

# Wall-Mount Enclosures: Standard and NEMA

For Model 106 Ozone Monitors

**2B** *Technologies, Inc.*

## INSTALLATION MANUAL

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Technical Support:  
[www.twobtech.com/techsupport](http://www.twobtech.com/techsupport)  
[techsupport@twobtech.com](mailto:techsupport@twobtech.com)  
+1(303)273-0559

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## ***IDENTIFICATION RECORDS***

Record the following information for future reference:

Unit serial number: \_\_\_\_\_

Warranty start date: \_\_\_\_\_  
(date of receipt)

## **PRINTING HISTORY**

This manual covers two types of wall-mount enclosures offered for 2B Technologies Series 106 Ozone Monitors. New editions of this manual are complete revisions that reflect updates to the instrument itself, as well as clarifications, additions and other modifications of the text.

Revision A ..... February 2011  
Revision B ..... January 2017

## **TRADEMARKS & PATENTS**

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## **CONFIDENTIALITY**

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## **WARRANTY STATEMENT**

2B Technologies, Inc. warrants its products against defects in materials and workmanship. 2B Technologies will, at its option, repair or replace products that prove to be defective. The warranty set forth is exclusive and no other warranty, whether written or oral, is expressed or implied. 2B Technologies specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

### **Warranty Periods**

The warranty period is one (1) year from date of receipt by the purchaser, but in no event more than thirteen (13) months from original invoice date from 2B Technologies, Inc.

### **Warranty Service**

Warranty Service is provided to customers through phone support, Monday - Friday, from 9:00 a.m. to 5:00 p.m., Mountain Time USA, or by submission of a tech support ticket at [www.twobtech.com/techsupport](http://www.twobtech.com/techsupport). Phone support is for trouble-shooting and determination of parts to be shipped from 2B Technologies to the customer in order to return the product to operation within stated specifications. If phone support is not efficient and effective, the product may be returned to 2B Technologies for repair or replacement. Prior to returning the product, a Repair Authorization Number (RA) must be obtained from the 2B Technologies Service Department.

### **Shipping**

2B Technologies will pay freight charges for replacement or repaired products shipped to the customer site. Customers shall pay freight charges for all products returning to 2B Technologies.

### **Conditions**

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance, adjustment, calibration, or operation by the customer. Usage of maintenance materials purchased from suppliers other than 2B Technologies will void this warranty.

### **Limitation of Remedies and Liability**

The remedies provided herein are the Customer's sole and exclusive remedies. In no event shall 2B Technologies be liable for direct, indirect, special, incidental or consequential damages (including loss of profits) whether based on contract, tort or any other legal theory. The NEMA Enclosure Installation Manual is believed to be accurate at the time of publication and no responsibility is taken for any errors that may be present. In no event shall 2B Technologies be liable for incidental or consequential damages in connection with or arising from the use of the NEMA Enclosure Installation Manual and its accompanying related materials. Warranty is valid only for the country designated on the 2B Technologies quote or invoice.

# WARNINGS


## ENGLISH



### WARNING:

Any operation requiring access to the inside of the equipment, could result in injury. To avoid potentially dangerous shock, disconnect from power supply before opening the equipment.

### WARNING:

This symbol, , on the instrument indicates that the user should refer to the manual for operating instructions.

### WARNING:

If this instrument is used in a manner not specified by 2B Technologies, Inc. USA, the protection provided by the instrument may be impaired.


## ESPAÑOL



### ATENCIÓN:

Cualquier operación que requiera acceso al interior del equipo, puede causar una lesión. Para evitar peligros potenciales, desconectarlo de la alimentación a red antes de abrir el equipo.

### ATENCIÓN:

Este símbolo, , en el instrumento indica que el usuario debería referirse al manual para instrucciones de funcionamiento.

### ATENCIÓN:

Si este instrumento se usa de una forma no especificada por 2B Technologies, Inc., USA, puede desactivarse la protección suministrada por el instrumento.


## FRANÇAIS



### ATTENTION:

Chaque opération à l'intérieur de l'appareil, peut causer du préjudice. Afin d'éviter un choc qui pourrait être dangereux, déconnectez l'appareil du réseau avant de l'ouvrir.

### ATTENTION:

Le symbole, , indique que l'utilisateur doit consulter le manuel d'instructions.

### ATTENTION:

Si l'instrument n'est pas utilisé suivant les instructions de 2B Technologies, Inc., USA, les dispositions de sécurité de l'appareil ne sont plus valables.


## DEUTSCH



### WARNHINWEIS:

Vor dem Öffnen des Gerätes Netzstecker ziehen!

### WARNHINWEIS:

Dieses, , auf dem Gerät weist darauf hin, daß der Anwender zuerst das entsprechende Kapitel in der Bedienungsanleitung lesen sollte.

### WARNHINWEIS:

Wenn das Gerät nicht wie durch die Firma 2B Technologies, Inc., USA, vorgeschrieben und im Handbuch beschrieben betrieben wird, können die im Gerät eingebauten Schutzvorrichtungen beeinträchtigt werden.


## ITALIANO



### ATTENZIONE:

Qualsiasi intervento debba essere effettuato sullo strumento può essere potenzialmente pericoloso a causa della corrente elettrica. Il cavo di alimentazione deve essere staccato dallo strumento prima della sua apertura.

### ATTENZIONE:

Il simbolo, , sullo strumento avverte l'utilizzatore di consultare il Manuale di Istruzioni alla sezione specifica.

### ATTENZIONE:

Se questo strumento viene utilizzato in maniera non conforme alle specifiche di 2B Technologies, Inc. USA, le protezioni di cui esso è dotato potrebbero essere alterate.


## DUTCH



### OPGELET:

Iedere handeling binnenin het toestel kan beschadiging veroorzaken. Om iedere mogelijk gevaarlijke shock te vermijden moet de aansluiting met het net verbroken worden, vóór het openen van het toestel.

### OPGELET:

Het symbool, , geeft aan dat de gebruiker de instructies in de handleiding moet raadplegen.

### OPGELET:

Indien het toestel niet gebruikt wordt volgens de richtlijnen van 2B Technologies, Inc., USA gelden de veiligheidsvoorzieningen niet meer.


## CHINESE



### 警告:

任何需要触及设备内部的操作均可能造成人身伤害。为避免可能的触电危险，请在打开设备前切断电源。

### 警告:

这个符号 , 在仪器上表示用户应参考说明书上的操作指南。

### 警告:

如果仪器没有按照美国2B科技公司指定方式操作，仪器的保护性能会减弱。


## JAPANESE



### 警告:

機器の内部で操作する時、怪我できます。危険な衝撃を回避するために、機器を開ける前に、電源を切断してください。

### 警告:

機器でこの記号 , を見れば、マニュアルを読んでください。

### 警告:

この機器は2Bテクノロジー会社、USAの指定でなければ、機器の保護が損なえます。

## **1. INTRODUCTION**

This manual covers the two types of wall-mount enclosures offered for the 2B Technologies Series 106 Ozone Monitors.

**Wall-Mount Standard Enclosure.** In the Wall-Mount Standard Enclosure, a National Electrical Manufacturers Association (NEMA) enclosure is modified to permit easy electrical connections on the exterior of the enclosure. The shatter-proof window provides for viewing the instrument display and status lights through the closed door. A 1/4" inch compression fitting is provided for the sample inlet and outlet on all the Series 106 Ozone Monitors. This enclosure is not water resistant.

**Wall-Mount Water-Resistant NEMA Enclosure.** This enclosure meets the universally accepted NEMA 4X specification for environmental protection, as well as Type 4, 12, and 13 NEMA ratings. The polyester enclosure is sealed to withstand hose directed water. The NEMA Enclosure includes an interior terminal block and conduits for connecting the instrument to 12 volt DC power, serial communication, a current output, and two relays. As for the standard enclosure mentioned above, the shatter-proof window provides for viewing the instrument display and status lights through the closed door. A 1/4" inch compression fitting is provided for the sample inlet and outlet on all the Series 106 Ozone Monitors.

## **2. INSTALLATION**

Please refer to the following information when installing the enclosure. For assistance, please call 2B Technologies at (303) 273-0559 or email [techsupport@twobtech.com](mailto:techsupport@twobtech.com).

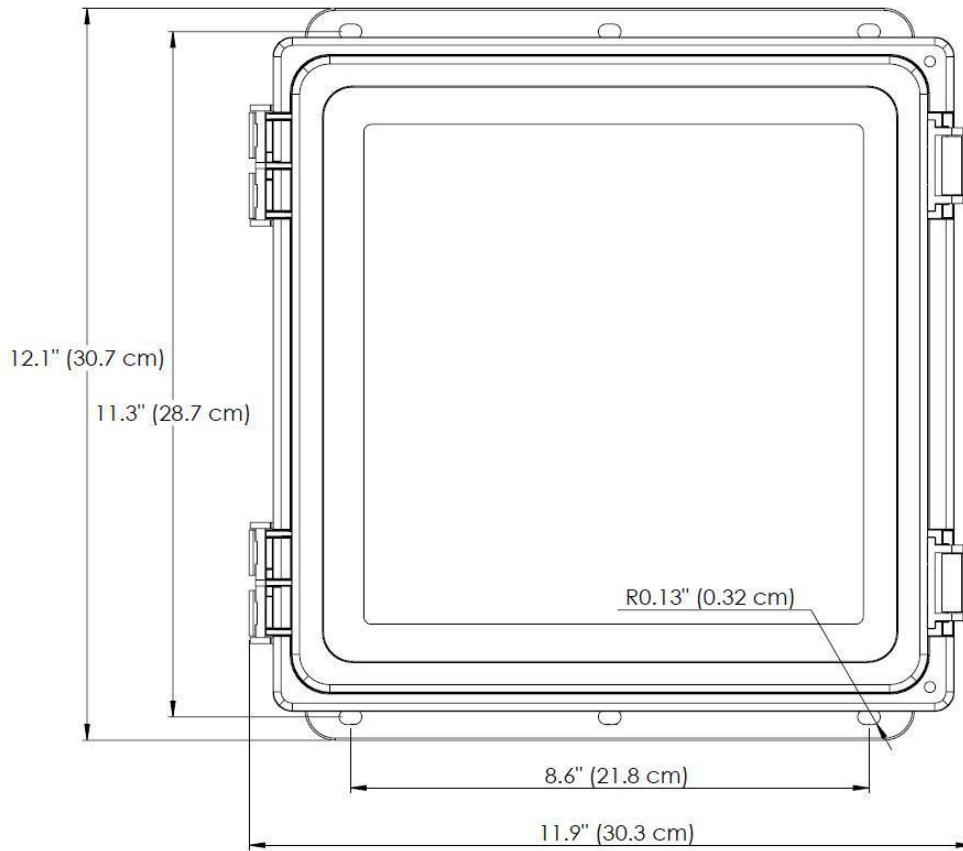
2B Technologies recommends that the Wall-Mount Enclosure be mounted on a wall or specially built stand. The enclosure weighs over 9 pounds with the ozone monitor installed and requires a substantial mounting structure. The floor of the box should be level when the box is mounted.

The figures below provide mechanical dimensions for the Wall-Mount Standard Enclosure and Wall-Mount Water-Resistant NEMA Enclosure.

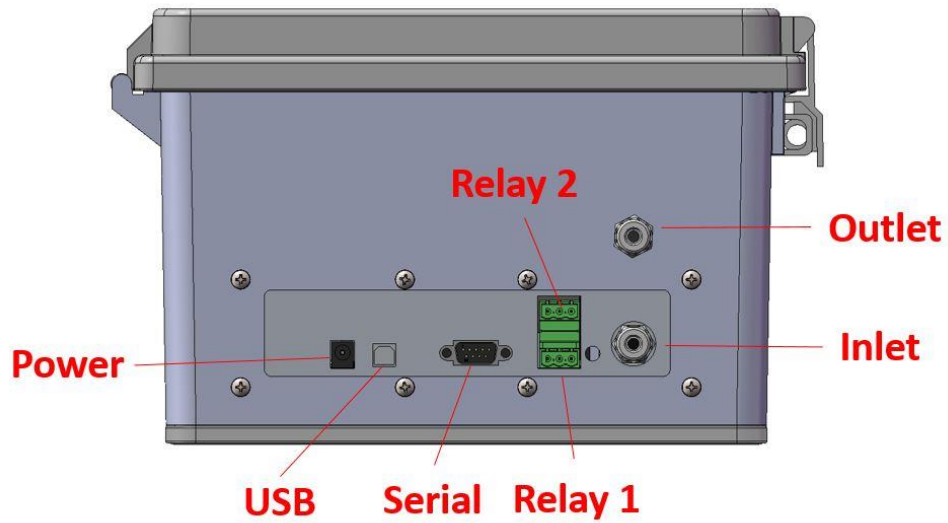
**1. Mounting.** The back of the enclosure has three holes at the top and three holes at the bottom for mounting bolts (Figure 1). The holes are 1/4" in diameter and should be used with stainless steel bolts and washers.

**2. Power.** Both types of Wall-Mount Enclosure require 12 volt DC power (an option for AC power is offered for the Water-Resistant NEMA Enclosure). For the Standard enclosure, make connections through the external fittings (Figure 2a). For the NEMA enclosure, open the enclosure door and then open the faceplate by removing the two screws in the right-hand corners. Make connections through conduit fittings (Figure 2b) on the bottom of the enclosure. Connections must be made using 1/2" liquid-tight

conduit fittings and the appropriate conduit type (supplied by the buyer) to maintain the NEMA 4X rating.

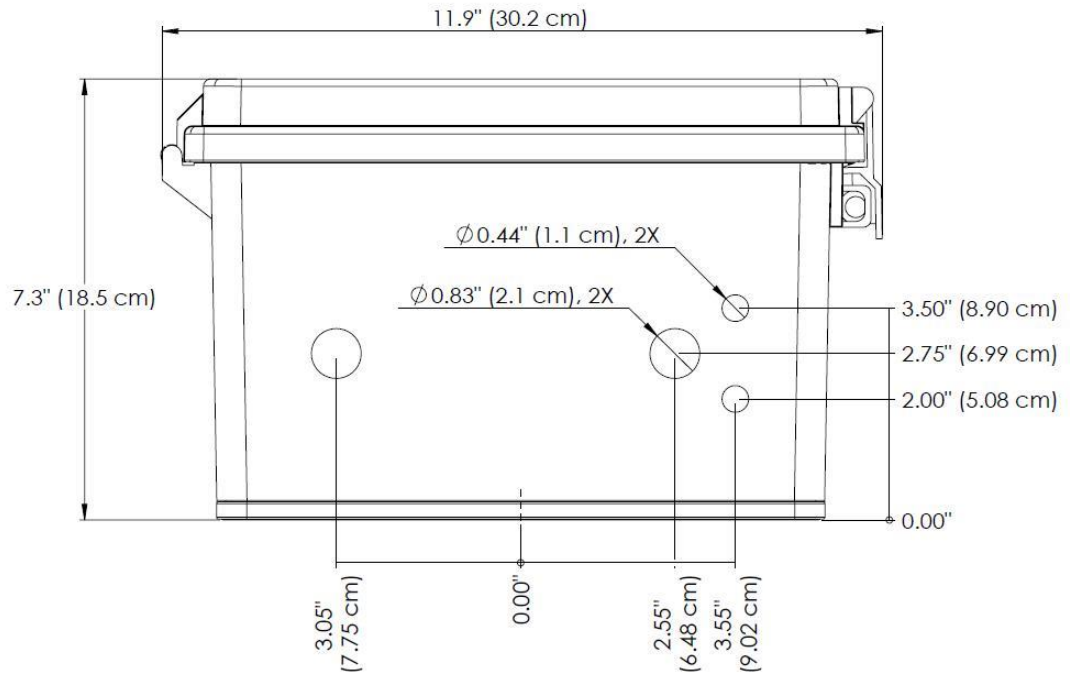


**Figure 1. Wall-Mount Enclosure Dimensions (Front View).**

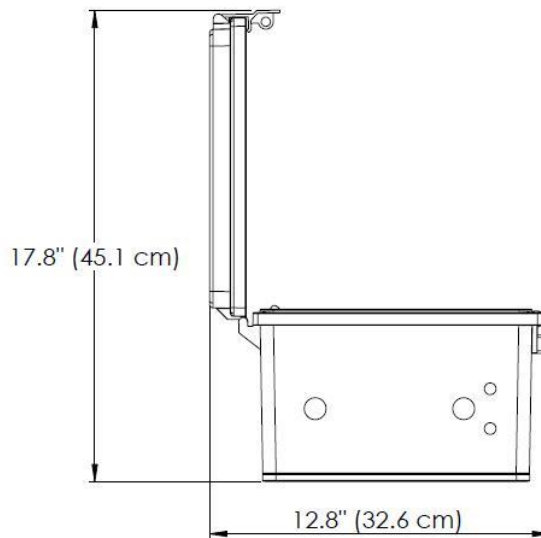


**Figure 2a. Wall-Mount Standard Enclosure (Bottom View)**



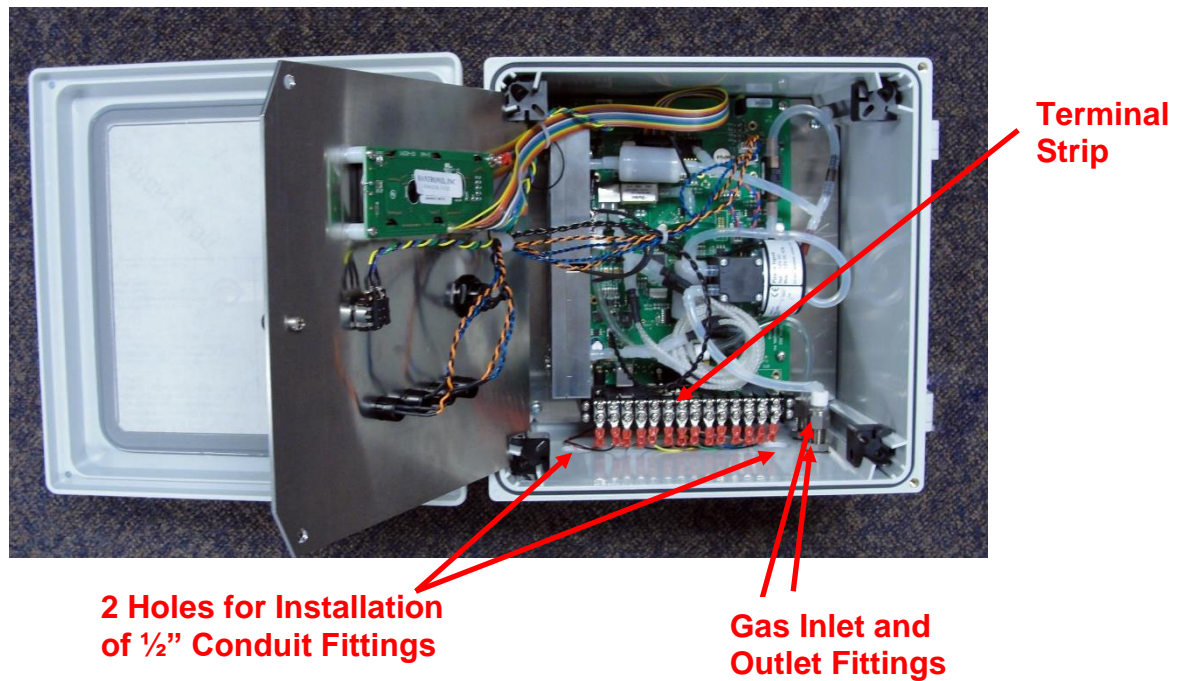


**Figure 2b. Wall-Mount NEMA Enclosure Dimensions (Bottom View).**



**Figure 3. Wall-Mount NEMA Enclosure Dimensions (Bottom View with Door Clearance).**

**3. Analog output, serial communication, and relays.** Access to the analog output, serial communication and relays is also on the bottom of the enclosure (Figures 2a and 2b). For the Water-Resistant NEMA enclosure, connections must be made using 1/2" liquid tight conduit fittings and the appropriate conduit type (supplied by the buyer) to maintain the NEMA 4X rating. The NEMA connections are made to the 14-position terminal block according to Figure 4 and Table 1 below.



**Figure 4. Connections to the Water-Resistant NEMA Enclosure.**

**Table 1. 14-Position Terminal Block Connections.**

Pin #	Description
1	Power, +12 VDC (far left in figure)
2	Ground
3	Analog output, 4-20mADC
4	Analog output ground
5	RS-232 transmitted Data (TXD)
6	RS-232 received Data (RXD)
7	RS-232 signal ground (GND)
8	Relay 1, open on alarm condition
9	Relay 1, ground
10	Relay 1, closed on alarm condition
11	Relay 2, open on alarm condition
12	Relay 2, ground
13	Relay 2, closed on alarm condition
14	(Open)

### **3. GAS CONNECTIONS**

The port labeled INLET and OUTLET are for connecting ¼" O.D. tubing. Be sure that the sampling point is in a location where only the gas sample is directed to the instrument and not any liquid or particulate matter.

**CAUTION: USE ONLY MATERIALS SUITABLE FOR OZONE SERVICE. CONSULT WITH 2B TECHNOLOGIES FOR ADVICE ON MATERIALS.**

**CAUTION: EXPOSURE TO OZONE IS HAZARDOUS. ENSURE THAT ALL GAS CONNECTIONS ARE TIGHT AND THAT NO LEAKS EXIST.**

### **4. MAINTENANCE**

The Wall-Mount Standard and NEMA enclosures require minimum maintenance. Inspect the enclosure for signs of leaks. Clean the polyester surface with an appropriate cleaner. **CAUTION:** Do not use abrasive cleaners on the window.

For the Model 106 instrument itself, refer to the Ozone Monitor user manual for the recommended maintenance and service procedures.