



FEATURES

- 9 programs—each with up to 9 segments
- 1 controlled heating / cooling ramp + 1 soak per segment
- Ideal for glass or ceramics use
- Soak times up to nearly 100 hours
- Ramp rates from 1 to 999°C/hour + full
- Programs can be reviewed or altered while firing
- Program Pause & Segment Advance facilities
- Keyboard lockable
- Delayed start facility - up to 4 days
- Power failure recovery
- Energy used display
- Standard alarm / safety relay with alarm buzzer

DESCRIPTION

GENERAL

The ST315B is a 9-program controller designed for glass, ceramics & pottery use. Each program can have up to 9 segments. It is fully adjustable with a detailed 5-lamp mimic display & continuous display of program & segment numbers. Each segment comprises of a ramp followed by a soak. Ramps can be heating or cooling. It executes a controlled ramp to the soak temperature where it dwells for the required period then executes the next segment. The end of the program is marked by selecting 'End' while entering a ramp rate. Natural cooling then follows.

PROGRAMMING

Press the ► key to flash the program number display – this can be changed if required with the ▲ & ▼ keys. To change any of the controller's settings press the ► key (or reverse with the ◀ key) until the required lamp on the mimic display flashes. The current value will be displayed together with the units (°C, °C/hr or hr.min). Change the displayed settings with the ▲ & ▼ keys which can be held down for acceleration. All settings are remembered while the controller is powered off. The keyboard can be locked to prevent tampering.

FIRING

The ►■ (START/STOP) key is used to commence or halt a firing. The progress of the firing is shown on the mimic display. If a start delay has been set then the delay time remaining will be displayed. During firing the settings can be reviewed and altered if required, the program can be paused/resumed or a segment can be advanced. During soaking the soak time remaining and the soak temperature are alternately displayed. In the event of a power failure the controller will intelligently re-commence firing when power returns.

CONFIGURATION

The ST315B is configured as a signal controller to drive kilns with contactors. Such kilns are often fitted with an industry standard control socket and the ST315B can be supplied fitted with a mating controller plug and lead if required.

The ST315B is supplied with a metal holster style wall mounting bracket. A User Handbook and an Installation Handbook are provided.

SPECIFICATION

Electrical

Power supply

Voltage range: 100 - 253V
Frequency: 50/60Hz
Phases: 1
Power: Controller 3VA

Fuse: 3.15A slow-blow HRC
20mm x 5mm ceramic

Control Relays

Contact type: SPST NO
Switched mains live outputs
@300mA max
(for driving contactors)

Connectors

Thermocouple: 3.5mm plug/socket

Power: 5mm plug/sockets

Temperature

Temperature setting

Range: 0 to 1400°C (R/S) 0 to 1200°C (K/N)
Resolution: 1°C

Control Accuracy

P.I.D. Control
Reading accuracy: ±0.25% FSD ±1 digit

Thermocouple

R,S,K & N type (selectable)

Cold Junction Compensation

Yes - precision semiconductor type

Time

Start delay range: 00:00 to 99hr 59min
Soak time range: 00:00 to 99hr 59min
Resolution: 1 min

Programs

9 programs each with 1-9 segments
1 ramp & 1 soak per segment
ramp rate: 1 to 999°C/hour or full power
Ramps can be heating or cooling

Environmental

Operating temperature range: -10°C to +55°C
Storage temperature range: -10°C to +55°C

Enclosure

Material: ABS Size: 120x122x58mm
Sealing: IP65 Fixings: 90x110mm
Colour: Light Grey (4 off) + wall mounting
RAL 7035 bracket (optional)

Error Handling

Thermocouple failure detection
Thermocouple reversal detection
Heater failure detection
Kiln over-temperature detection
Room over-temperature detection
Lock-up on error facility

Other

Keyboard lock facility + indicator
Program running & kiln heating-on indicators
Energy used display
Program pause & segment advance features

Weight

Instrument + wall bracket: 0.505kg
Shipping weight: 0.915kg
(weight does not include any fitted leads)

FURTHER DETAILS

Complete operating & installation instruction handbooks can be downloaded from our web site at www.staffordinstruments.co.uk

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