



OPAL 200S

Opacity & Dust Monitoring Systems



Standard & ExP versions

- Opacity %
- Optical Density
- Dust (mg/m³)
- Oxygen %



- **USEPA PS-1 certified**
- **Double pass technology**
- **Dual outputs and alarms**
- **Keypad calibration & testing**
- **Complete range of accessories**
- **Optional oxygen sensor**



“ Australian environmental technology ”

CONTROL UNIT

Enclosure
Weight
Ambient Temperature
Power Supply
Display
Top Line Display
Lower Line Display
Operator Indicating LED's
Outputs -analogue

Output Signal Averaging
Data logging
Outputs - Relay
Alarms

Oxygen - Calibration tests
Opacity - Calibration tests

Control – transceiver cable

OPTICAL SYSTEM

Enclosure
Power supply
Installation
Path Length
Optical System
Alignment
Lens Protection
Ambient Temperature
Process Temperature
Temperature Stability
Ambient Light Immunity
Spectral Response
Angle of View
Angle of Projection
Response Time
System Accuracy
Zero & Span Test
Options

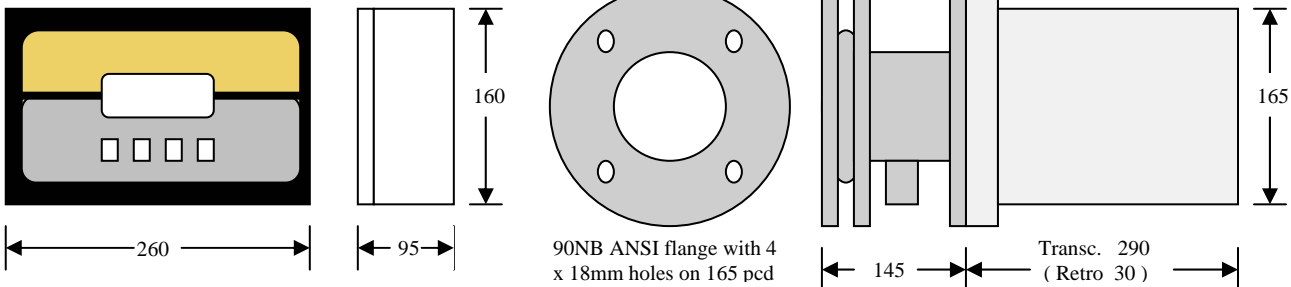
Transceiver Display
Transceiver Control

IP65 weatherproof
1.8 Kg
-20 to +50 Deg C
110 or 240vac, 50/60Hz, 125va (+/- 10%)
Alphanumeric, two line x 16 character x 4mm LCD, backlit
Selected Channel 1 output is top line display
Selectable – Opacity, Optical Density, mg/m3, Oxygen %, Lens Dirt %.
Power, Alarm active, Setup mode, opacity autozero in progress
Dual 4-20mA output channels with selectable outputs:
i) Linearised Opacity %, scaleable span 10 – 100% opacity
ii) Optical Density, scaleable span 0.05 – 2.0
iii) Quantitative (mg/m3), scaleable span 10 – 500 mg/m3
iv) Linearised Oxygen %, scaleable span 1 – 100% oxygen
Standard version: 1 - 20 seconds EPA version: 1 – 60 minutes
4 hour internal data storage for isokinetic test calibration response. Autocorrelation for mg/m3
Two (2) programmable SP-NC, 0.5A at 24vdc (50vac / 30vdc maximum)
Fault: Optical system FAIL, Blower FAIL, Lens dirt HIGH, Emission level HIGH, Cal FAIL
Procedure: Service mode, Autocal in progress
Automatic - self calibration
Automatic: programmable 1 to 24 hour, or local initiate from control unit, transceiver or via remote signal.
Manual: SPAN and ZERO test – live display, frozen output
10 core screened cable, max 100 metres. Stack termination box fitted to transceiver mounting plate.

IP65 weatherproof with lift-off weather covers supplied as standard.
6 vdc regulated, 300mA, provided by control unit.
Via 90NB standard flange: 205mm diameter, 4 x 18 mm holes on 165mm pcd.
0.5 to 15 metre, flange to flange
Temperature stabilised double pass system with high power LED light source, modulated.
TTL (thru-the-lens) view – 4 adjustment bolts on transceiver flange spool, +/- 4 degrees.
Air blower inlets on flanged air purge spools. Optional adaptors for plant instrument air.
-20 to +50 Deg C
Up to 600° C standard.
Less than 0.5% opacity drift between from 0 - 50° C (USEPA PS-1conformant)
Nil effect from sunlight or artificial light sources.
515 to 585 nm, less than 2% of peak response outside 400 to 700 nm. (USEPA PS-1 conformant)
<4.0° from optical axis. (USEPA PS-1 conformant)
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< 3 seconds, to 100% of actual value.
Less than or equal to +/- 2.0% opacity (USEPA PS-1 conformant)
Manual test operation via control unit, transceiver keypad or remote input.
Pre-filtered air blower assembly, with weatherproof cover set.
Air purge adaptors for instrument air connection.
Field audit module kit with optional glass or grid filter modules. (PS-1 calibrated filters are optional)
Fail safe shutter, flow switch controlled. Auto periodic test interface.
2 line, 32 character, alphanumeric LCD display, backlit
4 push button operation - Select DISPLAY, TEST, INSTALL, and FACTORY modes.
Local keypad control of calibration, system settings, automatic and local manual testing.

CONTROL UNIT (3.2Kg)

TRANSCEIVER (8.4Kg) / RETROREFLECTOR (2.3Kg)



LOCAL SALES & SERVICE



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Technical and performance specifications for OPAL opacity and dust monitoring systems are correct at time of print. We reserve the right to review, and change where necessary, product technical specifications without obligation to advise current users and maintainers. Wherever possible, all new project tenders will be advised of change.