ADVANTAGE THREE PROGRAMMER / CONTROLLER

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SPECIFICATIONS

POWER INPUT:

Input supply voltage	110 V / 115V,
	230 / 240 V. (OPTIONAL)
Frequency :	50/60Hz

OUTPUT:

Type	RELAY
Maximum Voltage	240 volts
Maximum Current	3 amp
	Contacts suppressed internally

SIGNAL INPUT

Type	Thermocouple
	TYPE K (NiCr/NiAl) to BS 4937-30-1993
Range	0 - 1200°C in 1° intervals (0 TO 2200 F)

ACCURACY:

Measurement	
Linearity	
Calibration	+/- display digit (Uncertainity : 1 display digit)

PROGRAMMABLE VALUES:

- Start Temperature
- Rate of Rise
- Soak Temperature
- Soak time
- Rate of Fall
- Off Temperature

ENVIRONMENTAL SAFTEY:

Normal Operating Temp.	-10 C to 55 C
Storage Temperatures	-20 C to 80 C
Ambient Humidity	10 to 90 % Reltive Humidity
CE Compliance	EN 61236: 1998
LVD	EN 61010: 2001
Control Features	WEE-compliant

DIMENSIONS:

|	
Case Style	DIN 43700 (96 mm X 48 mm) or (3.77" X 1.88")
Front Bezel	(100 mm x 52 mm x 11 mm) or (3.9" X 2" X 0.43")
Depth behind panel	(120 mm) or (4.7")
Weight	(0.375 kg.) or (0.82 lbs)
Enclosure front	IP 64
Rear Cutout	IP 20
Panel Cutout	(45 mm + 0.6 X 0.92 mm + 0.8)
	(1.78" + 0.023 X 3.62" + 0.031)

INTRODUCTION

The Advantage 3 temperature programmer / controller is based on 50 years experience and has been developed to meet the real needs of industry.
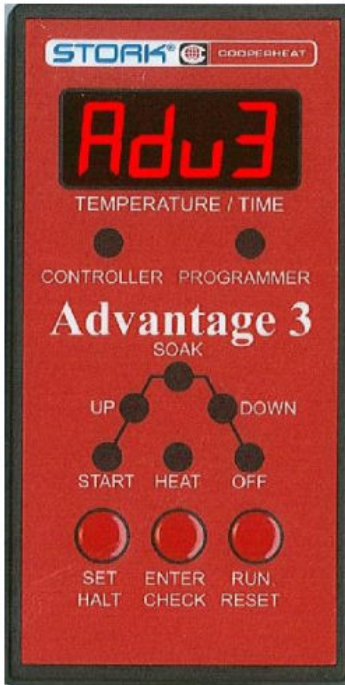
The Advantage 3 has 3 modes of operation ;

- OFF (Indicator Only)

- PROGRAMMER

- CONTROLLER

OFF MODE

When the unit is first powered on (assuming it correctly finished its last program) then it will be in the OFF Mode.

In this mode the display alternates between the thermocouple load temperature reading and OFF.

The heat output remains off (no control action).

The previous operation as a Programmer or Controller is indicated by the relevant LED.

If the previous mode was as a Controller then any Set Point received on S.P.In connector (from the Programmer) is re-transmitted on S.P.Out connector to the next unit.

CONTROLLER MODE

To select this mode from the OFF mode, press the **SET** button to toggle the display to show **Cont**. . . . .
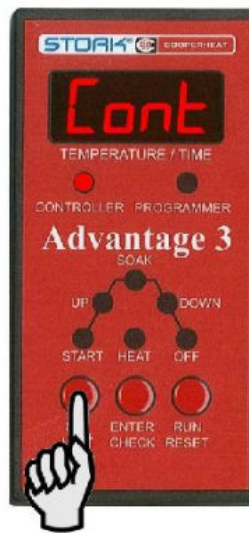
then push **ENTER** button to select.

The unit is now set in Controller mode with the display continuously showing load temperature.

The unit will now receive the incoming set point from the Programmer unit; this value can be viewed by holding down the **CHECK** button.

If the Set Point is **0000** then no control action is performed.

Once the unit receives a Set Point signal then control action commences.

Relay output On/Off action is indicated by the **HEAT** LED.

Perform a **MANUAL RESET** operation to end the Controller action and return to **OFF** mode. (See later)

Following the Manual Reset the unit will continue to pass the incoming Set Point value to the next controller until the program is ended.
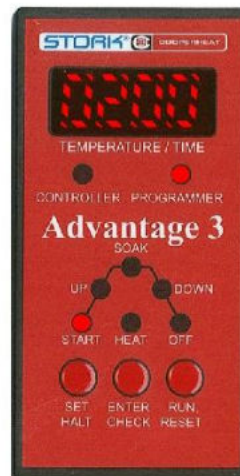
PROGRAMMER MODE

To select this mode from the OFF mode, press the **SET** button to toggle the display to show **ProG**. . . . .
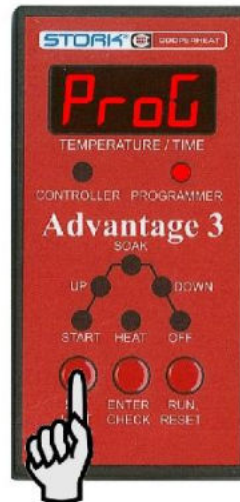
then push the **ENTER** button to select.

The **START** LED will then be lit with the previous Start Temperature value flashing on the display.
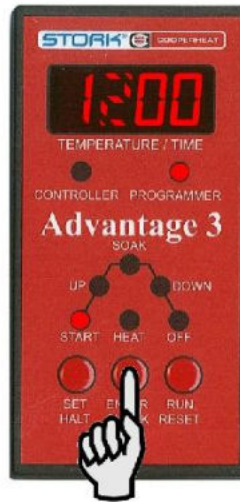
To keep this value push the **ENTER** button or to change this value push the **SET** button.

The value is changed one digit at a time by pressing the **SET** button to increment a digit . . . .

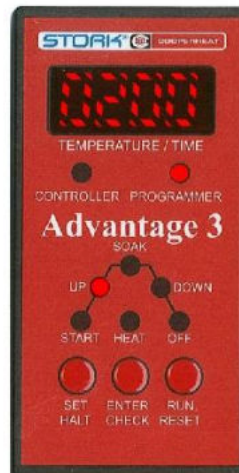and **ENTER** to move to the next digit.

After entering the final digit the whole value flashes.

This value can be set to **0000** by pressing the **RESET** button, then setting a new value digit by digit.

Once the correct value is flashing press the **ENTER** button again to store this setting.
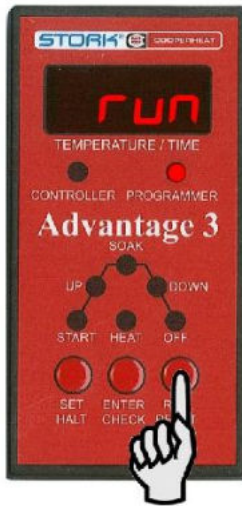
The **UP** LED will then be lit asking for the Up Rate to be entered in the same way.

Continue this procedure to enter new values for **UP** rate, **SOAK** temperature, **SOAK** time, **DOWN** rate and **OFF** temperature.

Once the **OFF** temperature is stored, the display shows **run.**

To commence the program cycle, press the RUN button.

The Programmer unit now runs the stored program and transmits the Set Point value to the additional Controllers with the current program segment LED lit and the **HEAT** LED showing the output relay condition.

The display will show the actual load temperature, but will flash **HELD** if this unit's temperature or any linked Controller's temperature is lower than the Set Point by a value greater than the stored **Hold-Back** value.

When the program cycle is complete, the Programmer and Controller units switch to the OFF mode.

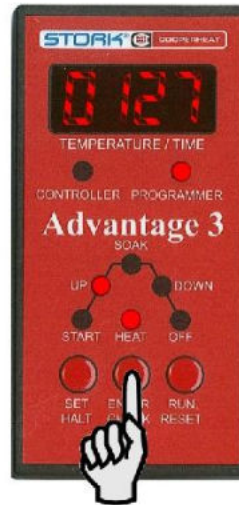## VIEWING SET POINT VALUE DURING PROGRAM CYCLE

To show the set point on a Programmer Unit , press the **CHECK** button once.

The display will flash the set point value 5 times (alternating between **SP** and value).

For a Controller Unit press and hold the **CHECK** button. The set point value is displayed until the button is released.

PROGRAM CHECK / ALTER

While viewing the set point on a Programmer Unit, further presses of the **CHECK** button will display each program segment value in turn ; i.e. **START**, **UP**, **SOAK**, **TIME**, **DOWN**, **OFF**, **Units** (C/F), **Pb** and **H**.

While any value is flashing (except **START**, **Units**, **Pb** and **H**) pressing the SET button allows the value to be altered.
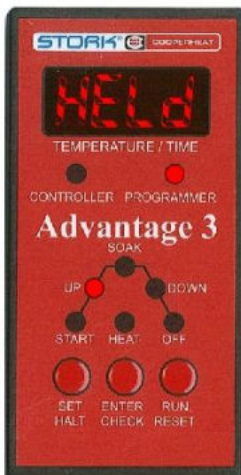
Firstly, the value flashes (fast) along with the **PROGRAMMER** LED to indicate **ALTER** mode.

During this stage the program is paused with all channels controlling at the present set point.

To change the value, use the **SET** and **ENTER** routine.

To ignore **ALTER** and resume the program cycle press **ENTER**.

PROGRAM HALT

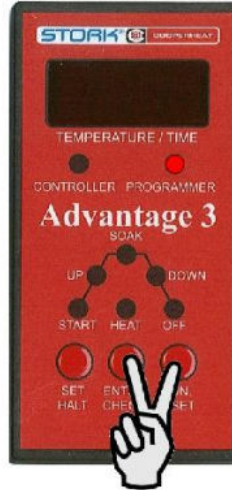The program can be paused at any time using the **HALT** function.

This is set by pressing the HALT button for 3 seconds (the display shows - - - -) until the display flashes **HALT**.
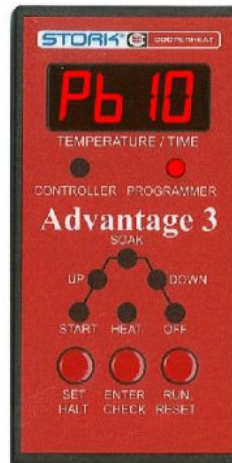

Upon release the display will show the previously set **UNITS** i.e. C or F.

Press the **SET** button to toggle the value.

Press **ENTER** to store.

Pb (Proportional Band) setting is now displayed.

To end the HALT function press the HALT button once.

UNITS (C/F), PROP BAND AND HOLD BACK SETTING

With the unit in OFF mode press the ENTER and RUN buttons together until the display blanks.

Use **SET** button to select values; **5**, **10**, **20** or **40**.

Pressing **ENTER** stores the desired value.

Display now shows **H** (Hold Back) setting.

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