



 The Source for Calibration Professionals

# User Maintenance Manual ADDENDUM

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## PEGASUS 4853 ADVANCED



## Additional feature for the Pegasus Advanced

This version of the controller has an additional feature installed that will allow the controller to switch the control from Loop 1 to Loop 2 of the controller when the Loop 1 Control sensor is within 100°C of the set point.

The control sensor for the Loop 2 control is connected to Channel 1. This has the ability to bring the insert temperature to the values required by the Reference sensor and not the Loop 1 control sensor. To enable the Reference sensor control:

1. Scroll to the USER ACCESS page from the Home page, as in Figure 1



Figure 1

2. Press SCROLL button and scroll down to REFERENCE CONTROL
3. Highlight it by pressing the SCROLL button and switch to INPUT 2
4. Enter the value by pressing SCROLL again
5. Ensure that SETPOINT TRIM is set to INPUT 1
6. The REFERENCE CONTROL is now enabled

The controller will now ramp to the setpoint in the normal way, when the temperature of the CONTROL sensor within 100°C of the SETPOINT, the controller will now switch to LOOP 2 control.

This will now use the REFERENCE sensor connected to Channel 1 as the new control sensor. This will allow the controller to bring the insert to the required temperature for the REFERENCE sensor with a minimum of overshoot and avoid any "bump" as the controller trims the setpoint.

Other features enabled are the promotion of the AUTOTUNE feature for both LOOP 1 and LOOP 2. These are both located on the USER ACCESS screen. Enable them in the same way as the REFERENCE CONTROL when you require better stability or approach to temperature in certain conditions.

**AUTOTUNE LOOP 1:** This is best used when neither SETPOINT TRIM nor REFERENCE CONTROL are enabled. When enabled a small AT can be seen flashing in the bottom right hand corner of the ISOTECH home screen. During the tune the temperature can be seen to scroll either side of the setpoint whilst the controller calculates the best values. When the tune is complete, the controller will insert the values and the AT on the home page will disappear.

**AUTOTUNE LOOP 2:** Use this tune feature *only* when REFERENCE CONTROL is enabled. This will function in the same way as above but will only apply to LOOP 2 control. Therefore, the feature can only be used when the temperature of the equipment is with 100°C of the setpoint and REFERENCE CONTROL is enabled.

To disable the REFERENCE control feature, scroll to the USER ACCESS page and set REFERENCE control to INPUT 1. This will revert to normal LOOP 1 control.

Additionally, the promotion of the two LOOP control screens has been enabled to allow the operator to view the progress of each loop individually. Please see below:



Loop 1



Loop 2

Note: During REFERENCE CONTROL use it may be observed that the LOOP 1 temperature may exceed the setpoint by several tens of degrees. This is normal as the temperature of the heaters rises to increase the insert temperature to the desired value. There is a cut-off that will disable the heaters if the temperature exceeds 75°C above the set point value. This will automatically reset when the temperature drops back to the "safe" zone again.

There is a full cut-off that will disable the heaters above 1210°C.

In the event that SETPOINT TRIM *and* REFERENCE CONTROL are *both* enabled, the REFERENCE CONTROL will have priority and will disable the SETPOINT TRIM feature.

Other features enabled are:

Access to the PID values, promoted above the security blanket.

Accessible by logging in as the Engineer navigating the menu to

LOOP → LOOP 1 or LOOP 2 → PID