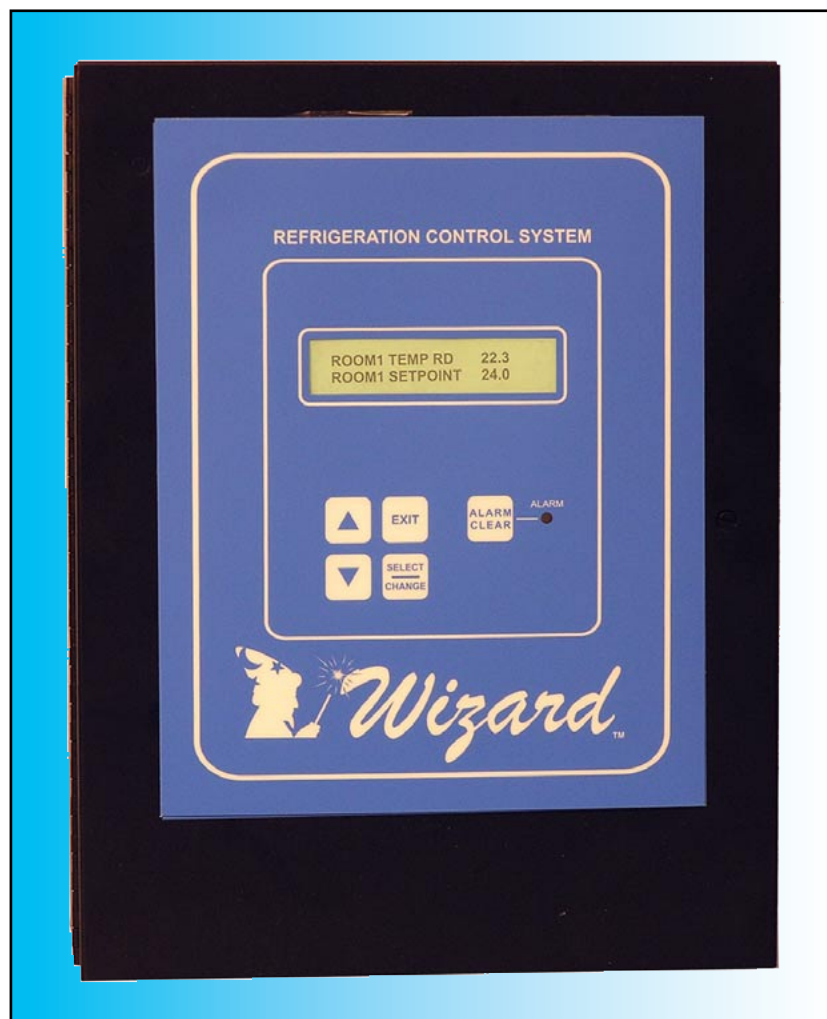


Wizard

Temperature Control System



**12 ZONE TEMPERATURE
CONTROL/ MONITORING
SYSTEM - WTC**

The Wizard Temperature Control / Alarm System (WTC) is designed to control the room or zone temperatures of up to 12 independent systems.

Temperature Control

When configured in the "Control" operating mode, the WTC will cycle a sensor specific pilot duty relay based upon a Temperature Setpoint and a plus/minus differential. The WTC will open the LLS when the temperature reaches $T = \text{Setpoint} - \text{Differential Value}$. The Wizard will close the LLS when the temperature reaches $T = \text{Setpoint} + \text{Differential Value}$.

Temperature Alarming

Control Operations Mode: The WTC will activate its "System Alarm" relay when the any temperature sensor readings exceeds the Hi Temp Alarm Limit or goes below

the Lo Temp Alarm Limit for a duration longer than each corresponding Alarm Delay.

Monitor Operations Mode: The WTC will activate its "System Alarm" relay and a sensor specific relay when a specific temperature sensor readings exceeds the Hi Temp Alarm Limit or goes below the Lo Temp Alarm Limit for a duration longer than each corresponding Alarm Delay.

The WTC will activate the System Alarm Relay based upon the following alarm conditions:

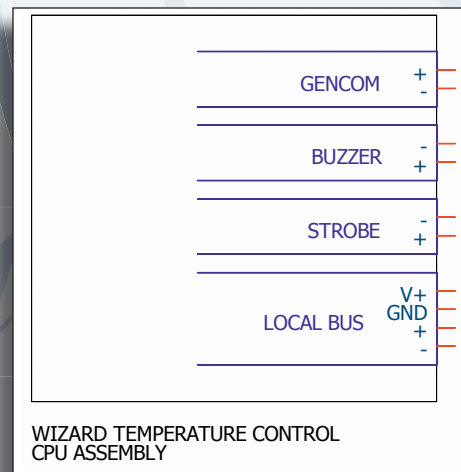
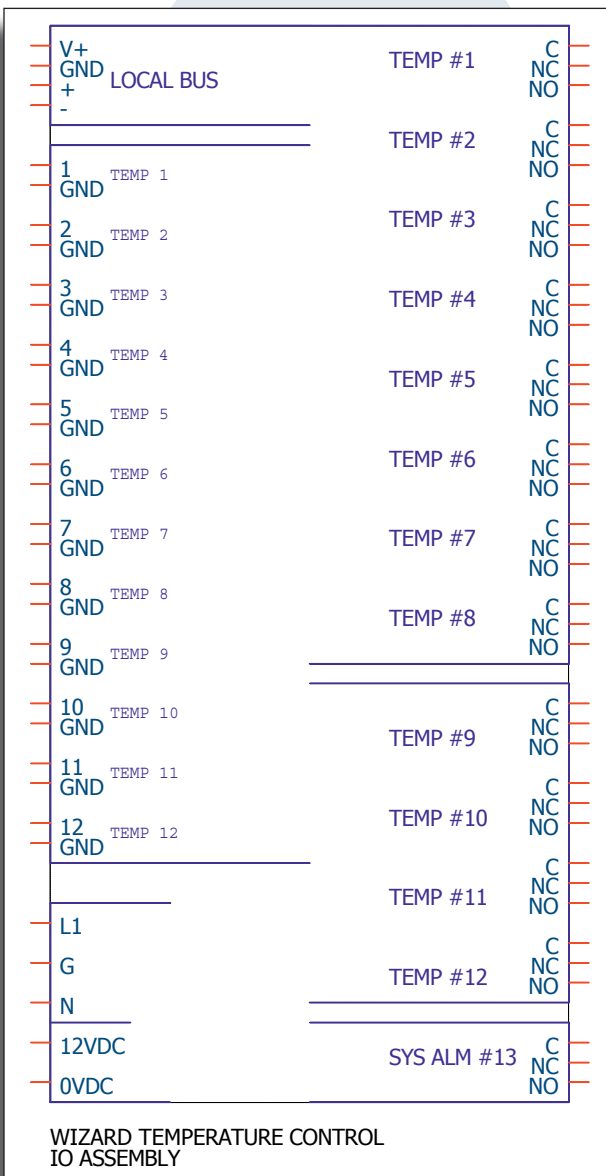
High Alarm . The space temperature must exceed the High Alarm Limit for a time period longer than the Hi Alarm delay.

Low Alarm . The space temperature must be below the Low Alarm Limit for a time period longer than the Low Alarm delay.

The WTC will log the last 32 alarms.

Remote Communications

GenCom Communications allows the computer operator to access the controllers within a facility via a PC. All control programming and logging functions are accessible and can be set or changed from the computer. The user can view all text and data logs, make programming changes to the controller, initiate defrost cycles, and investigate alarm conditions.



Misc. Features & Benefits

All Electronic Circuit Control -- Excellent performance in temperature range and areas where vibration and moisture causes mechanical systems to experience accelerated failure.

Software Access "Keylock" -- The Wizard is keylock protected with two levels of access. No action can be taken without properly unlocking the control.

Enclosure -- The standard unit comes in a metallic, NEMA 1 enclosure. An optional NEMA 4X is available. The watertight enclosure permits the installation of the Wizard in areas where it is necessary to wash down the room. The Wizard could be mounted on the exterior of the building.

Multiple Power Supply Capability -- The control power supply is a "universal" switching, dual voltage power supply. The input range for the control module is 100-240 VAC - 50 / 60 cycle - single phase power.

RELAY OUTPUTS

The Relay Outputs of the WTC are each a SPDT relay, rated to 250 VAC / 30 VDC with a 3.15 Amp Time Lag fuse. Multiple devices can be controlled with each relay, as long as the combined current draw does not exceed 3 Amps.

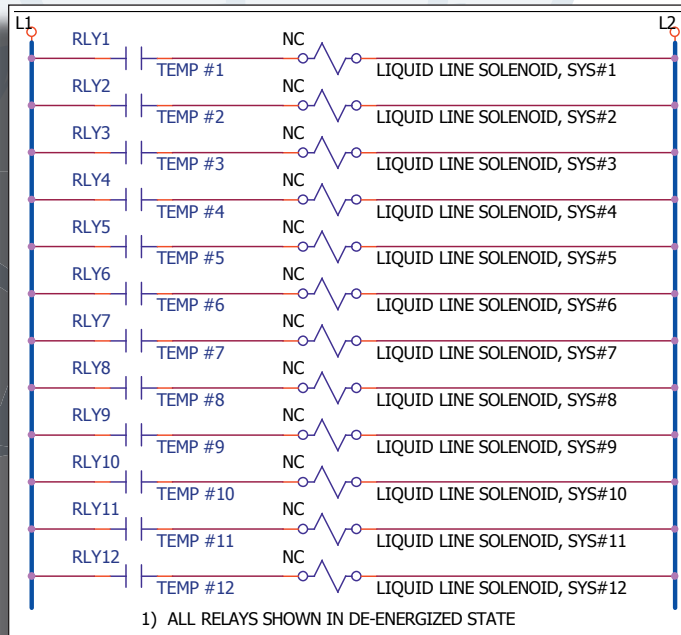
Connections to each relay are made via board mounted screw terminals. Each terminal is rated for 12-24 AWG, copper only wire with insulation rated at least 300V isolation, 105 °C.

Each circuit is a dry contacts signal with a 3.15Amp Time Lag fuse connected to the common leg.

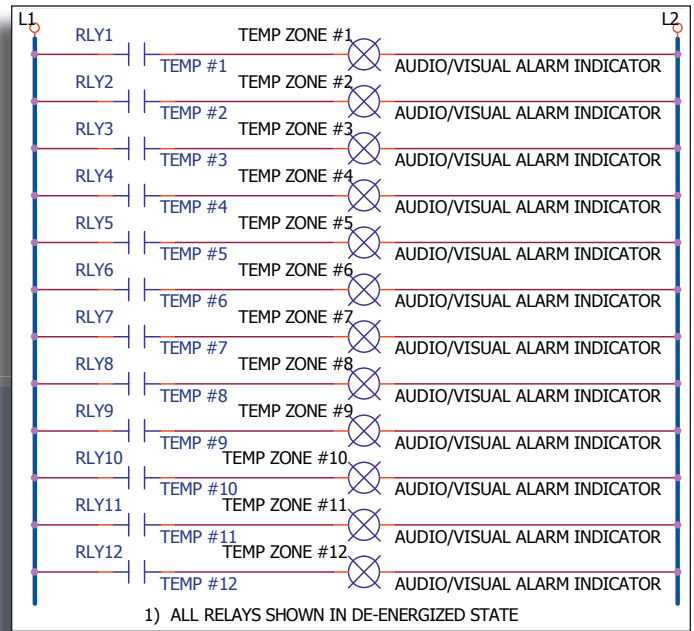
The functionality of each relay is pre-assigned. The following is a description of each relay:

RLY 1 thru RLY 12

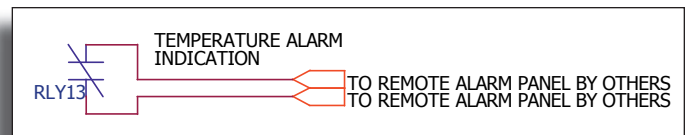
Temperature Control Mode - Liquid Line Solenoid Relays -- (SPDT) These relays are assigned to control the opening and closing of the Liquid Line Solenoid. These relays can be configured to Energize to Open or Energize to Close.



Alarm Monitoring Mode - Zone Specific Alarm Relays -- (SPDT) These relays are assigned to indicate a High or Low Temperature Alarm Condition for their assigned temperature sensor. These relays can be configured to Energize to Open or Energize to Close.



RLY 13 System Alarm Relay 1 -- (SPDT) This relay is assigned to indicate a High or Low Temperature Alarm for the entire system. Should any of the temperature zone enter an alarm condition, this relay will De-Energize. This relay is Energized during non-alarm conditions.



Connections to each relay are made via board mounted screw terminals. Each terminal is rated for 12-24 AWG, copper only wire with insulation rated at least 300v isolation, 105 °C.

Each circuit is a dry contacts signal with a 3.15Amp Time Lag fuse connected to the common leg.

The alarm Relay can be configured as "fail-safe" alarm scheme where the relay is "energized" (Opening the NC contact) during non-alarm conditions and "de-energized" (Closing the NC contact) during alarm conditions. This scheme will allow a alarm signal to be produced upon a control failure.

HARDWARE SPECIFICATIONS

CONTROL SYSTEM

Control

Microprocessor based Program logic stored within non-volatile EPROM memory. Set points and system configuration stored within EEPROM. Logged Data stored within Battery Backed Memory chip, minimum of 10 years storage life.

Menu driven controls with all operating sequences and control algorithms included. The control has non-volatile program memory and a capacitor backed clock in the event of power outage. All programmable options are installed via a "Yes" or "No" question.

Keypad

Front panel accessible with 5 tactile key switches.

Key assignments -- UP, DOWN, SELECT/ENTER, EXIT, ALARM RESET.

Display

2 x 20 character LCD Back Lighted Display. Eight control status lights.

Power

Input -- 100-250 VAC, 50/60 HZ, 2.5 Amp.

Housing

Metal Cabinet, NEMA 1, Enclosure
Option 1 - Metal Cabinet, NEMA 1, Door Mountable
Option 2 - Metal Cabinet, NEMA 4X, ABS Enclosure,

INPUTS

Twelve (12) Temperature Sensors
2-wire thermistor, -40 to 150 °F

OUTPUTS

13 Control Relays

12 Relays for Temperature Sensor Monitor or Control.
1 Relay for system alarm. High / Low Temperature.
All Relay Outputs are 1 Form C SPDT rated for 250 VAC and 3 Amp per circuit Each relay circuit is fused with a 3.15 Amp slow blow fuse on the common leg.
All inputs use un-pluggable screw terminals. All outputs use screw terminals.

LISTINGS

ETL, Conforms to UL Std. 3111-1
Certified to CAN/CSA
C22.2 Std. No. 1010.1



NEMA 1 Compliant Enclosure - This enclosure is intended for indoor use only primarily to provide a degree of protection against contact with the enclosed equipment. The enclosure is not designed to provide protection from water or to be placed in a hazardous environment. Mount only in Pollution Level 2 environments, ie. environmentally controlled offices, control rooms, or environmentally controlled machine rooms.

Dimensions Inches (mm)

12.0 x 9.5 x 5.0 (305 x 241 x 127)

NEMA 4X Compliant Enclosure - This enclosure is intended for either indoor or outdoor use, 0 to 50 °C, to provide a degree of protection against corrosion, windblown dust and rain, splashing water, and hose directed water.

Dimensions Inches (mm)

14.0 x 15.0 x 8.2 (312 x 381 x 208)

NEMA 1 Panel Mount Option - The control and display assemblies must be suitably mounted in an enclosure. The Faceplate may be surface mounted onto a Nema 1 enclosure. The IO Board Assembly must be mounted within an enclosure providing at least Nema 1 protection.

Dimensions Inches (mm)

Faceplate -

10.2 x 8.5 x 2.0 (259 x 216 x 51)

Backplate -

10.6 x 8.5 x 3.0 (269 x 216 x 76)



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