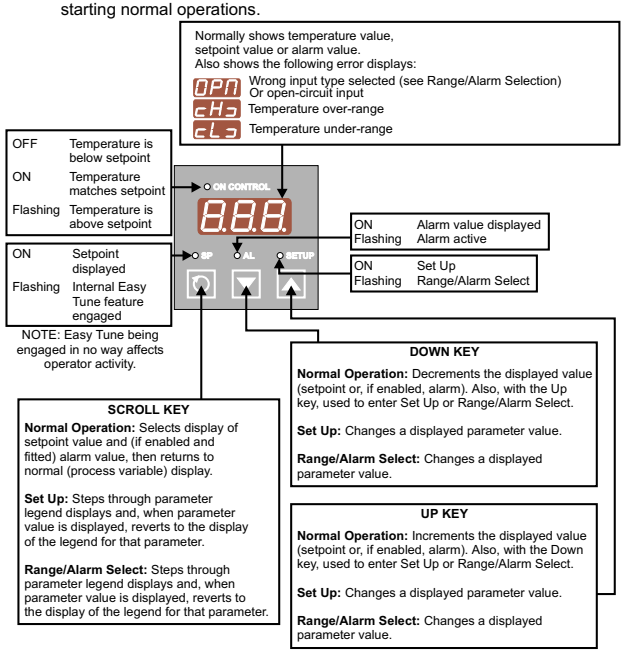
1/16-DIN SIMPLIFIED CONTROLLER CONCISE PRODUCT MANUAL (59224-3)

OPERATING MODE

Note: Set all Range/Alarm and Setting Up parameters as desired before starting normal operations.



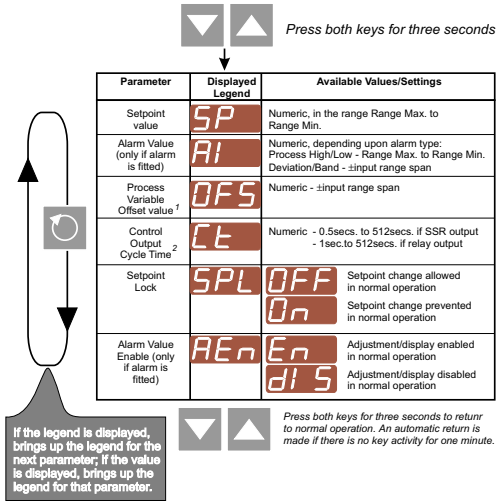
Front Panel

Adjusting Setpoint and Alarm Value

The normal display shows temperature value. Use the Scroll key to select display of setpoint value and (if enabled - see SETTING UP) alarm value. If adjustment of these parameters is enabled (see SETTING UP), us the Up/Down keys to adjust the displayed parameter value. Use the Scroll key to restore the temperature value display.

SETTING UP

NOTE: Set all Range/Alarm parameters as desired before starting Setup operations.



Parameter	Displayed Legend	Available Values/Settings
Setpoint value	SP	Numeric, in the range Range Max. to Range Min.
Alarm Value (only if alarm is fitted)	AI	Numeric, depending upon alarm type: Process High/Low - Range Max. to Range Min. Deviation/Band - ±input range span
Process Variable Offset value [1]	OFS	Numeric - ±input range span
Control Output Cycle Time [2]	Ct	Numeric - 0.5secs. to 512secs. if SSR output - 1sec.to 512secs. if relay output
Setpoint Lock	SPL	OFF Setpoint change allowed in normal operation On Setpoint change prevented in normal operation
Alarm Value Enable (only if alarm is fitted)	AEn	En Adjustment/display enabled in normal operation diS Adjustment/display disabled in normal operation

NOTES ON SETTING UP

1. The Process Variable (PV) Offset modifies the actual process variable (PV) value as follows:

Modified PV = Actual PV + PV Offset

The modified PV value is used for all PV-dependent functions (control, display, alarm). *Choose this value with care; it is, in effect, a calibration adjustment.* **There is no indication when this parameter is in effect (i.e. has been set to a non-zero value).**

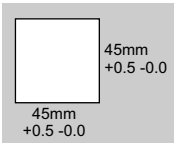
2. The cycle time required is dependent upon the process being controlled and the type of output being used. For a relay output, the cycle time should be as large as possible (whilst remaining compatible with the process control requirements) to maximise relay life. For an SSR output, the cycle time may have a lower value.

INSTALLATION

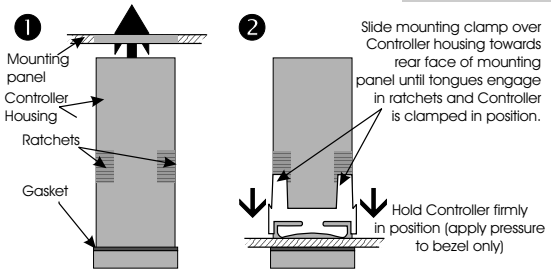
CAUTION: Installation should only be performed by personnel who are technically-competent and authorised to do so. Local Regulations regarding electrical installation & safety must be observed.

Panel-Mounting

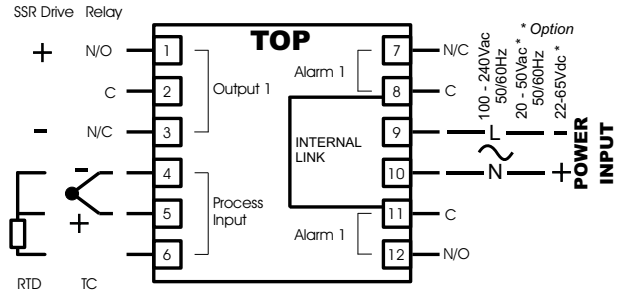
The mounting panel must be rigid and may be up to 6.0mm (0.25 inches) thick. The cut-outs required for the Controllers are shown on the right. Controllers may be mounted side-by-side in a multiple installation for which the the cut-out width (for n Controllers) is (48n - 4)mm or (1.89n - 0.16) inches.



The panel-mounting procedure is shown below:

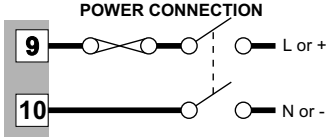


Rear Terminal Connections



USE COPPER CONDUCTORS (EXCEPT FOR TC INPUT)
Single strand wire gauge: Max. 1.2mm (18SWG)

RECOMMENDED MODE OF POWER CONNECTION



Fuse: 100 - 240Vac - 315mA antisurge
24Vac/dc - 315mA antisurge

RANGE/ALARM SELECTION

CAUTION: The parameters in this mode must be adjusted only by personnel technically-competent and authorised to do so.

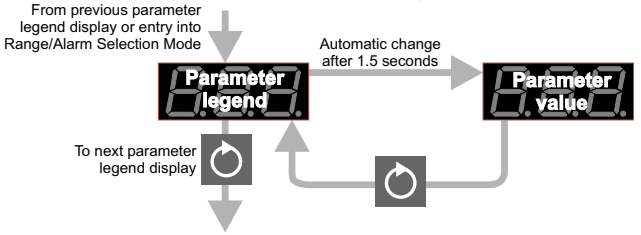
Entry

Range/Alarm Selection Mode is entered as follows:

1. Press the Scroll and Up keys till the display flashes.
2. When the display starts to flash, release the Scroll and Up keys and press the Down key. The **SET** indicator will then start to flash and the legend of the first parameter in the sequence (Input Type and Range) will be displayed; 1.5 seconds later the value for that parameter will be displayed.

Parameter Selection/Adjustment

In this mode, the Scroll key is used to select the required display, as follows:



Once the required parameter value is displayed, the Up/Down keys can be used to alter that value; new values are implemented immediately. The parameter sequence is:

Parameter	Displayed Legend	Available Values
Input Type and Range	InP	Temperature Units: 0 °C, 1 °F Input Range Maximum [1]: 1 100, 2 200, 3 300, 4 400, 5 500, 6 600, 7 700, 8 800 Input Sensor Type: 1 Thermocouple Type J/L; 2 Thermocouple Type K; 3 Thermocouple Type N; 4 Thermocouple Type T [2]; 5 RTD (-50 to Range Max.); 6 RTD 0.0 to Range Max. - 1 decimal position [1] NOTES: 1. The RTD range will always be 0.0 - 99.9, whatever the Range Maximum setting may be. 2. Absolute Range Max. = 400°C (700°F) for TC Type T.
Control Action	Ctl	rP Reverse-acting PID control dP Direct-acting PID control ro Reverse-acting ON/OFF control do Direct-acting ON/OFF control
Alarm Type and Action (available only if an Alarm Option is fitted) NOTE: The operation of the different types of alarm is illustrated overleaf.	ALt	PHd Process High Alarm, direct-acting PLd Process Low Alarm, direct-acting dEd Deviation Alarm, direct-acting bAd Band Alarm, direct-acting PHr Process High Alarm, reverse-acting PLr Process Low Alarm, reverse-acting dEr Deviation Alarm, reverse-acting bAr Band Alarm, reverse-acting

Return to Normal Operation

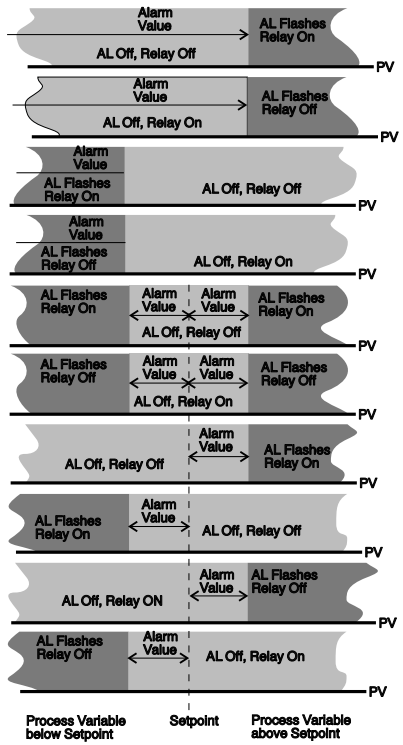
1. Select a parameter legend display.
2. During the 1.5-second legend display, press the Up and Down keys simultaneously for three seconds.

NOTE: An automatic return is made to normal operation if there is no key activity in Range/Alarm Selection mode for one minute.

Default Indication

This display (all decimal points ON) indicates that all Setting Up parameters have been set to their default values (caused by a change to one or more of the critical Range/Alarm Selection parameters). To clear this display, alter one of the Setting Up parameters.

ALARM OPERATION



SPECIFICATION

UNIVERSAL INPUT

Input Impedance: Greater than 100MΩ resistive,

Isolation: Isolated from all outputs (except SSR) at 240V AC.

OUTPUTS

Relay

Contact Type/Rating: Single pole double throw (SPDT); 2A resistive at 120/240V AC.

Lifetime: >500,000 operations at rated voltage/current. Isolated from all other inputs/outputs.

SSR Drive/TTL

Drive Capability: SSR = 0 to 10V nominal into 500Ω min.

Isolation: Not isolated from input. Isolated from Supply and Relay Outputs

OPERATING CONDITIONS FOR INDOOR USE

Ambient Temperature (Operating): 0°C to 55°C

Ambient Temperature (Storage): –20°C to 80°C

Relative Humidity: 20% - 95% non-condensing

Supply Voltage: 100 - 240Vac 50/60Hz (standard) 7.5VA
20 - 50Vac 50/60Hz (option) 7.5VA or
22 - 65Vdc (option) 5W maximum.

ENVIRONMENTAL.

Approvals: CE, UL, ULC

EMI Susceptibility: Complies with EN61326.

EMI Emissions: Complies with EN61326.

Safety Considerations: Complies with EN61010-1.

Front Panel Sealing: To IP66.

PHYSICAL

Dimensions Depth: 110mm (behind panel)
Front Panel: Width: 48mm
Height: 48mm

Weight: 0.21kg maximum