MODEL
1734 Carbon Transmitter with Controller

Accurate carbon potential measurement for heat treatment applications

The Novatech 1734 Controller operates with a variety of gases including

- Propane
- Methane
- Nitrogen / Methanol

Using the Novatech 1734 is easy and convenient

- Simply enter the gas component data via the analyser's keypad
- The 1734 is self-calibrating, performing a calibration cycle for all inputs, every minute
- Output to a computer or printer is provided via RS-233 or RS-485 ports, facilitating diagnostics of the analyser, probe or combustion appliance

The Novatech 1734 Controller readily adapts to your process control system

The 1734 Controller has two 4-20mA linearised outputs to operate with remote controllers and/or indicators.

The instrument's common alarm relay can activate remote process alarm devices.

The separate, 'probe not ready' alarm relay prevents erroneous operation. During auto-purge cycles, the analyser output is frozen, and the purge relay is activated.

An alarm horn driver relay is provided.

Novatech's dual sensor redundancy feature prevents costly shutdowns if a probe failure occurs

The Novatech 1734 Carbon Controller accepts inputs from two sensors, averaging the two readings, or providing separate 4-20mA outputs for each sensor. In case of either one of the sensors failing, the analyser warns the operator and locks onto the remaining sensor so that the process can continue to operate.

The Novatech 1734 tells you what's happening

Plant operators are alerted to failure of the probe by a plain English message on the analyser LCD display. There are 20 probe and analyser alarms, plus 4 process alarms. The upper line display indicates carbon potential.

Note: gases allowed for are propane, methane, nitrogen/methanol mix.

The lower line display can indicate any one of the following:

- Oxygen %
- Carbon set point
- Probe impedance
- Probe EMF
- Probe temperature
- Auxiliary thermocouple temperature
- Ambient temperature
- Date/time
- Run hours

The Novatech 1734 can control your furnace atmosphere

The Novatech 1734 has a built-in carbon controller thus providing furnace atmosphere control. Features include:

- ON/OFF control
- Proportional ON/OFF control
- Proportional 4-20 mA control signal
- Proportional up/down control

Novatech
CONTROLS PTY. LTD.

SPECIFICATIONS

Inputs

One or two zirconia oxygen probes or sensors

One zirconia sensor & auxiliary thermocouple type J, K, R, S or N

Burner "On" signal (dry contact)

Purge air flow switch

Outputs

Four programmable alarm relays

Two isolated 4-20mA or 0-20mA

SSR outputs to purge & calibration check gas solenoid valves

Range of outputs

Carbon	0 to 1.5%
Average carbon	0 to 1.5%
Probe EMF	0 to 1500mV
Probe TC temperature	0 to 1600°C
Oxygen %	0 to 25%
Reducing oxygen	10^{-30} to 100%
Auxiliary TC temperature	0 to 1600°C (2910°F)

Alarms

Common alarm relay with 20 user selectable instrument alarm functions

Three programmable process alarm relays:

Carbon low

Carbon high

Carbon deviation

Probe temperature low

Purge in progress

Carbon invalid

Any alarm condition not selected for the common alarm

Multiple selections can be made for all relays

Alarm contacts

Normally open failsafe (open for alarm state)

240VAC / 30VDC, 2A

Range of local indication

0.00% to 2.00% Carbon Potential

Network interface

RS-485 MODBUS™

Secondary parameter display

Any or all of the following can be selected for display on the lower line:

Probe 2 carbon %

Average carbon %

Probe 1/2 TC temperature

Probe 1/2 EMF

Probe 1/2 impedance

Probe 1/2 oxygen %

Auxiliary TC temperature

Ambient temperature

Ambient RH%

Controller set point

Runtime

Service date

4-20mA output 1

4-20mA output 2

Accuracy

± 1% of the actual oxygen reading with a repeatability of 0.5%. For example, at 2% oxygen the accuracy would be ±0.02% oxygen

Environmental rating

Operating temperature	-25°C to 55°C (-10°F to 130°F)
Relative humidity	5% to 95% (non-condensing)
Altitude	2000m maximum

Power requirements

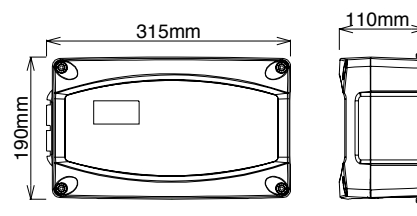|	
Mains voltage	100 to 240VAC -6/+10%, 50/60Hz
Overvoltage category II	(IEC60364-4-443)
Power	5W plus probe power

Degree of protection

IP65

IP54 with internal reference air pump

Dimensions

315mm x 190mm x 110mm
(12.4" x 7.5" x 4.3")

Weight

3.3kg (7.3lb)