Smart Controllers for Commercial Refrigeration Equipment

TC Series Case Temperature Controllers
Coolness, Controlled

Remove the risk of guesswork with PENN TC Series Refrigeration and Defrost Controllers, a full line of microprocessor-based, programmable operating controls for commercial refrigeration equipment.

Reputation is at stake every time food and beverages are served, and that’s why maintaining ideal product temperature is key. PENN TC Series controllers are designed to easily and efficiently maintain optimal temperature in commercial refrigerators, prep tables and freezers.

Equipped with capacitive touch keys and a large LED display, PENN TC Series controllers are designed with optional inputs and corresponding output relays to control and optimize refrigeration system performance.

Depending on the model, a TC Series controller can manage the defrost cycle (active or passive), evaporator fan and alarm functions, and case lighting - a lot of power from a single smart device.

TC Series controllers are designed for panel mounting with included snap-in brackets. All TC controllers use industry standard NTC type temperature sensors, which are available with various IP ratings and cable lengths. TC3 controller models are available with built-in RS485 Modbus communications or the option of adding communications with a TCIF adapter.

**TC Series Controller Platforms**

**TC3X Series**
A compact temperature controller, ideal for applications requiring a reduced panel-mount depth (1-9/16", 39.5mm). Provides temperature control and readout, along with alarm and optional defrost cycle management functions.

**TC3B Series**
Provides temperature control and readout, along with alarm and optional defrost cycle management functions.

**TC3 Series**
Provides temperature control and readout, along with alarm, alarm buzzer, defrost cycle, evaporator fan and lighting control management functions. Available with built-in RS485 Modbus communications or the option of adding communications with a TCIF adapter.

### What are the Benefits?

- **Stylish and compact** design complements any equipment and requires minimal space.
- **High reliability** capacitive touch screen eliminates source of failure with mechanical keys.
- **Protection plus** IP65 rated enclosure minimizes risk of damage due to water and moisture.
- **Intuitive functionality** makes navigation and programming changes easy.
- **Energy savings** adaptive algorithm optimizes the defrost cycle as required by system demands.
- **Temperature control** reduces temperature swings to ensure longer food shelf life.

### Optional Features

- **Low-profile option** available (39.5 mm depth) for compact refrigeration system designs.
- **Communications Adapter** enables Modbus RS485 communications.
- **Real-time clock** ensures daily defrost schedules are performed at the correct time.
- **Color display lights** are available in red (standard), white, blue and green.

### Accessories and Sensors

**Programming Key**
Cloning tool for uploading and downloading custom controller configuration settings from one controller to another.

**TTL to RS485 Modbus Serial Communications Interface**
Communication interface that enables connection to an RS-485 Modbus Network. Can also include an optional real-time clock for scheduled defrost and HACCP data reporting.

**Connecting Cable**
1 m (3.28 ft)-long cable that connects with PENN devices or to a personal computer using a USB.

**Temperature Sensors**
NTC temperature sensors provide accurate measurement through an electrical signal. Available in IP67 (water resistant) or IP68 (waterproof) construction and various cable lengths.
Uses and Applications

TC Controllers work in a variety of cold storage and display environments:

- Commercial refrigerators and freezers
- Prep-tables
- Under-counters
- Back-bar units
- Glass door display cases
- Ice cream freezers
- Bottle coolers
- Pizza counters
- Saladettes
- Refrigerated display cases
- Walk-in coolers and freezers

Innovation and Excellence for 100 Years – and Beyond

The superior global reputation of PENN refrigeration controls is born from a century’s worth of quality, reliability, performance and innovation. Today, we’re not only looking back on our milestones and achievements from the past 100 years, we’re also confidently looking forward to the next century, with the momentum of our expertise and spirit of innovation propelling us.

It’s our promise to provide refrigeration controllers with simple and intuitive user interfaces that optimize system efficiency. All with our commitment to quality and reliability. As technology evolves, PENN will be there to support your ever changing requirements.

About Johnson Controls’ Building Technologies and Solutions

Johnson Controls’ Building Technologies & Solutions is making the world safer, smarter and more sustainable – one building at a time. Our technology portfolio integrates every aspect of a building – whether security systems, energy management, fire suppression or HVACR – to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Ruskin®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®.