



DF-330E Process Oxygen Analyzer

Standard Features & Specifications

Effective: August 2010

Performance

Accuracy: (at constant conditions)
25%. The greater of +/-0.10% or +/- 3% of reading

Oxygen Sensitivity (minimum detectable change)
25% 0.05%

Response Time <10 seconds to 90% of a step change

Ranges 25%

Ambient Operating Temperature
32° to 176° F (0° to 80° C)

Background Gas Compatibility

Incompatible sample gases: containing hydrocarbons, combustibles, H₂, CO, NO₂, S, or Pb. Compatible sample gases: N₂, Ar, and most Freons. For other gases contact factory.

Gas Sample Conditions

Sample Pressure

Operating limits: Pressure: to 100 psig (7.9 BarA)
Vacuum: down to 300 torr

Flow Rate: Ambient to 2.0 SCFH (1.0 slpm)

Temperature (Gas Sample) 32° to 176° F (0° to 80°C)

Moisture: No limits (avoid condensation)

Oil/Solvent Mist: < 0.5 mg/ft³ (standard)
> 0.5 mg/ft³ – use filter

Solid Particles: < 2 mg/ft³ (standard)
> 2 mg/ft³ use filter

Gas Flow System

Construction Materials: 300 Series stainless steel

Gas Connections: 1/8" compression tube fittings

Remote Sensors:

RS1 Standard Flow Through Sensor for Remote
Mounting w/Bracket ^{NOTE 2}

RS2 Bulkhead Fitting for Mounting in Thin Walled Vessel ^{NOTE 2}

RS3 VCR Fitting, 1 inch for UHP Systems ^{NOTE 2}

RS4 NPT Fitting, 1 inch Plug for Thick Walled Vessels ^{NOTE 2}

RS5 Flow Through "T" Section with 1/4" Barbed Fittings
For Flexible Tubings ^{NOTE 2}

Construction

Enclosure: NEMA 1 - General Purpose

Weight: 10 lbs. (4.52 kg.) (NEMA 1)

Dimensions: 8.32" W x 7.75" H x 7.91" D
(21.1 cm W x 19.7 cm H x 20.1 cm D)

Electrical

Power Input 110 VAC or 220 VAC, 50/60 Hz
22-28 VDC, 1 Amp (max)

Output Signals

Non-Isolated 0-5, 10 VDC
Isolated 4-20 mADC (optional)

25% Range: User adjustable from 10% of Full Scale to Full Scale

User selectable Output Freeze during Calibration

Alarms, audible/visual 4 Oxygen (optional)
(Adjustable set-point)
Low Flow (optional)

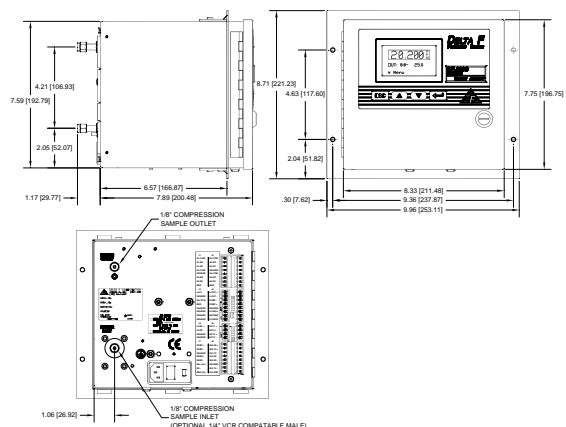
Alarm Relays 4 optional relays independently
assignable to Alarms, In-Calibration,
Sensor Off and Expanded Range
Scale (optional)

Alarm Relay Rating 0.3 Amps at 30 VDC
Failsafe Action

Back Lighted Display: Supertwist LCD graphics

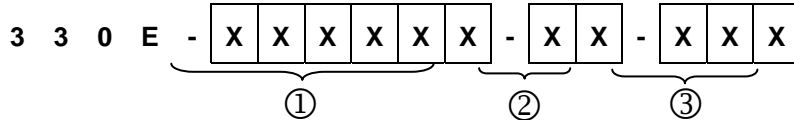
Certifications: CE Conformance
CSA LV Certified

Dimensions: NEMA 1 Enclosure (Panel Mount Optional)



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Optional Equipment



① Range Options

Ranges	Resolution
0 to 25 %	S00P25

② Sensor Mounting Options Choose only 1 option

- LS **Local Sensor in Benchtop Cabinet**
- RS1 **Standard Flow Through Sensor for Remote Mounting w/Bracket** NOTE 2
- RS2 **Bulkhead Fitting for Mounting in Thin Walled Vessel** NOTE 2
- RS3 **VCR Fitting, 1 inch for UHP Systems** NOTE 2
- RS4 **NPT Fitting, 1 inch Plug for Thick Walled Vessels** NOTE 2
- RS5 **Flow Through "T" Section with ¼ Barbed Fittings For Flexible Tubings** NOTE 2

③ Power Input Options

- 024 **22-28 VDC Input, 1 Amp (max)**
- 110 **110 VAC, 50/60 Hz, 1.3 Amp**
- 220 **220 VAC, 50/60 Hz, 1.3 Amp**

General Purpose Cabinet Mounting

- 330-PM **Panel Mount** (9.97"Wx8.71"Hx6.58"D)
- 330-RM **19" Rack Mount** (19"Wx8.71"Hx6.58"D)
- 330-DRM **19" Dual Rack Mount**
- 330-KL **Key Lock**

Outputs

- 330-420 **Isolated 4-20 mA DC output**
 - 330-220 **Isolated 4-20 mA DC output with a live zero at 4 mA and sensor off or disconnected at 2 mA**
 - 330-RS232 **RS232 Two-way Serial Communications**
 - 330-RS485 **RS485 Two-way serial communications**
- } Choose only 1
- 330-ERS-OUT **Expanded Range Scale**
- Additional user selectable range scale for analog output once primary range is exceeded. (Requires optional relay contact for Range ID)

Alarms Audible/visual only

- 330-OA2 **Two Oxygen Alarms**
- 330-OA4 **Four Oxygen Alarms**
- 330-FA **Low Flow Alarm**

Relay Contacts NOTE 1 (Independently assignable)

- 330-RLY1 **One SPDT Relay Contact**
- 330-RLY2 **Two SPDT Relay Contacts**
- 330-RLY3 **Three SPDT Relay Contacts**
- 330-RLY4 **Four SPDT Relay Contacts**

Plumbing

- 330-P **Pump with Down Stream Control Valve**
Diaphragm pump for negative pressures to -2.0 psig vacuum (0.88 BarA), or outlet vent back pressure to 3.0 psig (1.2 BarA)
- 330-PR **Gauge Pressure Regulator**
Out-board 316 Stainless Steel Pressure Regulator, 3000 psig (208 BarA) inlet capacity; 0-10 psig (1.7 BarA) adjustable outlet pressure. Requires 5 psig (1.36 BarA) minimum inlet pressure
- 330-SSOL **Stainless Steel Outlet Line**
- 330-FH **Stainless Steel Filter**
- 330-FCV **Upstream Flow Control Valve**

Miscellaneous

- 330-PASS **Password Protection**
- 330-XTC-RS **Extension Cable per foot (for remote diffuser sensors)**
- 330-SSTAG **Stainless Steel Tags**
- 330-EXT-SNSROFF **External Control of Sensor On/Off**
- 330-EXT-PUMPOFF **External Control of Pump**
- 330-SFE **Standard Filter Element (particle size >1 micron)**
- 330-FFE **Fine Filter Element (particle size <1 micron)**

Notes:

1. For use with system status indicators and optional alarms.
2. Each Remote Sensor includes a 10 ft cable with connector, sensor in a mechanical fitting and 6 in. pigtail with a connector. Not available with CE Certification.