



# **R500E**

# **MANUAL**

**(Software Version 2.0)**

**Rev.2.1 – 25-Jul-2006**

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# **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 R5004V4CAI or R5004V46CAI 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	R5004V46CAI –	100 to 240 VAC +/- 10% 50/60Hz
	R5004V4CAI -	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 1 1/8” 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.

### Certification

This unit is tested and certified under the following standards:



Class II Division 1 Groups E, F & G (Canada Only)  
Class II Division 2 Groups F & G (USA Only)



EX IID T80°C CE1180 – Baseefa04ATEX0131X



IECEX BAS 05.0026X - DIP DIP A21 T80°C

## 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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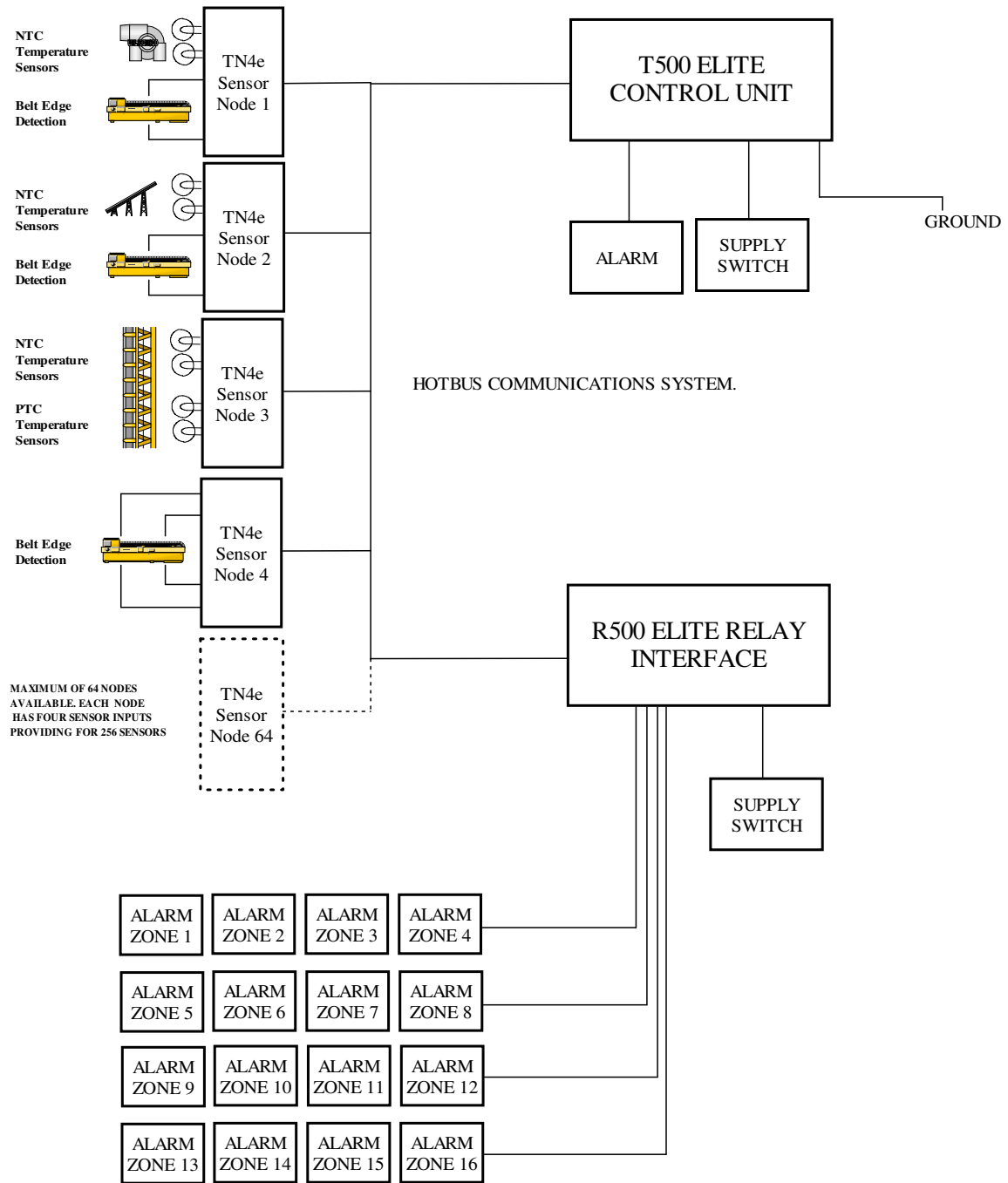
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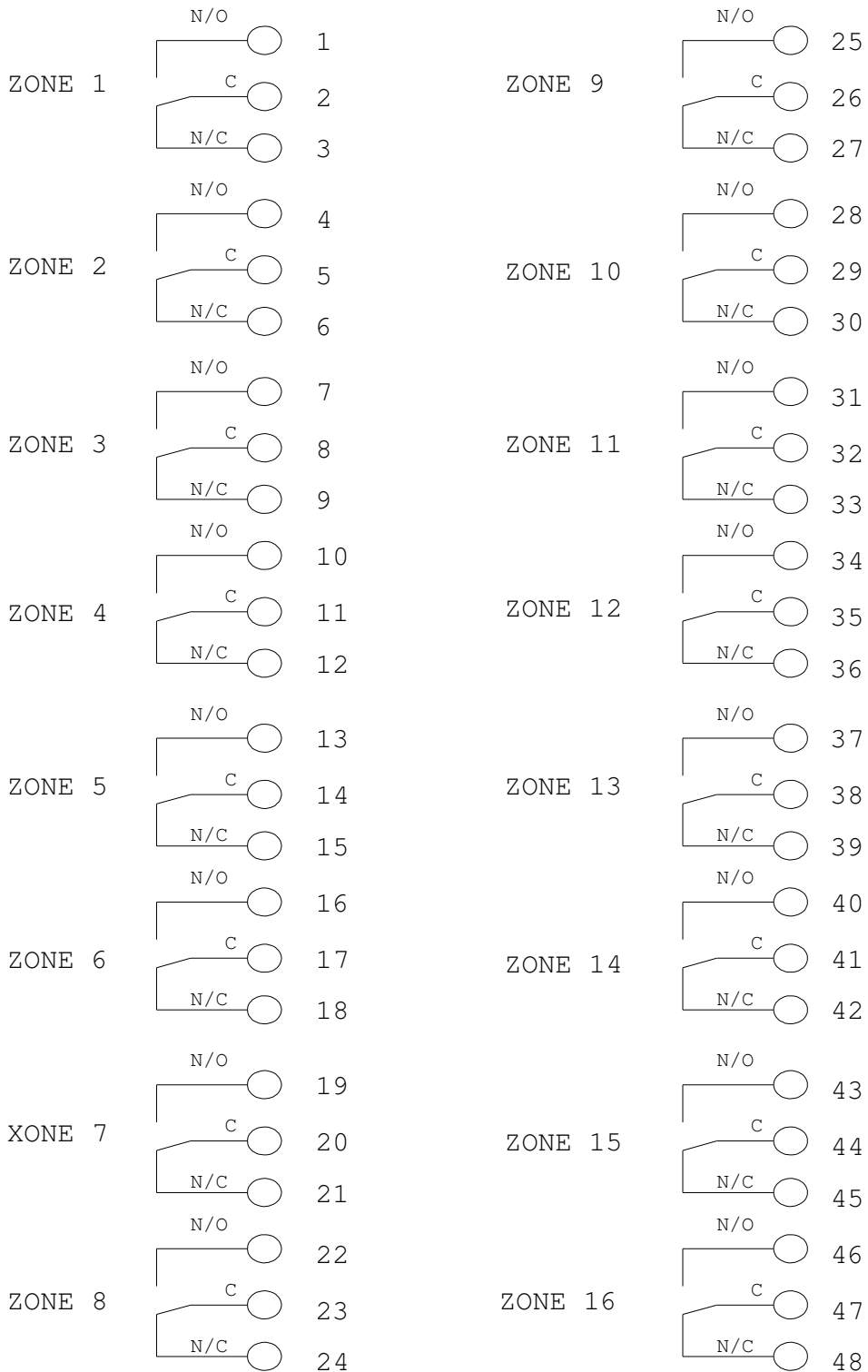
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BLOCK DIAGRAM AND SENSOR WIRING

DRG. 'D'

R500 RELAY INTERFACE.  
RELAY CONNECTION DETAILS.



CONTACTS RATED AT 5A 240v AC

DRG'E'

**R500 RELAY INTERFACE  
POWER CONNECTIONS**

