals and/or via ETC "Comview" communications software. Alarm outputs can be programmed to announce flue temperature and/or oxygen limit conditions.

"Comview" communications software is a powerful package for connection to a local or remote PC. All commissioning information can be viewed on screen. Readings and events can be expressed in tabular and graphic form. A dynamic plant mimic customised for each site is available. Historical events can be logged on the PC and reproduced on screen or in reports.

Auto-calibration of the oxygen probe is an optional feature for Continuous Emissions Monitoring applications.

Order Code

In the order list to the right, each section has several options including "none" or "no". To order, enter the number corresponding to the option you require as shown in the example in the order line at the bottom of the column on the right. When you call ETC, quote this code to our sales team.

If you require an option that isn't shown in a section enter **999** as the number then enter **999** again at the end of the order line and attach a written description of the special option required.

Option

Analyser type	
IP20 for mounting in existing cabinet	01
IP65 for wall mounting	02
Flue temperature range	
Non-standard (specify between 0 & 540°C)	19
None	10
0 to 400°C	11
0 to 1000°F	12
Oxygen range	
Non-standard (specify between 0 & 21%)	29
0 to 21%	21
0 to 15%	22
0 to 10%	23
Display	
None	30
Separate for IP20 version	31
Integral for IP65 Version	32
Communications	
None	40
RS 485 (ComView)	41
RS 485 (ComView + Profibus)	42
Real time clock	
None	50
Yes	51
Calculated Variables	
None	60
Gross efficiency, CO ₂ + Excess air	61
Net efficiency, CO ₂ + Excess air	62
Probe insertion length	
Non-standard	79
215mm for flues 0.3m to 1.0m	71
406mm for flues 0.6m to 2.0m	72
757mm for flues 1.2m to 4.0m	73
Probe flange	
For welding to curved and flat sided flues	81
For screw fixing to flat sided flues	82
Cable pack	
None	90
10 metre (standard)	91
20 metre (standard)	92
30 metre (standard)	93

Example Order Line
2 8 0 0 - 0 1 - 1 1 - 2 1 - 3 1 - 4 1 - 5 0 - 6 0 - 7 1 - 8 1 - 9 1

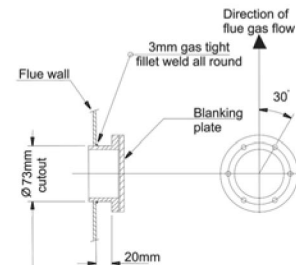
Notes

Efficiency is available for single burners firing standard liquid & gaseous fuels only.

ETC probes are unsuitable for use in explosive or hazardous zones.

For auto-calibration option please contact factory.

Probe Flange Dimensions



Probe Dimensions

