CONNECTION DIAGRAM

**1/16 & 1/32 DIN TEMPERATURE CONTROLLER**

**MANUAL (59423-2)**

Press and hold and use the V and W buttons to display selected output device e.g. SP1.d :

- The display will now read °C.

**MOUNTING**

To mount a controller proceed as follows:

1. Check that the controller is correctly oriented and then slide the unit into the cutout.
2. Make sure that there is a 0.5 mm gap (maximum) in every direction around the panel and the controller is held firmly.

**CLEANING**

Wipe down with damp cloth (wet only). Note: The controller should be shielded before removing or reinserting it, and the electronic components should be tested when obtaining the mounting controller outside.

**DIAGNOSTIC INDICATORS**

- To identify fault codes, check the INSTRUMENT ADJUSTMENTS above and try again.
- When in program mode, after 60 seconds of key inactivity the display will revert to either display mode, check the INSTRUMENT ADJUSTMENTS above and try again.

**SAFETY INFORMATION**

**INSTALLATION**

UL537 - only in products the where the acceptability is determined by Underwriters Laboratories Inc.

**ELECTRICAL INSTALLATION**

Two of the following output devices are fitted to the controllers, depending on the model.

- S1 Switch: IEC/CSA/UL Approve disconnecting device.
- F1 Fuse: Designed to offer a minimum of Basic Insulation only.
- Compliance shall not be impaired when fitted to the final installation.

**DIMENSIONS**

**OUTPUT DEVICE ALLOCATION**

Any of the available outputs may be chosen for the main setpoint (SP1), the remaining device being automatically allocated to the secondary setpoint (SP2).

**OUTPUT DEVICES**

The following output devices are fitted to the controllers, depending on the model:

- The following output devices are fitted to the controllers, depending on the model:

**CONFIGURATION**

- To set the cycle time see Configuration (in the manual).
- To switch a remote SSR (or logic) input:
- To decrease setpoint: Press and hold V and W buttons simultaneously and measured variable
- A16...A25: Press and hold both V and W buttons for 3 seconds to ENTER or EXIT program mode.
- The process is already at setpoint and control is poor
- If no soak period has been set, control at target setpoint continues indefinitely.

**PROPORTIONAL CYCLE-TIME**

The following output devices are fitted to the controllers, depending on the model:

- To switch a remote SSR (or logic) input:
- To decrease setpoint: Press and hold V and W buttons simultaneously
- A16...A25: Press and hold both V and W buttons for 3 seconds to ENTER or EXIT program mode.
- The process is already at setpoint and control is poor
- If no soak period has been set, control at target setpoint continues indefinitely.

**PROGRAMMER - RAMP-SOAK**

This controller is designed to allow the user to program the output from current temperature to a target temperature at a pre-determined rate. It can control a target temperature for an adjustable soak period before switching off the SP1 output.

**CYCLED THERMOCOUPLE**

**MECHANICAL INSTALLATION**

The controllers are designed to be mounted either in a 1/16 or a 1/32 DIN panel cutout. The units are sleeve mounted with the front panel assembly rated NEMA1/IP65 provided that:

- The panel is smooth and the panel cutout is accurate;
- The mounting instructions are carefully followed.

**DIN PANEL CUTOUT**

Max panel thickness: 6.0 mm

Minimum spacing: 25mm vertical, 10mm horizontal

**ELECTRICAL INSTALLATION**

Also see important Safety information.

**OUTPUT DEVICES**

- 1 solid state relay (SSR/SSRt/SSRt2) rated -5 to +150°C (rated)
- 2 solid state power relay (V3/150VAC AC) relays.

**INSTALLATION**

UL537 - only in products where the acceptability is determined by Underwriters Laboratories Inc.

EN61010-1 / CSA 22.2 No 1010.1 - 92 To offer a minimum of Basic Insulation only. Suitable for installation within Hazard Zone 2.

**ELECTRICAL INSTALLATION**

EN61010-1 / CSA 22.2 No 1010.1 - 92 To offer a minimum of Basic Insulation only. Suitable for installation within Hazard Zone 2.

**AUTOTUNE**

The process is already at setpoint and control is poor.

If no soak period has been set, control at target setpoint continues indefinitely.

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SECOND SETPOINT (SP2) Alarm Output
Configured in Level 1 using CyC2 to select proportional cycle time and dV/Lo to adjust proportioning band.
For real-time operation see full operating manual.

in cool mode, dV/Lo adjusts SP2 hysteresis.

SP2 OUTPUT AND LED INDICATION STATES - IN ALARM CONDITION

SP2 ALARM ANNUNCIATOR
When an SP2 alarm is selected in SP2 4 the alarm annunciator -AL- is displayed, alternating with the alarm condition, during alarm condition.

Notes:
The alarm will be automatically reset when the temperature returns within the der 2 area. The annunciator may be disabled by selecting function rLY3. - Start level 4.

SP2 in cool strategy
See full operating manual (ADVANCED SETTINGS).

ERROR MESSAGES

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2A</td>
<td>Power fault</td>
</tr>
<tr>
<td>1A</td>
<td>Low voltage error</td>
</tr>
<tr>
<td>0A</td>
<td>Manual power error</td>
</tr>
</tbody>
</table>

FUNCTION LIST (LEVELS 1 TO 4) - LEVEL 1

Select Autotune
- [P] SP.LK [OFF] on
- [P] SPrr [0] to 9995 deg/hour
- [P] SPrn on [OFF] hold
- [P] SoAK – – [OFF] 0 to 1440 min

SP1 Operating Parameters
- [P] SP1 proportional band/Gain or Hysteresis
- [P] SP1 integral time/reset
- [P] SP1 derivate time/rate
- [P] SP1 proportional cycle-time

SP1 Alarm Annunciator
- [P] SP1 set to ON/OFF in

Level 1
- [P] Set SP2 percentage power limit (cooling)
- [P] Main SP2 operating mode
- [P] Subsidiary SP2 mode: latch/sequence ,

SP1 proportional band/Gain or Hysteresis
- [P] SP1 proportional band/Gain or Hysteresis
- [P] SP1 integral time/reset
- [P] SP1 derivate time/rate
- [P] SP1 proportional cycle-time

SP1 Alarm Annunciator
- [P] SP1 set to ON/OFF in

Level 2
- [P] Configure SP2 output to operate as an alarm from SP2.A
- [P] SP2.A [none] dV.hi dV.Lo bAnd
- [P] Dual Relay and Dual Switch output option are factory set.
- [P] Select output modes: Direct/Reverse

Level 3
- [P] Manual power error
- [P] MANUAL POWER ERROR
- [P] MANUAL POWER ERROR
- [P] MANUAL POWER ERROR

Level 4
- [P] Configure in
- [P] Configure in
- [P] Configure in

SECURITY
- [P] Lock [OFF] on
- [P] Security
- [P] Security
- [P] Security

FUNCTIONS MENU

KEY OR A TO VIEW FUNCTIONS

Range of Adjustment shown under description. If applicable, factory settings shown in bold.

Note: The letter K appears in the instrument display as the character ^.