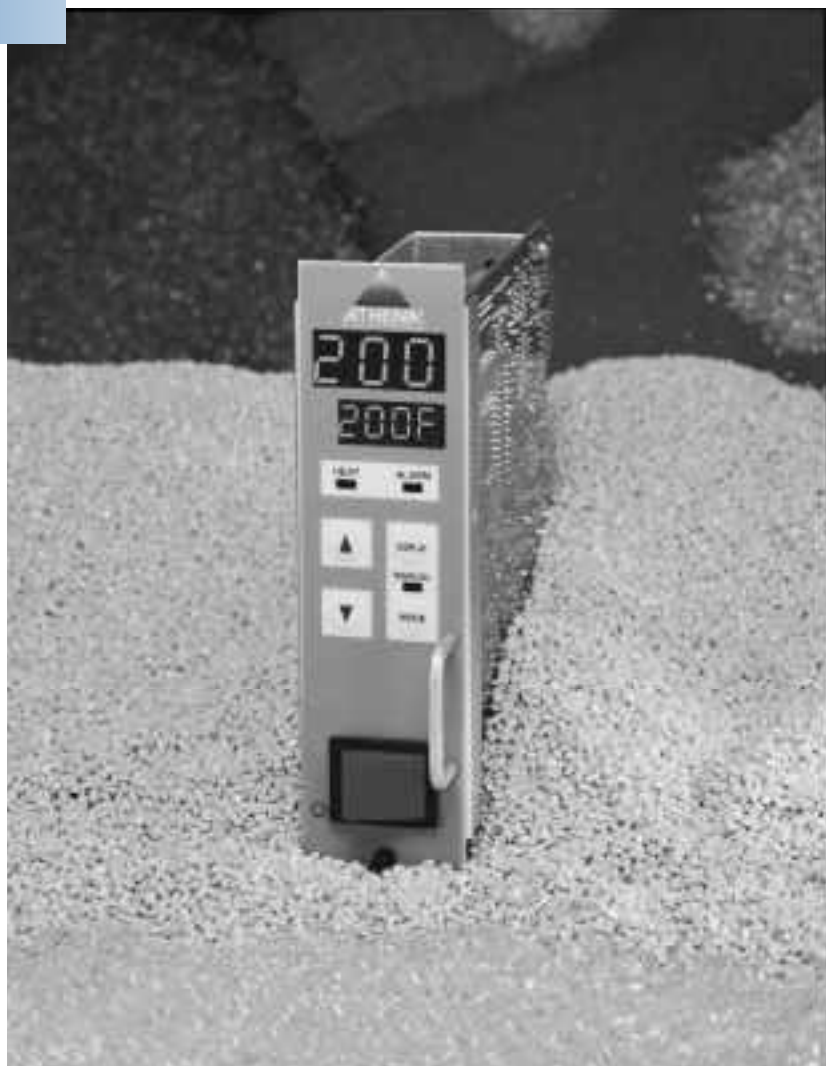
SERIES RMB



The Athena Series RMB, part of the new Series RM family, is a microprocessor-based, single-zone temperature controller specifically designed for runnerless molding applications. It features an easy-to-use operator keypad, two LED displays, and three discrete indicators for heat-current, alarm and manual mode.

- *Compatible with existing Athena "G+" and DME "G" Series main frames*
- *Accepts Type J or Type K thermocouple input (jumper selectable)*
- *Auto-tuning, with adjustable proportional band and rate*
- *Bumpless auto/manual transfer*
- *CompuStep® bakeout feature prevents moisture at startup*
- *Built-in loop break, short, open, and reverse thermocouple protection*
- *Optional triac failure protection*
- *Ground-fault protection (U.S. model)*
- *Preset alarms at 30° F (17°C)*
- *Jumper-selectable self-start mode*
- *Current monitor feature displays average current to load*
- *CE-compliant*

Ordering Information

R M B – □ – □□ – □□□

Market
D = Domestic
X = Export
E = CE

Current Rating
15 = 15 A
30 = 30 A

Special Options
000 = Consult factory

SERIES RMB TECHNICAL SPECIFICATIONS

PERFORMANCE SPECIFICATIONS

Auto Control Mode	CompuCycle® system
Control Accuracy	±0.1˚F (±0.1˚C) dependent on the total thermal system
Temperature Range	32 to 999˚F (0 to 537˚C)
Temperature Stability	±0.5% of full scale over the ambient range of 32 to 131˚F (0 to 55˚C)
Calibration Accuracy	Better than 0.2% of full scale
Power Response Time	Better than 300 milliseconds
Process Sampling	100 milliseconds (nominal)
˚F/˚C	Jumper-selectable
CompuStep® System Control Mode	Variable stepping voltage, phase fired
CompuStep System Duration	Approximately 5 minutes
CompuStep System Output Voltage	Steps approximately from 25 V_{RMS} with 240 Vac line output, phase-fired
CompuStep System Override Temp	200˚F (93˚C)
Operational Mode Priority	a. TC open, TC reverse, Shutdown and Open heater override CompuStep system b. Manual mode overrides TC open, TC reverse

INPUT SPECIFICATIONS

Thermocouple (T/C) Sensor	Type “J” or Type “K”, grounded or ungrounded (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; 30 amperes, 7200 watts @240 Vac
Overload Protection	Triac and load use high speed fuses. Both sides are fused (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

Setpoint Control	Two buttons up or down. Resolution: 1˚F (1˚C)
% Power Control	Two buttons up or down
Mode Control	Push button switch with LED indicator for manual mode
Display	Top: 3-digit filtered LED Bottom: 4-digit filtered LED
Status Indicators	Heat-current output Alarm
Power On-Off	Rocker Switch, UL, CSA, and VDE approved

ELECTRICAL POWER SPECIFICATIONS

Input Voltage	115 to 230 Vac, ± 10%
Frequency	50-60 Hz
DC Power Supplies	Internally generated, regulated and temperature compensated
Module Power Usage	Less than 6 watts, excluding load