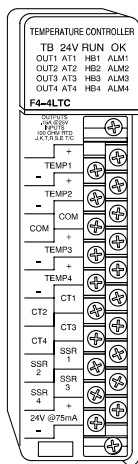


F4-4LTC



The F4-4LTC combines the features of 4 Single Loop Temperature Controllers into one inexpensive module!

The module has 4 asynchronous, configurable PID loops, with built-in temperature inputs and control outputs so that precision temperature control is maintained,

even while the PLC is in program mode. This module can control temperatures up to $\pm 3276.7^{\circ}\text{C}/^{\circ}\text{F}$ and accepts either thermocouple or RTD inputs. By simply changing a jumper setting, you can choose the one that is best suited for your application. In addition, both versions have solid-state relay outputs for heater (or chiller) control.

Operation

The temperature is read directly into the F4-4LTC with the on-board RTD or Thermocouple inputs. If the temperature is not at the target value (setpoint), then the control outputs are automatically activated. The F4-4LTC also provides automatic tuning of the control loops, so the module can easily adapt to changing temperature and process conditions. And since the F4-LTC is an intelligent DL405 module, you can easily use simple ladder logic in a DL405 CPU for ramp and soak setpoint changes.

Minimal setup ladder logic is required in the CPU, and since the floating point calculations are performed in the Temperature Controller, there is little effect on the CPU scan time. The Temperature Controller also pro-

vides alarm and diagnostic capabilities by monitoring Low Alarm, High Alarm, Deviation Alarm, Heater Burn-out, and broken transmitter conditions.

All information from the F4-4LTC can be mapped directly into the DL405 CPU memory. As a result, information is freely accessible through the CPU for coordinated control, operator interface usage, or data collection.

The operating characteristics for each loop are programmed into a user-defined block of V-memory in the DL405 CPU. The Temperature Controller accesses this memory area to determine the operating parameters for each loop. Each loop that is enabled requires 24 V-memory locations. Since all loop parameters are stored in V-memory, any device capable of reading and writing DL405 V-memory can be used to configure or monitor loops. The Temperature Controller reads/writes in the PLC. This information includes:

Read Continually

- Mode Word
- Temperature Setpoint

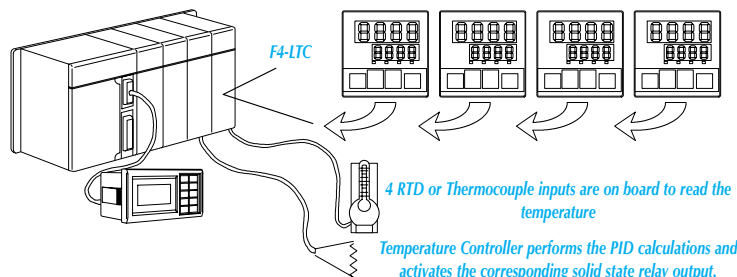
Written after Loop Update

- Output (0.0-100.0% or 0-4095)
- Alarm word
- Process Temperature

Read Setup/Write after Auto Tune

- Gain
- Reset, Integral Time (0-999.9s)
- Rate, Derivative Time (0-999.9s)

Combines 4 Single Loop Controllers into one module!



Read for Setup

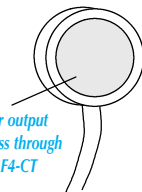
- Temperature Low Alarm
- Temperature High Alarm
- Temperature Deviation Alarm
- Alarm Deadband
- Setpoint Low Limit
- Setpoint High Limit
- Input Type (for Thermocouple)
- PID Control Period
- On/Off Hysteresis

RTD or Thermocouple Inputs!

The F4-4LTC can accept either RTD or Thermocouple inputs. See the specifications table.

Current Transformer

The optional F4-CT detects the presence of current flow and is very useful in detecting heater burnout conditions. The F4-4LTC has four inputs that can be used with these current transformers.



- Leads: 2, approx. 4"
- Ratio: 400:1
- Inductance: 300mH (min.)
- DC Resistance: 8 (max.)

