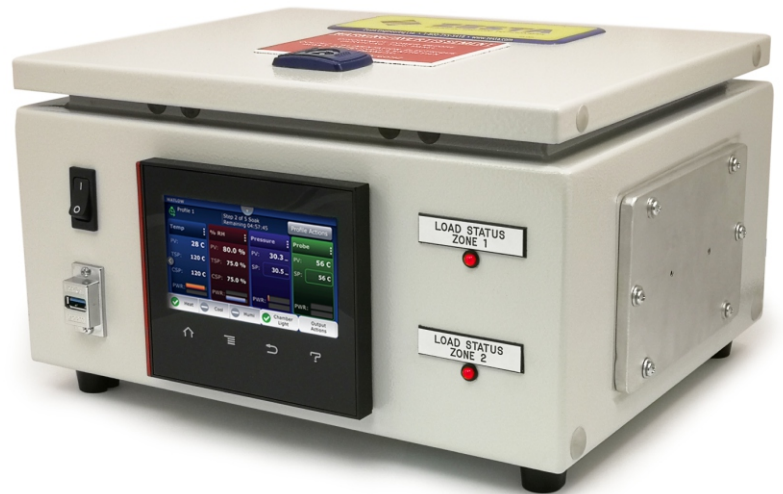


# F4T Benchtop Controller

- ☑ Easy to use Touch-Screen UI
- ☑ Robust, Portable Design
- ☑ Up to 4 PID Control Channels
- ☑ Profiling / Ramp & Soak
- ☑ Data Logging
- ☑ Programmable Function Blocks



**Available From  
Stock**

## FEATURES:

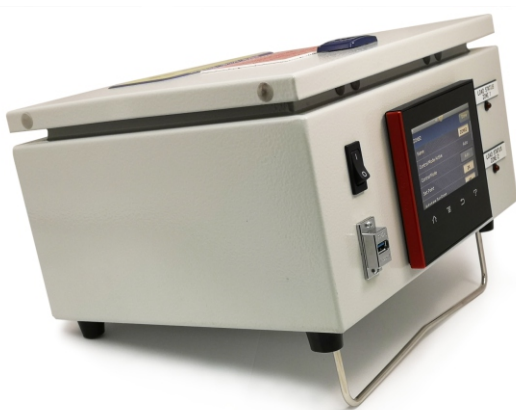
- 4.3-inch color graphical touch panel
- Up to 4 PID control channels
- Cascade Control
- Data logging with encrypted files
- Profiling, up to 40 ramp and soak profiles
- Graphical trend charts
- Programmable timers, counters, PLC math and logic
- Over/under-temperature limits for safety shutdown
- LabVIEW™ driver and SCPI protocol
- Intuitive user interface with screen personalization. Channels, profiles, alarms, inputs and outputs can be personalized with user defined names
- Power switching total of 15 amps @ 120VAC or 30 amps at 240VAC
- Agency approvals: CSA, UL

Zesta's F4T Benchtop Controller is loaded with powerful features, yet its intuitive navigation allows for quick setup and easy operation. It is equipped with a 4.3-inch, colour, graphical touch-screen interface. Users can fully personalized the user interface by renaming channels, profiles, alarms, inputs and outputs with user defined names.

The F4T Benchtop Controller is capable of controlling up to 4 PID control loops, with optional cascade control, profiling, data logging, graphical trending, and programmable function blocks. Integrated over/under temperature limits for safety shutdown are also available.

The F4T Benchtop Controller is field expandable. Most optional features (profiling, datalogging, function block sets, etc.) can be activated instantly in the field. Ask your Zesta sales representative for details.

From laboratory to the field, the F4T Benchtop Controller's rugged portable design brings total process control to your most demanding applications.



Comes with tilt rail for viewing convenience

# F4T Benchtop Controller

## SPECIFICATIONS

### Power

- 120V, 50/60Hz, fused for 15 amps total or combined, 5ft power cord c/w 15A, 125VAC plug
- 240V, 50/60Hz, fused for 30 amps total or combined, 5ft power cord c/w 30A, 250VAC plug

### User Interface

- 4.3 inch TFT PCAP color graphic touch screen
- LED backlife >50K hours
- 4 keys: Home, Main Menu, Back, Help
- On/Off button on front plate

### Control Loops

- 1 to 4 PID or ON-OFF control loops
- 0 to 2 Cascade loops
- 0 to 4 Limit loops
- User-selectable action: heat, cool or heat/cool
- Auto-tune with TRU-TUNE+ adaptive control

### Data Logging Option

- User selectable parameters: Up to a maximum of 128 active parameters depending on configuration
- Logging interval: Programmable increments between 0.1 seconds and 60 minutes if logging to internal memory. Logging directly to USB; 1.0 seconds to 60 minutes
- File types: .CSV for standard data logging or proprietary format for encrypted data log option
- Storage: 80MB internal memory or to USB memory stick
- File transfer: Internal memory to USB host port or to Ethernet Modbus® TCP
- Transfer options: On demand by user or user programmable based on when a new data log file record is available. Utilizes TFTP and Samba protocols
- Record: Date and time stamped

### Trending Option

- 4 user programmable charts
- 6 pens available per chart
- View analog sensors, process values, set points and power

### Profile Ramp and Soak Option

- Profile engine affects 1 to 4 loops in sync
- 40 profiles with 50 steps per profile
- Real Time Clock with Battery Backup
- Accuracy (typical): +/-3ppm over -15 to 50 °C
- Typical battery life: 10 years at 77 °F (25 °C)
- Field replaceable lithium battery

### Dimensions

7" x 12" x 10" (H x W x D) nominal

### Signal Input

#### Thermocouple, grounded or ungrounded.

- Accepts all standard size and miniature male connectors.
- Type J: -346 to 2192 °F (-210 to 1200 °C)
- Type K: -454 to 2500 °F (-270 to 1371 °C)
- Type T: -454 to 750 °F (-270 to 400 °C)
- Type E: -454 to 1832 °F (-270 to 1000 °C)
- Type N: -454 to 2372 °F (-270 to 1300 °C)
- Type C: 32 to 4200 °F (0 to 2315 °C)
- Type D: 32 to 4200 °F (0 to 2315 °C)
- Type F (PT11): 32 to 2449 °F (0 to 1343 °C)
- Type R: -58 to 3214 °F (-50 to 1767 °C)
- Type S: -58 to 3214 °F (-50 to 1767 °C)
- Type B: 32 to 3300 °F (0 to 1816 °C)

#### RTD, 2-wire or 3-wire

- RTD 100-ohm: -328 to 1472 °F (-200 to 800 °C)
- RTD 1000-ohm: -328 to 1472 °F (-200 to 800 °C)

#### Thermistor

- 0-40kΩ, 0-20kΩ, 0-10kΩ, 0-5kΩ
- 2.252kΩ and 10kΩ base at 77 °F (25 °C)
- Linearization curves built in

#### Universal Process

- Process, 0-20mA @ 100Ω, or 0-10VDC @ 20kΩ input impedance; scalable, 0-50mV, 0-1000Ω
- Process: -1999 to 9999 units

### Output

- 120V version: 15A, 125VAC receptacle (NEMA 5-15R)
- 240V version: 30A, 250VAC receptacle (spec'd by client)
- Solid state relay, zero cross (phase-angle optional)

### Alarm

- User programmable alarms

### Communications

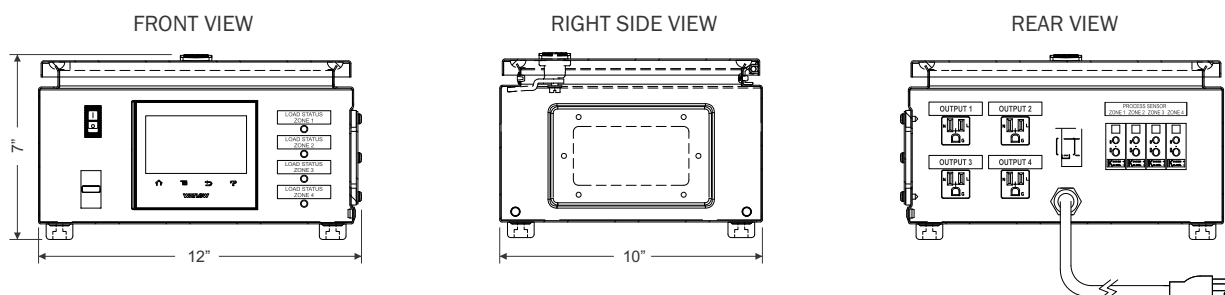
- Ethernet Modbus® TCP
- Isolated communications

### Environment

- NEMA Type 1 Enclosure
- Operating temperature: 0 to 104 °F (-18 to 40 °C)
- Storage temperature: -40 to 185 °F (-40 to 85 °C)
- Relative humidity: 0 to 90%, non-condensing

### Agency Approval

- CSA/UL508 NRTL/C, File No.LR91385



# F4T Benchtop Controller

## SPECIFICATIONS (cont'd)

### Function Blocks

Number of Function Blocks by Ordering Option

Function Block	Basic	Set 1	Set 2
Alarm	6	8	14
Compare	None	4	16
Counter	None	4	16
Linearization	4	4	8
Logic	None	12	24
Math	None	12	24
Process Value	4	4	8
Special Output Function (including compressor)	None	2	4
Timer	None	6	16
Variable	4	12	24

### Compare

- Greater than, less than, equal, not equal, greater than or equal, less than or equal

### Counters

- Counts up or down, loads predetermined value on load signal

### Linearization

- Interpolated or stepped

### Logic

- And, nand, or, nor, equal, not equal, latch, flip-flop

### Math

- Average, process scale, switch over, deviation scale, differential (subtract), ratio (divide), add, multiply, absolute difference, minimum, maximum, square root, sample and hold, pressure-to-altitude and dew point

### Process Value

- Sensor backup, average, crossover, wet bulb-dry bulb, switch over, differential (subtract), ratio (divide), add, multiply, absolute difference, minimum, maximum, square root, altitude, Vaisala® relative humidity and pressure-to-altitude

### Special Output Function

- Compressor control (cool and/or dehumidify with single compressor), motorized valve, sequencer

### Timers

- On pulse, delay, one shot or retentive

### Variable

- User value for digital or analog variable

## ORDERING INFORMATION

**ZCPF4T**      

To order, complete the code number to the right with the information below:

### AC Power Input:

- 1 = 120VAC, 50/60Hz
- 2 = 240VAC, 50/60Hz

### Control Loops:

- 1 = 1 Control Loop
- 2 = 2 Control Loop
- 3 = 3 Control Loop
- 4 = 4 Control Loop
- 5 = 0 Control Loop
- 6 = 0 Control Loop, 1 Cascade Loop
- 7 = 1 Control Loop, 1 Cascade Loop
- 8 = 2 Control Loop, 1 Cascade Loop
- 9 = 3 Control Loop, 1 Cascade Loop
- A = 0 Control Loop, 2 Cascade Loop
- B = 1 Control Loop, 2 Cascade Loop
- C = 2 Control Loop, 2 Cascade Loop

### Data Logging and Graphic Trend Charts:

- A = None
- B = Graphical trend chart
- J = Data logging
- K = Data logging with encrypted files
- L = Data logging with graphical trend chart
- M = Data logging with encrypted files and graphical trend chart

### Function Blocks & Profiles:

- A = Function Blocks: Basic Set
- B = Function Blocks: Set 1
- C = Function Blocks: Set 2
- D = Function Blocks: Basic Set + Profiling
- E = Function Blocks: Set 1 + Profiling
- F = Function Blocks: Set 2 + Profiling

Note: Refer to top of page 3 "Number of Function Blocks by Ordering Option" for quantities and types of functions blocks in each set.

### Input Type:

- J = Type J Thermocouple(s)
- K = Type K Thermocouple(s)
- T = Type T Thermocouple(s)
- E = Type E Thermocouple(s)
- N = Type N Thermocouple(s)
- C = Type C Thermocouple(s)
- D = Type D Thermocouple(s)
- F = Type F Thermocouple(s)
- R = Type R Thermocouple(s)
- S = Type S Thermocouple(s)
- B = Type B Thermocouple(s)
- 2 = 2 Wire RTD(s) PT100
- 3 = 3 Wire RTD(s) PT100
- 4 = 2 Wire RTD(s) PT1000
- 5 = 3 Wire RTD(s) PT1000
- 6 = Process 0-20mA
- 7 = Process 0-10VDC

### Number of Limit Zones:

- 0 = none
- 1 = 1 Limit Zone
- 2 = 2 Limit Zones
- 3 = 3 Limit Zones
- 4 = 4 Limit Zones

### Custom Options:

- 0 = None
- P = Phase-angle output(s)
- X = Custom Option (consult factory)


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