



C-SERIES 25C UNIVERSAL TEMPERATURE / PROCESS CONTROLLER

The Athena 25C is a 1/4 DIN panel mounted, auto-tuning controller that can be used for precise control of a single loop with two independent outputs field-configurable as direct acting, reverse acting and 2 alarms. RS-232 or RS-485 communications interfaces are available, and two digital LED displays provide visual indication of various controller functions.



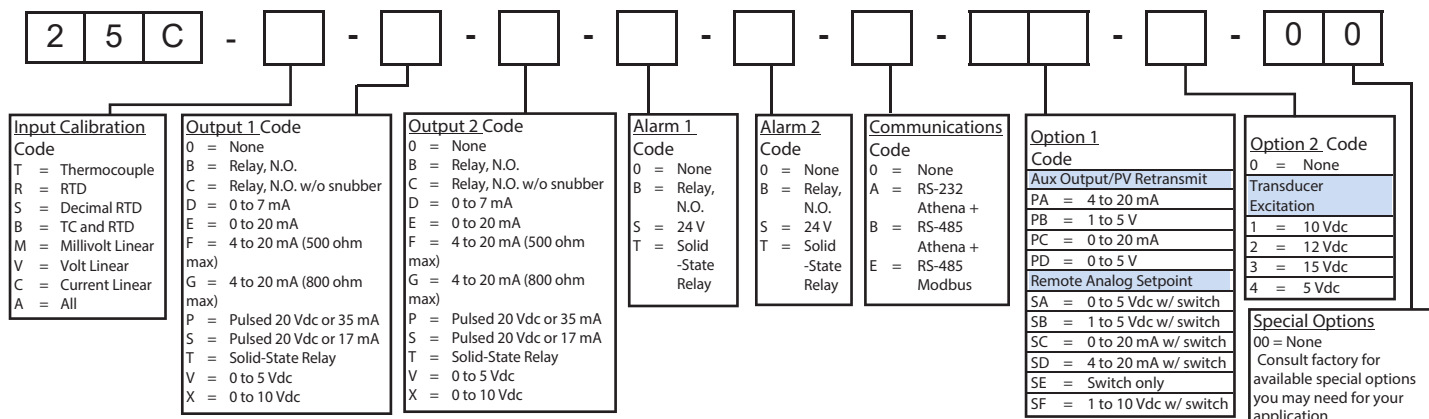
KEY FEATURES

- ▲ Field-Configurable Universal Inputs
- ▲ User-selectable Ramp to Setpoint
- ▲ 8-level Ramp/Soak Control
- ▲ Bumpless Auto/Manual Transfer
- ▲ NEMA 4X (IP65) Dust and Splash-Proof Front Panel
- ▲ Decimal Display in 0.1° for Measured Temperatures Under 1000° F or °C
- ▲ On/Off Through Full PID Operation (P, PI, PD, PID)
- ▲ Adjustable Hysteresis and Deadband
- ▲ Outputs Configurable as Alarms
- ▲ Field-Configurable Process or Deviation Alarms; Latching or Non-Latching; Band and Inverse Band
- ▲ Dual Output/Dual Alarm Capabilities
- ▲ UL, cUL, and CE Approvals
- ▲ Options include Remote Analog Setpoint, Multifunction Contact/Digital Input, Transducer Excitation, and Auxilliary Output.
- ▲ Special and Custom Options Available

RANGE INFORMATION

Input	Range
"B"	32°F to 3308°F (0°C to 1820°C)
"C"	32°F to 4199°F (0°C to 2315°C)
"E"	-238°F to 1832°F (-150°C to 1000°C)
"J"	-328°F to 1400°F (-200°C to 760°C)
"K"	-454°F to 2462°F (-270°C to 1354°C)
"N"	-450°F to 2372°F (-268°C to 1300°C)
"NNM"	32°F to 2570°F (0°C to 1410°C)
Millivolt Linear (Scalable)	0 to 50mV / 10 to 50mV / 0 to 10mV / 0 to 50mV / 0 to 100mV
"R"	-58°F to 3214°F (-50°C to 1768°C)
"S"	-58°F to 3214°F (-50°C to 1768°C)
"T"	-454°F to 2250°F (-270°C to 1232°C)
Platinel II	-148°F to 2250°F (-100°C to 1232°C)
100 ohm RTD	-328°F to 1562°F (-200°C to 850°C)
100 ohm RTD (decimal)	-328°F to 707°F (-200°C to 375°C)
Current Linear (scalable)	4 to 20mA, 0 to 20mA
Volt Linear (scalable)	0 to 1V / 0 to 5V / 0 to 10V / 0 to 5V

ORDERING INFORMATION



TECHNICAL SPECIFICATIONS

OPERATING LIMITS

Ambient Temperature	32°F to 140°F (0°C to 60°C)
Relative Humidity	
Tolerance	90%, non-condensing
Power	85-265 Vac, 50/60 Hz 120 to 375 Vdc (auto polarity)
Power Consumption	Less than 6 VA (instrument)

PERFORMANCE

Accuracy	±0.20% of full scale (±0.10% typical), ±1 digit
Setpoint Resolution	1.0 count / 0.1 count
Repeatability	±1.0 count
Temperature Stability	5 µV/°C (maximum)
TC Cold-End Tracking	0.05°C/°C ambient
Noise Rejection	100 dB common mode 70 dB series mode
Process Sampling	3.5 Hz (270 ms)
Digital Filtering	Adjustable 0.1 to 10

CONTROL CHARACTERISTICS

Setpoint Limits	Span of Sensor
Alarms	Adjustable for high/low; selectable for process or deviation
Proportional Band	2 to span of sensor
Integral	0 to 9600 sec
Derivative	0 to 2400 sec
Cycle Time	0.2 to 120 sec
Control Hysteresis	1 to span of sensor
Dead Band (Output 1 & 2)	Range of Sensor
Auto-Tune	Operator initiated from front panel
Manual Control	Operator initiated from front panel

INPUTS

Thermocouple	B, C, E, J, K, N, NNM, R, S, T, Platinel II Maximum lead resistance, 100 ohms for rated accuracy
RTD	Platinum 2- and 3-wire, 100 ohms at 0°C, (DIN curve standard 0.00385)
Linear	0-50 mV/10-50 mV, 0-20 mA/4-20 mA, 0-10 mV/0-50 mV, 0-100 mV, 0-1 V/0-5 V, 0-10 V, 1-5 V

OUTPUTS

B	5 A/3 A (120/240 Vac) normally open
E	0-20 mA
F	4-20 mA, full output to load 500 ohm impedance max
G	4-20 mA, full output to load 800 ohm impedance max
P	20 Vdc or 35 mA
S	20 Vdc or 17 mA
T	1 A, Solid-state relay
V	0 to 5 Vdc
X	0 to 10 Vdc
Y	1 A, normally closed relay

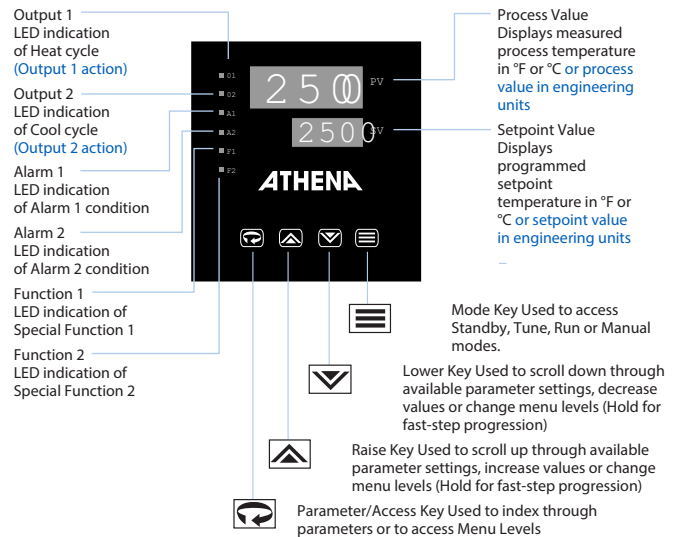
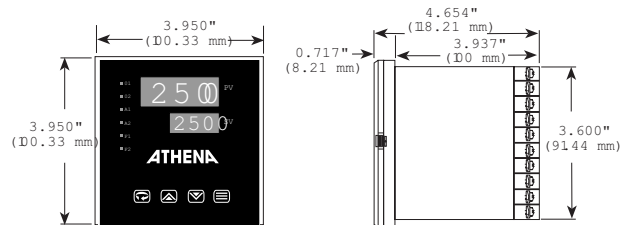
OUTPUT ALARMS

B	5 A/3 A (120/240 Vac), mechanical relay
S	24 V, 20 mA
T	SSR, NC, 24-240 Vac

MECHANICAL CHARACTERISTICS

Display	Dual, 4-digit 0.36" (9.2 mm) LED display Process Value: Orange Setpoint Value: Green
Numeric Range	-1999 to 9999
Front Panel Rating	NEMA 4X (IP65)
Front Panel Cutout	3.622" x 3.622" (92 mm x 92 mm)
Connections	Screw terminals

Specifications subject to change without notice.



Athena Controls, Inc.
5145 Campus Drive,
Plymouth Meeting, PA 19462 USA
Toll Free: 1.800.782.6776; T: 1.610.828.2490
F: 1.610.828.7084
Email: mktg@athenacontrols.com
www.athenacontrols.com

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