

World Class 3000

CENELEC Certified In Situ Oxygen Analyzer Packages for Hazardous Area Applications

- CENELEC certification – EExd II B T1/T6
- Completely field repairable probe
- Field-replaceable cell and heater/thermocouple design
- Patented electronic cell protection
- Rugged 316 SS for all wetted parts
- HART® Communications Protocol provides calibration and troubleshooting capability from the control room.
- Flexible electronics configuration
- Easy calibration
- No potentiometers to adjust
- For use in refineries, petrochemical plants, and all areas classified zone 1

WORLD CLASS TECHNOLOGY FROM THE WORLD LEADER

The Hagan in situ, zirconium oxide oxygen analyzer has long been established as the industry standard. Rosemount Analytical has combined this Hagan expertise with state of the art features into one package - the World Class 3000 Oxygen Analyzer.

The World Class 3000 Analyzer is completely field repairable as internal components are conveniently accessible for in-house service personnel. The heater/thermocouple probe assembly can be replaced and returned to service by in-house personnel in one-half hour or less, without requiring the probe tube to be removed from the process.

The World Class 3000 Analyzer offers flexible, microprocessor-based electronics configurations with the following components:

- IFT 3000 Intelligent Field Transmitter (EExd II B T6)
- HART® Model 275 Hand-Held Interface
- MPS 3000 Multiprobe Test Gas Sequencer (safe area)
- CRE 3000 Control Room Electronics (safe area)
- HPS 3000 Field Interface Module (EExd II C T6)



The World Class Probe is CENELEC certified to EExd II B T1 (370) and the junction box end of the probe is certified to T6 (85). According to the certificate, the part with the connection box may be used in areas classified T6.

The HART communications protocol allows instrument technicians to interface with the IFT 3000 Intelligent Field Electronics from the control room or any location where the 4-20 mA signal wires terminate. Service diagnostics and calibrations can be performed without requiring plant personnel to enter the often hot, inaccessible probe location.

For multiprobe applications, up to eight World Class 3000 probes can be connected to the CRE 3000 Control Room Electronics. In addition to providing the same features as the IFT 3000, the CRE 3000 averages the oxygen results, reducing errors due to stratification.

Calibration data indicates the condition of the zirconium oxide sensor cell. Analyzer calibration requires no special equipment or knowledge and can be fully automated by incorporating the MPS 3000 Multiprobe Test Gas Sequencer. Cost is minimized and expansion is easy as the Multiprobe Test Gas Sequencer is a modular design for one to four World Class 3000 probes.

Rosemount Analytical also offers World Class 3000 Oxygen Analyzer packages suitable for operation in non-hazardous area locations. Please refer to product data sheet PD-106-300 for more information.



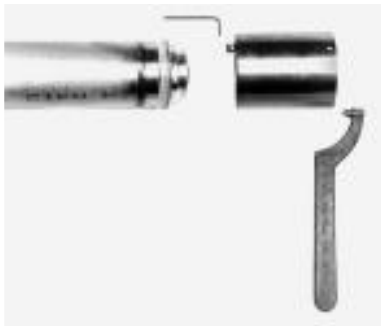
Contact Esys for more information about this product:

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4520 Stine Road, Ste 7
Bakersfield, CA 93313
(661) 833-1902

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website: <http://www.esys.us>



THE WORLD CLASS 3000 OXYGEN ANALYZER IS COMPLETELY FIELD REPAIRABLE



Diffusion Element Assembly



Sensor Cell Assembly



Heater Thermocouple Assembly

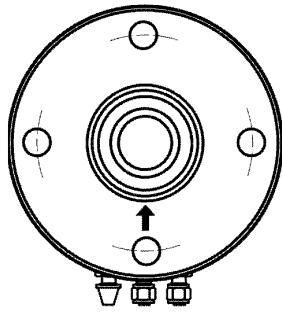
OXYGEN SENSOR FEATURES AND BENEFITS

Features	Benefits
Rapid, accurate and reliable measurement of excess oxygen with a single in situ probe.	Provides inputs for significant fuel savings that normally pay for analyzer in less than one year. Significant enhancement in safety.
Electrodes are self protected by patented electronic cell protection.	Provides long life for sensing element even in the presence of sulphur and reducing atmospheres.
No sample system, sample probes, scrubbers, and pumps are necessary; test gas calibration check without disturbing probe.	Low installation and low maintenance costs.
High speed of response.	Ideal for closed loop control.
Solid zirconium oxide electrolyte.	Provides high reliability.
Field-replaceable cell and heater/thermocouple assemblies.	Ease of maintenance.
Suitable for use in temperatures up to 1300°F (700°C).	May be used with any fuel. Absolutely no condensation.
Material of construction 316 LSS (all wetted parts).	High resistance to corrosion.
Sensitivity of cell increases logarithmically when oxygen decreases.	Very useful for low oxygen levels. Ideal for low excess air burners.

ADDITIONAL FEATURES

- Use with any fuel including coal or residual fuel burners. Standard sintered metal diffusion element keeps cell clean.
- Unique, patented electronic cell protection feature automatically protects sensor cell when analyzer detects reducing atmospheres.
- Output suitable for use with receivers such as indicators, recorders, controllers, data loggers or computers.
- Flame arrestor.
- Optional abrasive shield for extremely harsh environments.
- The part with the connection box may be used in areas classified T6.
- Optional arrangements for high temperature applications to 1300°C (2400°F).

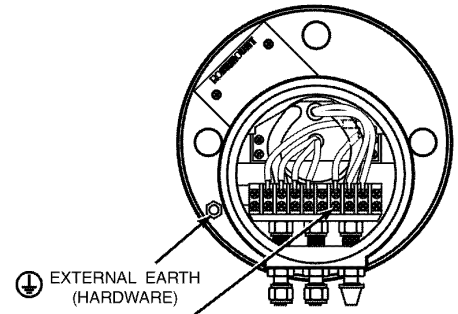
WORLD CLASS 3000 OXYGEN ANALYZER DIMENSIONS



VIEW A-A

TABLE I. REMOVAL/INSTALLATION		
DIMENSIONS MM (IN.)	DIM "A"	DIM "B"
1U05680G01 18 IN. PROBES	461 (18.15)	662 (26.0)
1U05680G02 3 FT. PROBES	915 (36.0)	1116 (44.0)
1U05680G03 6 FT. PROBES	1833 (72.16)	2033 (80.0)

NOTE: DIMENSIONS ARE IN MILLIMETERS WITH INCHES IN PARENTHESES UNLESS OTHERWISE INDICATED.



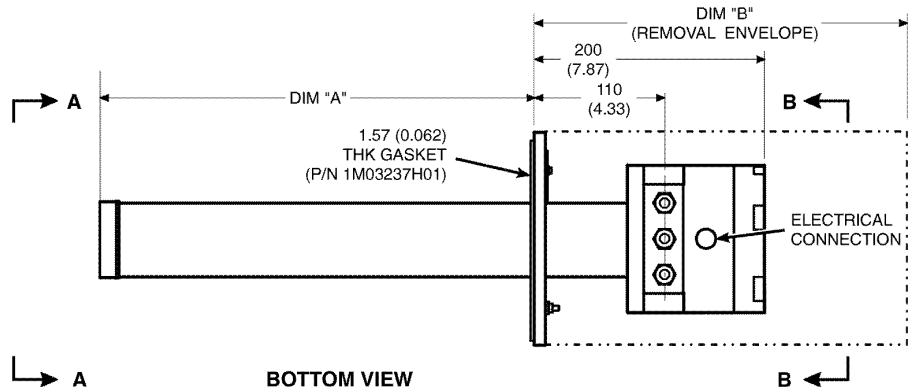
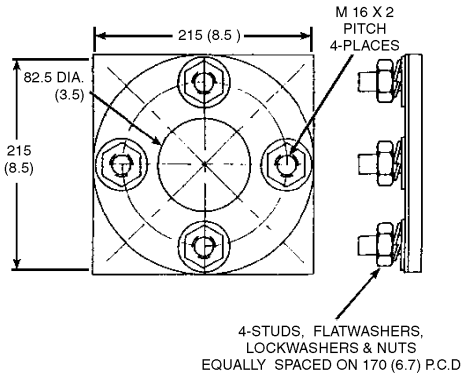
EXTERNAL EARTH (HARDWARE)

INTERNAL EARTH (TERMINAL 6)

VIEW B-B

(ROTATED 90° CCW)
INSTALL WITH CONNECTIONS AT BOTTOM

MOUNTING PLATE FOR CENELEC WORLD CLASS 3000 PROBE INSTALLATION



OXYGEN PROBE

Housing classification: CENELEC EExd IIB T1 (370)

Probe lengths, nominal: 18 in. (457 mm), 3 ft (0.91 m), 6 ft (1.83 M), depending upon duct dimension

Probe material of construction: 316 LSS (all wetted parts)

Temperature limits for probe in process measurement area: 50° to 1300°F (10° to 700°C)

Ambient temperature limit for probe junction box: 300°F (149°C)
[50° to 160°F (10° to 71°C) when used with Yokogawa electronics]

Resolution sensitivity — transmitted signal: 0.05% O₂

Probe reference air flow (optional): 2 SCFH (1 L/m) clean, dry, instrument quality air (20.95% O₂)

Calibration gas mixtures: Rosemount Test Gas Kit Part No. 6296A27G01 contains 0.4% O₂/N₂ Nominal and 8% O₂/N₂ Nominal. Other suitable gas mixtures (up to 20.95% O₂) can be user supplied.

Calibration gas flow: 5 SCFH (2 L/m)

Approximate shipping weights:

- 18 in. (457 mm) package: 66 lb (30 kg)
- 3 ft (0.91 m) package: 88 lb (40 kg)
- 6 ft (1.83 m) package: 120 lb (55 kg)



Fisher-Rosemount has satisfied all obligations coming from the European legislation to harmonize the product requirements in Europe.

All static performance characteristics are with operating variables constant. Specifications subject to change without notification.

WORLD CLASS 3000 ELECTRONICS CONFIGURATIONS

A World Class 3000 analyzer package typically includes an oxygen sensing probe, signal conditioning electronics and these optional accessories: mounting hardware, reference air set, calibration gas rotometer and up to 150 feet (45 m) of cable.

The IFT 3000 Intelligent Field Transmitter provides a user interface, signal conditioning, diagnostics and calibration for single probe applications.

For applications where multiple oxygen analyzers are installed on site, Rosemount Analytical offers a multiprobe system. Up to eight (8) oxygen probes can be connected to one CRE 3000 Control Room Electronics.

Either of these electronics configurations provide semi-automatic calibration without requiring manual potentiometer adjustments. Additionally, the optional MPS 3000 Multiprobe Test Gas Sequencer provides fully automatic calibration by automatically introducing calibration gases.

The HPS 3000 Heater Power Supply permits the probe heater to be powered locally, eliminating lengthy runs of heavy-gauge power wiring between the field electronics and the probe.

WORLD CLASS 3000 PROBE WITH INTELLIGENT FIELD TRANSMITTER ELECTRONICS (For Single Probe Applications)



**IFT 3000 Intelligent Field Transmitter
(Hazardous Area Deluxe Version)**

The IFT 3000 Intelligent Field Transmitter is shipped from the factory pre-set for 4-20 mA output representing 0 to 10% oxygen and alarm indication of fault conditions including high/low O₂ alarms with 3 relay outputs. Various other output signals and oxygen ranges are field selectable.

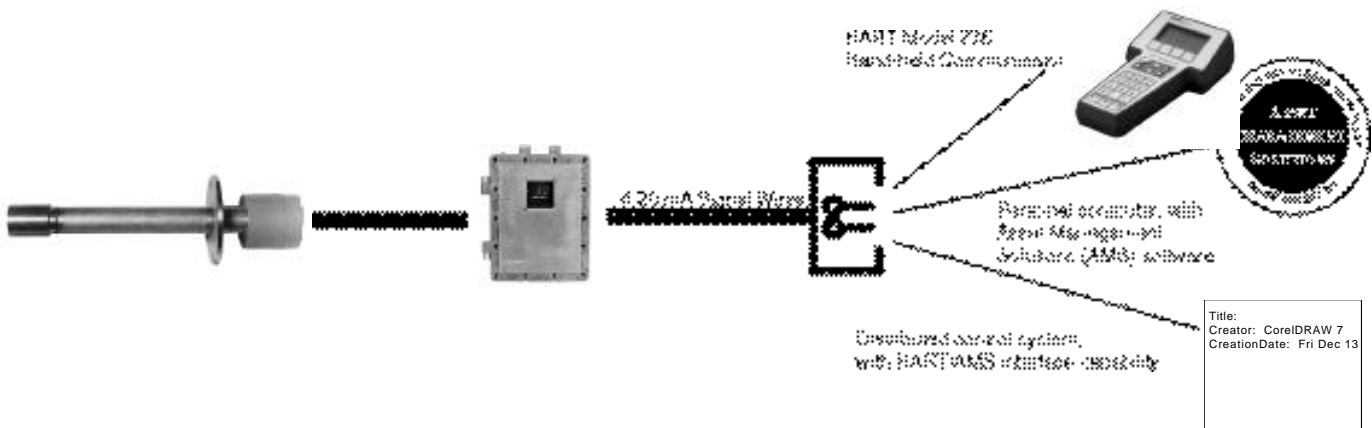
The IFT 3000 electronics are housed in a CENELEC-Certified (EExd IIB T6) housing. A non-hazardous area enclosure is also available.

The deluxe version has a large easy-to-read LED display for percent oxygen readout. A membrane keypad with a 4 x 20 character LCD display provides an easy-to-use interface for setting operating parameters and for viewing process and diagnostic data. When used with a stack thermocouple, stack temperatures and percent combustion efficiency are obtained. Manual, automatic, and remote initiation of calibration is also available.

The IFT 3000 electronics are also available in a low-cost configurations with no LCD display or keypad. Both versions can be accessed via the Rosemount Model 275 Hand-Held Communicator.

The HART[®] Field Communications Protocol permits all operator functions to also be performed from the control room, utilizing the same twisted pair of wires that carry the 4-20 mA output signal. The Rosemount Model 275 Hand-Held Communicator permits operator interface into the IFT 3000 Electronics from anywhere the 4-20 mA signal terminates.

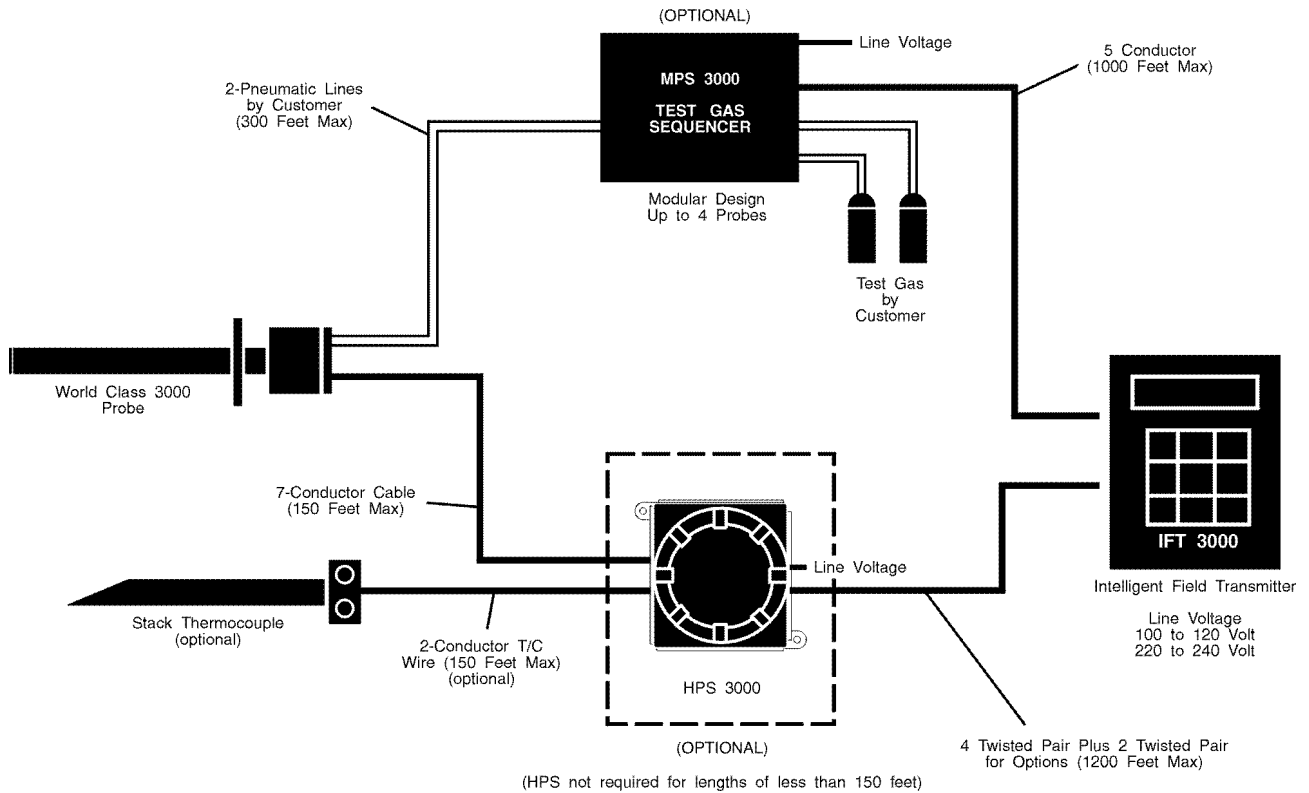
COMMUNICATE WITH THE IFT 3000 ELECTRONICS FROM ALMOST ANYWHERE VIA HART[®] COMMUNICATIONS



FEATURES

- Probe heater over-temperature protection uses software and hardware disable. With HPS 3000, hardware disable requires optional cable.
- Optional HPS 3000 Heater Power Supply allows probe and IFT 3000 field electronics distances of up to 1200 ft (400 m).
- Certified versions available for use in hazardous areas.
- Standard World Class 3000 Intelligent Field Transmitter (IFT 3000) guides the user through the calibration procedure. Output can be tracked or held during calibration.
- Optional MPS 3000 Multiprobe Test Gas Sequencer provides fully automatic test gas sequencing for up to four (4) World Class 3000 probes.

IFT 3000 SYSTEM DIAGRAM



IFT 3000 INTELLIGENT FIELD TRANSMITTER

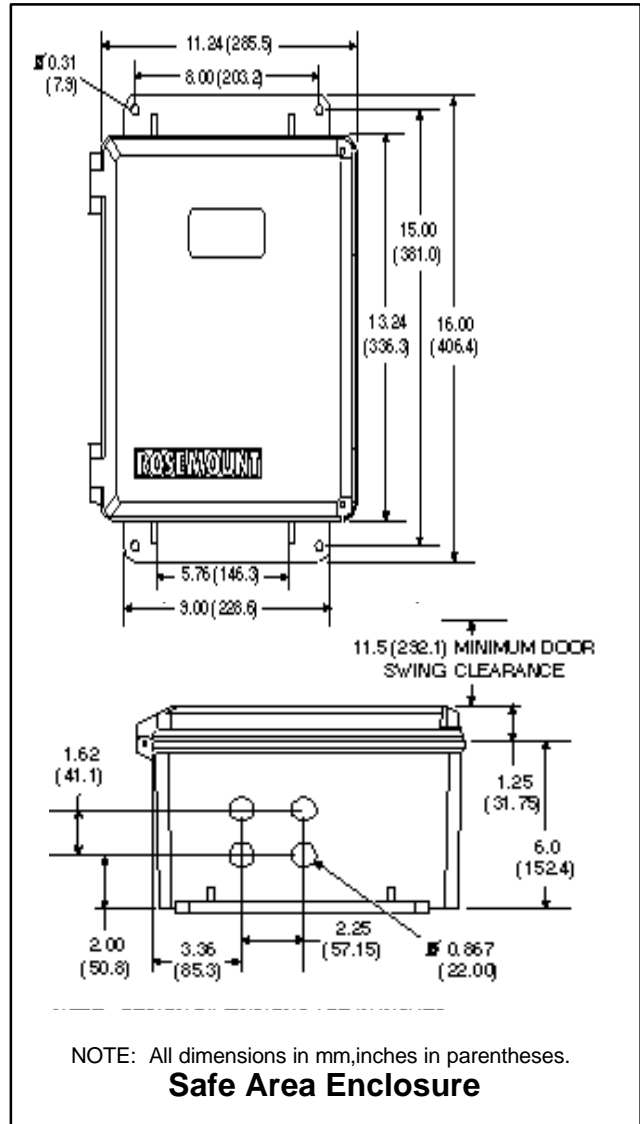
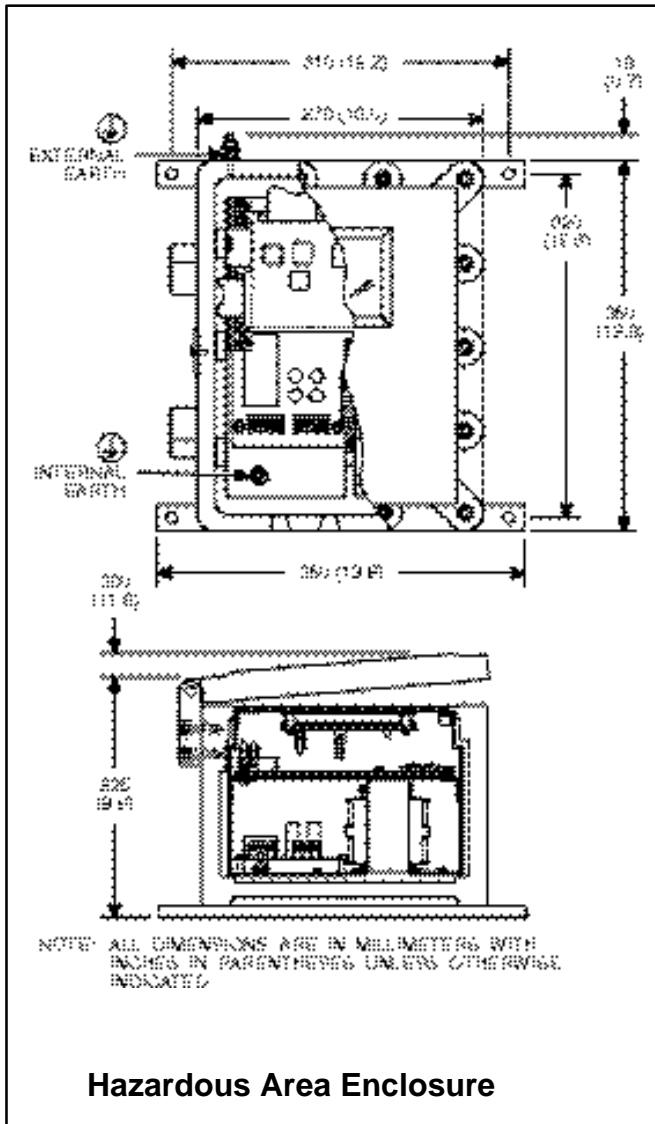
Housing classification: CENELEC EExd IIB T6
Humidity range: 95% Relative Humidity
Ambient temperature range: 32° to 120°F (0° to 50°C)
Vibration: 5 m/sec², 10 to 500 xyz plane
External electrical noise: Meets EMC requirements for RFI immunity
Power supply: 100/115/220V ± 10% Vac at 50/60 Hz
Power requirement:
 With HPS 3000: 30 VA
 Without HPS 3000: 275 VA
O₂ range: Field Selectable — log or linear, variable range, dual range, range switching or (0-1%, 0-5%, 0-10%, 0-25%)
Analog outputs: 1 isolated output:
 0-20 mAdc, 4-20 mAdc into 950 ohm max,
 0-10 Vdc into 2K ohm min
O₂ Indication (analog output): 0.1% O₂ or ± 3% of reading, whichever is greater.

System speed or response (amplifier output): Less than 3 seconds
Resolution sensitivity — transmitted signal: 0.05% O₂
Programmable contact outputs: 3 available, Form-C, 48 V max, 100 mA max
Displays: 0.8 in. (1, 2 cm) high, 3 digit numeric LED display
Operator interface: Deluxe version: 4 line by 40-character backlight LCD alphanumeric display; 8-key general purpose keyboard
Approximate shipping weight: 49 lbs (22 kg)
Languages available: English, French, German, Italian, and Spanish



Fisher-Rosemount has satisfied all obligations coming from the European legislation to harmonize the product requirements in Europe.

IFT 3000 (Intelligent Field Electronics) Dimensional Drawing



CENELEC CERTIFIED WORLD CLASS 3000 WITH CENELEC-CERTIFIED IFT ELECTRONICS — ORDERING INFORMATION

3002NFX | CENELEC Certified World Class 3000 Oxygen Analyzer with CENELEC Certified Intelligent Field Electronics Package

Oxygen Analyzer - Instruction Manual

Code	Sensing Probe Type CENELEC Certified EEXD IIB T1 (370°C)/T6
50	18" Probe
51	18" Probe with 3' Bypass
52	3' Probe
53	3' Probe with Abrasive Shield
54	6' Probe
55	6' Probe with Abrasive Shield

Code	Probe Mounting
0	No Mounting Hardware
1	Mounting to Stack (New Installation)
2	Mounting to Existing 218 Mounting Plate
3	Mounting to Existing Other Flange/Plate

Code	Mounting Style
0	No Adapter Plate
4	Mounting Hardware for DIN Probe
5	Mounting Hardware for DIN Bypass or DIN Abrasive Shield

Code	Calibration
00	No Calibration and Test Gas Hardware
11	Cal. Gas Rotometer and Ref. Gas Set
21	MPS 3000

Code	HPS 3000 Field Interface Module EExd IIC T6
0	No HPS 3000 (max 45m probe-to-IFT)
3	HPS 3000 (CENELEC Certified EExd. IIC T6)

Code	HPS 3000 Power
0	No HPS
1	115V
3	220V

Code	IFT 3000 Power
1	115V
3	220V

3002NFX | 51 | 2 | 5 | 21 | 3 | 1 | 1 | EXAMPLE - Continued

CENELEC CERTIFIED WORLD CLASS 3000 WITH CENELEC-CERTIFIED IFT ELECTRONICS — ORDERING INFORMATION (continued)

(Cont'd)

Code	IFT 3000 Style EExd IIB T6
1	Blind IFT with HART® Capability
4	Deluxe IFT with HART® Capability

Code	Language Version
20	German
30	French
40	Italian
50	English
60	Spanish

Code	Hazardous Area Probe Cable Length (Probe to HPS or IFT)
00	No Cable
21	6M (20 Ft)
22	12M (40 Ft)
23	18M (60 Ft)
24	24M (80 Ft)
25	30M (100 Ft)
26	45M (150 Ft)

(Cont'd)	2	50	23
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Special sensing cells are available for applications where high levels of SO₂ or HCl are present.

HAZARDOUS AREA CERTIFICATION:

World Class 3000 Oxygen Analyzer (EExd IIB T1) 370°C

HPS 3000 Field Interface Module (EEXD IIC T6)

SAFE AREA ONLY:

MPS 3000 Multiprobe Test Gas Sequencer (Z Purge available)

1A97968H01	HPS-IFT cable (order per length, max 360M) 4 twisted pair (20 AWG shielded)
1A97969H01	IFT-MPS cable (order per length, max 300M) 6 conductor (16 AWG shielded)

For hardwire cut-off of probe heater in the event of failure, a second 4-twisted pair 1A97968H01 is required between the HPS 3000 and IFT 3000.

ACCESSORIES

1. MPS 3000 Multiprobe Gas Sequencer.
2. Probe Mounting Jacket or Bypass Package for high temperature applications.
3. Z Purge system for IFT 3000 or MPS 3000 Electronics enclosures.

CENELEC CERTIFIED WORLD CLASS 3000 WITH SAFE AREA IFT ELECTRONICS — ORDERING INFORMATION

3001NFX | CENELEC Certified World Class 3000 Oxygen Analyzer with Intelligent Field Electronics (Safe Area Only)

Oxygen Analyzer - Instruction Manual

Code	Sensing Probe Type CENELEC Certified EEXD IIB T1 (370°C)
50	18" Probe
51	18" Probe with 3' Bypass
52	3' Probe
53	3' Probe with Abrasive Shield
54	6' Probe
55	6' Probe with Abrasive Shield

Code	Probe Mounting
0	No Mounting Hardware
1	Mounting to Stack (New Installation)
2	Mounting to Existing 218 Mounting Plate
3	Mounting to Existing Other Flange/Plate

Code	Mounting Style
0	No Adapter Plate
4	Mounting Hardware for DIN Probe
5	Mounting Hardware for DIN Bypass or DIN Abrasive Shield

Code	Calibration
00	No Calibration and Test Gas Hardware
11	Cal. Gas Rotometer and Ref. Gas Set
21	MPS 3000

Code	HPS 3000 Field Interface Module EExd IIC T6
0	No HPS 3000 (max 45 m probe-to-IFT)
1	115V HPS 3000 (CENELEC Certified EExd. IIC T6)
2	115V HPS 3000 NEMA 4X (IP65)
3	220V HPS 3000 (CENELEC Certified EExd. IIC T6)
4	220V HPS 3000 NEMA 4X

Code	IFT 3000 Field Electronics Power (Safe Area Only)
1	115V Standard
2	115V with Enclosure Heating in IFT
3	220V Standard
4	220V with Enclosure Heating in IFT

3001NFX | 51 | 2 | 5 | 21 | 3 | 3 | EXAMPLE - Continued

CENELEC CERTIFIED WORLD CLASS 3000 WITH SAFE AREA IFT ELECTRONICS — ORDERING INFORMATION (continued)

(Cont'd)

Code	IFT 3000 Style
11	Blind IFT with HART® Capability
14	Deluxe IFT with HART® Capability

Code	Language Version
20	German
30	French
40	Italian
50	English
60	Spanish

Code	Hazardous Area Probe Cable Length (Probe to HPS or IFT)
00	No Cable
21	6M (20 Ft)
22	12M (40 Ft)
23	18M (60 Ft)
24	24M (80 Ft)
25	30M (100 Ft)
26	45M (150 Ft)

(Cont'd)	13	50	23
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Special sensing cells are available for applications where high levels of SO₂ or HCl are present.

HAZARDOUS AREA CERTIFICATION:

World Class 3000 Oxygen Analyzer (EExd IIB T1) 370°C

HPS 3000 Field Interface Module (EEXD IIC T6)

SAFE AREA ONLY:

MPS 3000 Multiprobe Test Gas Sequencer (Z Purge available)

IFT 3000 Intelligent Field Transmitter

1A97968H01	HPS-IFT cable (order per length, max 360M) 4 twisted pair (20 AWG shielded)
1A97969H01	IFT-MPS cable (order per length, max 300M) 6 conductor (16 AWG shielded)

For hardwire cut-off of probe heater in the event of failure, a second 4-twisted pair 1A97968H01 is required between the HPS 3000 and IFT 3000.

ACCESSORIES

1. MPS 3000 Multiprobe Gas Sequencer.
2. Probe Mounting Jacket or Bypass Package for high temperature applications.
3. Z Purge system for IFT 3000 or MPS 3000 Electronics enclosures.

WORLD CLASS 3000 MULTIPROBE APPLICATION WITH CONTROL ROOM ELECTRONICS (For Multi-Probe Applications)



CRE 3000 Control Room Electronics Module

For applications where multiple oxygen analyzers will be installed on-site, the World Class 3000 Oxygen Analyzer together with the microprocessor-based CRE 3000 Control Room Electronics module is a cost-effective solution.

The CRE 3000 Control Room Electronics allows interacting with up to eight World Class 3000 probes via the HPS 3000 Field Interface Module.

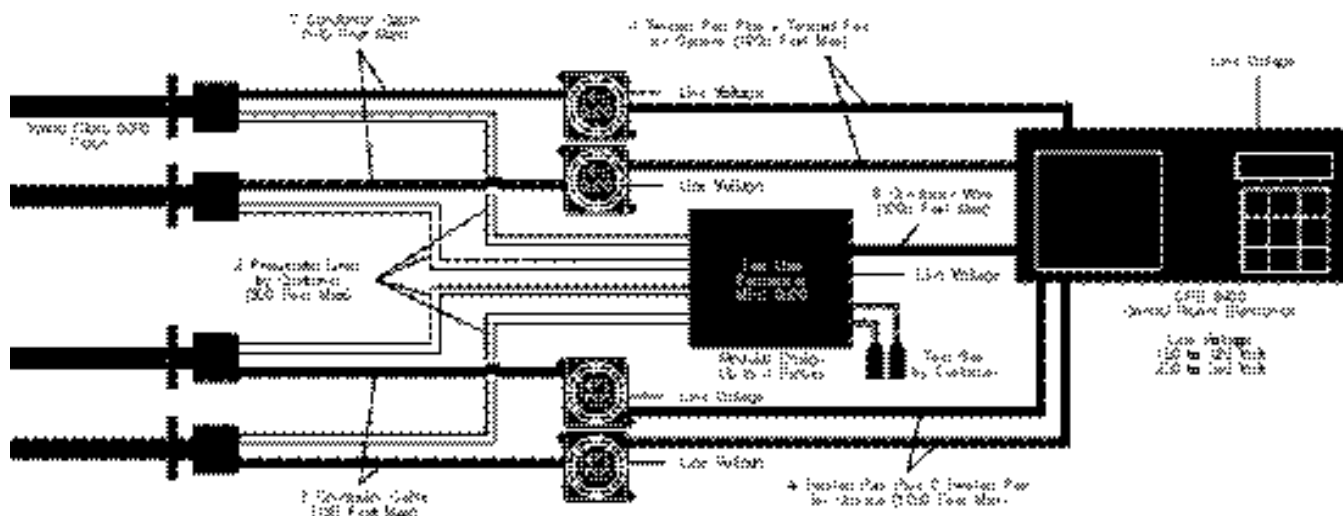
This flexible, easily expanded, electronics arrangement allows the World Class 3000 probes to be linked to the Control Room Electronics without the added cost of requiring intelligent field electronics (IFT 3000).

The CRE 3000 improves the accuracy of the combustion control process as it averages the oxygen results thereby reducing errors due to stratification. Up to 4 averages of any probe combinations can be user-defined.

FEATURES

- Control Room Electronics module (CRE 3000) can interface with up to eight (8) World Class 3000 probes. Provides all necessary intelligence for controlling the probe and optional MPS 3000 Multiprobe Gas Sequencer.
- CRE 3000 Electronics provides user-friendly, menu-driven operator interface with context-sensitive, on-line help.
- CRE 3000 Electronics averages the process data as defined by user. This reduces inaccuracies due to stratification.
- Remote contact initiates calibration. During calibration, probe is removed from average.
- HPS 3000 Field Interface Module permits the probe heater to be powered locally, minimizing long lengths of heavy gauge power cable. Available in NEMA 4X (IP65) and CENELEC (EExd IIC T6) enclosures.
- Optional MPS 3000 Multiprobe Test Gas Sequencer provides fully automatic test gas calibration and reference air for up to four (4) World Class 3000 probes. MPS 3000 can be located up to 300 ft (91 m) from World Class 3000 probe.
- Optional stack temperature and combustion efficiency measurement. Stack thermocouple required.
- Probe heater overtemperature protection with software disable as standard. Hardware disable (line voltage relay) requires one additional twisted pair HPS/CRE cable.
- Any probe failure will cause removal from average.
- CRE 3000 electronics stages calibrations so that no two probes calibrate simultaneously.

CRE 3000 SYSTEM DIAGRAM



CRE 3000 CONTROL ROOM ELECTRONICS

Ambient environment requirements: Clean, Dry

Ambient temperature range: 4° to 120°F (4° to 50°C)

Vibration: Slight: 30-degree drop test

Number of probes: 8 maximum

Analog outputs: 2-12 isolated outputs: 0-20 mAdc, 4-20 mAdc into 950 ohm max, 0-10 Vdc into 2K ohm min

O₂ indication (analog output): ± 0.1% O₂ or ± 3% of reading, whichever is greater

Power supply: 100/115/220/240V ± 10% Vac at 50/60 Hz

Power requirements: 100 VA

System speed or response (amplifier output): Less than 3 seconds

Resolution sensitivity — transmitted signal: 0.05% O₂

O₂ range: Field Selectable — log or linear, variable range, dual range, range switching or (0-1%, 0-5%, 0-10%, 0-25%)

Averaging: 4 user-definable averages of 2 to 8 probes

Programmable contact outputs: 8 available, Form-C, 48 V max, 100 mA max

Indicators: LED indicators for system failure (failure description available on LED panel). Calibration in progress for each of 8 probes, O₂ hi/lo alarm for each of 8 probes.

Programmable displays: 2 line, 0.8 in. (2 cm) high, 8 digit, alphanumeric LED displays for individual or averaged results.

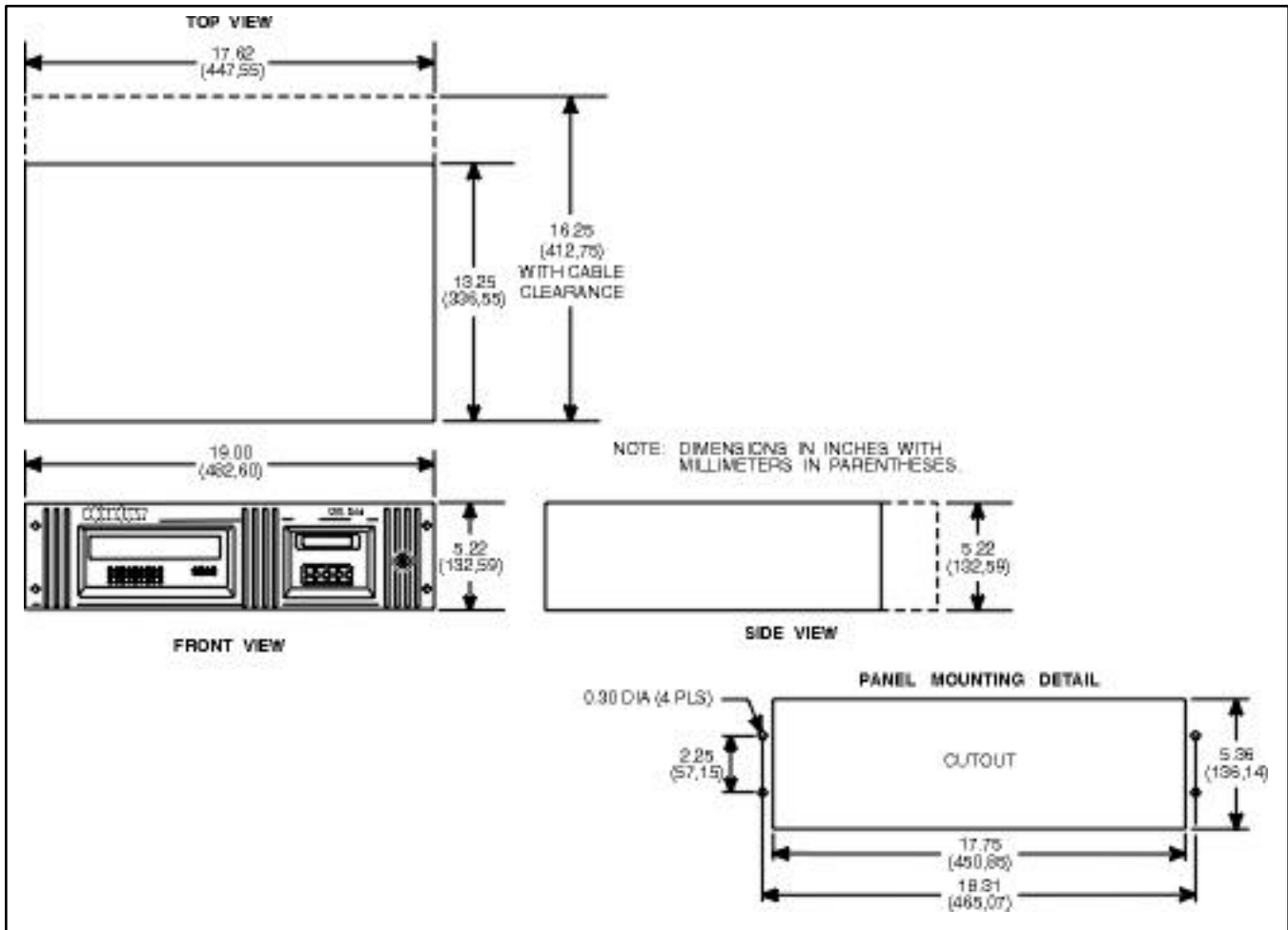
Operator interface: 4-line by 20-character backlight LCD alphanumeric display; 8-key general purpose keyboard.

Approximate shipping weight: 35 lbs (16 kg)



Fisher-Rosemount has satisfied all obligations coming from the European legislation to harmonize the product requirements in Europe.

CRE 3000 Housing Dimensional Drawing



CENELEC CERTIFIED WORLD CLASS 3000 WITH CONTROL ROOM ELECTRONICS — ORDERING INFORMATION

3001NCX	CENELEC Certified World Class 3000 Oxygen Analyzer with Control Room Electronics Package (Electronics in safe area only)
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Oxygen Analyzer - Instruction Book

Code	Probe Assembly Type CENELEC Certified EEXD IIB T1 (370°C)
50	18" Probe
51	18" Probe with 3' Bypass
52	3' Probe
53	3' Probe with Abrasive Shield
54	6' Probe
55	6' Probe with Abrasive Shield

Code	Probe Mounting
0	No Mounting Hardware
1	Mounting to Stack (New Installation)
2	Mounting to Existing 218 Mounting Plate
3	Mounting to Existing Other Flange/Plate

Code	Mounting Style
4	DIN Probe
5	DIN Bypass or DIN Abrasive Shield

Code	Calibration
0	No Calibration and Test Gas Hardware
1	Cal. Gas Rotometer & Ref Gas Set
2	MPS 3000
3	MPS 3000 with Z Purge

Code	Control Room Electronics
2	CRE 3000 (Up to 8 probes)

Code	HPS 3000 Field Interface Modules
11	115V HPS 3000 (CENELEC Certified EExd. IIC T6)
12	115V HPS 3000 for non-hazardous areas
23	220V HPS 3000 (CENELEC Certified EExd. IIC T6)
24	220V HPS 3000 for non-hazardous areas

Code	Hazardous Area Probe Cable Length (Probe to HPS or IFT)
00	No Cable
11	6M (20 Ft)
12	12M (40 Ft)
13	18M (60 Ft)
14	24M (80 Ft)
15	30M (100 Ft)
16	45M (150 Ft)

3001NCX	52	2	4	1	2	11	14	EXAMPLE
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CENELEC CERTIFIED WORLD CLASS 3000 WITH CONTROL ROOM ELECTRONICS ORDERING INFORMATION (CONTINUED)

Special sensing cells are available for applications where high levels of SO₂ or HCl are present.

HAZARDOUS AREA CERTIFICATION:

- World Class 3000 Oxygen Analyzer (EExd IIB T1) 370°C
- HPS 3000 Field Interface Module (EEXD IIC T6)

SAFE AREA ONLY:

- MPS 3000 Multiprobe Test Gas Sequencer (Z Purge available)
- CRE 3000 Control Room Electronics

1A97968H01	HPS-CRE cable (order per length, max 360M)4 twisted pair (20 AWG shielded)
1A97969H01	CRE-MPS cable (order per length, max 300M) 9 conductor (16 AWG shielded)

For hardwire cut-off of probe heater in the event of failure, a second 4-twisted pair 1A97968H01 is required between the HPS 3000 and CRE 3000.

ACCESSORIES

1. MPS 3000 Multiprobe Gas Sequencer.
2. Probe Mounting Jacket or Bypass Package for high temperature applications.
3. Z Purge system for IFT 3000 or MPS 3000 Electronics enclosures.

EXCHANGE/UPGRADE OF EXISTING OXYGEN ANALYZER UTILIZING EXISTING ELECTRONICS



Features

- For replacement of these existing probes
 - Westinghouse/Hagan
 - Rosemount Analytical
 - most competitive probes
- Available with either a 115V or 44V heater

Upgrade your old oxygen analysis system with the World Class 3000 Oxygen Analyzer! The World Class 3000 probe may be operated using older existing Westinghouse/Hagan, Rosemount Analytical, or selected competitive electronics.

3001DRX Direct Replacement Model

Utilize 115V heater, minimizing installation difficulty - No HPS 3000 Heater Power Supply is required



CENELEC CERTIFIED DIRECT REPLACEMENT PROBE UPGRADE PACKAGE — ORDERING INFORMATION

3001DRX	Direct Replacement CENELEC Certified World Class 3000 Exchange Probe for Westinghouse/Rosemount 132/218/225/218A, or any competitive probe (includes 115V heater, no HPS required)
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Exchange Probe - Instruction Book

Code	Sensing Probe Type
50	18" Probe
51	18" Probe to existing Model 218 with 3' Bypass
52	3' Probe
53	3' Probe with Abrasive Shield ⁽⁵⁾
54	6' Probe
55	6' Probe with Abrasive Shield ⁽⁵⁾

Code	Probe Mounting (To Stack or Existing Mounting Plate)
0	No Mounting Hardware
1	Mounting to Stack (New Installation)
2	Mounting to Existing Model 218 Mounting Plate (with Model 218 Shield Removed)
3	Mounting into Existing Other Flange/Plate (please specify)

Code	Mounting Style (To Stack or Existing Mounting Plate)
0	No Mounting Hardware
4	Mounting Probe Only (DIN)
5	Mounting Probe w/Bypass or Abrasive Shield (DIN)

Code	Arrangement - For Use With:
11	218 Digital Electronics - specify language
12	218 Analog Electronics
13	Other Rosemount/Westinghouse/Competitor Electronics (specify)

3001DRX	50	2	5	11	EXAMPLE
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Special sensing cells are available for applications where high levels of SO₂ or HCl are present.

HAZARDOUS AREA CERTIFICATION:

World Class 3000 Oxygen Analyzer (EExd IIB T1) 370°C

WORLD CLASS 3000 ACCESSORIES



**Optional HPS 3000
Field Interface**



**HART® Model 275
Hand-Held Interface**



**Optional MPS 3000 Multiprobe
Test Gas Sequencer**

HPS 3000 FIELD INTERFACE ELECTRONICS

[For use with CRE 3000 or optional with IFT 3000 for probe electronics distances greater than 150 ft (45 m)]

Housing classification: CENELEC EExd IIC T6
Humidity range: 95% relative humidity
Ambient temperature range: 32° to 140°F (0° to 60°C)
Cabling distance between HPS 3000 and probe: Maximum 150 ft (45 m)
Power supply: 100/115/220V 10% Vac at 50/60 Hz
Vibration: 5 m/sec², 10 to 500 xyz plane

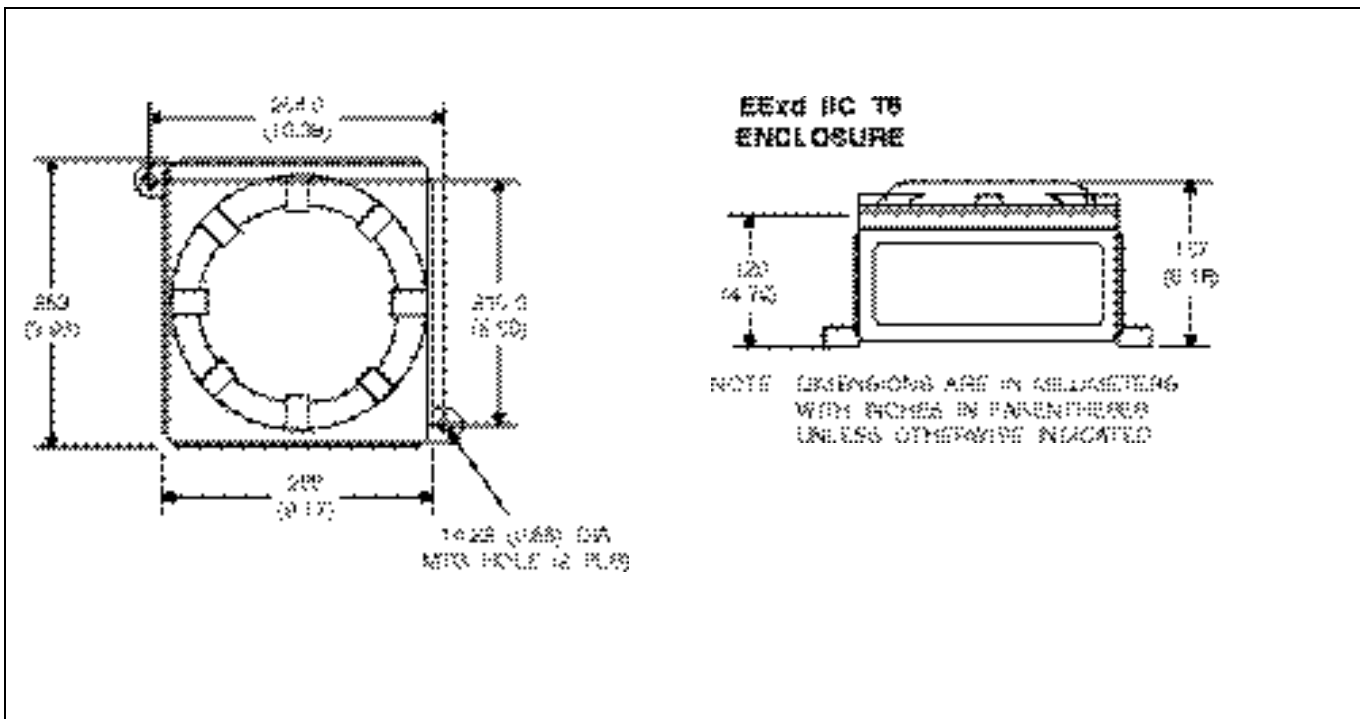
External electrical noise: Meets EMC requirements for RFI immunity
Power requirement: 200 VA
Approximate shipping weight: 20 lbs (9 kg)



Fisher-Rosemount has satisfied all obligations coming from the European legislation to harmonize the product requirements in Europe.

All static performance characteristics are with operating variables constant. Specifications subject to change without notice.

Optional HPS 3000 Field Interface



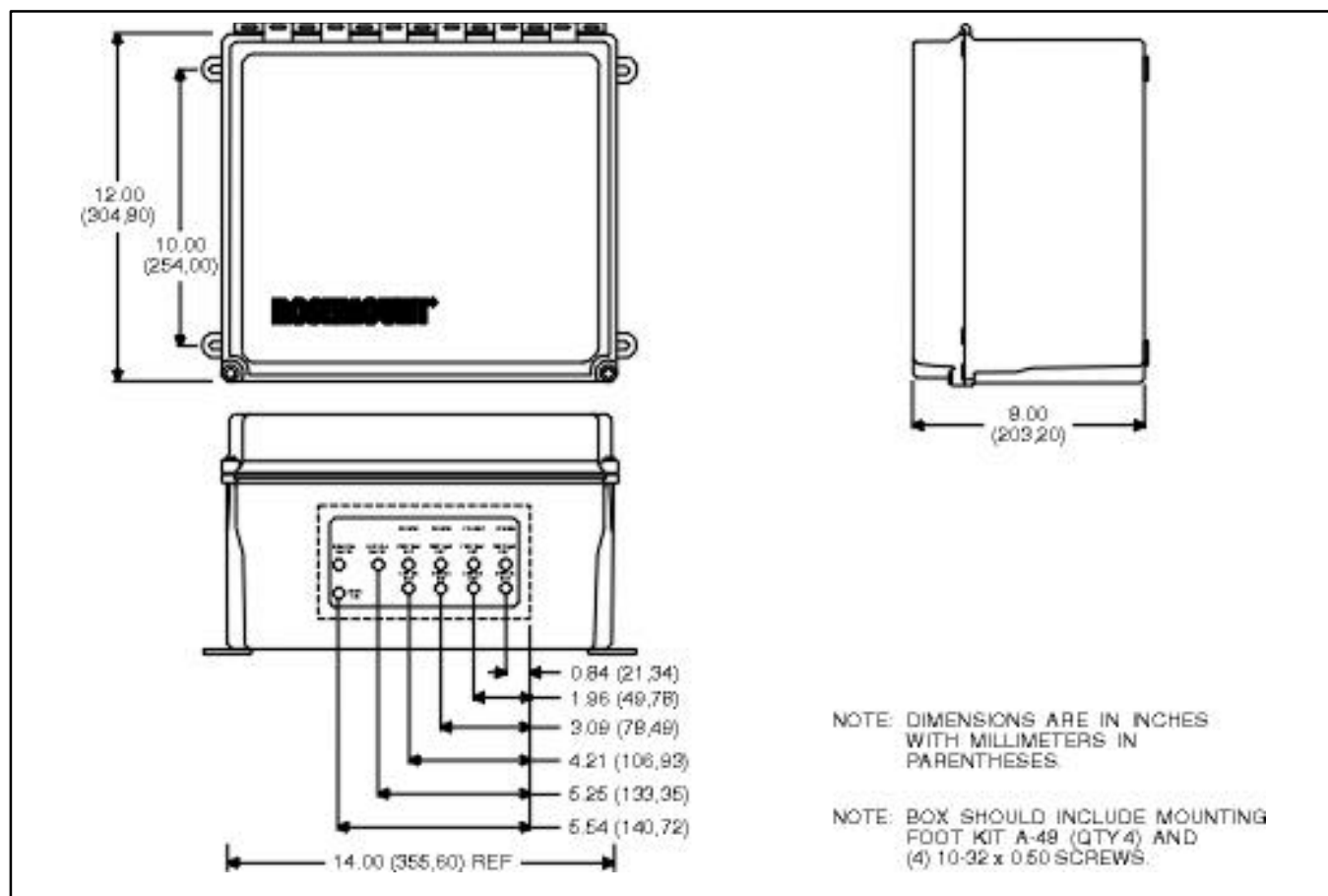
WORLD CLASS 3000 ACCESSORIES (Continued)

MPS 3000 MULTIPROBE TEST GAS SEQUENCER (OPTIONAL)

Housing classification:	NEMA 4X (IP65)	Piping distance between MPS 3000 and probe:	Maximum 300 ft (90 m)
Humidity range:	95% relative humidity	Cabling distance between MPS 3000 and WC 3000 electronics:	Maximum 1000 ft (300 m)
Ambient temperature range:	-20° to 160°F (-30° to 71°C)	Power Supply:	100/115/220V 10% VAC at 50/60 Hz
Vibration:	5 m/sec ² , 10 to 500 xyz plane	Power requirement:	15 VA
External electrical noise:	Meets EMC requirements for RFI immunity	Approximate shipping weight:	35 lbs (16 kg)
Calibration interval:	From 1 hour to 1 year (with WC 3000 electronics)	Piping requirements:	1/8" o.d. tubing, 1/8" NPT bulkhead connectors (high gas in, low gas in, ref air in, 4 x test gas out, 4 x ref air out)
Calibration duration:	10 sec to 20 min (with WC 3000 electronics)		
After calibration purge time:	30 sec to 20 min (with WC 3000 electronics)		

All static performance characteristics are with operating variables constant. Specifications subject to change without notice.

Optional MPS 3000 Multiprobe Gas Sequencer



WORLD CLASS 3000 ACCESSORIES (Continued)

O2 Test Gas Kits

Rosemount Analytical's O2 Test Gas and Service Kits have been carefully designed to provide a more convenient and fully portable means of testing, calibrating, and servicing Rosemount Analytical's oxygen analyzers. These lightweight, disposable gas cylinders eliminate the need to rent gas bottles.

For more information, see Product Data Sheet PD 106-150.

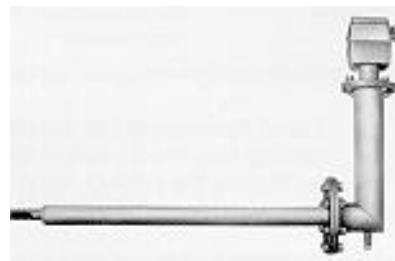


Accessories for High Temperature Operation

By-Pass Packages

The specially-designed Rosemount analytical By-Pass Package for oxygen analyzers has proven to withstand the high temperatures in process heaters while providing the same advantages offered by the in situ sensor. Inconel or Kanthal steel tubes provide effective resistance to corrosion and the package uses no moving parts, air pumps, or other components common to other sampling systems.

For more information, see Product Data Sheet PD 106-302.



Oxymitter™ In Situ Flue Gas Oxygen Transmitter

The Oxymitter is the world's only in situ, zirconium oxide-based oxygen transmitter for flue gas measurement. The Oxymitter integrates an oxygen probe, field electronics and fully automatic calibrator into a single, compact package.



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