Temperature Monitoring Alarm with Voice Alert System

Refrigerator / Freezer Guard

RF-Guard

Model: VM500-5SGP

Model: VM500-5SGP-DCPE

PROTECT YOUR GOODS & PROPERTY
SAVE MONEY & TIME

Key Points

1. Easy to use refrigerator alarm and freezer alarm system
2. Monitor the temperature of up to eight (8) refrigerators or freezers
3. Receive telephone voice message alert calls
4. Programmable time delay for each sensor to minimize "nuisance calls"
5. Refrigerator Door Alarm
6. Power Failure Alarm
7. Data Logging Capabilities (RS232/USB or Ethernet Version)

BE INFORMED early – Possible Refrigeration failure, Temperature failure, Doors not closed, Power failure and you don't have to start a new business day with no goods to sell and throw away Hundreds and Thousands dollars of perishable and temperature sensitive products.

Product Description

- **You need to safeguard the temperature sensitive contents of your refrigerators and freezers.**

- **You must be notified immediately, day or night if a refrigerator or freezer malfunctions.**

- **The RF- Guard is the perfect solution!**

- **The RF- Guard monitors temperature, doors, and power.**

- **The RF- Guard will call and alert you if the temperature goes out of limits, a door is left open, or the power fails.**

- **The RF- Guard utilizes a high quality natural sounding voice to report problems with your refrigerators or freezers**

It's a Talking Box

Product Features

- Monitor up to eight (08) refrigerators and freezers (-100°C to +35°C)

- Program high and low temperature limits and an out of limits time delay for each sensor.

- The Door Open Input prevents accidental temperature changes by generating an alarm if a refrigerator or freezer door has been left open.

- Program the RF-Guard easily and conveniently over the telephone following voice instructions. Programming is password protected.

- The buzzer and alarm relay output are used to alert onsite staff when a problem occurs so they can take immediate action.

- View real time refrigerator/freezer status on the LCD display.

- The four hour rechargeable battery backup allows the temperature to be monitored during a power loss as standard features.

- No need to install additional phone lines, the RF-Guard can share the phone line with faxes and other devices.
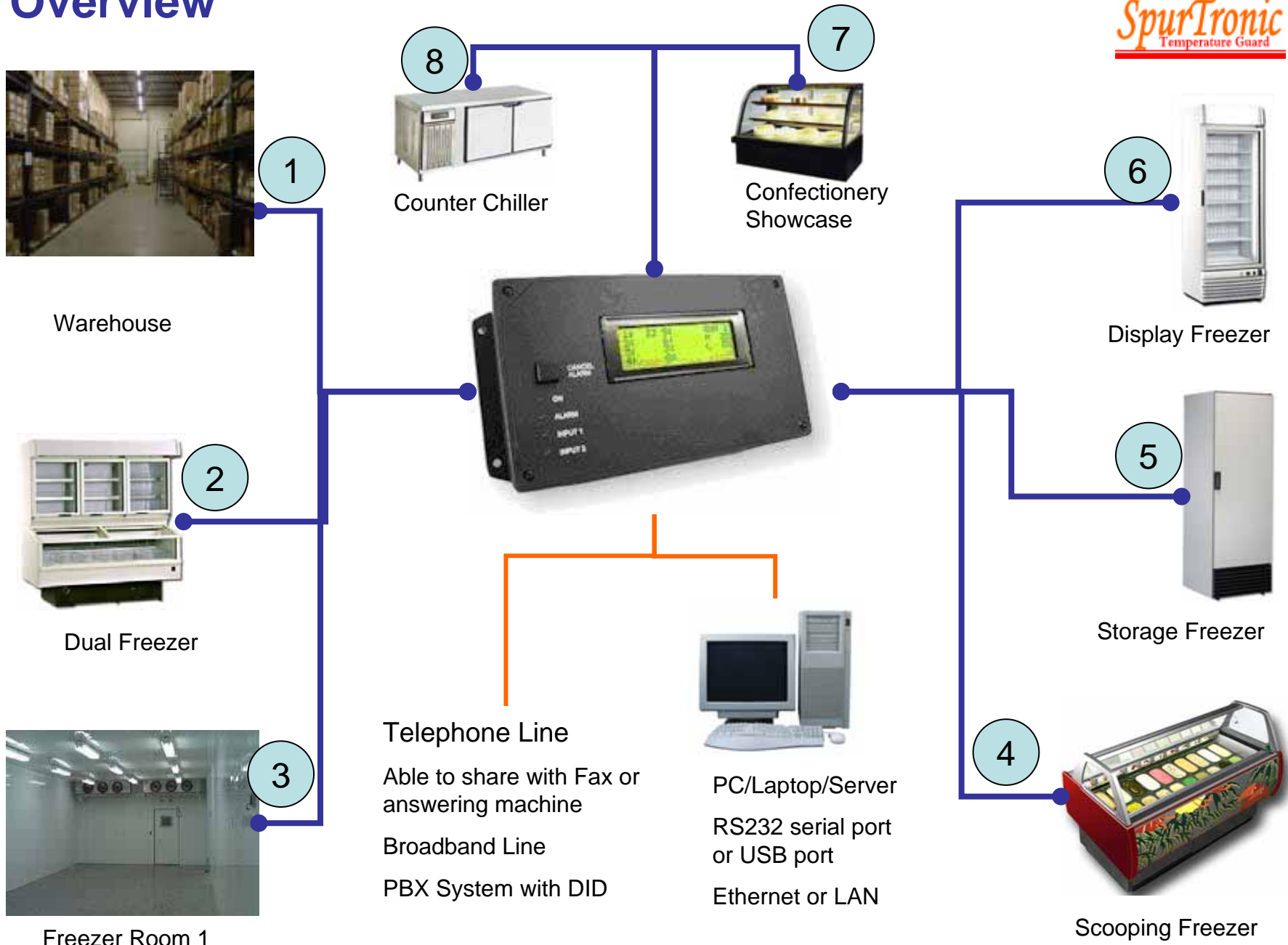
Product Features

- Maintain temperature records in electronic format (.CSV) with the Data Collection Package.

- The programmable Callout Time Delay gives local personnel time to react before alarm notification phone calls are made.

- Receive a phone call or pager message if the temperature goes out of limits, a door is left open or if there is a power failure.

- The recordable Unit Identification Message quickly identifies the location of the RF- Guard.

- The recordable Sensor Identification Message allows personnel to easily locate the problem refrigerator or freezer.

- The Alarm Reminder Time Delay repeats the alarm notification phone calls if a problem still exists after this programmable time has expired.

- The Callout Disable input can be connected to a "time of day clock" to prevent unnecessary calls during business hours.

Disclaimer Notice

Product Features

Maximum Fridges/Freezers Cold Rooms	Battery Backup	Power Alarm	Door Alarm	Telephone Mobile phone VM Alert Calls
8 Equipment Group of 8 1 sub-station Ethernet Version Recommended	Yes (Rechargeable) Upgrade to 20 hours 30 hours	Yes	Yes Security Yes	Yes

Overview

SpurTronic
Temperature Guard

Warehouse

1

2

3

Dual Freezer

Freezer Room 1

8
Counter Chiller

7
Confectionery
Showcase

6
Display Freezer

5
Storage Freezer

4
Scooping Freezer

Telephone Line

Able to share with Fax or
answering machine

Broadband Line

PBX System with DID

PC/Laptop/Server

RS232 serial port
or USB port

Ethernet or LAN

Overview

Temperature Data Logging

for HACCP / ISO / FDA records

RS232/USB to PC or

Ethernet 10/100 networking

**RF-Guard
Refrigerator / Freezer**
by

SpurTronic
Temperature Guard

LCD Display

1: -18	5: -28	SNR 4
2: -22	6: -23	H 3
3: -19	7: 3	L -12
4: **- 2 >**	8: 1	**22:10**

Alarm beep for 2 min

LAN

RS232

OR

Portable RS232 Recorder

Ring…Ring….
Warning "Scooping Freezer"
Temperature is -2 °C and
have been out of limit for 22 min
Enter your Pin Number

Voice Call Alert

Action

C1

C2

C3
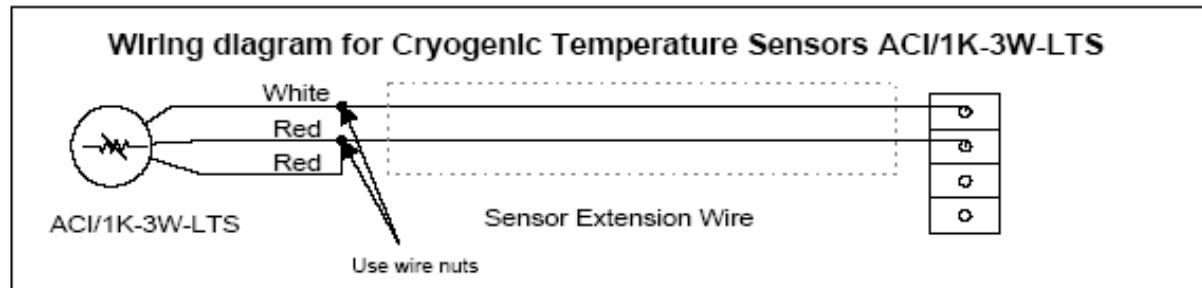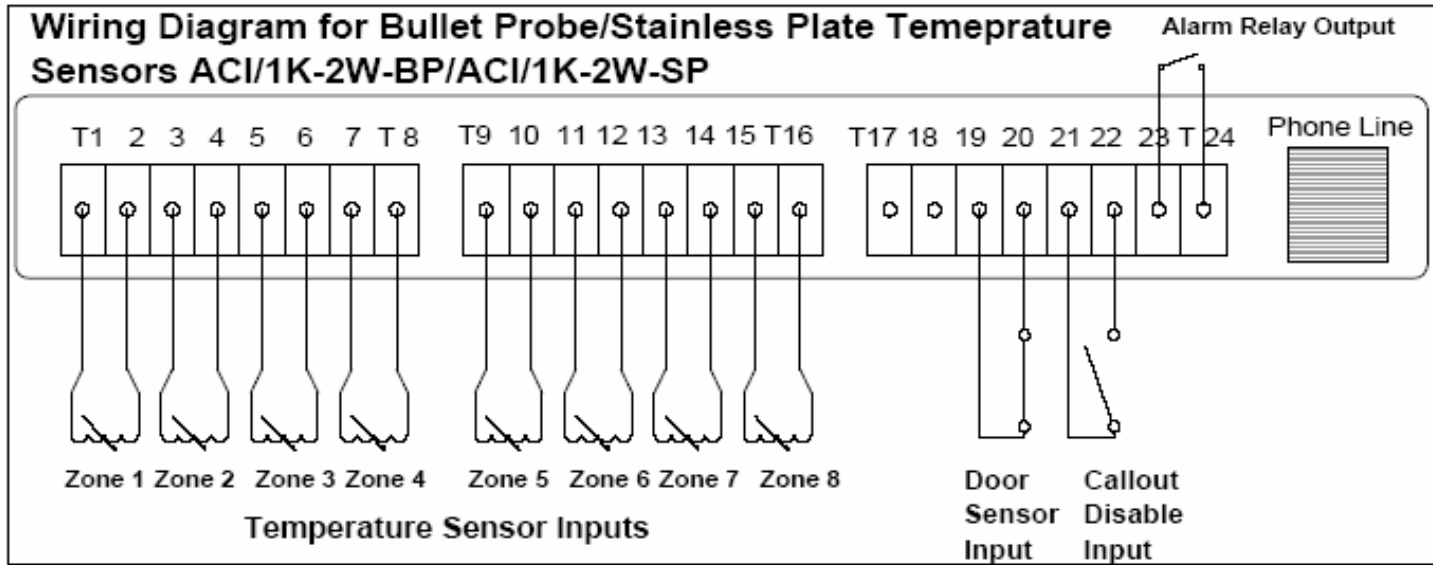
C4
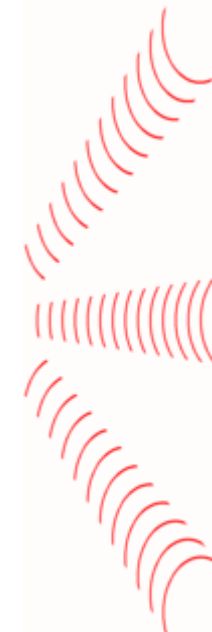
TEMPER PROOF

Setting & Programming using

any Telephone Set

Wiring Diagram

Installation Check List
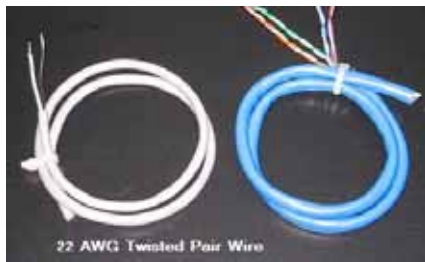
Make sure you have the following items

VM500-5 SGP Base Unit

RS 232 adaptor or

Ethernet 10/100 adaptor

Power Adaptor

110V-12Vdc or 220V-12Vdc

Using only original power supply

Type of Sensors that best suit your application

RF-Guard – Max 8 sensors

Software

RS232 Version - RS232 Cable and Software provided.

Ethernet 10/100 – LAN cable and Software provided.

22 AWG wire for extension

Buy Locally

Wire Connectors

Crimp or Screw Type

Buy Locally

Temperature Sensors Selection

Temperature sensors are used to allow the Refrigerator/Freezer series of monitors to sense the temperature inside a refrigerator or freezer. Every RF-Guard are designed and calibrated to use Only with these range of temperature sensors, the use of non-specified sensors will cause undesired results and damaged your RF Guard.

SGP/1K-2W-BP – Standard Temperature Sensor Probe

The small size and rugged design make this a good choice when space is a concern or when an installation is going to require an adaptable solution

NIST Traceable Certificate Available!

Features
Flexible installation options
Quick response to temperature changes
Specifications:
Sensing Range: -50°C to 35°C
Operating Range: -50°C to 100°C
Sensor dimensions: 6.4mm diameter, 25mm long
Sensor connection: 1.2m, twisted pair leads

Low Temperature Sensor Available Sensing Range: -100°C to 35°C

Temperature Sensors Selection

SGP/1K-2W-BP-V – Temperature Sensor Vial

Instead of having to mount the sensor on the wall or affix it to a rack, this vial can be placed adjacent to the items to be monitored.

Placing the sensor/vial close to the items being monitored improves the ability of the Refrigerator/Freezer Guard to accurately represent the temperatures experienced by these items.

The glass beads in the vial do a great job of averaging out temperature fluctuations due to door openings or refrigerator compressor cycling

NIST Traceable Certificate Available!

Features
Simple, quick installation
Most accurate representation of temperature of stored items
Least temperature fluctuations

Specifications:
Sensing Range: -50°C to 35°C
Operating Range: -50°C to 40°C
Vial dimensions: 50mm diameter, 105mm tall
Vial contents: Sand size, inert, spherical glass beads
Sensor connection: 1.2m, twisted pair leads

Low Temperature Sensor Available Sensing Range: -100°C to 35°C

Temperature Sensors Selection

SGP/1K-2W-SP – Stainless Steel Temperature Sensor Plate

The clean look and flush-mount installation options of the Stainless Plate Temperature Sensor make it an excellent choice for walk-in refrigerators and freezers.

Mounting the sensor on the back of a 1 Gang stainless steel plate will provide a very rugged installation. The 1/8" foam insulation pad on the back side will insulate the sensor from any drafts in the wall.

Features
Industrial quality
Flush, wall-mountable installation
Professional look

Specifications:
Sensing Range: -50°C to 35°C
Operating Range: -50°C to 100°C
Sensor dimensions: 108 mm x 70mm
Sensor connection: 610mm, twisted pair lead

NIST Traceable Certificate Available!

Temperature Sensor Error

Sensor wires can be extended 100m or more

TABLE 1: Temperature Measurement Error vs. Cable Length			
To calculate error in degrees C, due to extension cable length, multiply the Error per Foot times the total length of cable between the VM500 and the sensor.			
Part Number	**Wire Gauge**	**Error Per M / Ft**	**Example error for a sensor of 50ft / 50m from the VM500-5 SGP would see an increase of :**
WIR-22-2370	22 AWG	0.0033 °F per Ft	0.0033 * 2* 50ft = 0.83 °C
WIR-22-2370	22 AWG	0.02767 °C per M	0.02767 * 2* 50m = 2.76 °C

Door Sensors (Optional)

Door sensors are used to allow the Refrigerator/Freezer series monitors to detect whether a door is open or not.
With a door sensor, the Refrigerator/Freezer Guard can generate an alarm when a door has been left open for too long

Specifications:
Sensing Gap: 25.4mm
Dimensions: 38mm L x 9.5mm W
Sensor material: Plastic
Sensor connection: 300mm 2-conductor leads

Wire closed loop magnetic door sensors to the Door Sensor Input (terminals 19 and 20), to detect when refrigerator/freezer doors are open.
Multiple door sensor switches can be wired in series.

External Alarm Relay (Optional)

External Siren/Light can be wired to increase alertness.

Call Out Disable Input

Wire a time-of-day clock to the Callout Disable Input (terminals 21 and 22) to prevent unnecessary phone calls during working hours or defrost cycles.