

# CT224 12-Channel Temperature Alarm/Monitor



## Overview

The CT224 consists of a 12-Channel temperature monitor/over-temperature alarm and MincoSoft™ CT224 Software. It is the next generation in temperature monitoring equipment from Minco designed to meet the needs of electric machinery protection. The 12-channel scanning capability, standard RS485/RS232 interface and Windows-compatible software utility for system configuration and data logging provide over-temperature and under-temperature protection and critical feedback to safeguard expensive machinery.

- UL and cUL recognized to help meet regulatory compliance
- PC programmable with Windows compatible software makes monitoring easy and efficient, allowing quick reprogramming and extensive data logging
- Mix and match sensor input types for freedom to adapt to pre-installed bearing and apparatus sensors
- Ability to monitor 12 inputs allows you to monitor stator sensors from two motors
- Five outputs, relays or logic offers either internal relay trips or flexibility of external control
- Logic outputs can be used with external SSRs
- Prevent costly damage to motors, generators, transformers, and other equipment
- Power loss protection
- 24 independent trip points (2 per channel)
- Programmable deadband (hysteresis)
- Rugged steel enclosure
- Can be used as a 4-channel on/off controller
- Display High, Low, or Any valid zones
- Self-calibrating

## Software

MincoSoft™ CT224 software features:

- Compatibility with Microsoft® Windows® operating system
- User-friendly configuration program
- Save unlimited set-up configurations
- Commission mode to test configurations before implementation
- Continuously displayed measurement and relay status of all 12 channels
- Data-logging

## Applications

- Generators
- Motors
- Turbines
- Compressors
- Pumps

*Specifications subject to change*

## Specifications

**Input:** 1 to 12 RTDs (2 or 3-wire), thermocouples, or 4 to 20 mA current loops. Accepts any combination of input types.

### Standard Input types:

RTD:

- 200 to 700°C: PA (Platinum / 100 Ω / 0.00392 Ω/Ω/°C)
- 200 to 700°C: PB (Platinum / 100 Ω / 0.00391 Ω/Ω/°C)
- 200 to 850°C: PD/PE (Platinum / 100 Ω / 0.00385 Ω/Ω/°C)
- 200 to 600°C: PF (Platinum / 1000 Ω / 0.00385 Ω/Ω/°C)
- 80 to 260°C: NA (Nickel / 120 Ω / 0.00672 Ω/Ω/°C)
- 100 to 260°C: CA (Copper / 10 Ω / 0.00427 Ω/Ω/°C)

Thermocouple:

- 270 to 1000°C: Type E
- 270 to 1150°C: Type K
- 200 to 1200°C: Type J
- 270 to 400°C: Type T

**4 to 20 mA current loop:** Pressure (PSI, Bar), Humidity (%), Temperature (°F, °C), Vibration (G), and process variable (mA, VDC)  
Note: 4 to 20 mA inputs must be linear with respect to the measured variable.

**Input scan rate:** 1.5 seconds maximum to scan all 12 channels.

**Input fault detection:** Options for ignoring, sounding alarm, or tripping relays associated with the failed sensor. Other zones are unaffected.

**Output:** 24 independent trip points (2 per channel): 5 relays, one relay is intended for use as an alarm function (but can be configured as a trip point), and one internal audible alarm. Alarm may be programmed to sound when selected relays trip. Logic output option is available for controlling external SSRs or sending a signal to another device.

**Relays:** Form C, SPDT 10 A @ 250 VAC/24 VDC resistive load; 10 A make current; 2500 VA breaking capacity, ¼ HP at 120 VAC motor load.

**Trip point hysteresis (deadband):** Programmable from 0 to 20 (°C or °F).

**Display:** 20 x 4 line backlit LCD. 0.1°C or 0.1°F resolution. Front panel LEDs indicate relay and alarm status.

**Accuracy:** 2°C (3°F) in 0 to 60°C (32 to 140°F) ambient, over entire range of the input.

**Supply power:** 85 to 240 VAC @ 50/60 Hz. or 110 to 250 VDC, 5 watts max.; or 18 to 36 VDC, 6 watts max.

**Keyboard:** 4 membrane type keys with audible feedback.

**Serial interface:** RS485 or RS232 (Modbus protocol).

**Power loss protection:** Trip points and program parameters stored in non-volatile memory. Normal operation resumes when power is restored.

**Programming:** Programmable from front panel or via RS485 or RS232 interface using Modbus protocol. PC software is included for data logging, commissioning, and configuration. Program settings may be password protected.

**Firmware fault protection:** Watchdog resets microprocessor if it fails to perform program sequence.

**Enclosure:** Steel case; NEMA 4 front panel.

**Ambient temperature rating:** 0 to 60°C (32 to 140°F).

**Connections:** Terminal blocks at rear accept wires to AWG 12.

**Leadwire resistance compensation:** Up to 30 Ω per leadwire for RTDs with no effect on reading.

**Dimensions:** 7.5 x 11.5 x 2" (191 x 292 x 51 mm).

**Mounting:** Panel mount enclosure. Cutout size of 6.8" x 10.6" (173 x 269 mm).

**Weight:** 3.8 lbs. (1.72 kg.).

**Approvals:** UL 508, CSA C22.2 No. 14-M91.

## Accessories

**AC102734:** Communication package. Includes isolated RS232 to RS485 converter and power supply.

## Specification and order options

CT224	Model number
A	Power supply A: 85-240 VAC @ 50/60 Hz / 110-250 VDC B: 18-36 VDC
1	Output 1: Relays 2: Logic (5 VDC)
A	Interface A: RS232 B: RS485
CT224A1A = Sample part number	

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[www.minco.com/sensors\\_config](http://www.minco.com/sensors_config)



## STOCKED PARTS

Model #	Power Supply	Output	Interface	Stock Part #
CT224	85 - 240 VAC (50/60Hz) / 110 - 250 VDC	Relays	RS232	CT224A1A
CT224	85 - 240 VAC (50/60Hz) / 110 - 250 VDC	Relays	RS485	CT224A1B

Note: Available up to 10 pieces or contact Minco Customer Service  
Specifications subject to change