

## Controls

### 6020 & 8020

### Temperature & Process Controllers

- 1/16 & 1/8 DIN Sizes
- 2 or 3 Outputs (SSR Drive/Relay)
- Extremely Quick Setup
- Thermocouple, RTD & Linear DC Inputs
- PID or ON/OFF Control
- Large Dual 4-Digit Display
- Modbus RTU/RS485
- Configuration Software
- Low Supply Voltage Version
- Latching/Non-latching Alarms: Process Hi/Lo, Band, Deviation, Loop
- Sensor Break Detection
- Shallow Panel Depth (67mm/2.6")
- IP65 Protection
- UL, cUL, CE
- 3 Year Warranty



#### Description

The Chromalox 20 Series temperature controllers are very cost effective, extremely fast to configure and offer the most common standard process control features. These controllers have impressively large and bright dual 4-digit LED displays, 3 LED output/event indicators, 3 large tactile input buttons and they occupy only 2.6" (67mm) behind the panel. Controller design choices include 1/16 and 1/8 DIN sizes, 2 or 3 outputs, Modbus RTU/RS485 digital communications and standard or low supply voltages.

#### Ready, Set, Control...

The controller setup has been greatly simplified to the point where you will be up and running in less than 60 seconds. The Chromalox 20 Series units are factory programmed with the most common parameter value settings found in process heating applications. Separate default setting profiles exist for both SSR Drive output and Relay output units. Simply enter the process temperature setpoint and you are controlling your process. Of course, should you wish to change any settings, the 20 Series controller provides efficient, user-friendly navigation throughout all programming menus.

#### Additional Features

Some features that you may not expect to find on the 20 Series units include Sensor Break Detection, Modbus RTU/RS485 Communications and Process, Band, Deviation and Loop alarms which may be either latching or non-latching.

#### Traditional Applications

- Packaging
  - Testing
  - General Heat Processes
  - Food and Beverage
  - Kilns & Ovens
  - Fluid Baths
  - Autoclaves
  - Food Processing
  - Thermal Bonding & Sealers
  - Micro-brewing
  - Incubators
  - Warming / Chilled Cabinets
  - Heat Presses
  - Tempering
  - Plastic & Rubber Extrusion
- And many more...

CONTROL  
PRODUCTS

## Controls

### 6020 & 8020 Temperature & Process Controllers (cont'd.)

#### Configuration Software

The **20 Series Configurator** is an extremely intuitive programming tool which facilitates the cloning of multiple controllers and fast parameter file uploads and downloads to and from the controller or PC. The Configurator program

includes a Setup Wizard which removes the guesswork by methodically walking you through the most basic wiring, input considerations and programming requirements.



#### Stocked Items

Part Number	PCN
6020-SR000	307619
6020-RR000	307627
6020-RRR00	307635
6020-SR001	307643
6020-RR001	307660
6020-RRR01	307678
6020-SR010	307715
6020-RR010	307723
6020-RRR10	307731
6020-SR011	307774
6020-RR011	307782
6020-RRR11	307790
8020-SR000	307838
8020-RR000	307846
8020-SR001	307854
8020-RR001	307900
8020-SR010	307918
8020-RR010	309104

#### Accessories

Description	PCN
Universal Converter & PC Cable For Configuration Software	309112
Cable From Universal Converter to Controller - 20 Series Only	309120
Snubber	314448

# Controls

## 6020 & 8020 Temperature & Process Controllers (cont'd.)

### Specifications

Universal Input	
Thermocouple Calibration:	±0.25% of full range, ±1LSD (±1°C for Thermocouple CJC). BS4937, NBS125 & IEC584.
PT100 Calibration:	±0.25% of full range, ±1LSD. BS1904 & DIN43760 (0.00385Ω/Ω/°C).
DC Calibration:	±0.2% of full range, ±1LSD.
Sampling Rate:	4 per second.
Impedance:	>10MΩ resistive, except DC mA (5Ω) and V (47kΩ).
Sensor Break Detection:	Thermocouple, RTD, 4 to 20mA, 2 to 10V and 1 to 5V ranges only. Control outputs turn off.
Isolation:	Isolated from all outputs (except SSR driver) by at least BASIC isolation. Universal input must not be connected to operator accessible circuits if relay outputs are connected to a hazardous voltage source. Supplementary insulation or input grounding would then be required. Isolated from Mains Power Input by basic isolation.
Outputs	
Relays (Optional)	
Contacts:	SPST Form A relay; current capacity 2A at 250VAC.
Lifetime:	>150,000 operations at rated voltage/current, resistive load.
Isolation:	Basic Isolation from universal input and SSR outputs.
SSR Drivers (Optional)	
Drive Capability:	SSR drive voltage >10V at 20mA
Isolation:	Not isolated from universal input or other SSR driver outputs.
Serial Communications (Optional)	
Physical:	RS485, at 1200, 2400, 4800, 9600, 19200 or 38400 bps.
Protocols:	Modbus RTU.
Isolation:	Basic safety isolation from Universal input and SSR. Basic safety isolation to Mains and Relay Circuits.
Operating Conditions	
Usage	For indoor use only, mounted in suitable enclosure
Ambient Temperature:	0°C to 55°C (Operating), -20°C to 80°C (Storage).
Relative Humidity:	20% to 95% non-condensing.
Altitude	<2000m
Supply Voltage and Power:	100 to 240VAC ±10%, 50/60Hz, 7.5VA (for standard powered version), or 24VAC +10/-15% 50/60Hz 7.5VA or 24VDC +10/-15% 5W (for low voltage version)
Environmental	
Standards:	CE, UL, cUL
EMI:	Complies with EN61326 (Susceptibility and Emissions).
Safety Considerations:	Complies with EN61010-1
Front Panel Sealing:	Front to IP65 when correctly mounted, Rear of panel to IP20.
Physical	
Front Bezel Size:	1/16 Din = 48 x 48 mm, 1/8 Din = 48 x 96 mm
Depth Behind Panel:	67mm with sealing gasket fitted.
Display:	Dual 4-Digit, 7-Segment LED
Display Height	1/8 DIN: 18.0 mm (Both Rows); 1/16 DIN: 18.0 mm (Top), 10.2 mm (Bottom)
Weight:	0.20kg maximum

# Controls

## 6020 & 8020 Temperature & Process Controllers *(cont'd.)*

### 20 Series 1/16 & 1/8 DIN Temperature Controller

#### 20 Series Temperature Controller

1/16 & 1/8 DIN Temperature Controller. Universal Input, PID Control with Auto or Manual Tuning, Up to 3 Outputs (Relay or SSR Drive), Dual Large 4-Digit, 7-Segment LED Display, Heat/Cool Operation, Latching/Non-Latching Alarms and Configuration Software. Options: ModBus RTU/RS485 Digital Communications, Low Voltage Supply. Operating Temperature: 32°-131°F (0°-55°C), IEC IP65 front panel protection. CE, UL, CUL & 3-Year Warranty.

Model		
6020	1/16 DIN	
8020	1/8 DIN	
Code	Output 1	Output 2
R R	Relay	Relay
S R	SSR	Relay
S S	SSR	SSR
Code	Output 3	
0	None	
R	Relay	
Code	Digital Communications	
0	None	
1	ModBus RTU/RS485 Digital Communication	
Code	Power Supply	
0	100 to 240 VAC 50/60Hz	
1	24 VDC/AC +10%/-15%, AC 50/60 Hz	
6020 -	S R R 0 0	Typical Model Number

Relay: SPST Form A, 2A at 250 VAC  
SSR: >10 VDC @ 20 mA

Model	X	Y	D	W	H
6020	1.89" (48mm)	1.89" (48mm)	2.64" (67mm)	1.77" (45mm)	1.77" (45mm)
8020		3.78" (96mm)			3.62" (92mm)

