

Retrofitting from the Watlow® SERIES F4 to the F4T® – A Smarter Upgrade for Your Process Controller

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Upgrading a process controller in your industrial heating system might sound stressful—but it doesn't have to be. Whether you're managing a high-temperature process using thermocouple wire, or operating systems like a thermocouple for a water heater, the **Watlow® F4T®** (<https://www.watlow.com/products/controllers/Temperature-and-Process-Controllers/F4T-Integrated-Controller>) simplifies retrofitting and enhances performance.



Why the Process Controller Matters

In any industrial heater setup—be it water heating, plastics, or semiconductor manufacturing—the process controller is the heart of operations. When it malfunctions or becomes outdated, everything can grind to a halt. Fortunately, retrofitting from the Watlow® SERIES F4 to the F4T® is a straightforward way to restore efficiency and future-proof your system.

Transitioning from Watlow® SERIES F4 to the Advanced F4T®

The Watlow® SERIES F4 temperature controller has long been trusted across industries for its rugged performance and precision. From accurate thermal control in packaging lines to supporting complex thermocouple-based processes, it's built to last—with accuracy of $\pm 0.1\%$ of span and intuitive embedded software.

However, as industrial demands evolve, so must your equipment. The Watlow® F4T® builds on the legacy of the F4 by adding powerful new features:

- Full-color 4.3-inch graphical touchscreen display
- Advanced **data logging** (<https://www.watlow.com/products/controllers/Data-Loggers>), batch processing, and trend visualization
- Modular, field-configurable I/O
- Integrated PID control, limit control, and timers
- Support for solid state relays, panel switches, and math/logic operations

These upgrades make it ideal for industries using thermocouples for water heaters, high-temp ovens, or applications that require robust thermocouple wire setups.

How to Retrofit from F4 to F4T – Seamlessly

Retrofitting the F4T into an existing F4 ¼ DIN slot is quick and easy. Designed with compatibility in mind, the F4T fits directly into the legacy footprint, minimizing downtime.

Watlow® COMPOSER® software (<https://www.watlow.com/about-watlow/news/composer-press-release>) simplifies setup with a user-friendly drag-and-drop interface. The software guides users through every step—from wiring to I/O configuration—making it ideal for technicians managing thermocouple systems or high-power heaters.

Watlow also provides a dedicated F4 to F4T retrofit guide, (<https://www.watlow.com/-/media/documents/retrofit-guides/series-f4-retrofit-guide-03092015.ashx>) which:

- Matches legacy model numbers to F4T equivalents
- Identifies differences in language support, wiring, I/O boards, and programming
- Helps assess needs such as 500-ohm RTD support and custom firmware

Tip: If your SERIES F4 controller includes custom firmware (model numbers with 11th/12th digits other than RG, AA, AC, or AJ), contact Watlow's tech support at 1-800-WATLOW2.

Key Considerations Before Retrofitting

When planning a retrofit from Watlow® SERIES F4 to the F4T®, keep these best practices in mind:

Follow Safety Protocols

Always verify that safety systems are in place and functioning. Retrofitting without appropriate safety can cause equipment damage, invalidate warranties, or create hazards.

Understand Your Application

Know the sensor type and operating temperature range. Are your thermocouple wires or power-switching devices upgradeable if needed?

Evaluate I/O Needs

Identify any additional input/output needs such as cooling sensors, alarms, or voltage compatibility. Determine whether a limit controller or redundant safety is necessary.

Know Your Controller Capabilities

Understand the features of your controller—number/type of inputs, alarm functions, and communication protocols. Documentation such as user manuals and retrofit guides are vital.

Why Choose the Watlow® F4T® for Thermocouple-Based Systems?

For applications that rely on thermocouple wire—including thermocouples for water heaters, ovens, kilns, and chemical processing—the Watlow® F4T® ensures faster data acquisition, tighter temperature control, and easier diagnostics.

Whether you're a facility manager in Houston, a controls engineer in Chicago, or an OEM in Los Angeles, upgrading to the Watlow® F4T® ensures your operations remain modern, safe, and efficient.

Ready to Retrofit?

Streamline your upgrade process by contacting Watlow's technical support (<https://www.watlow.com/resources-and-support/additional-support>) or downloading the retrofit guide today. For applications involving thermocouples, thermocouple wire, or retrofitting from the SERIES F4 to the F4T, Watlow has made the path clear, simple, and future-ready.



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