

CE Explosion-Proof Convection Panel Heater

XB Series

Installation, Operation, & Maintenance Instructions

Depending on the particular model ordered, the heater is suitable for the following areas:

II 2G Ex db IIC T3 or T4, Gb

$-60^{\circ}\text{C} \leq T_{\text{amb}} \leq 40^{\circ}\text{C}$



Special Notes

The following special notices highlight important information in the installation and maintenance sections. Each serves a special purpose and is displayed in the format shown:



CAUTION

This symbol indicates a potentially hazardous situation, which, if not avoided, can result in personal injury or damage to the equipment.



CAUTION

This symbol indicates a potentially hazardous situation, which, if not avoided, may be a shock hazard.



WARNING

This symbol indicates an imminently hazardous situation, which, if not avoided, could result in death or serious injury.



TABLE OF CONTENTS

- A. Pre-installation 3
- B. Installation 3
 - B.1 General Requirments3
 - B.2 Wall Mounting4
 - B.3 Floor Mounting4
 - B.4 Thermostat Installation.....5
- C. Wiring 5
- D. Replacement Thermostats 6
- E. Start-up 6
- F. Maintenance 7
- G. Spare Parts 7

A. PRE-INSTALLATION

- Initially, inspect the heater for possible damage due to shipping and handling. Claims for shipping damages shall be placed with the carrier.
- Check the heater nameplate to ensure that the heater area classification and temperature code are suitable for the hazardous area classification. For details of hazardous locations with potential for explosion, refer to the local or national electrical code.
- Check to ensure that the heater voltage is the same as the supply voltage.
- The heater must be installed by qualified personnel in strict compliance with national and local electrical codes.



WARNING. Do not connect the heater to an electrical supply voltage other than that shown on the product nameplate.

B. INSTALLATION

B.1 General Requirements

- Norseman™ XB CE heaters are approved for wall or floor mounting with the terminal housing at the bottom. Ensure that the wall is sufficiently strong to support the heater which, depending on the model, could weigh up to 45 kg (100 lbs). Otherwise use the brackets supplied to stand the heater on the floor.
- Do not recess the Norseman™ XB CE heater into the wall. Use of the brackets supplied will ensure that the minimum spacing from the wall of 95 mm (3.75") is maintained.
- If more than one heater is being installed, maintain at least 76 mm (3") between adjacent heater extrusions. NEVER INSTALL ONE HEATER ABOVE THE OTHER.
- The Norseman™ XB CE heater relies on natural convection and "black heat" radiation to transfer heat to the surroundings. Try to maintain a 300 mm (12") clearance and NEVER LESS THAN 150 mm (6") clearance in front of and at the sides of the heater.

NOTE: Use guard rails in front of the heater if there is a possibility that moving equipment could come in contact with the heater.

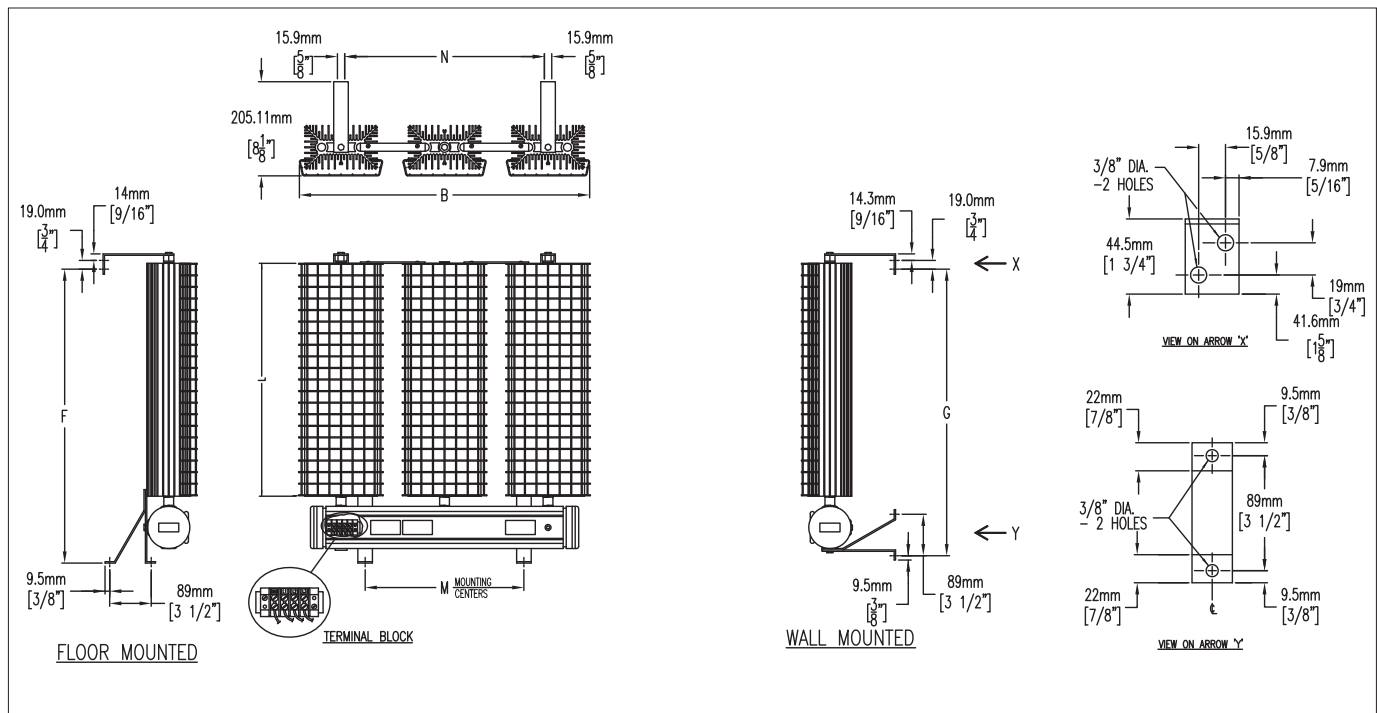


Figure 1 – Mounting Diagram

Table 1 – CE Heater Dimensions

Unit	B		F		G		M		N		L	
	mm	in	mm	in	in	mm	in	mm	in	mm	in	mm
XB1	184	7.250	432	17.000	416	16.375	-	-	-	-	300	11.875
			600	23.625	584	23.000	181	7.125	210	8.250	471	18.500
XB2	410	16.125	772	30.375	756	29.750					640	15.250
			600	23.625	584	23.000					471	18.500
XB3	635	25.000	772	30.375	756	29.750	349	13.750	435	17.125	640	15.250
			600	23.625	584	23.000						471

B.2 Wall Mounting

1. Install heater with the supplied hardware in accordance with the figures and instructions below.

Step 1: Secure wall and stabilizing brackets to mounting surface (Figure 2, page 4).

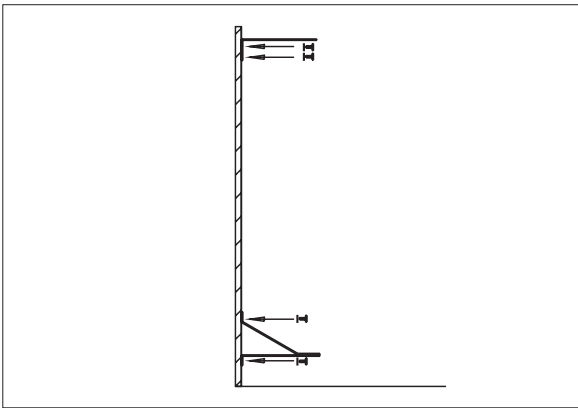


Figure 2 – Install mounting bracket

Step 2: Position heater face down on floor with terminal box towards mounting brackets. Angle heater such that the terminal box rests on bottom of wall bracket. Lift top of heater and align with top stabilizing brackets.

Secure with supplied M6 x 1.0 hex bolts and lock washers (Figure 3, page 4).

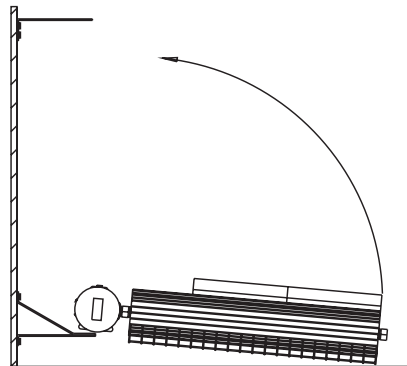


Figure 3 – Attach heater to floor and wall brackets

Step 3: Secure bottom of heater to wall mounting brackets with supplied M6 x 1.0 hex bolts and lock washers (Figure 4).

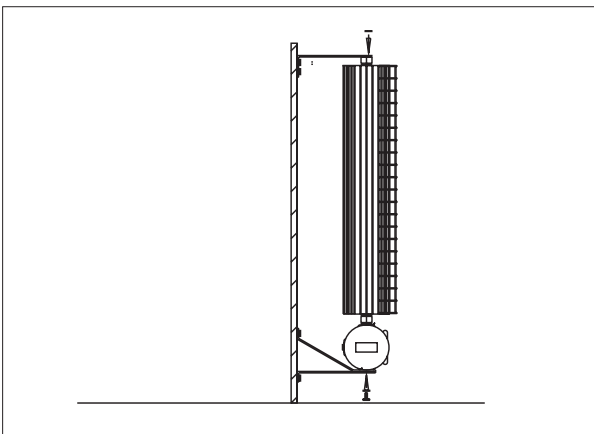


Figure 4 – Attach heater to mounting brackets

B.3 Floor Mounting

Step 1: Position heater face down on the floor with terminal box towards the wall (Figure 5, page 4).

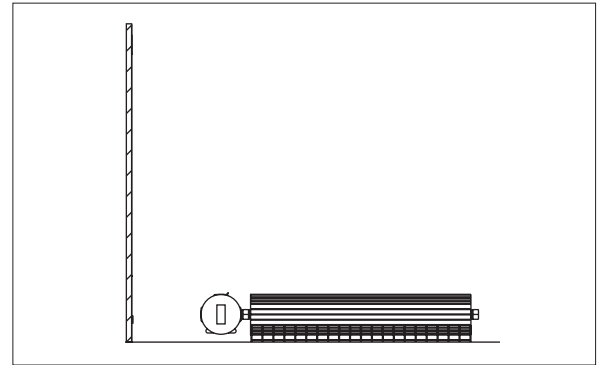


Figure 5 – Floor mounting diagram

Step 2: Fasten top stabilizing bracket(s) and floor mounting bracket(s) to the unit. Floor mounting brackets may be mounted in one of three orientations (Figure 6, page 4).

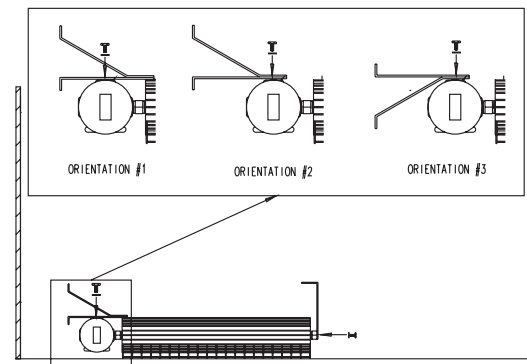


Figure 6 – Install mounting bracket to heater

Step 3: Lift top of unit and position heater vertically against the wall. Secure stabilizing and floor mounting brackets to the mounting surfaces (Figure 7, page 4).

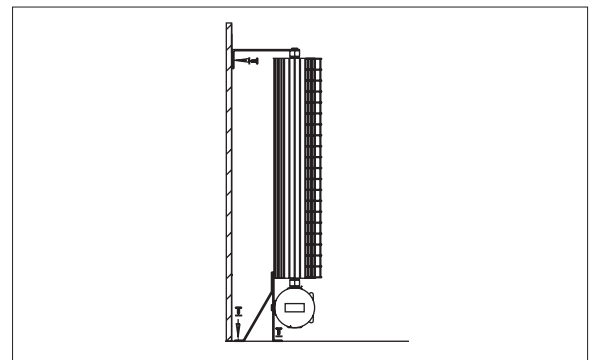


Figure 7 – Attach heater to floor and wall



WARNING. Never install one heater above the other.

To ensure safe operation, heater must be installed, as shown in Figure 4 and Figure 7.



WARNING. Improper orientation of the heater could affect the safe and reliable operation of the heater.

B.4 Thermostat Installation

1. FACTORY INSTALLED - For shipping purposes the thermostat well (located at back of unit) has not been installed.
2. Position thermostat bulb perpendicular to housing being careful not to kink the capillary. Slide well over bulb and screw into place. Make sure that a minimum 5 threads engagement is achieved

FIELD INSTALLED KIT - Most Norseman™ XB CE units are suitable for field installation of a thermostat kit

with the operator shaft hole on the front side of the unit and plugged with a socket head cap screw. If a thermostat is to be field installed, check to verify that you have been supplied with the correct thermostat kit. Single phase heaters use a single pole thermostat as supplied in kit number XTKW04481CE. Three phase heaters use a double pole thermostat as supplied in kit number XTKW04483CE. Follow the instructions supplied with the kit.

C. WIRING

1. Whenever hazardous materials are present, ensure that the terminal housing covers are secure before powering the heater.
2. Use supply wires suitable for 105°C (221°F).
3. Use local approved flameproof entry devices as required by the code for hazardous locations.

NOTE: The reference pressures are as follows:

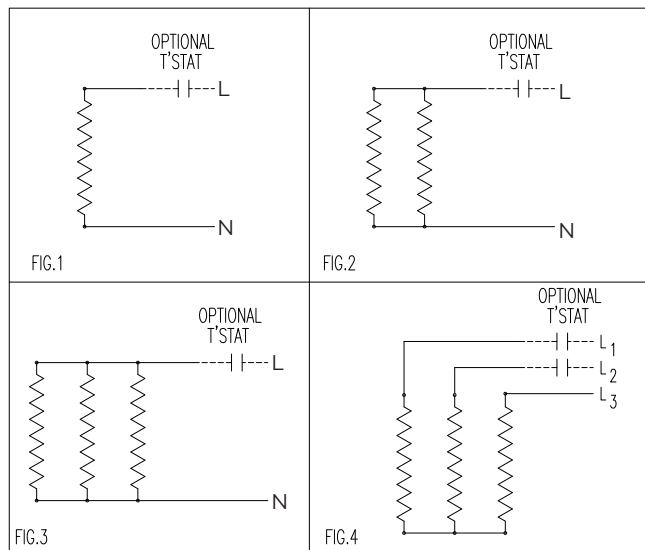
XB1 : 11.1 BAR

XB2 & XB3 : 52.8 BAR

Use only flameproof entry devices suitable for reference pressure.

4. To provide maximum protection each Norseman™ XB CE heater should be fused individually using the nearest standard fuse size which is not less than 120% of the expected line current.
5. All heaters come factory prewired and ready for direct connection to the power supply leads.
 - 5.1 Connect the power leads to terminals marked L and N for single phase and L1, L2 & L3 for three phase heaters as shown in Figure 8.
 - 5.2 Connect the ground wire to the ground connection located in the heater terminal housing.

Figure 8 – Wiring diagrams



D. REPLACEMENT THERMOSTATS

Part No.	Wiring Diagram (Figure 8)	
	1Ø	3Ø
XB3-6300T3	Fig. 3	Fig 4
XB3-6276T3		
XB3-6252T3		
XB3-4250T3		
XB3-4230T3		
XB3-6225T3B		
XB3-4210T3		
XB3-6207T3B		
XB3-6189T3B		
XB3-4150T3B		
XB3-4138T3B		
XB3-4126T3B		
XB2-4100T3B	Fig. 2	-
XB2-4092T3B		
XB2-4084T3B		
XB2-6085T4A		
XB2-6078T4A		
XB2-6071T4A		
XB1-3047T3B	Fig. 1	-
XB1-3043T3B		
XB1-3040T3B		



WARNING. Whenever hazardous materials are present, ensure that the terminal housing covers, plug, etc., are secured (but not over-tightened) before energizing the heater.



CAUTION. All circuits must be in the open position before removing junction or terminal box covers.



CAUTION. Use supply wires suitable for 105°C (221°F). Supply wires are to be fused with appropriately sized HRC fusing.



CAUTION. Use approved conduit and conduit seals as required by hazardous location standards.



CAUTION. Ensure that no power is connected to the equipment prior to making any connections.

E. START-UP

For heaters with a tamper-proof thermostat, to set temperature, disconnect the power and remove the socket head cap screw. Set the thermostat to the desired room temperature with a screw driver and replace cap screw.

1. For heaters with an externally adjustable thermostat, set thermostat to desired temperature by adjusting the dial.

NOTE: The thermostat temperature range is -18° to 40°C (0° to 100°F) with an operating differential of 3 to 4°C (5 to 7°F).

2. Install the terminal box cover and tighten securely.
3. Check to ensure that all plugs, screws, and covers are securely in place.
4. Check associated electrical equipment.
5. Check that all wall/floor mounting bracket connections are tight.
6. Turn on the supply power.



WARNING. To prevent unsafe operation of the heater do not exceed the maximum allowable ambient operating temperature of 40°C (104°F)

F. MAINTENANCE

1. Periodically inspect the heater installation to ensure that all connections, fittings, plugs, screws, covers, etc. are tight and free of corrosion.
2. Check the extrusions of the heater for dust and debris. A blast of compressed air is recommended for cleaning the heat sink. If air is not available, disconnect the power supply to the heater and when cool, wipe it down with a damp cloth or soft brush. Remove wire guards prior to cleaning.



CAUTION. Disconnect power from the heater before performing any maintenance. Failure to do so can result in property damage, injury or death.



CAUTION. Do not use water to clean heater.

3. The heat sink is anodized to ensure that the maximum area code temperature is not exceeded. After an extended period of use or in extremely harsh environments the anodization may wear away leaving bare surfaces. For continued safe operation, these surfaces must be repainted.
4. Except for thermostat replacement, field repair of the heater shall not be normally undertaken. In the event that the heater must be repaired, contact the factory for a return authorization number.

G. SPARE PARTS

Table 2 – Replacement Thermostats

Voltage	Thermostat Part No.
One Phase Heaters	XTKW04481CE
Three Phase Heaters	XTKW04483CE



Directive 2003/108/EC amendment to the Directive 2002/96/EC of the European Parliament and of the Council on Waste Electrical and Electronic Equipment (WEEE).

1. The equipment that you bought is WEEE marked and has required the extraction and use of natural resources for its production. It may contain substances that could impact health and the environment. As such it is a requirement not to dispose of WEEE marked equipment as unsorted municipal waste and to collect such WEEE marked equipment separately.
2. In order to avoid the dissemination of those substances in our environment and to diminish the pressure on natural resources, we encourage you to use the appropriate take-back systems in your area. Those systems will reuse or recycle most if not all of the materials of your equipment in a sound way.
3. The crossed-out wheeled bin symbol on this equipment invites you to use those systems.
4. If you need more information on collection, reuse and recycling systems in your area, please contact your local or regional waste management administration.



PLEASE ADHERE TO INSTRUCTIONS IN THIS MANUAL

Failure to do so may be dangerous and may void certain provisions of your warranty.

For further assistance, please call 24hr hotline: 1.800.661.8529 (U.S.A. and Canada)
Please have model and serial numbers available before calling.

WARRANTY: Under normal use the Company warrants to the purchaser that defects in material or workmanship will be repaired or replaced without charge for a period of 18 months from date of shipment, or 12 months from the start date of operation, whichever expires first. Any claim for warranty must be reported to the sales office where the product was purchased for authorized repair or replacement within the terms of this warranty.

Subject to State or Provincial law to the contrary, the Company will not be responsible for any expense for installation, removal from service, transportation, or damages of any type whatsoever, including damages arising from lack of use, business interruptions, or incidental or consequential damages.

The Company cannot anticipate or control the conditions of product usage and therefore accepts no responsibility for the safe application and suitability of its products when used alone or in combination with other products. Tests for the safe application and suitability of the products are the sole responsibility of the user.

This warranty will be void if, in the judgment of the Company, the damage, failure or defect is the result of:

- Vibration, radiation, erosion, corrosion, process contamination, abnormal process conditions, temperature and pressures, unusual surges or pulsation, fouling, ordinary wear and tear, lack of maintenance, incorrectly applied utilities such as voltage, air, gas, water, and others or any combination of the aforementioned causes not specifically allowed for in the design conditions or,
- Any act or omission by the Purchaser, its agents, servants or independent contractors which for greater certainty, but not so as to limit the generality of the foregoing, includes physical, chemical or mechanical abuse, accident, improper installation of the product, improper storage and handling of the product, improper application or the misalignment of parts.

No warranty applies to paint finishes except for manufacturing defects apparent within 30 days from the date of installation.

The Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the product(s).

The Purchaser agrees that all warranty work required after the initial commissioning of the product will be provided only if the Company has been paid by the Purchaser in full accordance with the terms and conditions of the contract.

The Purchaser agrees that the Company makes no warranty or guarantee, express, implied or statutory, (including any warranty of merchantability or warranty of fitness for a particular purpose) written or oral, of the Article or incidental labour, except as is expressed or contained in the agreement herein.

LIABILITY: Technical data contained in the catalog or on the website is subject to change without notice. The Company reserves the right to make dimensional and other design changes as required. The Purchaser acknowledges the Company shall not be obligated to modify those articles manufactured before the formulation of the changes in design or improvements of the products by the Company.

The Company shall not be liable to compensate or indemnify the Purchaser, end user or any other party against any actions, claims, liabilities, injury, loss, loss of use, loss of business, damages, indirect or consequential damages, demands, penalties, fines, expenses (including legal expenses), costs, obligations and causes of action of any kind arising wholly or partly from negligence or omission of the user or the misuse, incorrect application, unsafe application, incorrect storage and handling, incorrect installation, lack of maintenance, improper maintenance or improper operation of products furnished by the Company.

Visit www.thermon.com to contact a Thermon representative near you.

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