



# IMP15 & IMP30 Hot Runner Controls

## INTELLIGENT SERIES • CLASSIC STYLE

- Compatible with "G" sized mainframes. Including Athena "G+" and DME "G" & "Smart" Series.
- Built-in diagnostics and fully self-tuning.
- CompuStep® bakeout feature prevents moisture at startup.
- Manual control for non-thermocouple applications.
- SafeChange™ "hot swap" feature allows safe removal and replacement of module.
- CE-compliant.
- Diagnostic and protection features include power "on", power to load, manual made, and over/under temperature, plus indicators and system protection for reversed and open thermocouples.

### With SafeChange™ Hot Swap Feature!



PPE's IMP (Intelligent Microprocessor) Series Module provides one of the most technically advanced temperature controls available today. IMP modules use state-of-the-art microprocessor-based circuitry to perform all required PID functions. Units have built-in diagnostics and are fully self-tuning. Setpoint temperatures are maintained without the need to manually preset or adjust the control temperature. Merely set the desired temperature and turn the power on. The module will automatically sense the heat-up rate and control any setpoint temperature deviation.

### CompuStep®

If desired, CompuStep, may be used during system start-up to remove moisture from the heater before full power is applied. This function applies low, gradually increasing voltage to the heater over a 5 minute period and then automatically switches the module to normal operation.

### CompuCycle®

CompuCycle is a unique method of applying power to the heater. This zero crossover power drive technique improves response time, reduces thermal fatigue and prolongs heater life by applying AC power smoothly and continuously. Sixty-four different power levels are programmed in the CompuCycle drive, which can switch smoothly from one level to another within 0.13 seconds as required to achieve and maintain setpoint temperature. The result is 128 computer controlled power settings available to the operator. Combined with microprocessor-controlled automatic reset and temperature overshoot suppression, CompuCycle assures that the setpoint is reached and maintained quickly and accurately.

### Manual Control

The CompuCycle power drive is also used with the line voltage compensated manual control mode. This mode enables the module to be used for non-thermocouple applications. It can also be used to provide standby or "weekend" heat or to manually control temperature if a thermocouple fails.

### PERFORMANCE SPECIFICATIONS

<b>Control Mode</b>	CompuCycle® system
<b>Temperature Range</b>	Ambient to 999°F, or ambient to 535°C
<b>Control Accuracy</b>	±1.0°F (±0.5°C) dependent on the total thermal system
<b>Temperature Stability</b>	±0.5% of full scale over the ambient range of 32 to 140°F (0 to 60°C)
<b>Calibration Accuracy</b>	Better than 0.2% of full scale
<b>Power Response Time</b>	Better than 0.13 seconds
<b>Compensated Manual Mode</b>	Maintains constant output power to within 1% of manually set power level with line voltage variation from 192 to 264 volts.
<b>CompuStep® System Control Mode</b>	Variable stepping voltage, phase fired
<b>CompuStep® System Duration</b>	Approximately 5 minutes
<b>CompuStep® System Output Voltage</b>	Steps approximately from 25 V RMS to 170 V RMS with 240 VAC line input
<b>CompuStep® System Override Temperature</b>	200°F (93°C)
<b>Operational Mode Priority</b>	a) TC break, TC reverse and No Heat override CompuStep® System b) Manual mode overrides TC break, TC reverse and No Heat

### OUTPUT SPECIFICATIONS

<b>Voltagess</b>	240 VAC nominal, single phase, 120 VAC available
<b>Power Capability</b>	15 Amps, 3600 watts @ 240 VAC, 1800 watts @ 120 VAC 30 Amps, 7200 watts @ 240 VAC
<b>Output Switch</b>	Internal solid state triac, triggered by AC zero crossing pulses
<b>Overload Protection</b>	Triac and load use high speed fuses. Both sides of AC line are fused.
<b>Power Line Isolation</b>	Optically and transformer isolated from AC lines. Isolation voltage is greater than 2500 volts.

### INPUT SPECIFICATIONS

<b>Thermocouple (TC) Sensor</b>	Type "J" grounded or ungrounded
<b>External (TC) Resistance</b>	Greater than 1000 Ohms
<b>TC Isolation</b>	Isolated from ground and supply voltages
<b>Cold Junction Compensation</b>	Automatic, better than 0.02°F/°F (0.01°C/°C)
<b>Input Impedance</b>	22 Megohms
<b>Input Protection</b>	Diode clamp, RC filter
<b>Input Amplifier Stability</b>	Better than 0.05°F/°F (0.03°C/°C)
<b>Common Mode Rejection Ratio</b>	Greater than 100 dB
<b>Power Supply Rejection Ratio</b>	Greater than 90 dB

### CONTROLS AND INDICATORS

<b>Setpoint Control</b>	Precision 3 digit push-button switch, direct reading; Range: 0 to 999°F (535°C); Resolution 1°F (1°C); Accuracy: better than 0.5°F (0.3°C)
<b>% Power Control</b>	Two buttons up or down.
<b>Mode Control</b>	Push button switch with LED indicator for manual mode
<b>Display</b>	3-digit filtered LED
<b>Status Indicators</b>	Heat-current output, Alarm, °F/°C, % output, CompuStep®, Normal, Manual, Standby
<b>Power ON/OFF</b>	Rocker switch, UL, CSA, VDE approved

### ELECTRICAL POWER SPECIFICATION

<b>Input Voltage</b>	240/120 VAC, +10% -20%
<b>Frequency</b>	50 Hz ± 3Hz, 60 Hz ± 3 Hz
<b>DC Power Supplies</b>	Internal generated, regulated and temperature compensated
<b>Module Power Usage</b>	Less than 3 watts, excluding load

**MODEL IMP15**  
15 AMP 1-11.....\$215.00  
12+ .....\$210.00

**MODEL IMP30**  
30 AMP ..... \$545.00



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