



TIP 1K THERMAL PROCESS CONTROLLER

The TIP1K Programmable Thermal Process Controller is a self contained, digitally programmable hot air source for use in production settings as well as process development. The unit comprises a separate enclosure which contains an air source and the control circuitry. This enclosure is connected via a flexible hose to a 1.5 KW high efficiency, thermally isolated Farnam Custom Products electrical heater whose heated exhaust air is used in the thermal process.

TIP 1K Thermal Process Controller Applications:

- Drying and/or activation of labels, adhesives, inks
- Curing of coatings, adhesives, resins
- Shrinking of films & covers, use in packaging machines and lines, package formation clean up
- Thermal Process Laboratories
- Heating & heat staking
- Modification-cutting, sealing, soldering, marking, welding, deicing, melting
- Sterilization & Sanitizing Assembly Lines

The output air temperature and volume/velocity are digitally controlled to a value programmed via a front panel membrane switch. Set point(s) and associated parameters are displayed on an illuminated front panel display. The set points produce selected air temperatures and flow rates or velocities at the heater exit. To obtain any particular set of operating variables, the operator needs only to enter the desired values via the front panel membrane switch and the TIP 1K Thermal Process Controller does the rest. Control of process variables is necessary to insure that a product is produced the same way every day. It eliminates the need to “re-tune” a heater system each time it is used or when power line voltage, input air temperature or pressure changes. Further, the ability to develop thermal processes by programming various temperatures and/or flow rates/velocities is extremely useful and time efficient.

Features

- Self contained heating system
- Controls three process variables:
 - Temperature (T_o)
 - SCFM (F_o)
 - Nozzle Velocity (V_o)
- High efficiency, thermally isolated Farnam Custom Products heater assembly
- Ultra long-life (> 20,000 hours) regenerative air source
- Membrane switch programmed variables
 - Automotive grade control components
 - Will not burn out from air flow loss
 - No thermocouple to burn out
 - Eliminates flow loss switch

Advantages

- Complete stand alone assembly/solution that includes heater, controls and air source
- Flexible operation for process development
- Accommodates multiple processes
- High accuracy, repeatable process variable control
- Tightens process control to save time and money

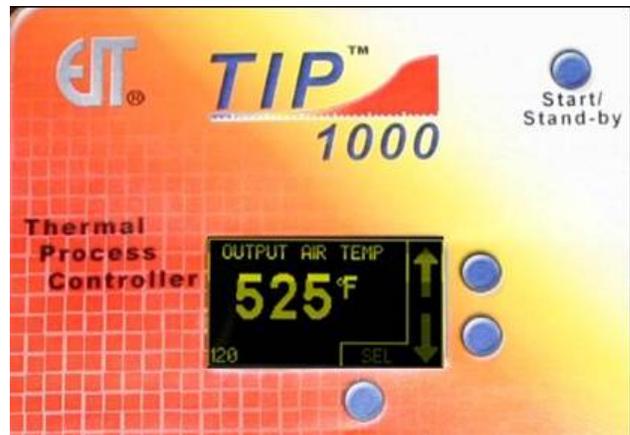


TIP 1K Thermal Process Controller



Farnam Custom Products 1.5 KW Heater

The TIP1K eliminates thermocouples in the hot air stream which are very prone to burnout at elevated temperatures. Heater burnout due to loss of air flow is virtually eliminated because the air flow measurements are very fast and reliable and are used to reduce power if flow loss occurs. If air flow drops below an acceptable level, an alarm is sounded and power is reduced to maintain a safe operating temperature in the heater. Alarms are also provided for out of control temperatures or unachievable set points. The heater is a innovative Farnam design which isolates the outer wall of the heater to greatly reduce the risk of personnel receiving thermal burns from touching the heater when it is operating at high power level. A replaceable two (2) micron automotive type filter virtually eliminates contaminated air from the heater reaching the work surface.



Display shown in Temperature Mode

The instrument operates from 208-240 VAC, 50-60Hz line voltage, without a requirement for conditioning. Maximum ambient temperature is 110° F with no restriction on humidity although condensation may result in some attack on bright metal parts.



Display shown in Flow Rate Mode (4.6 CFM)



Display shown in Velocity Mode (51.2 Feet/ Per Sec)



Specifications (Draft)	
Heater Power	1.5 KW @ 208-240 VAC @ 6.25 amps, 50-60 Hz, ~unity PF
Output Temperature Range	150°F - 1200°F (65°C-649°C)
Flow Rate	4.5 – 10.0 SCFM (127-311 LPM)
Velocity @ nozzle	20-85 ft/sec (6.1-25.7m/sec)
Enclosure Dimensions	16.4”L x15.4”W x11.6 H” (41.7 cm x 39.1 cm x 29.5 cm)
Enclosure Material	Powder Coated Aluminum
Weight	Enclosure 35 lbs Enclosure, heater w/5’ hose, 40 lbs
Power Input, Heater (full power) and Blower	~1900 VA@ 8 amps, ~0.95PF
Heater Material	Stainless Steel
Alarms	Front panel audible & flashing display
Repeatability	> 1%
Control Accuracy	Temperature: ± 3% of Full Scale Flow rate: ± 2% of Full Scale Velocity ± 5% of Full Scale

Please contact EIT for further information and pricing. Specifications are subject to change without notice.

Farnum Custom Products name used with permission



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