



Refrigeration Controls



Customer Value

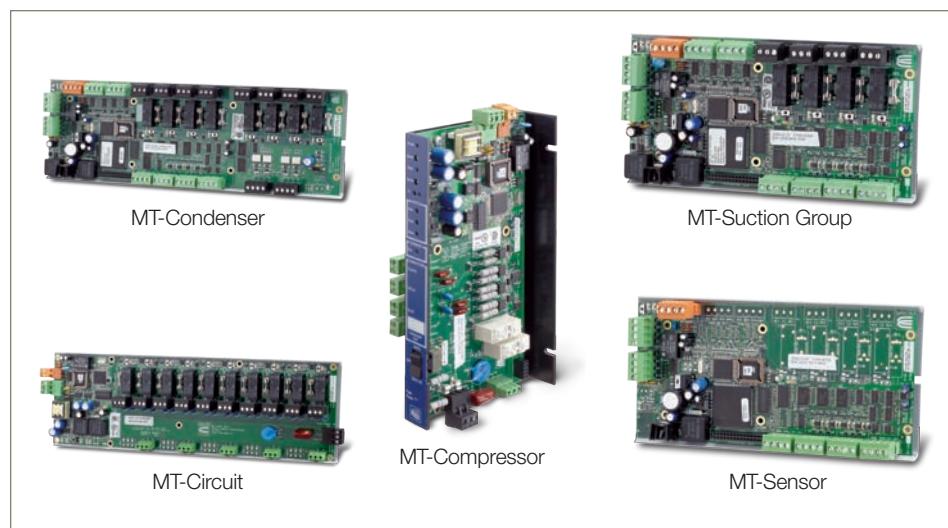
Micro Thermo's Refrigeration controllers are designed to interface with any type of refrigeration system.

MT controllers are engineered to enhance the operating efficiency of your refrigeration equipment ensuring accurate control of all temperature and pressure settings.

The hardware consists of intelligent boards, referred to as "nodes", that control and monitor all types of refrigeration equipment including compressors, condensers, refrigeration cases, suction groups, defrost refrigeration circuits, secondary coolant systems, subcoolers and anti-sweat and EEPR valves.

Each suction group, compressor, condenser and refrigeration circuit is easily configured using the MT Alliance™ Refrigeration software configuration tool. The tool creates a hierarchical view of each rack and simplifies installation, commissioning and operation. Various rack and store views display all critical operating data in a single screen. Data for all points is stored in a database for historical record.

Refrigeration Nodes



Key Features and Benefits

- Seamless integration and control of all functions of all types of multi-compressor refrigeration systems
- Monitoring of key parameters to ensure safe operating conditions at all times
- Provides compressor sequencing to avoid unnecessary cycling and stagger runtime for longer life
- Multiple strategies for hot gas, off-time and electric defrost
- Visual point and click defrost scheduling to balance defrost cycles across all circuits
- Provision to easily add additional intelligent nodes as your equipment needs grow, without compromising overall system performance
- Easy to install, operate and maintain with reduced wiring requirements



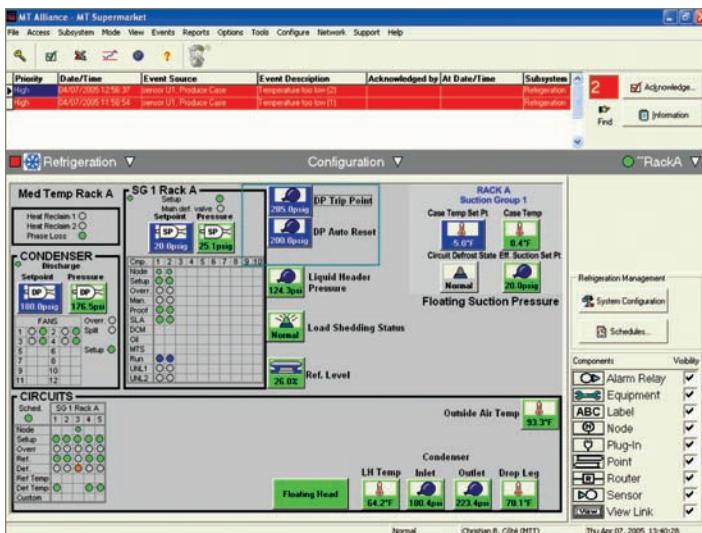
ENGINEERING YOUR SUCCESS.

Specifications

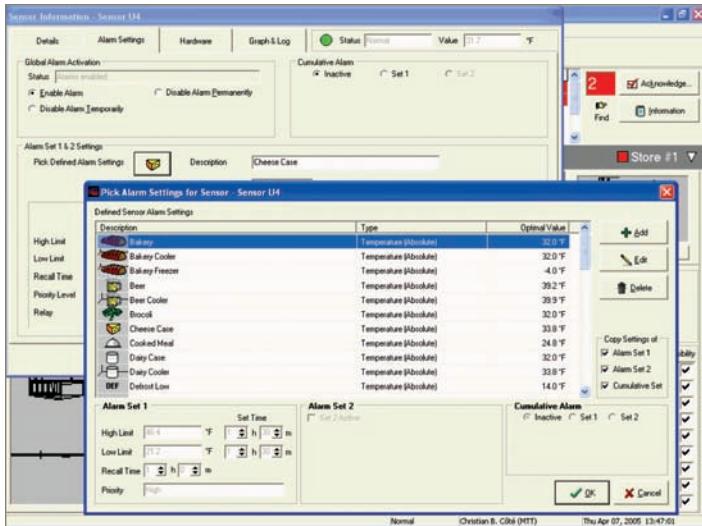
| | MT-Compressor | MT-Condenser MT-504 / MT-508 / MT-512 | MT-Circuit |
|------------------------------------|--|---|---|
| Applications | Control of reciprocating, scroll and screw compressors. Support for up to (2) unloaders per compressor | Control of condensers with 4, 8 or 12 fans (more with pairs) | Control of up to (5) refrigeration circuits using hot gas, off time or electric defrost |
| Universal Inputs | None | 8 Universal Inputs (Analog or Digital): 0-5V, 0-10V, 4-20mA, 10K Thermistor Low-pass filter input conditioning | None |
| Digital Inputs | 3 Digital Inputs: (Dry contacts): Low Pressure Switch, Safety Line Switch, Proof of Running Switch | 0/4/8 Digital Inputs: Optically Isolated (0-15V) | None |
| Digital Outputs | 2 Type C Relay Outputs: SPDT, 2A, 250 Vac. Protected by on-board circuit breaker | 4/8/12 Type C Relay Outputs: SPDT, 2A, 250 Vac. Protected by on-board fuses | 10 Type C Relay Outputs: SPDT, 2A, 250 Vac. Protected by on-board fuses |
| Local Status/ Switching | LEDs: Power, Auto, Proof-of-running, Alarm, Run Switch: Auto, Off, Manual On | LEDs: Power, Relay Status | Optional: LEDs: Refrigeration and Defrost Switch: Auto, Off, Manual On |
| Analog Outputs | None | 4 Analog Outputs configurable: 4-20 mA, 0-5V, 0-10V, 2-10V Protected by current limit (max 20 mA) | None |
| Dimensions | 7.44" x 4.0" x 3.0" (w/Unloader) (189mm x 102mm x 38mm) (w/Unloader) | MT 504: 8.0" x 4.0" x 1.5" (204mm x 102mm x 38mm) MT 508: 12.25" x 4.0" x 1.5" (312mm x 102mm x 38mm) MT 512: 16.375" x 4.0" x 1.5" (416mm x 102mm x 38mm) | 12.50" x 4.00" x 1.25" (318mm x 102mm x 32mm) 12.50" x 4.00" x 2.25" with Display (318mm x 102mm x 42mm) |
| Mounting | Panel Mounting Vertically | SnapTrak Panel or Wall Mounting | SnapTrak Panel or Wall Mounting |
| Electrical | 24 Vac Center-tap Transformer 5VA | MT 504: 24 Vac Center-tap Transformer 12VA MT 508: 24 Vac Center-tap Transformer 15VA MT 512: 24 Vac Center-tap Transformer 20VA | 24 Vac Center-tap Transformer 10VA |
| Environmental | Operating and Storage: -40 – 168°C (-40 – 75°F) 5 to 95% RH, non-condensing | Operating and Storage: -40 – 168°C (-40 – 75°F) 5 to 95% RH, non-condensing | Operating and Storage: -40 – 168°C (-40 – 75°F) 5 to 95% RH, non-condensing |
| Listings | UL Listed, CSA Approved | UL Listed, CSA Approved | UL Listed, CSA Approved |

Specifications

| MT-Suction Group Controller | MT-Sensor Node | MT-Subcooling | MT-AntiSweat Controller |
|--|--|---|--|
| Control of suction group and monitoring and dynamic staging of compressors | Configurable sensor node to monitor temperature, humidity, pressure and other sensor types | Control of Condenser subcooling and control of 2 Mechanical Subcoolers | MT Alliance Compatible or Standalone Controller. Can control Power DriverUnit with a maximum of 24 AntiSweat circuit heaters |
| 8 Universal Inputs (Analog or Digital): 0-5V, 0-10V, 4-20 mA, Thermistor, Low-pass filter input conditioning | 8 Universal Inputs (Analog or Digital): 0-5V, 0-10V, 4-20 mA, Thermistor, Low-pass filter input conditioning | 8 Universal Inputs (Analog or Digital): 0-5V, 0-10V, 4-20mA, Thermistor, Low-pass filter input conditioning | 2 Analog Inputs: 10K Thermistor (Temperature), 0-5V (Humidity) Low-pass filter input conditioning |
| None | None | None | None |
| 4 Type C Relay Outputs: SPDT, 2A, 250 Vac. Protected by on-board fuses | None | 8 Type C Relay Outputs: SPDT, 2A, 250 Vac. Protected by on-board fuses | 4 Outputs 20V @ 100 mA for external Power Driver Unit. Protected by on-board fuses 1 Local Alarm Relay |
| LEDs: Power, Relay Status | LEDs: Power | LEDs: Power, Relay Status | LEDs: Power, Bypass, Alarm, Heat Pulse Numerical Display: % Energy Saving Switch: Reset, Bypass, Clear Alarm |
| 4 Analog Outputs configurable: 0-20 mA, 0-5V, 0-10V, 2-10V Protected by current limit (max 20 mA) | None | 4 Analog Outputs configurable: 0-20 mA, 0-5V, 0-10V, 2-10V Protected by current limit (max 20 mA) | 1 Analog Output 0-5V: % Energy Saving Protected by current limit (max 20 mA) |
| 8.0" x 4.0" x 1.5" (204mm x 102mm x 38mm) | 8.0" x 4.0" x 1.5" (204mm x 102mm x 38mm) | 12.25" x 4.0" x 1.5" (312 mm x 102mm x 38mm) | 6.5" x 4.0" x 1.5" (165mm x 102mm x 38mm) |
| SnapTrak Panel or Wall Mounting | SnapTrak Panel or Wall Mounting | SnapTrak Panel or Wall Mounting | SnapTrak Panel or Wall Mounting |
| 24 Vac Center-tap Transformer 12VA | 24 Vac Center-tap Transformer 12VA | 24 Vac Center-tap Transformer 12VA | 24 Vac Center-tap Transformer 10VA |
| Operating and Storage: -40 – 168°C (-40 – 75°F) 5 to 95% RH, non-condensing | Operating and Storage: -40 – 168°C (-40 – 75°F) 5 to 95% RH, non-condensing | Operating and Storage: -40 – 168°C (-40 – 75°F) 5 to 95% RH, non-condensing | Operating and Storage: -40 – 168°C (-40 – 75°F) 5 to 95% RH, non-condensing |
| UL Listed, CSA Approved | UL Listed, CSA Approved | UL Listed, CSA Approved | UL Listed, CSA Approved |



You can view Refrigeration Rack operating conditions at a glance including setpoints, circuit, and compressor statuses.



Configuring Refrigeration Case alarm settings is simple and intuitive with MT Alliance's graphical user interface.

Supermarket Controls Solutions...Simply Powerful



Specifications subject to change without notice
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