Analog Series 86 Non-Indicating Temperature Controller
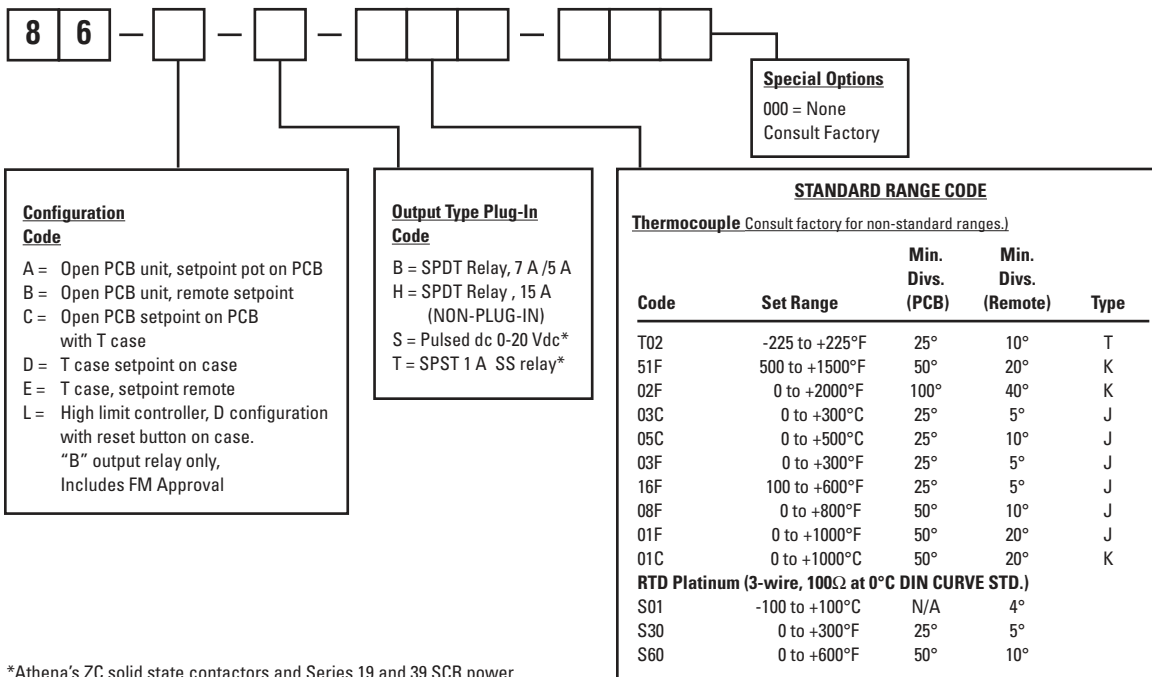

Remote Setpoint
Potentiometer (optional)

The Athena Series 86 is a non-indicating, case or track mounted temperature controller that can be used for differential (on-off) to proportional control via simple adjustment. The controller accepts thermocouple or RTD input, and offers field changeable control outputs for relay, SS relay, or pulsed voltage.

▲ Single-turn, 270° Rotation Potentiometer

▲ Field Changeable Control Outputs: Relay, SS Relay or Pulsed Voltage

▲ Failsafe in Open Sensor Conditions

▲ Optional Remote Setpoint

▲ Optional Solid-State Contactors for Boosting Power Handling Capacity

▲ Cooling Configuration Available

▲ Thermocouple or RTD Input
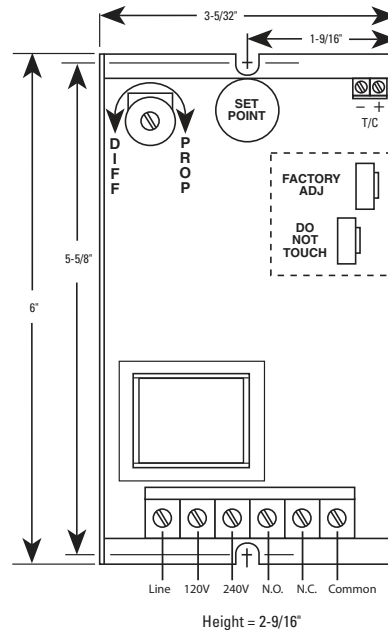
▲ Limit Controller Option

Ordering Information

86 – ☐ – ☐ – ☐☐☐ – ☐☐☐

Special Options

000 = None
Consult Factory

Configuration Code

A = Open PCB unit, setpoint pot on PCB
B = Open PCB unit, remote setpoint
C = Open PCB setpoint on PCB with T case
D = T case setpoint on case
E = T case, setpoint remote
L = High limit controller, D configuration with reset button on case. "B" output relay only, Includes FM Approval

Output Type Plug-In Code

B = SPDT Relay, 7 A /5 A
H = SPDT Relay , 15 A (NON-PLUG-IN)
S = Pulsed dc 0-20 Vdc*
T = SPST 1 A SS relay*

STANDARD RANGE CODE

Thermocouple Consult factory for non-standard ranges.)

Code	Set Range	Min. Divs. (PCB)	Min. Divs. (Remote)	Type
T02	-225 to +225°F	25°	10°	T
51F	500 to +1500°F	50°	20°	K
02F	0 to +2000°F	100°	40°	K
03C	0 to +300°C	25°	5°	J
05C	0 to +500°C	25°	10°	J
03F	0 to +300°F	25°	5°	J
16F	100 to +600°F	25°	5°	J
08F	0 to +800°F	50°	10°	J
01F	0 to +1000°F	50°	20°	J
01C	0 to +1000°C	50°	20°	K
RTD Platinum (3-wire, 100Ω at 0°C DIN CURVE STD.)				
S01	-100 to +100°C	N/A	4°	
S30	0 to +300°F	25°	5°	
S60	0 to +600°F	50°	10°	

*Athena's ZC solid state contactors and Series 19 and 39 SCR power controllers can be added to boost AC load switching capacity.
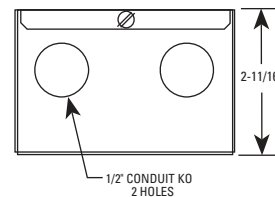
ATHENA

Technical Specifications

Setpoint	Single-turn, 270° rotation potentiometer (local or remote) is standard. Remote digital thumbwheel available for RTD only
Setpoint Resolution	1% with circuit board potentiometer, 1/4% with remote potentiometer
Calibration Accuracy	1% at calibration points with remote potentiometer. 2% at calibration points, potentiometer on circuit board
Ambient Temperature	32°F to 130°F (0°C to 55°C)
Humidity Tolerance	5 to 95%, non-condensing
Cold Junction Compensation	Internal electrical bridge
Hysteresis/ Proportional Band	Thermocouple adjustable from hysteresis of 5° to proportional band of 25° RTD deadband is 3° to proportional band of 10°
Thermocouple Break Protection	Output power off with open sensor.
Output	Type B Relay S.P.D.T. 7 A/5 A @ 120/240 V Type H Relay S.P.D.T. 15 A/7 A @ 120/240 V (NON PLUG IN) Type T S.S. Relay S.S.T. 1 A 120/240 Vac, 10 A inrush, 2-4mA leakage Type S Pulsed dc, 0-20 Vdc open ckt. not isolated from sensor
Supply Voltage	120/240 ± 10%V, 50-60 Hz
Power Consumption	2 watts

Height = 2-9/16"

Panel Mounting External Setpoint:

Remove knob with small screwdriver and take off the nut holding the scale to the pot. Mount pot through a 3/8" hole in your panel; put scale over shaft and tighten nut. Turn shaft counterclockwise until it stops. Now put knob back on and line up its indicating mark with the arrow on scale. Tighten knob. The unit is now calibrated.

Mounting Case: (T Case)

Remove the two sheet metal screws holding the cover on; take off cover. Next remove shipping bolts from plastic track and replace them with your mounting hardware. Replace cover.