

Guard against thermocouple failure

Protect control modules

Minimize downtime

Improve processing consistency

ATP™

Active Thermocouple Protection

Patent Pending

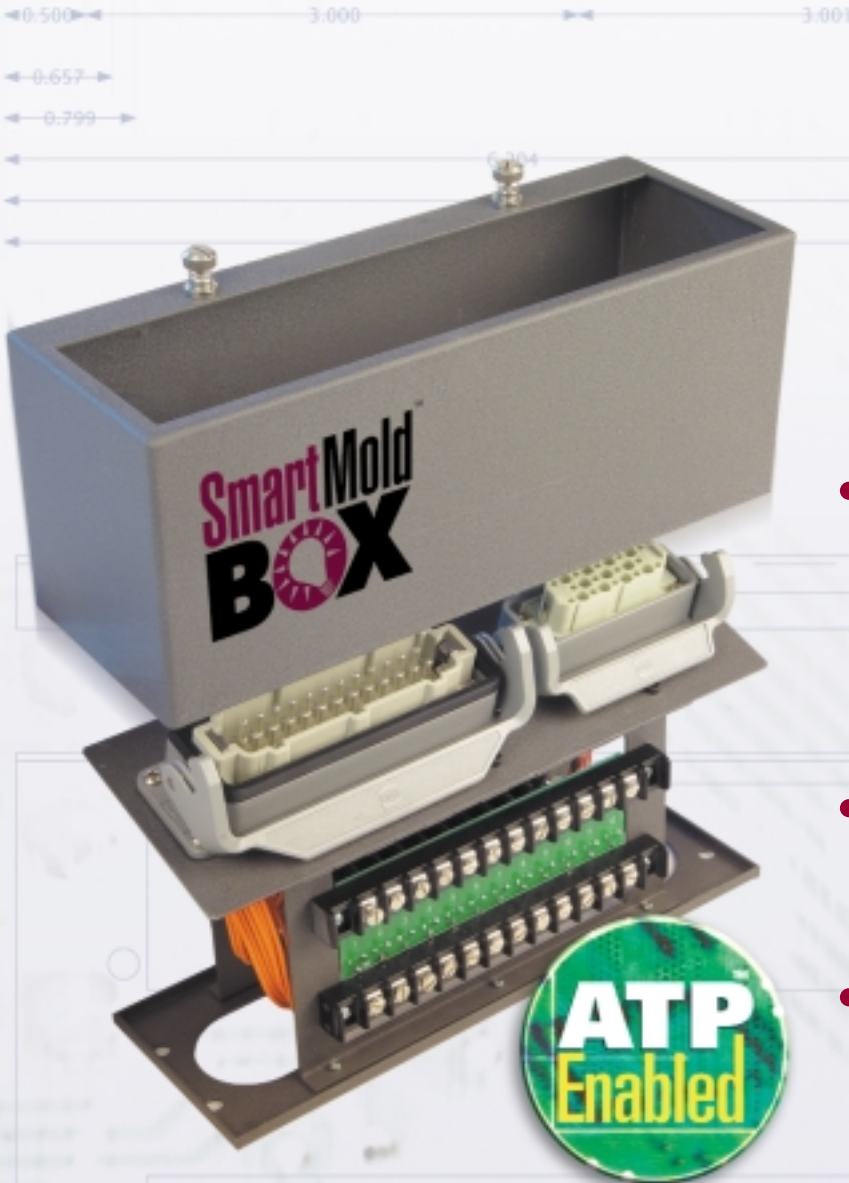
ATP™ (Active Thermocouple Protection) is a breakthrough in hot runner control system reliability – available exclusively from Fast Heat.

ATP protects hot runner control system components against Common Mode Leakage – the short circuit phenomenon which is the leading cause of catastrophic thermocouple failure – and thermocouple failure, in turn, can result in substantial tool downtime and/or control module maintenance/replacement costs.

ATP is installed as standard equipment in Fast Heat Pulse® Series controllers and retrofitable into other systems via Fast Heat Smart Mold Box™ and Smart Mold Connectors™.

Features and Benefits

- **Protects thermocouples from premature failure**
ATP acts as a “guardian”, constantly monitoring thermocouple circuitry for indications of trouble. When ATP senses excessive Common Mode Leakage, it shuts off power to thermocouples before they fail, while signaling a fault to the hot runner controller diagnostics. Corrective action is prompted (usually tightening of connections) before incurring costs of downtime associated with opening the tool for thermocouple replacement.
- **Protects control modules from thermocouple short circuits**
By preventing shorting of thermocouple circuits, ATP prevents the damage or destruction of hot runner control modules that can result – eliminating associated costs of module replacement and downtime.
- **Improves thermocouple signal accuracy**
ATP includes a specialized protection device to help ensure that temperature control modules receive the cleanest, most accurate signal possible from the thermocouple. Excessive signal “noise” and leakage current is converted into heat preventing transmission of spurious information for more consistent processing.



heating elements

hot runner systems

sensors/controls

reliability. always.

fast heat

ATP™

Active Thermocouple Protection



ATP™ is included as standard equipment in Pulse® Series Hot Runner Controllers, and is also available as an option in both SmartMold Box™ and SmartMold Connector™

Cost of Ownership

ATP provides effective protection against Common Mode Leakage, the leading cause of thermocouple failure (60% incidence).

- *Helps prevent the loss of a \$12 T/C from causing a control module failure (at \$200 - \$500 per zone) and possible mainframe damage.*
- *Protects against running with one or more drops inoperable with resulting lost production.*

Technical Description

ATP is a “non-powered” circuit, specially designed for hot runner applications.

ATP utilizes a resettable PTC (Positive Temperature Coefficient) device. The PTC goes into a high resistive protection mode when excessive current is present – opening the thermocouple circuit to protect the junction and controller input circuitry.

ATP is also equipped with a specialized protection device that turns excessive “noise” and leakage current into heat, primarily employed during short duration pulses present in all industrial applications. This device eliminates any noise present – providing the controller with a clean, accurate signal – and assists the PTC to protect against leakage current.

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