



# SPS5 Range

## Kiln Temperature Controllers

### FEATURES

- Simple to use with large alphabetic display & menu prompts
- 10 fully adjustable programs (SPS5.7)
- 10 fixed programs (SPS5.2)
- Single program (SPS5.1)
- Up to 9 programs can be linked (SPS5.7)
- Delayed start facility (up to 100 hours)
- Power failure recovery
- Temperatures from 0 to 1310°C
- Optional internal over-temperature trip
- Firing Status Display

### DESCRIPTION



**GENERAL** The SPS5 range of controllers have been designed to be easy to set up and use. Setting up is performed using an on-screen prompting menu system and during firing full status information is displayed. The start of firing can be delayed, for example, to run over night on low-tariff electricity. These controllers will recover from power failure and will continue a firing that was in progress. An optional internal over-temperature trip module can be fitted – this acts as an electronic heat fuse for kiln protection.

**SPS5.7** A 10-program controller designed for pottery, ceramics & glass firing. The programs are fully adjustable and each can contain from 1 to 9 ramp/dwell (soak) segments. Controlled heating & cooling ramps are possible over the range  $\pm 1^\circ\text{C}/\text{hour}$  to full. Long soak times of up to 100 hours are available. Up to 9 programs can be linked (in any order) to form complex firings.

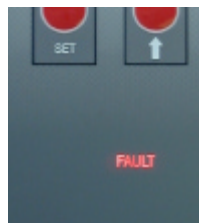
**SPS5.2** A pre-programmed 2-stage controller which has been designed in response to the many requests from Schools & Colleges for a controller that will operate a kiln with the minimum of attention. It has 10 pre-set programs which cover the majority of common firing requirements and have been chosen to give safe repeatable results over a wide range of sizes, sections & material types. The top (soak) temperature of each program is adjustable by  $\pm 100^\circ\text{C}$ .

**SPS5.1** A fully-adjustable single-program 2-stage controller. The first stage is slow heating at a selectable ramp rate to an intermediate temperature,  $t_1$ . The second stage is fast heating at full power to the top temperature,  $t_2$ . The controller dwells for a soak period at  $t_2$  then turns heating power off for natural cooling. Both  $t_1$  &  $t_2$  are user-settable over the full range 0 to 1310°C. The soak period is user-settable from zero to 99 hrs. 59 mins.

### OPTIONS

#### INTERNAL TRIP

An adjustable safety device which cuts off heating power in the event of over-firing. A normally hidden FAULT legend illuminates.



#### AUXILIARY RELAY

(SPS5.7 only) - can be user configured as either a damper control, set point alarm or event relay.

#### CABLE & CONNECTOR

A 2m or 3m cord fitted with a standard Harting style HAN 7D connector.

## PRE-LOADED PROGRAMS (SPS5.7)

No	Name	Seg 1	Seg 2	Seg 3
1	Low Biscuit	30°C/hr to 200°C dwell 00:00	70°C/hr to 600°C dwell 00:00	999°C/hr to 960°C dwell 00:15
2	Normal Biscuit	30°C/hr to 200°C dwell 00:00	70°C/hr to 600°C dwell 00:00	999°C/hr to 1000°C dwell 00:15
3	High Biscuit	30°C/hr to 200°C dwell 00:00	70°C/hr to 600°C dwell 00:00	999°C/hr to 1160°C dwell 00:15
4	Earthenware Low Temperature Glaze	30°C/hr to 150°C dwell 00:00	90°C/hr to 600°C dwell 00:00	999°C/hr to 960°C dwell 00:30
5	Earthenware Mid Temperature Glaze	30°C/hr to 150°C dwell 00:00	90°C/hr to 600°C dwell 00:00	999°C/hr to 1040°C dwell 00:30
6	Earthenware High Temperature Glaze	30°C/hr to 150°C dwell 00:00	90°C/hr to 600°C dwell 00:00	999°C/hr to 1140°C dwell 00:30
7	Stoneware Glaze	30°C/hr to 150°C dwell 00:00	90°C/hr to 600°C dwell 00:00	999°C/hr to 1250°C dwell 00:30
8	On Glaze Enamel	30°C/hr to 150°C dwell 00:00	90°C/hr to 600°C dwell 00:00	999°C/hr to 780°C dwell 00:30
9	Heavy Sculpture	20°C/hr to 150°C dwell 00:30	50°C/hr to 300°C dwell 00:30	70°C/hr to 1000°C dwell 00:30
10	Lustre	30°C/hr to 150°C dwell 00:00	90°C/hr to 600°C dwell 00:00	999°C/hr to 750°C dwell 00:00

Note: for convenience the SPS5.7 is supplied pre-loaded with the above programs. These can be altered or deleted as required.

## PRE-SET PROGRAMS (SPS5.2)

Prog No	Description	Ramp 1 (°C/)	t1 °C	Ramp 2 (°C/hour)	Soak Temp °C	Soak Time (mins)
0	Lustre	125	375	125	750	0
1	On Glaze Enamel	123	400	123	800	0
2	Slow Biscuit	30	210	113	1000	0
3	Normal Biscuit	40	200	114	1000	10
4	High Biscuit	40	200	120	1160	0
5	Earthenware Low Temperature Glaze	100	500	115	960	10
6	Earthenware Normal Temperature Glaze	120	500	120	1070	0
7	Earthenware High Temperature Glaze	112	560	112	1120	10
8	Stoneware	126	630	126	1260	10
9	Porcelain	100	200	210	1280	10

## SPECIFICATION

### Electrical

#### Power supply

Voltage range: 216.2 - 253V  
 Frequency: 50Hz (nom)  
 Phases: 1  
 Power: Controller 3VA (max)  
 Switched outputs 75VA  
 Fuse: 1.0A slow-blow

#### Control Relay(s)

Contact type: SPST NO  
 Switched Live -  
 nominal 230VAC output  
 @300mA max.

#### Thermocouple

Types: K,N,R & S  
 (User selectable)

#### Connectors

2-part connectors -  
 Max. wire size 2.5mm<sup>2</sup>

### Temperature

#### Temperature setting

Range: 0 to 1310°C  
 Resolution: 1°C

#### Control Accuracy

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

### Time

#### Time settings

Range: 00:00 to 99hr 59min  
 Resolution: 1 min

### Programs (SPS5.7)

10 programs  
 9 segments per program  
 Ramp rate 1 to 998°C/hour + full

### Program Linking (SPS5.7)

Up to 9 programs can be linked to give a maximum firing complexity of 81 segments

### Environmental

Operating temperature range: 0 to +40°C  
 Storage temperature range: -10° to +55°C

### Enclosure

Material: ABS  
 Sealing: IP65  
 Colour: Light Grey  
 RAL 7035

Size: 120x160x92mm  
 Fixings: 88x148mm  
 (4 off)

### Error Handling

Thermocouple failure detection  
 Thermocouple reversal detection  
 Heater failure detection  
 Over-temperature detection

## FURTHER DETAILS

Complete operating & installation instruction handbooks can be downloaded from our web site at <http://www.stanton-kilns.co.uk>

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