



# **R500E**

# **MANUAL**

**(Software Version 2.0)**

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Dear 4B Customer:

Congratulations on your purchase. 4B appreciates your business and is pleased you have chosen our products to meet your needs.

Please read in its entirety and understand the literature accompanying the product before you place the product into service. Please read the safety precautions carefully before operating the product. With each product you purchase from 4B, there are some basic but important safety considerations you must follow to be sure your purchase is permitted to perform its design function and operate properly and safely, giving you many years of reliable service. Please read and understand the Customer Safety Responsibilities listed below. Failure to follow this safety directive and the Operation Manuals and other material furnished or referenced, may result in serious injury or death.

### ***SAFETY NOTICE TO OUR CUSTOMERS***

- A. In order to maximize efficiency and safety, selecting the right equipment for each operation is vital. The proper installation of the equipment, and regular maintenance and inspection is equally important in continuing the proper operation and safety of the product. The proper installation and maintenance of all our products is the responsibility of the user unless you have asked 4B to perform these tasks.
- B. All installation and wiring must be in accordance with Local and National Electrical Codes and other standards applicable to your industry. (Please see the article "Hazard Monitoring Equipment Selection, Installation and Maintenance" at [www.go4b.com](http://www.go4b.com).) The installation of the wiring should be undertaken by an experienced and qualified professional electrician. Failure to correctly wire any product and/or machinery can result in the product or machine failing to operate as intended, and can defeat its design function.
- C. Periodic inspection by a qualified person will help assure your 4B product is performing properly. 4B recommends a documented inspection at least annually and more frequently under high use conditions.
- D. Please see the last page of this manual for all warranty information regarding this product.

### ***CUSTOMER SAFETY RESPONSIBILITIES***

#### **1. READ ALL LITERATURE PROVIDED WITH YOUR PRODUCT**

Please read all user, instruction and safety manuals to ensure that you understand your product operation and are able to safely and effectively use this product.

#### **2. YOU BEST UNDERSTAND YOUR NEEDS**

Every customer and operation is unique, and only you best know the specific needs and capabilities of your operation. Please call the 24-hour hotline at 309-698-5611 for assistance with any questions about the performance of products purchased from 4B. 4B is happy to discuss product performance with you at any time.

### **3. SELECT A QUALIFIED AND COMPETENT INSTALLER**

Correct installation of the product is important for safety and performance. If you have not asked 4B to perform the installation of the unit on your behalf, it is critical for the safety of your operation and those who may perform work on your operation that you select a qualified and competent electrical installer to undertake the installation. The product must be installed properly to perform its designed functions. The installer should be qualified, trained, and competent to perform the installation in accordance with Local and National Electrical Codes, all relevant OSHA Regulations, as well as any of your own standards and preventive maintenance requirements, and other product installation information supplied with the product. You should be prepared to provide the installer with all necessary installation information to assist in the installation.

### **4. ESTABLISH AND FOLLOW A REGULAR MAINTENANCE AND INSPECTION SCHEDULE FOR YOUR 4B PRODUCTS**

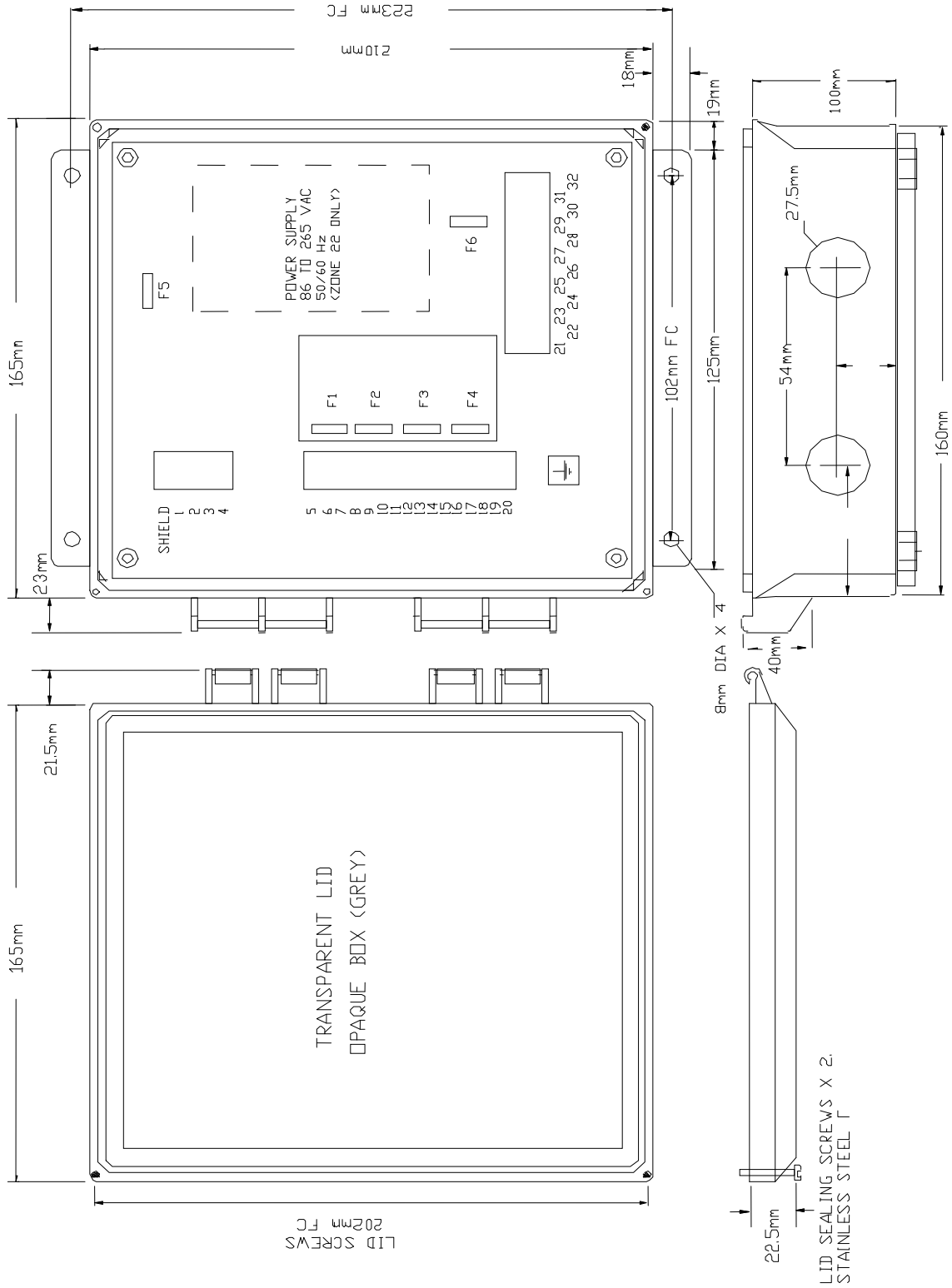
You should develop a proper maintenance and inspection program to confirm that your system is in good working order at all times. You will be in the best position to determine the appropriate frequency for inspection. Many different factors known to the user will assist you in deciding the frequency of inspection. These factors may include but are not limited to weather conditions; construction work at the facility; hours of operation; animal or insect infestation; and the real-world experience of knowing how your employees perform their jobs. The personnel or person you select to install, operate, maintain, inspect or perform any work whatsoever, should be trained and qualified to perform these important functions. Complete and accurate records of the maintenance and inspection process should be created and retained by you at all times.

### **5. RETAIN AND REFER TO THE OPERATION MANUAL FOR 4B'S SUGGESTED MAINTENANCE AND INSPECTION RECOMMENDATIONS**

As all operations are different, please understand that your specific operation may require additional adjustments in the maintenance and inspection process essential to permit the monitoring device to perform its intended function. Retain the Operation Manual and other important maintenance and service documents provided by 4B and have them readily available for people servicing your 4B equipment. Should you have any questions, please call the 4B location who supplied the product or the 24-hour hotline number in the USA -309-698-5611.

### **6. SERVICE REQUEST AND ONLINE PRODUCT REGISTRATION**

If you have questions or comments about the operation of your unit or require the unit to be serviced please contact the 4B location who supplied the product or send your request via fax (309-698-5615), email (4b-usa@go4b.com), or call us via our 24-hour hotline number in the USA - 309-698-5611. Please have available product part numbers, serial numbers, and approximate date of installation. In order to assist you, after the product has been placed into service, complete the Online Product Registration section which is accessed via our website [www.go4b.com](http://www.go4b.com)



# Approvals

## **Certification Markings:**

CSA CLII DIV1 GP's E,F & G (CANADA)  
CSA CLII DIV2 GP's F & G (USA)

Power dissipation in Watts  
ATEX category 1D : 6 Watts  
ATEX category 2D : 12 Watts

## **To Open the Lid:**

1. Disconnect power (isolate ALL circuits)
2. Untighten the lid securing screws
3. Carefully open the lid ensuring that the gasket is not damaged and remains in place

## **To Close the Lid:**

1. Check that the gasket is correctly fitted into the box groove and is undamaged.
2. Tighten the lid screws.
3. Check that the lid and box are correctly mated.

## **Special conditions for safe use:**

**WARNING: Static Hazard - Clean only with a damp cloth.**

# R500 ELITE ALARM RELAY INTERFACE.

## INTRODUCTION

The R500 ELITE is a microprocessor-controlled unit, which accepts signals from the HOTBUS sensor monitoring system, and is able to cause alarm or shutdown of equipment when hot bearings or other programmed sensors are detected. The control unit is housed in a self-contained wall-mounting enclosure. The R500 ELITE will operate from 24 VDC or 100 – 240 VAC dependent upon the model.

## 1. SPECIFICATION

### 1.1 Optional Relay Interface.

The optional R5004V4C or R5004V46C relay interface unit is equipped with 16 alarm zone relays. Each relay provides a single pole changeover contact rated 250V AC at 5Amp. Each relay is associated with an alarm zone. The T500Elite temperature controller can be programmed to operate with different alarm zones with any number of sensors in an alarm zone. When a sensor exceeds its programmed alarm temperature, the relay associated with that sensor will operate. One sensor can be associated with a number of alarm zones providing a number of relay outputs at different levels of temperature for the same sensor.

Electrical Supply	R5004V46C	-	100 to 240 VAC +/- 10% 50/60Hz
	R5004V4C	-	24 VDC +/- 10%
Power Consumption		-	12 WATTS Maximum
Alarm Relay Contacts		-	1 Pole change over 5A@ 250VAC x 16 (resistive rating only)
Terminals		-	Power 4mm <sup>2</sup> 14 AWG max Relay 2.5mm <sup>2</sup> 16 AWG max PLUG IN
Enclosure Protection		-	NEMA12,IP55,Class II DIVI,E,F,G
Height		-	9.7", 246mm
Width		-	7.4", 188mm
Depth		-	4", 102mm
Fixing Centres		-	8.75" high x 4" wide, 222mm x 102mm
Cable Entry		-	2 Holes 11/8" DIA, 28mm, 3/4" CONDUIT
Weight		-	3lbs, 1.3Kg
Status Indicator Lamps		-	POWER
Unit Address range		-	0 – 7 (Factory Default = 0)

Each relay interface is fitted with a unit address selector switch. This switch allow up to 8 unit addresses although the actual number available for use is dependant upon the system in use. Please refer to the controller manual for further detail. Address '0' provides relays in the range of 1 to 16 and address '1' provides relays in the range 17 – 32 and this increases to address 7 which provide relays in the range 112 - 128. The address must be set BEFORE power is applied. The relay interface units are shipped from the factory set to address '0'. If you intend to use more than 1 relay unit you must set different addresses for each R500 interface. Additional relay interface units may be connected to

the HOTBUS communications network using the same unit address. This will duplicate exactly the functions of the first unit. This can be useful when local and remote alarm indication may be needed.

## 2 INSTALLATION INSTRUCTIONS

### 2.1 The Control Unit

The Control Unit box should be installed in a suitable control or starter switch room and mounted at an eye level position so that the power on light can be readily seen. The box should have sufficient space to open the lid for wiring. Refer to drawing 'D' for a general arrangement of the control scheme.



**The Control Unit is susceptible to static voltage. Connection of a clean ground to terminal 29 is essential for optimum performance. Prior to this connection, static handling precautions should be taken.**

## 3 ELECTRICAL WIRING

Refer to Drawings E, F & G

Connect the supply in accordance with the referred drawings. If flexible conduit is to be used ensure the correct glands are also used. Connect the communications/power cable to the 5-way plug connector. The cable is intended to be daisy chain connected as described in Drawing 'H'.

When installing the equipment in an area which is likely to be hazardous from Ignitable Dusts, use liquid tight conduit and fittings and follow all local codes.



## 4 CHECKLIST

### For problems after initial start-up

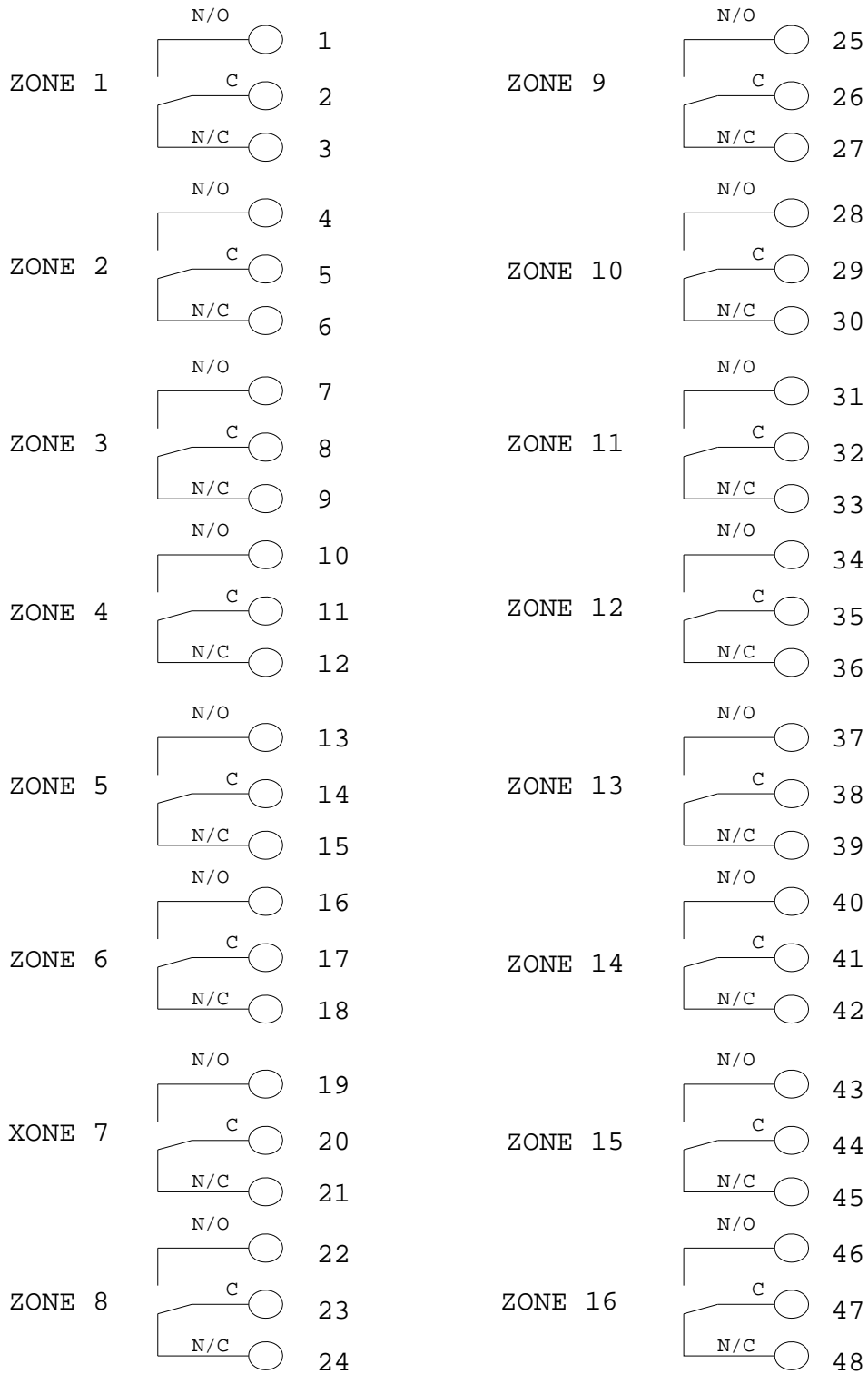
1. Is there excessive interference on the electrical power supply? Power conditioners and surge (spike) suppressor may have to be fitted.
2. Has the communications cable been routed away from power cables?
3. Is the R500 Elite circuit properly grounded?
4. Is the Micro-processor control unit overheating, if so mount in temperature-controlled environment of maximum temperature 104°F (40°C).
5. Check that high powered 'Walkie Talkie' radios are not operated immediately near the R500 Elite control unit as this will affect the performance.
6. Check that the communications/power cable is connected correctly and in accordance with DRG 'D' and 'H'.
7. Have you set the R500 address switch correctly?

**5. CONTACT INFORMATION**



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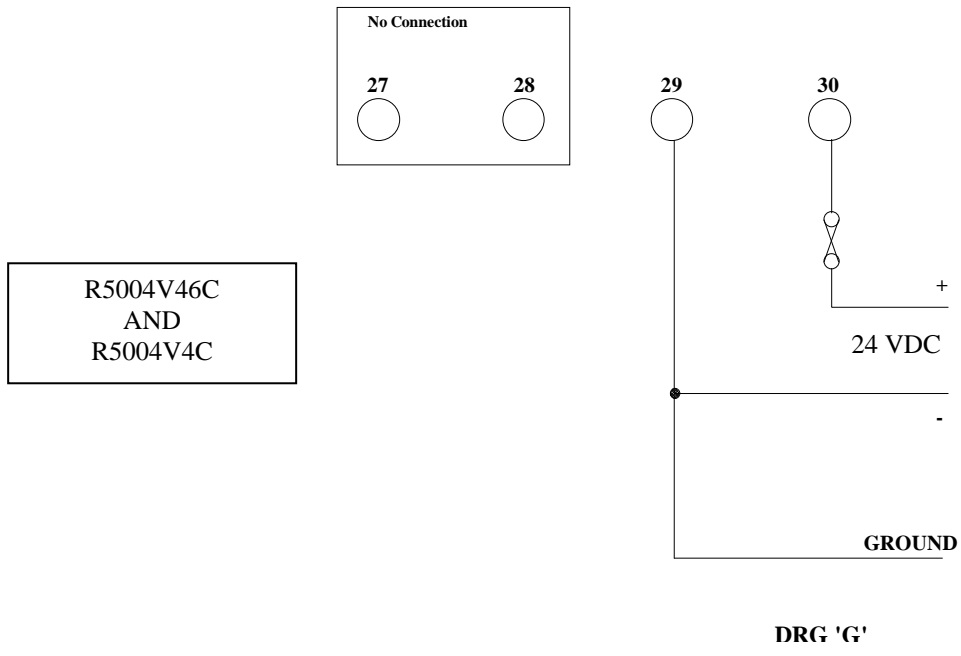
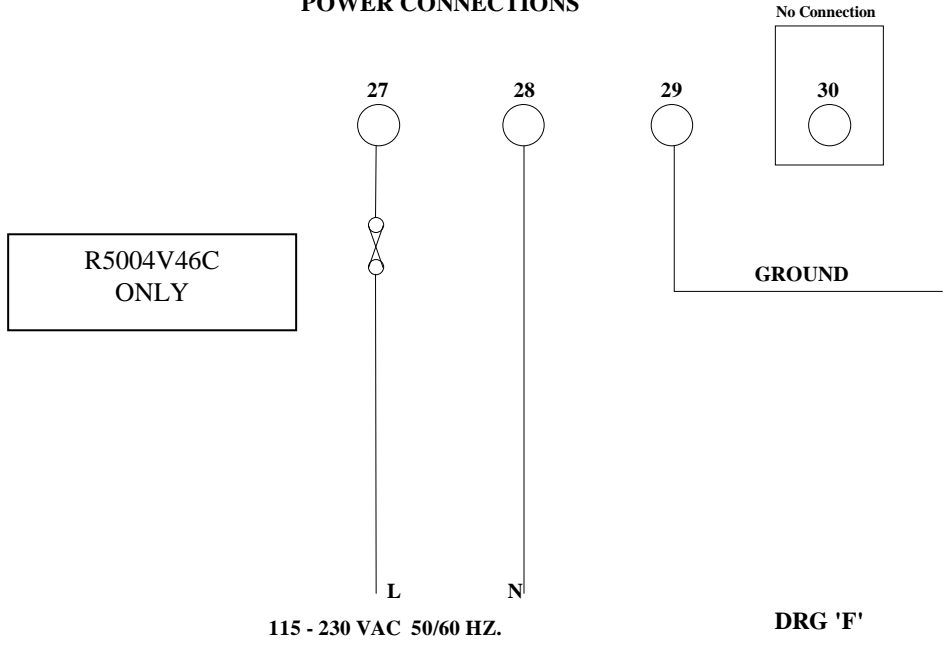
R500 RELAY INTERFACE.  
RELAY CONNECTION DETAILS.



CONTACTS RATED AT 5A 240v AC

DRG'E'

**R500 RELAY INTERFACE  
POWER CONNECTIONS**



## **WARRANTY INFORMATION**

### **1. EXCLUSIVE WRITTEN LIMITED WARRANTY**

ALL PRODUCTS SOLD ARE WARRANTED BY THE COMPANY (4B COMPONENTS LIMITED, (4B) BRAIME ELEVATOR COMPONENTS LIMITED, AND (4B) S.E.T.E.M. Sarl) HEREIN AFTER REFERRED TO AS 4B TO THE ORIGINAL PURCHASER AGAINST DEFECTS IN WORKMANSHIP OR MATERIALS UNDER NORMAL USE FOR ONE (1) YEAR AFTER DATE OF PURCHASE FROM 4B. ANY PRODUCT DETERMINED BY 4B AT ITS SOLE DISCRETION TO BE DEFECTIVE IN MATERIAL OR WORKMANSHIP AND RETURNED TO A 4B BRANCH OR AUTHORIZED SERVICE LOCATION, AS 4B DESIGNATES, SHIPPING COSTS PREPAID, WILL BE, AS THE EXCLUSIVE REMEDY, REPAIRED OR REPLACED AT 4B'S OPTION.

### **2. DISCLAIMER OF IMPLIED WARRANTY**

NO WARRANTY OR AFFIRMATION OF FACT, EXPRESSED OR IMPLIED, OTHER THAN AS SET FORTH IN THE EXCLUSIVE WRITTEN LIMITED WARRANTY STATEMENT ABOVE IS MADE OR AUTHORIZED BY 4B. 4B SPECIFICALLY DISCLAIMS ANY LIABILITY FOR PRODUCT DEFECT CLAIMS THAT ARE DUE TO PRODUCT MISUSE, ABUSE OR MISAPPLICATIONS, AS AUTHORIZED BY LAW, 4B SPECIFICALLY DISCLAIMS ALL WARRANTIES THAT THE PRODUCT IS FIT OR MERCHANTABLE FOR A PARTICULAR PURPOSE.

### **3. NO WARRANTY "BY SAMPLE OR EXAMPLE"**

ALTHOUGH 4B HAS USED REASONABLE EFFORTS TO ACCURATELY ILLUSTRATE AND DESCRIBE THE PRODUCTS IN ITS CATALOGS, LITERATURE, AND WEBSITES, SUCH ILLUSTRATIONS AND DESCRIPTIONS ARE FOR THE SOLE PURPOSE OF PRODUCT IDENTIFICATION AND DO NOT EXPRESS OR IMPLY A WARRANTY AFFIRMATION OF FACT, OF ANY KIND OR A WARRANTY OR AFFIRMATION OF FACT THAT THE PRODUCTS WILL CONFORM TO THEIR RESPECTIVE ILLUSTRATIONS OR DESCRIPTIONS. 4B EXPRESSLY DISCLAIMS ANY WARRANTY OR AFFIRMATION OF FACT, EXPRESSED OR IMPLIED, OTHER THAN AS SET FORTH IN THE EXCLUSIVE WRITTEN LIMITED WARRANTY STATEMENT ABOVE, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

### **4. LIMITATION OF DAMAGES**

ANY LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY, OR PUNITIVE DAMAGES, OR FOR LOSS OF PROFIT WHETHER DIRECT OR INDIRECT, IS EXPRESSLY DISCLAIMED.