

The OPAL 100 series monitoring systems are integrated oxygen and smoke density analysers that are Australian designed and built. They are suitable for use in package boiler and similar stack monitoring applications where EPA emission limits are applicable and precise combustion control is desired.

DUAL CHANNEL STACK PROCESS EMISSION MONITORING SYSTEM

- * SMOKE DENSITY / OPACITY
- * PARTICULATE EMISSIONS
- * FLUE GAS OXYGEN LEVEL



- * **CONTINUOUS MEASUREMENT OF BOTH STACK OPACITY AND OXYGEN LEVELS**
- * **AUSTRALIAN TECHNOLOGY WITH LOCAL TECHNICAL SUPPORT AND SPARES**
- * **SAVE FUEL COSTS AND REDUCE EMISSIONS WITH A SINGLE INVESTMENT**



OPAL 102 (Opacity with optional Oxygen)

By incorporating the optional NOVATECH zirconia oxygen sensor, process combustion control can be optimised for improved results. The OPAL 102 provides dual channel output signals and alarm relays for both smoke density and oxygen levels. The total system is integrated into a single analyser control unit which represents significant savings in capital expenditure and installation.

- **Dual alphanumeric display with analogue and alarm outputs for opacity and oxygen.**
- **Easy access to opacity transceiver and retro for lens cleaning and maintenance.**
- **Double pass optical system with electronic modulated high power LED light source.**
- **Simple push button digital calibration procedure with optional audit filter test kit.**
- **Optional lens purge modules for plant air or air blower system.**
- **System suitable for stack diameters from 300mm to 3000mm.**

OPAL 100 - Control Unit

Enclosure
 Weight
 Ambient Temperature
 Power Supply
 Display
 Top Line Display
 Lower Line Display
 Operator Indicating LED's
 Outputs – Channel 1
 - Channel 2
 Outputs - Relay
 Alarms

 Control Features

IP65 weatherproof
 3.2 Kg
 -10 to +50 Deg C
 120 or 240vac, 50/60Hz, 125va
 Alphanumeric, two line x 16 character x 4mm LCD, backlit
 Opacity %, instantaneous or averaged, Resolution 0.1%
 Selectable – Oxygen, Lens Dirt %, alarm & system status, dust in mg/m³
 Power, Alarm active, Setup mode, opacity autozero in progress
 Linearised Opacity % - 4-20mA, isolated, scaleable span 10 – 100% opacity
 Linearised Optical Density mg/m³ or Oxygen % - 4-20mA, isolated, scaleable span
 Four (4) programmable SP-NC, 0.5A at 24vdc (50vac / 30vdc maximum)
 Stack system failure, Maintenance mode, Lens dust level high, High opacity
 High or low oxygen level, Oxygen probe failure
 OPACITY - Manual or automatic zero calibration, OXYGEN – automatic self calibration

OPAL 100 - Sensors

OPACITY

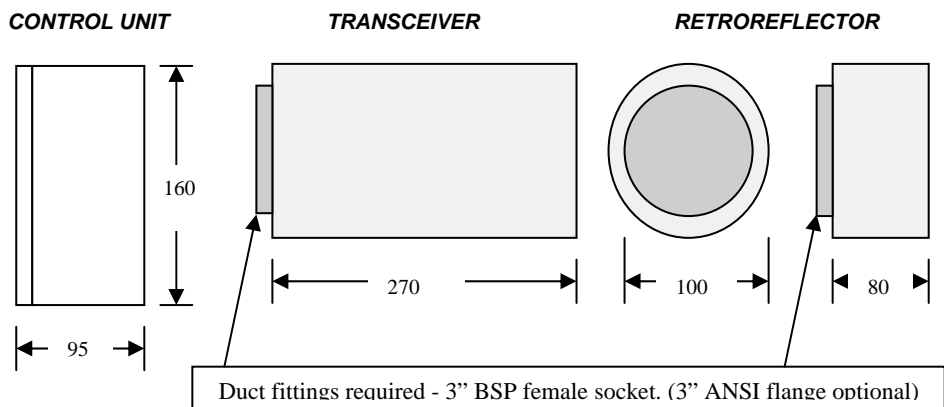
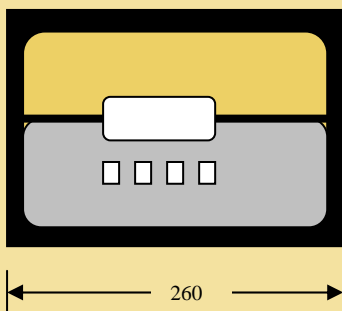
Enclosure
 Weight (total)
 Installation
 Path Length
 Optical System
 Lens Protection
 Ambient Temperature
 Process Temperature
 Ambient Light Immunity
 Peak / Mean Spectral Response
 Angle of View
 Angle of Projection
 Response Time
 Zero Calibration / test
 Span Calibration / test
 Maximum cable length
 Control Features

IP65 weatherproof
 2.5Kg transceiver, 1.2Kg retroreflector
 via 2 x 3" BSP female sockets. Optional 3" ANSI flange available
 300mm to 3000mm
 Double Pass system using high power LED light source with electronic light modulation
 Optional air purge fittings for either air blower or plant instrument air.
 -10 to +50 ° C
 Up to 400 ° C standard
 Nil effect from sunlight or artificial light sources.
 515 to 585 nm, less than 10% of peak response outside 400 to 700 nm
 <4.0° from optical axis
 <4.0° from optical axis
 < 2 seconds, to 90% of actual value
 Manual or automatic operation, carried out under clean stack conditions.
 Manual operation, using optional zero / span filter test module.
 100 metres
 4-20mA signal testing sockets at stack location, push button calibration procedure,

OXYGEN

Enclosure
 Insertion
 Installation
 Process Temperature
 Maximum cable length

IP65 weatherproof
 From 250mm to 1500mm
 via 1 ½" BSP female socket
 0-900 Deg C standard
 100 metres



For more information

OPAL SINGAPORE ENVIRONMENTAL SYSTEMS

Tel: (65) 64522810 Fax: (65) 64522018 Email : enquiry@opalenvironmental.com.sg