Accurate Continuous Monitoring of Oxygen in Hydrogen / Nitrogen atmospheres used in Annealing Furnaces

The Novatech 1738 detects changes in the dew point of annealing furnaces allowing operators to take corrective action to prevent expensive re-work due to oxidation of the product. The dew point is calculated from the amount of oxygen measured in the furnace. The unique sensor manufactured by Novatech uses a catalyst that attracts oxygen molecules in the same way as the surface of the steel inside the furnace.

Using the Novatech 1738 is easy and convenient

Simply enter the percentage of hydrogen used by the furnace.
Very low maintenance and re-calibration
Two fully programmable isolated 4-20mA outputs
Built in Modbus™ slave protocol and RS-485 networking

Dual sensors provides redundancy to prevent costly shutdowns if a probe failure occurs

The Novatech 1738 Dew Point Transmitter 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 transmitter warns the operator and locks onto the remaining sensor so that the process can continue to operate.

The Novatech 1738 tells you what's happening

Plant operators are alerted to failure of the probe by a plain English message on the transmitter's LCD display. There are 30 probe and transmitter alarms, plus 4 process alarms. The upper line display indicates: Oxygen %. Auto-ranging from 1 x 10^{-30}% to 100% oxygen.

Call your nearest Novatech distributor to obtain expert advice for your particular application. We have been dedicated to designing and manufacturing the most reliable zirconia oxygen measuring instruments for more than 25 years

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

- Dew Point -60 to 40C
- Average Dew Point -60 to 40C
- Linear Oxygen 0 to 100%
- Average Linear Oxygen 0 to 100%
- Reducing Oxygen 10^{-30} to 10^{2}%
- Average Reducing Oxygen 10^{-30} to 10^{2}%
- Pre-Reactive Oxygen 0 to 10%
- Average Pre-Reactive oxygen 0 to 10%
- Probe EMF 0 to 1300 mVolt
- Auxiliary TC Temperature 0 to 1400℃

Alarms

- Common alarm relay with 20 user selectable alarms
- Three Programmable process alarm relays
- Oxygen High
- Oxygen Deviation
- Dew Point High
- Dew Point Deviation
- Pre-Reactive Oxygen High (two separate thresholds)
- Probe Temperature Low
- Calibration Check in Progress
- Purge in Progress
- Any alarm not selected for the common alarm
- Multiple selections can be made for all relays

Alarm Contacts

- Normally open failsafe (open for alarm state)
- 250VAC / 30VCD, 2A

Range of Local Indication

- 1.0 x 10^{-30}% to 100% Oxygen

Network Interface

- RS232
- RS-485 MODBUS

Secondary Parameter Display

- Probe 1 / 2 Dew Point
- Average Dew Point
- Probe 1 / 2 TC Temperature
- Probe 1 / 2 EMF
- Probe 1 / 2 Impedance
- Probe 1 / 2 Oxygen %
- Average Oxygen %
- Probe 1 / 2 Pre-Reactive Oxygen %
- Average Pre-Reactive Oygen %
- Auxiliary TC Temperature
- Ambient Temperature
- Ambient RH%
- Runtime
- Service Date
- 4-20mA Output 1
- 4-20mA Output 2

Options available will vary depending on device configuration

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℃ to 55℃
- 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)
- Requires 5W for controller plus probe power

Degree of Protection

- IP65
- IP54 with internal reference air pump

Dimensions

- 315mm W x 190mm H x 110mm D

Weight

- 3kg

Distributed by:

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