

Series RMB

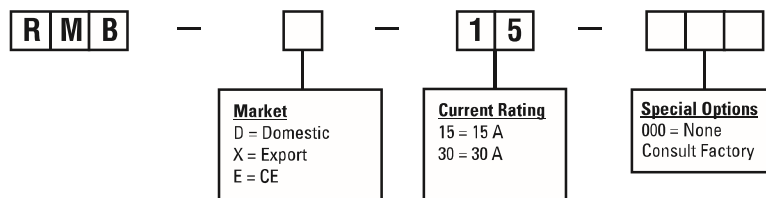


Athena's Series RMB Modular Hot Runner controller is a microprocessor-based, single-zone temperature controller specifically designed for runnerless molding applications. The controller is fully self-tuning, with built-in diagnostics, and features an easy-to-use operator keypad with simultaneous process and set point displays and discrete indicators for heat output, alarm, degrees F/C, manual/closed loop mode, and CompuStep®.

- ▲ CompuStep® bake out feature removes moisture from the heater before full power is applied
- ▲ CompuCycle® feature improves response time, reduces thermal fatigue and prolongs heater life by applying AC power smoothly and continuously
- ▲ SafeChange™ “hot swap” feature allows safe removal and replacement of modules
- ▲ Compatible with all D-M-E Company's G Series and Smart Series, ITC, MCS, Yudo, and Incoe brand mainframes
- ▲ Accepts Type “J” or “K” thermocouple input (dip switch selectable)
- ▲ Current monitoring feature displays average output current to load
- ▲ Bumpless auto/manual transfer (dip switch selectable)
- ▲ Built-in loop break, open, and reverse thermocouple protection
- ▲ Adjustable alarms at 30°F (17°C)
- ▲ Built-in triac safety protection
- ▲ Ground fault protection
- ▲ Auto-tuning with adjustable proportional band and rate
- ▲ CE Compliant



Ordering Information



Technical Specifications

Performance Specifications

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| 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

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|------------------------------|--|
| Thermocouple (T/C) Sensor | Type "J" or "K" grounded or ungrounded (dip switch selectable) |
| External T/C Resistance | Max. 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

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| Voltages | 240 Vac nominal, single phase 120 Vac available |
| Power Capability | 15 amperes, 3600 watts @ 240 Vac; 30 amperes, 7200 watts @ 240 Vac |
| Overload Protection | Triac and load use fasst-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 |
| Ground Fault Interupt (GFI) | Trips at 55 mA of leakage current |

Controls and Indicators

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|-------------------|---|
| Set Point Control | Two buttons up or down. |
| 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 Normal (closed loop) Manual and Standby Boost Function Indicator |
| Boost Control | Pushbutton |
| Power On/Off | Rocker Switch, UL, CSA, and VDE approved |

Electrical Power Specifications

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|--------------------|---|
| Input Voltage | 95-265 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 |