

Model F10 and F30 Master Modules DIN Rail Universal Temperature Process Controls

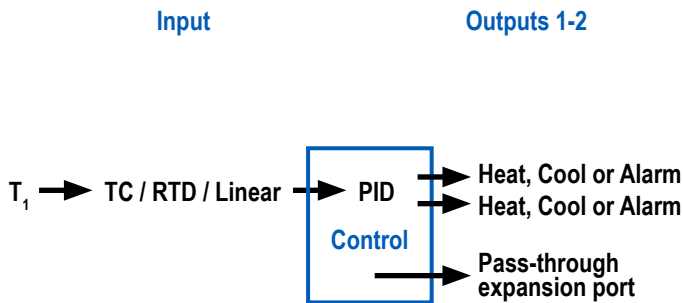
The Athena F10 and F30 Master Modules are DIN rail mounted, auto-tuning universal process controls. Designed with the OEM in mind, they are the industry's most affordable custom control. Athena will work with you to design the perfect solution including preloaded parameters, custom software, custom display solutions, and enhanced I/O. Use these controls independently or in combination with other machine controllers. Add our expansion slave modules for more capability. The Master comes standard with RS-485 communications to communicate with HMI and the Industrial Internet.

- ▲ DIN Rail mounted Master enclosures can be combined with expansion slave modules through a pass-through port, up to 5 control loops per set

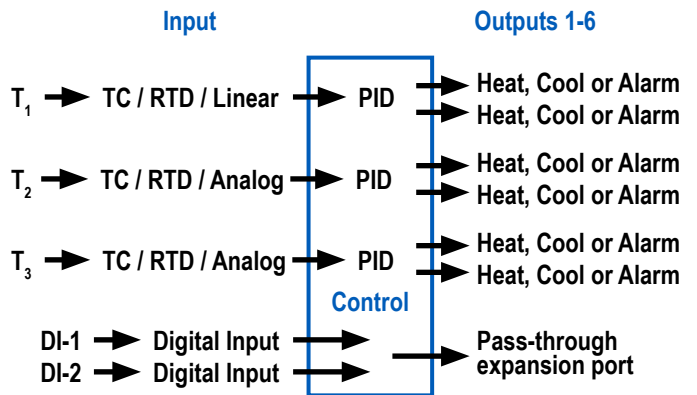


- ▲ Master controls can be used with add-on expansion slave modules to configure a custom control solution
- ▲ Custom application software available or can provide Athena's C Series process control software
- ▲ Can be paired with Athena's standard panel mount displays, most touchscreens, or HMI through 485 Modbus RTU
- ▲ Isolated RS-485 Modbus RTU protocol
- ▲ Accepts RTD (2 or 3 wire), thermocouples and linear inputs
- ▲ Agency Approvals: cETLus, CE and FCC, CE Class A EMI compliance

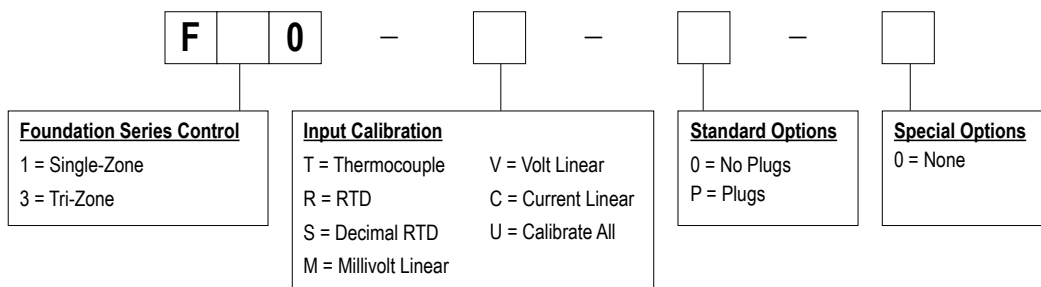
F10 Temperature Control Application



F30 Temperature Control Application



Ordering Information



Technical Specifications

Technical Operating Limits

Ambient Temperature	32 deg F to 122 deg F (0 deg C to 50 deg C)
Relative Humidity	90% non-condensing
Power	24Vdc, +10/-15%
	F1C External fuse required 2.25A for 24Vdc input power
	F3C External fuse required 3A for 24Vdc input power

Performance

Accuracy	± 0.20% of full scale, ± 1 digit
Setpoint resolution	1 count / 0.1 count
Repeatability	± 1 count
Temperature Stability	5 μ V/°C (maximum)
TC Cold End Tracking	0.05°C/°C ambient
Noise Rejection	100 dB common mode
Process Sampling	126 ms X number of active zones +1

Control Characteristics

Proportional Band	2 to span of sensor
Integral	0 to 9600 seconds
Derivative	0 to 2400 seconds
Cycle Time	0-200 ms; 1 to 120 seconds
Control Hysteresis	1 to span of sensor
Autotune	Operator Initiated
Manual Control	Operator Initiated

Input Specifications

Thermocouple	B, C, E, J, K, N, NNM, R, S, T Platinel II. Maximum lead resistance 100 ohms for rated accuracy grounded or ungrounded
RTD	2 & 3 wire 100 ohm RTD 100 ohms at 0 deg C (DIN curve standard 0.00385) Option: 1000 ohm RTD (consult factory)
Linear	0-10mV, 0-50mV, 10-50mV, 0-100mV 0-1V, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA
Digital Inputs (F30 only)	Dry contacts, Isolated 5V source AC or DC Frequency Inputs

Output Specifications

F10	2 Outputs, 24Vdc sourcing, 1A Max configurable as Heat, Cool or Alarm
F30	6 Outputs, 24Vdc sourcing, 3A Max configurable as Heat, Cool or Alarm

Note: Each output must be protected from overload by a 1A fast-blow external fuse.

Mechanical Characteristics

Dimensions	
F10C	3.9"H x 1.08"W x 4.39"D
F30C	3.9"H x 1.78"W x 4.39"D
Connections	Mating Plugs with screw terminals
Mounting	DIN Rail

F10C Terminal Identification

Terminal #	
1	24Vdc Gnd
2	24Vdc Gnd
3	+ 24Vdc
4	Output 2
5	GND
6	Output 1
7	"A" RS485
8	"Gnd" RS485
9	"B" RS485
10	RTD EXT
11	TC+
12	TC-



F30C Terminal Identification

Terminal #	Terminal #
1	24Vdc Gnd
2	24Vdc Gnd
3	+ 24Vdc
4	RTD EXT
5	TC+
6	TC-
7	"B" RS485
8	"Gnd" RS485
9	"A" RS485
10	RTD EXT
11	TC+
12	TC-
13	Output 1
14	Output 2
15	Output 3
16	RTD EXT
17	TC+
18	TC-
19	Output 4
20	Output 5
21	Output 6
22	DI-1(+)
23	DI-2(+)
24	DI (-)



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Foundation Series

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