BONIS
High Temperature Kilns

ST535C
Temperature Programmer

FEATURES

- Multi-zone (1,2 or 3 zones)
- 32 programs each with 32 segments
- 1 controlled heating / cooling ramp + 1 soak per segment
- Optional WiFi & USB interface for datalogging, remote monitoring & control
- Ideal for glass or ceramics use
- Soak times up to nearly 100 hours
- Ramp rates 0.1 to 999°/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
- Worldwide operation
- °C/°F switchable display
- Alarm / safety relay with alarm buzzer
- 2 flexible event relays - one of which can be configured as a damper or fan control
- Pre-loaded with 10 standard ceramics programs & 9 standard glass programs which can be altered as required

DESCRIPTION

The ST535C is an easy to use ergonomically designed controller in a hand-held case with rubber hand grips. It is supplied with a wall mounting holster bracket and a flexible lead and plug as standard. The ST535C is designed to control multi zone (1, 2 or 3 zone) kilns.

It is suitable for worldwide use with a universal power supply and selectable °C/°F operation.

There are a total of 6 control relays: 3 zone power relays, 2 flexible event relays and an alarm / safety relay.

There is an option for a WiFi / USB interface for remote monitoring & control + local & remote datalogging.

For a single zone controller see our ST215C.

DESCRIPTION

GENERAL

The ST535C is a 32-program multi-zone controller designed for glass, ceramics & pottery use. Each program can have up to 32 segments. It is fully adjustable with a detailed 4-lamp mimic display & continuous display of segment number. 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.

SETTING UP

Press the ▶ key to display the program number – 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 a temperature, ramp rate or time icon. 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 ▶■ key is used to commence a firing. An optional start delay can be entered. 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 program settings can be reviewed and altered if required and the program can be paused/resumed or advanced to the next segment. The current set-point and the current energy used can be viewed by pressing the ◀ key at any time. 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 ST535C can be configured to the kiln using a configuration menu. The thermocouple type and kiln power rating (for the energy used function) can be configured together with °C/°F operation. Other installer-configurable items include number of zones, power failure recovery enable/disable, error message handling and control parameters.

The ST535C is supplied with a moulded ABS holster style wall mounting bracket and a flexible lead & plug.

SPECIFICATION

Electrical

Power supply
Line voltage range: 90 - 264VAC
Frequency: 50/60Hz

Power: Controller 4VA (max)
          Switched outputs: 125VA

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

Control Relays (6)
Contact type: SPST NO
Switched Live -
     Line voltage output
     @500mA max

Lead & Connector
3m flexible grey polyurethane lead
Harting 15D plug

(Other lead & connector options available)

Enclosure

Material: ABS flame retardant UL 94V-0
Sealing: IP50
Size: 100/86mm(W), 210mm(L), 32mm(D)
Colour: Black/Dark Grey
          RAL9011/RAL7012

Temperature

Temperature setting
Range: 0 to 1400°C (R/S) 0 to 1250°C (K/N)
Resolution: 1°C

Control Accuracy
P.I.D. Control (adjustable)
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

32 programs each with 1-32 segments
1 ramp & 1 soak per segment
ramp rate: 0.1 to 9.9°/hour then
10 to 999°/hour or FULL
Ramps can be heating or cooling

Environmental

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

Error Handling

Thermocouple failure detection
Thermocouple reversal detection
Heater failure detection
Kiln over-temperature detection
Room over-temperature detection
Lock-up on error facility
Audible Alarm (buzzer)

Other

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

Weight

Instrument + wall bracket + standard
cable: 0.841kg
Shipping weight: 1.025kg

Wall Bracket

Material: ABS flame retardant UL 94V-0
Colour: Dark Grey RAL7012
Fixing slot centres (vertical): 100mm
Fixing slot size: 8mm x 4mm

Issue: 6.002 dated: 10 May 2021

BONIS
High Temperature Kilns