

## NGA 2000 Series Platform

- Modular Design - Single Platform Supports Multiple Analyzer and Input/Output Modules
- Local Network with Intelligent, Bi-Directional Communication between Modules
- Menu-Driven Software with Multi-Level Security and User-Friendly Help Screens
- 16-line Graphic Display with Alphanumeric, Bar Graph and Trending Capabilities
- Advanced Diagnostic Capability via Local or Remote Operator Interface
- Universal Power Supply
- 19" Rack Mountable, EMC-Approved Enclosure
- Front Panel Access to Internal Components for Ease of Serviceability

The NGA 2000 Platform consists of several major components: controller board, operator interface, power input unit/power supply board, distribution assembly and enclosure. These can be configured as a single unit or provided as separate components, depending on your specific analytical requirements. (See Figure 4.)

The Platform can be used in a stand-alone instrument configuration for single component analysis with one NGA 2000 Analyzer Module and Input/Output (I/O) Module, or it can be configured for multi-component analysis with several Analyzer and I/O Modules. (Please refer to the NGA 2000 Series Brochure for additional information.)



### PLATFORM COMPONENTS

#### Controller Board

The heart of the NGA 2000 Platform is the controller circuit board which functions as a network manager and provides user interaction with all NGA 2000 battery backed-up memory and has the ability to download that data into replaced modules. In the unlikely event of a controller board malfunction, sample measurements from Analyzer Modules remain accurate and available on the network and continue to be exported via I/O Modules.

#### Operator Interface

The operator interface includes the front panel keypad and 128 x 260-pixel, liquid crystal graphic display. It provides the user with a local interface to measured parameter values, system setup information and diagnostics, as well as important trending data in graphic and tabular form. (See Figure 1.)

Three kinds of display screens are available to the user - Run Mode, Menu and Help. The Run Mode display may be configured for indication of multi-component analysis data from several Analyzer Modules, and also allows user-selectable secondary variables to be displayed as well.

During single component analysis operation (see Figure 2), the Run Mode display indicates:

- The current concentration of the component of interest.
- A single-line, horizontal bar graph with component concentration in percent of fullscale format.
- High and low alarm setpoints.
- Four secondary values (e.g., sample flow and pressure) with affiliated bar graphs.
- Current functions for the five softkeys (located below the display).

When used in a multi-component analysis system with several Analyzer Modules the operator interface display provides multi-component readings in both numeric and bar graph formats. (See Figure 3.)

Ten push-button keys provide the user complete access to the instruments function softkeys and user-friendly help screens. Menu screens are designed to walk you through every step of setup, operation and diagnostics. The single keystroke commands are so logical you may never need to open the instruction manual. The keys and their functions are as follows:

- Five softkeys - function dependent on the current menu item selected
- Four arrow keys - multi-functional (e.g., scrolling input data and moving around the screen).
- Enter key - executes menu items and inputs data.

For applications which utilize a remote interface such as a personal computer (PC), the local operator interface becomes an optional device. The controller board can communicate directly through an I/O module, such as an RS-232 port with applicable protocol, which in turn serves as a bi-directional gateway to the user's external device. Such flexibility allows you to design an analytical communications network to meet specific operational requirements.

## Power Input Unit/Power Supply Board

The power input unit accepts both AC and DC power sources. If AC power is provided, the universal power supply board is needed to convert AC to the 24 VDC required by the Platform and Analyzer Modules. If

regulated DC power is provided, the internal power supply board circuitry is bypassed.

The standard power supply board will generate enough current to power the Platform electronics and one Analyzer Module. For multi-component NGA 2000 Series systems, which utilize several Analyzer Modules and a single Platform, a 25 Amp Supplementary Power Supply is available which will accommodate up to five (5) Analyzer Modules in addition to the Platform. The supplementary Power Supply is a modular unit which can be mounted inside the Platform in place of an Analyzer Module or located externally as requirements dictate.

## Distribution Assembly

The distribution assembly includes the backplane and card cage which allow plug-in modularity for the controller board, power supply board and I/O Modules. DC power is distributed along the backplane to internal Platform components.

## Enclosure

Currently, the enclosure is available as a 19" rack mountable case and is EMC approved to meet European requirements for RMI/EMI protection. The enclosure will house all Platform components as well as one Analyzer Module and up to five separate I/O modules.

The front panel is hinged vertically to the enclosure to allow convenient access to internal components while allowing the display and keypad to continue functioning. As an option, the front panel can be hinged to swing horizontally for bench mounting or other applications which cannot accommodate a vertical, downward swing.

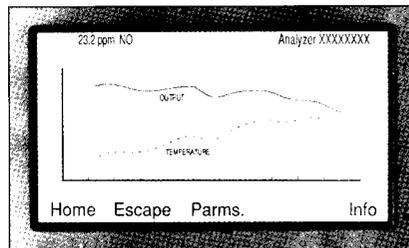


Figure 1: Graphic Trending Display

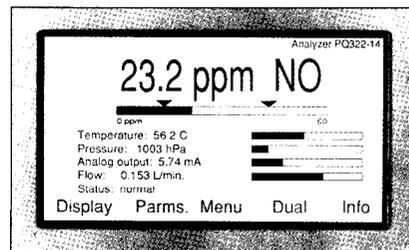


Figure 2: Single Component Display

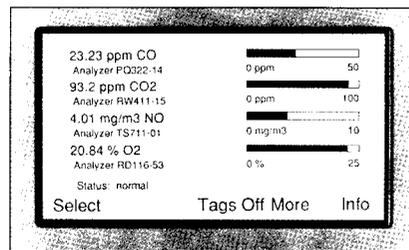


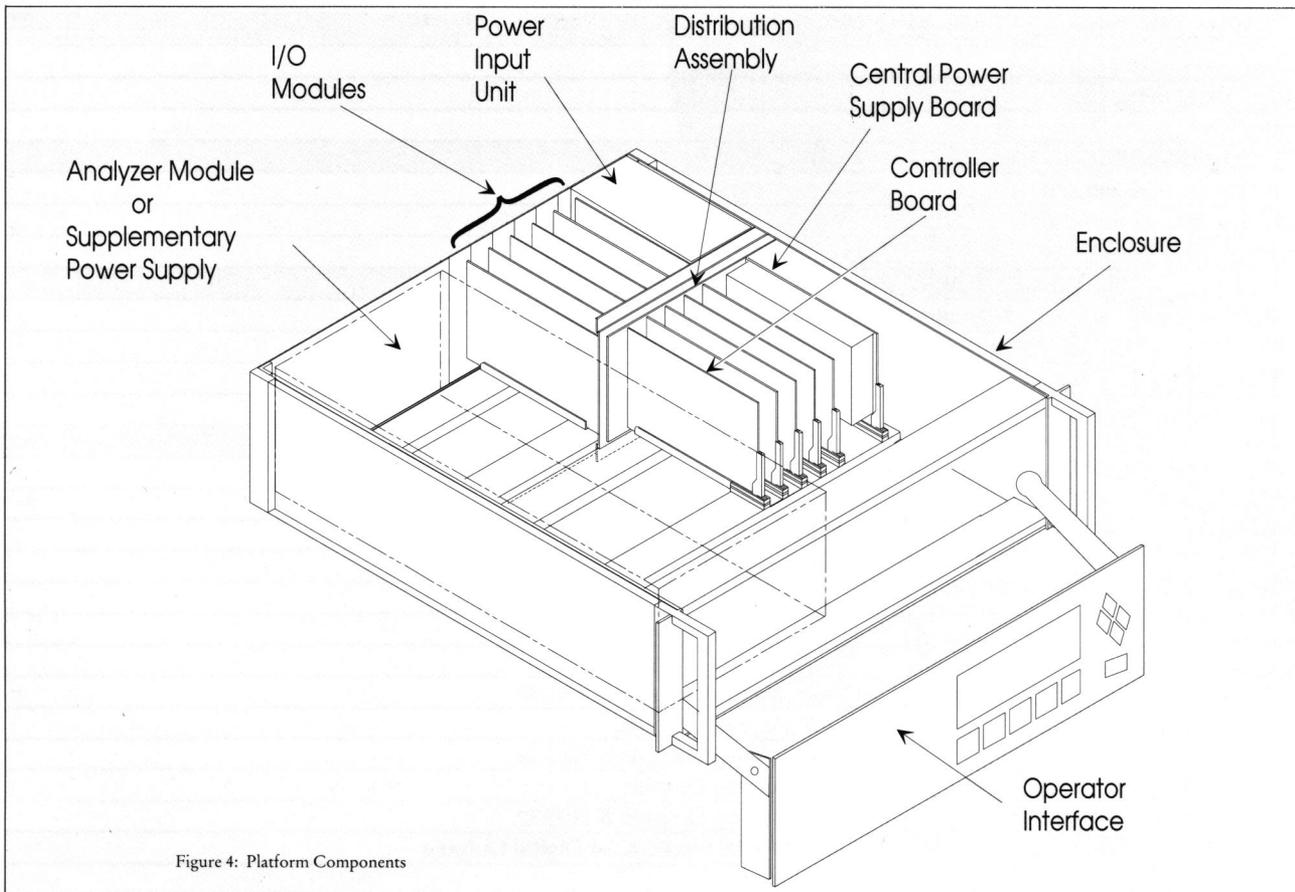
Figure 3: Multi-Component Display

For multiple Analyzer Module systems, the enclosure is also available in a dual compartment configuration which serves as a housing for up to two Analyzer Modules or Analyzer Module plus Supplementary Power Supply. Up to fifteen (15) Analyzer Modules and associated I/O Modules can communicate with a single Platform, resulting in a space-saving analytical network.

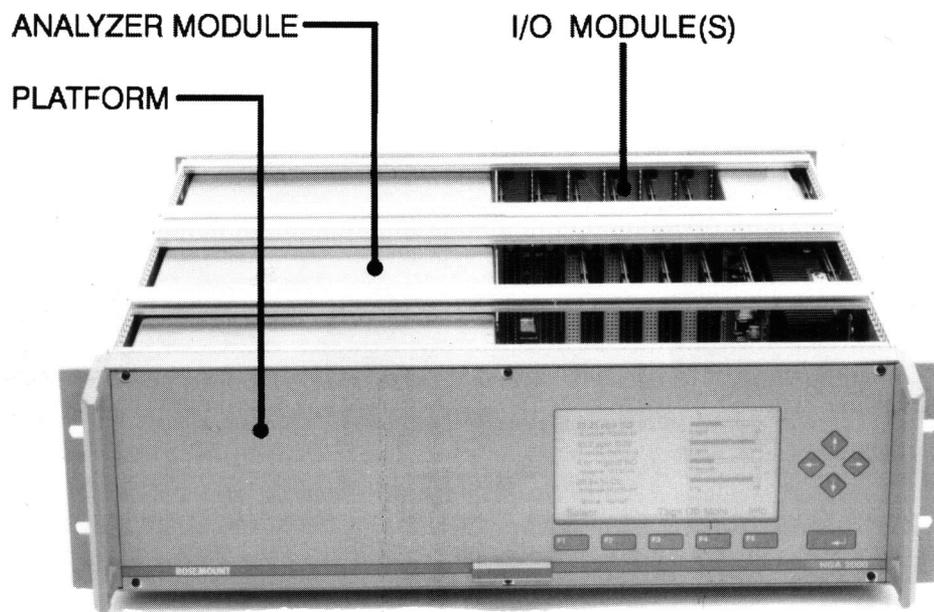
All customer connections, including AC/DC power input, user I/O connections and Analyzer Module gas connections, are located on the rear panel.

The enclosure is available in both standard and extended case versions. The extended enclosure is used for Analyzer Module applications, such as long cell NDIR, which requires a longer Analyzer Module case.

# PLATFORM DIAGRAM



**Platform with Internal Analyzer Module** Several Analyzer Modules may be integrated with a single Platform, either mounted inside or located externally. (Platform shown here with top removed.)

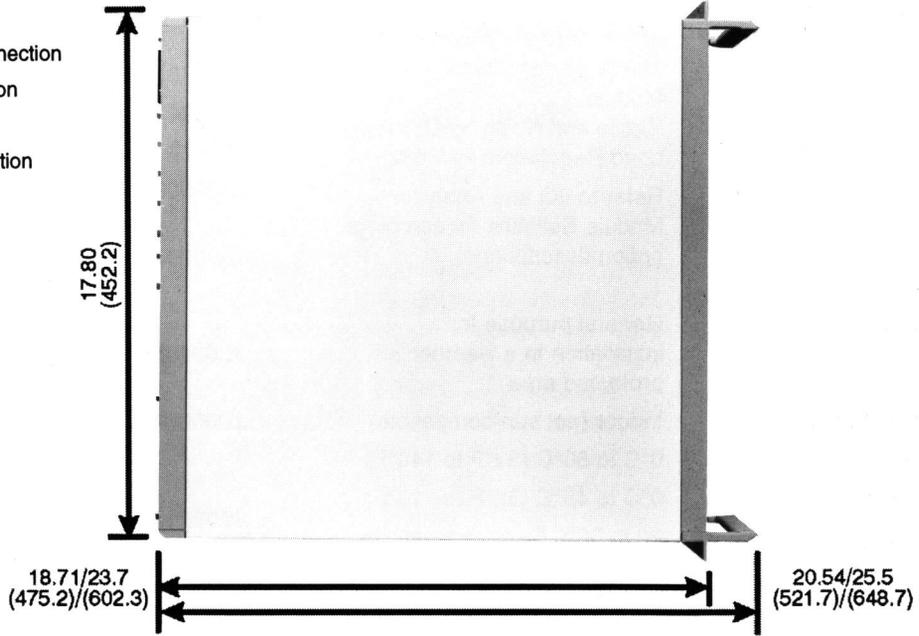


# OUTLINE AND MOUNTING DIMENSIONS

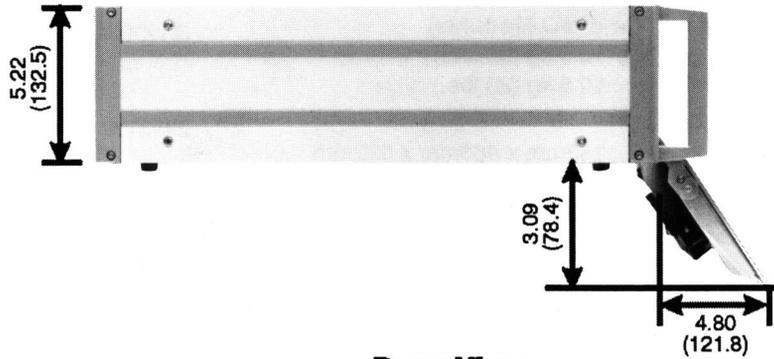
## Top View Standard Case/Extended Case

- A.** Operator Interface
- B.** 115/230 VAC IEC Power Connection
- C.** 24 VDC XLR Power Connection
- D.** I/O Module Slot
- E.** Analyzer Module Gas Connection

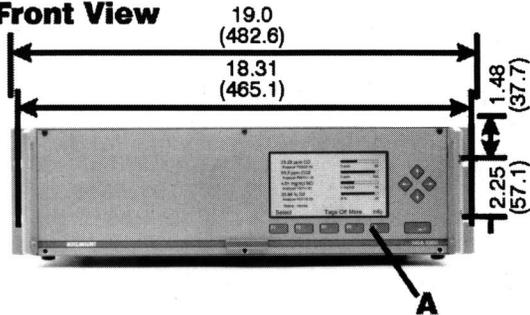
Dimensions = Inches  
(Millimeters)



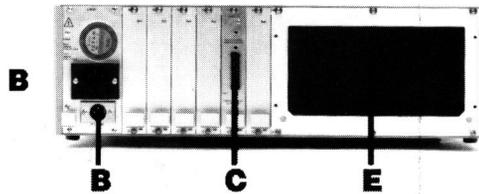
## Side View With Front Panel Vertical Hinge



## Front View



## Rear View



## PLATFORM SPECIFICATIONS

### Electrical

**AC Power Source:** 85 to 264 VAC, 47 to 63 Hz, 150 W max. with 1 Analyzer Module; 50 to 120 W per additional Analyzer Module; maximum 5 Analyzer Modules per standard Platform

**DC Power Source:** 24 VDC +/- 5%, 150 W max. with 1 Analyzer Module; 50 to 120 W per additional Analyzer Module  
Ripple and Noise: <100 mVpp  
Load Regulation: <+/- 1%

**Output:** Refer to I/O and Analyzer Module Bulletins for complete option descriptions

### Physical Enclosure

**Classification:** General purpose for installation in a weather protected area

**Ambient Light:** Indoor (not sun-compatible)

**Ambient Temperature:** 0°C to 60°C (32°F to 140°F)

**Operating Temperature:** 0°C to 45°C (32°F to 113°F)

**Operating Humidity:** 20 to 90% Relative Humidity, non-condensing

**Operating Altitude:** <5,000 ft. (<1,500 m)

### Agency

**Approvals/Compliances:** FM, CSA, CE, R\TÜV, C-Tick, NAMUR EMC

### Weight: (without Analyzer or I/O Modules)

**Standard Case:** 10.0 kg (22 lbs.)

**Extended Case:** 10.5 kg (23 lbs.)

### Overall Dimensions:

**Standard Case:** 133mm x 483mm x 522mm (5.2" x 19" x 20.5") HWD

**Extended Case:** 133mm x 483mm x 649mm (5.2" x 19" x 25.5") HWD

**Mounting:** 19" rack mount; hardware provided for bench mounting

## PLATFORM ACCESSORIES

### Part No. Description

656264	Dual Compartment Enclosure, Standard, to house 2 Standard Analyzer Modules or Module plus Supplementary Power Supply
656265	Dual Compartment Enclosure, Extended, to house 2 Extended Analyzer Modules or Module plus Supplementary Power Supply
656266	25 Amp Supplementary Power Supply
903024	Interconnect Cable, 3 ft.
655472	24 VDC Shielded Cable, 3 ft.
JA00000	SIO, 2 Channel Analog Provides (2) 4 - 20 maDC Outputs
JA0000A	SIO, 2 Channel Analog + Serial Output Provides (2) 4 - 20 maDC Outputs and RS232
JC00000	SIO, 4 Channel Analog Provides (4) 4 - 20 maDC Outputs
JD0000A	SIO, 4 Channel Analog + Serial Output Provides (4) 4 - 20 maDC Outputs and RS232
JE00000	SIO, 6 Channel Analog Provides (6) 4 - 20 maDC Outputs
JF0000A	SIO, 6 Channel Analog + Serial Output Provides (6) 4 - 20 maDC Outputs and RS232
JG00000	SIO, 8 Channel Analog Provides (8) 4 - 20 maDC Outputs
JH0000A	SIO, 8 Channel Analog + Serial Output Provides (8) 4 - 20 maDC Outputs and RS232
JI00000	DIO, 8 DI/24 DO Provides (8) Digital Inputs and (24) Digital Outputs

# ORDERING INFORMATION

**NGA 2000 PLATFORM**

ENCLOSURE TYPE	
S	Standard
L	Extended

LANGUAGE	
1	English
9	Special

INTERNAL POWER SUPPLY	
1	Standard**
9	Special
0	None*

INPUT/OUTPUT SELECTION 1	
A	Basic Analog
B	Analog Output w/Autocal
C	System Autocal
D	Basic Analog w/Alarms & Remote Range (GM)
E	SI/O w/2 Analog Outputs
F	SI/O w/2 Analog Outputs & RS232
G	SI/O w/4 Analog Outputs
H	SI/O w/4 Analog Outputs & RS232
I	SI/O w/6 Analog Outputs
J	SI/O w/6 Analog Outputs & RS232
K	SI/O w/8 Analog Outputs
L	SI/O w/8 Analog Outputs & RS232
M	DI/O w/8 Digital Inputs & 24 Digital Outputs
X	Special
Z	None

**I/O SELECTION 2, 3, 4, 5**  
Use A, B, C, D, M, X, Z as Indicated Above\*\*\*

LON/DIGITAL INTERFACE	
A	Standard LON I/O Interface
Z	None

S 1 1 K Z A EXAMPLE

- NOTES:
- \* Requires an external 24 vdc power source
  - \*\* Required for 120 vac power
  - \*\*\* Only one SI/O per Platform allowed

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**Rosemount Analytical Inc.**  
**Process Analytic Division**  
 4125 E. LaPalma Ave.  
 Anaheim, CA 92807 USA  
 Phone: (714) 986-7600  
 Toll Free in U.S. and Canada: 1-800-433-6076  
 Fax: (714) 577-8739  
 e-mail: GASCSC@fmail.frco.com

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