



RMT SERIES - DUAL ZONE MODULAR TEMPERATURE CONTROLLER

The Athena Series RMT is a microprocessor-based, dual-zone temperature controller specifically designed for runnerless molding applications effectively doubling the zone count per module without doubling the price.

It features two easy-to-use operator keypads, four LED displays, and discrete indicators for heat output, alarm, °F / °C indication, manual and closed loop mode.

All modular controllers need to be located in an Athena Controls MFL or MFH mainframe (see separate datasheet) where power, input and output connections are housed.

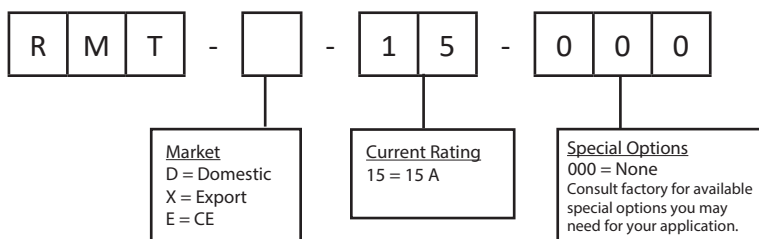
- Accepts Type "J" or "K" thermocouple input
- Bumpless auto/manual transfer
- CompuStep™ bake out feature prevents moisture at startup
- Built-in loop break for open heater, shorted triac, reversed or shorted thermocouple
- Open thermocouple break protection with jumper-selectable shutdown or average power output based on operation
- Preset alarms at 30°F (17°C)
- SafeChange™ "hot swap" feature allows safe removal and replacement of module
- 15 amps total for both zones



Fig 1. RMT Modular Controller showing two zone temperature control.



Ordering Information



Technical Specifications For RMT Series

PERFORMANCE SPECIFICATIONS

| | |
|--|--|
| Auto Control Mode | CompuCycle® system |
| Control Accuracy | ±0.1°F (±0.1°C) dependent on the total thermal system |
| Ambient Temperature | 32°F to 130°F (0°C to 55°C) |
| Temperature Stability | ±0.5% of full scale over the ambient range of 32°F to 130°F (0°C to 55°C) |
| Calibration Accuracy | Better than 0.2% of full scale |
| Power Response Time | Better than 200 ms |
| Process Sampling | 100 ms (nominal) |
| CompuStep® System Control Mode | Variable stepping voltage, phase angle fired |
| CompuStep® System Duration | Approximately 5 min |
| CompuStep® System Output Percent | Steps approximately 4% of input voltage |
| CompuStep® System Override Temperature | 200°F (93°C) |
| Error Mode Response | a. T/C open, T/C reverse, T/C shorted and Loop Break overrides Auto mode/ CompuStep® b. Manual mode overrides T/C open, T/C reverse |

INPUT SPECIFICATIONS

| | |
|------------------------------|--|
| Thermocouple (T/C) Sensor | Type "J" or "K" grounded or ungrounded (dip switch selectable) |
| External T/C Resistance | Maximum 100 ohms for rated accuracy |
| T/C Isolation | Isolated from ground and supply voltages |
| Cold Junction Compensation | Automatic, better than 0.02°F/°F (0.01°C/°C) |
| Input Type | Potentiometric |
| Input Impedance | 10 megohms |
| Input Protection | Diode clamp, RC filter |
| Input Amplifier Stability | Better than 0.05°F/°F (0.03°C/°C) |
| Input Dynamic Range | Greater than 999°F (537°C) |
| Common Mode Rejection Ratio | Greater than 100 dB |
| Power Supply Rejection Ratio | Greater than 70 dB |

OUTPUT SPECIFICATIONS

| | |
|----------------------|--|
| Voltages | 240 Vac nominal, single phase 120 Vac available |
| Power Capability | 15 amperes, 3600 watts @ 240 Vac total for two zones |
| Overload Protection | Triac and load use fast-blow fuses. Both control legs are fused (ABC) Optional: High Speed Fuse (GBB) |
| Power Line Isolation | Optically and transformer isolated from ac lines. Isolation voltage is greater than 2500 volts. |
| Output Drive | Internal solid state triac, triggered by ac zero crossing pulses |

CONTROLS AND INDICATORS

| | |
|-------------------|--|
| Set Point Control | Precision 3 digit pushbutton switch, Direct Reading, Range: 0 to 999°F (535°C) Resolution: 1°F (1°C) better than 0.5°F (0.3°C) |
| Accuracy: | |
| Range | 0 to 999°F (535°C) |
| Resolution | 1°F (1°C) |
| Display Top | 3-digit filtered LED |
| Display Bottom | 3-digit filtered LED |
| Status Indicators | Heat Output Alarm °F/°C SoftStart CompuStep® Mode Indication |
| Power On-Off | Rocker Switch, UL, CSA, and VDE approved |

ELECTRICAL POWER SPECIFICATIONS

| | |
|--------------------|--|
| Input Voltage | 240 Vac +10%/-15% (204 - 265 Vac) |
| Frequency | 50 Hz ± 3 Hz, 60 Hz ± 3 Hz |
| DC Power Supplies | Internally generated, regulated, and temperature compensated |
| Module Power Usage | Less than 3 watts, excluding load |

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