DF-340E Process Oxygen Analyzer
Standard Features & Specifications

Effective: January 1, 2007

Performance

Accuracy: (at constant conditions)
Standard Models: the greater of +/-3% Reading or 0.5% of Range
High Resolution Models: the greater of +/-3% of Reading or 0.02% of Range (except for 340E-H00100: +/-3% Reading or 50 ppb)

Oxygen Sensitivity:
Minimum Detectable Change 3 ppb (310E-H0050M Model)
Low Detection Limit 3 ppb (310E-H0050M Model)

Response Time
Responds instantaneously to O2 change. Typically less than 10 seconds to read 90% of a step change.
(Equilibrium time depends on specific conditions.)

Range: Ranges are available from 0.5ppm to 25%

Ambient Operating Temperature:
32º to 113ºF (0º to 45ºC)

Background Gas Compatibility
Basic Sensor:
All inert and passive gases including N_2, H_2, CO, freons, hydrocarbons, etc.
Sensor with Stab-EL Option:
Neutralizes trace contaminants including acids such as CO_2, H_2S, Cl_2, NO_X, SO_X, etc. (Consult Delta F for concentration limits)

Gas Sample Conditions

Sample Pressure
Operating Limits:
0.2 to 1.0 psig (1.03 to 1.08 BarA) - Standard
15-25 psig with welded sample inlet (orifice restricted)
2.0 psi vacuum to 0.2 psig (0.88 to 1.03 BarA) use pump
1.0 to 10 psig (1.08 to 1.7 BarA) use valve (optional) or regulator (optional)
Above 10 psig (1.7 BarA) use regulator
Sensor overpressure damage limit: 10 psig (1.7 BarA)

Return Pressure: Atmospheric Vent (optimal)
Limits: +5 psig (1.36 BarA) to -5 psig (0.67 BarA)
Flow Rate: 1.0 to 3.0 SCFH (0.5 to 1.5 slpm)
Temperature (Gas Sample): 0º to 150º F (-17.8º to 66ºC)
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
1/4" VCR compatible (optional except standard for 310E-H0050M)

Construction

Enclosure: NEMA 4
Weight: 35 lbs. (15.9 kg)
Dimensions: 14.0" W x 13.18" H x 11.42" D
(35.6 cm W x 33.5 cm H x 29.0 cm D)

Electrical

Power Input: 22-28 VDC, 1 Amp (max) or 110 VAC or 220

Output Signals: Isolated 0-5, 10 VDC
Isolated 4 to 20 mADC (optional)
User adjustable to 10% of Full Scale to Full Scale (Std Res)
User adjustable to 1% of Full Scale to Full Scale (High Res)
User selectable Output Freeze during Calibration

Alarms, audible/visual: 4 Oxygen (optional)
(adjustable set-point)
Electrolyte Condition (standard)
Temperature (optional)
Low Flow (optional)

Alarm Relays: 4 independently assignable to Alarms, In-Calibration, Sensor Off and Expanded Range Scale

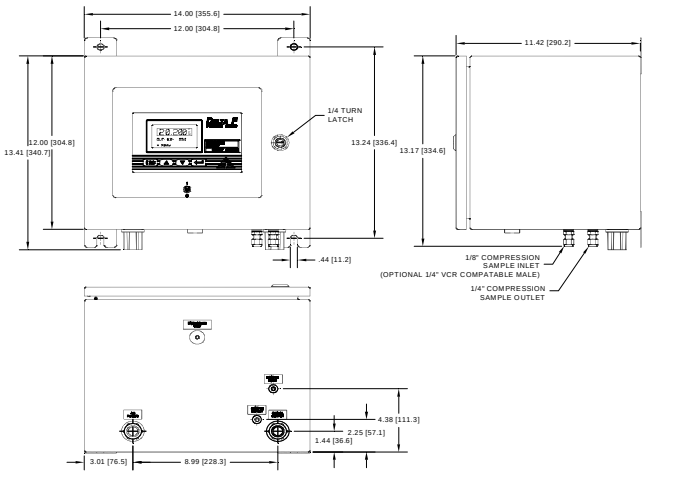
Alarm Relay Rating: 0.3 Amps at 30 VDC
Failsafe Action

Back Lighted Display: Supertwist LCD graphics

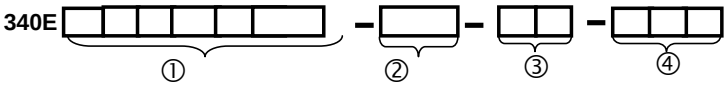
Certifications:

Dimensions

NEMA 4 Enclosure



DF-340E Process Oxygen Analyzer
Configurations and Options



Build your analyzer by selecting one option from numbers 1-4, then ad on part numbers for all additional options.

① Range Options

PPM Ranges

MODEL NUMBERS				
PPM Range	**Standard Resolution**	**Price**	**High Resolution**	**Price**
0 to 10,000	S10000		H10000	
0 to 5,000	S05000		H05000	
0 to 1,000	S01000		H01000	
0 to 500	S00500		H00500	
0 to 100	S00100		H00100	
0 to 50	S00050		H00050	

Percent Ranges

MODEL NUMBERS				
% Ranges	**Standard Resolution**	**Price**	**High Resolution**	**Price**
0 to 25%	S00P25		H00P25	
0 to 10%	S00P10		H00P10	
0 to 5%	S000P5		H000P5	

② Sensor Options

B ***Basic Sensor***

S ***Stab-El Sensor System***

Enables operation with trace levels of acid gas or any ionic contamination (within limits-consult factory for guidelines)

③ Sensor Mounting Options (Note 1 & Choose only 1 option)

LS ***Local Sensor in Benchtop Cabinet***

NB ***Remote Sensor with Baseplate Bracket (NO flowmeter)***

RB ***Remote Sensor on Wall Mount Bracket with flowmeter***

R4 ***Remote NEMA 4 Sensor with flowmeter***

R7 ***Remote NEMA 7 Sensor with flowmeter***

(H2 Rated Flame Arrestors)

④ Power Input Options

024 ***22-28 VDC Input, 1Amp (max)***

110 ***110 VAC, 50/60 Hz***

220 ***220 VAC, 50/60 Hz***

Outputs

340-RS232 RS232 Two-Way Serial Communications

340-RS485 RS485 Two-way Serial Communications

340-4-20 Isolated 4-20mA DC output

340-2-20 Isolated 4-20mA DC output with a live zero at 4 mA and sensor off or disconnected at 2mA

340-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)

Notes:

1. Remote sensors not available with CE Certification
2. Recommended when measuring combustible gases, such as H2
3. For use with system status indicators and optional alarms
4. Not available with on-board pump, 310-P

Alarms (Audible/Visual only)

340-OA2 Two Oxygen Alarms

340-OA4 Four Oxygen Alarms

340-FA Low Flow Alarm

340-TA Temperature Alarm

Relay Contacts Note 3 **(Independently assignable)**

340-RLY1 One SPDT Relay Contact

340-RLY2 Two SPDT Relay Contacts

340-RLY3 Three SPDT Relay Contacts

340-RLY4 Four SPDT Relay Contacts

Plumbing

340-P Pump w/ Down Stream Control Valve

Diaphragm pump for negative pressures to 2.0 psi vacuum (0.88 Bar), or outlet vent back pressure to 3.0 psig (1.2 Bar)

(not compatible with NT-SSOL)

340-PR Pressure Regulator

Out-board 316L Stainless Steel Pressure Regulator, 3000 psig inlet capacity; 28 in Hg vac-15 psig adjustable outlet pressure

340-HPR High Purity Pressure Regulator

340-HPR-MNT High Purity Regulator Mounting

Welded tube assembly and bracket for mounting 340-HPR regulator to analyzer cabinet

340-WSI Welded Sample Inlet w/VCR compatible fittings

(standard on 340-H0050M Range)

340-SSOL Stainless Steel Outlet Line Note 2,4

340-FH Stainless Steel Filter

(Not available with 340-WSI)

340-FCV Upstream Flow Control Valve

(Not available with 340-H0050M or with 340-WSI)

Miscellaneous

340-Y04 Scale Factor

Required for accurate read-out of oxygen in background gases other than N2, such as HE, H2, hydrocarbons or mixtures

340-PASS Password Protection

340-BAT Supplemental Battery Input Power

Permits portable operation independant of AC power

340-XTC-RS Extension Cable per foot (for remote sensors)

340-SSTAG Stainless Steel Tags

340-RSH Remote Sensor Enclosure Heater

340-EXT-SNSROFF External Control of Sensor On/Off

340-EXT-PUMPOFF External Control of Pump

340-N2CP Case Purge for Combustible Applications

(NT-SSOL Required with this option; not compatible with 340-PM)

340-ZPK Type Z Purge Protection System

For 340E or NEMA 4 Remote Sensor Enclosure

Enables use in Class I/II, Div. 2 areas (Use with N4 only)

340-F2R Standard Filter Element (particle size >1 micron)

340-F2R-B Fine Filter Element (particle size <1 micron)

DF E-lectrolyte Blue

DF-RSA Replenishment Solution