

# 1/16 - 1/8 MAXVU EXTRUSION CONTROLLER CONCISE PRODUCT MANUAL (59578-2)



**CAUTION:** Installation should be only performed by technically competent personnel. It is the responsibility of the installing engineer to ensure that the configuration is safe. Local regulations regarding electrical installation & safety must be observed - e.g. US National Electrical Code (NEC) and/or Canadian Electrical Code. Impairment of protection will occur if the product is used in a manner not specified by the manufacturer.

## 1. INSTALLATION

### Installation Guidance

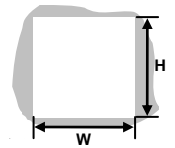
- Standards compliance shall not be impaired when fitted into the final installation.
- Designed to offer a minimum of Basic Insulation only
- Ensure that supplementary insulation suitable for Installation Category II is achieved when fully installed.
- To avoid possible hazards, accessible conductive parts of the final installation should be protectively earthed in accordance with EN61010 for Class 1 Equipment.
- Output wiring should be within a Protectively Earthed cabinet.
- Sensor sheaths should be bonded to protective earth or not be accessible.
- Live parts should not be accessible without the use of a tool.
- When fitted to the final installation, an IEC/CSA APPROVED disconnecting device should be used to disconnect both LINE and NEUTRAL conductors simultaneously.
- Do not to position the equipment so that it is difficult to operate the disconnecting device.

### Panel-Mounting

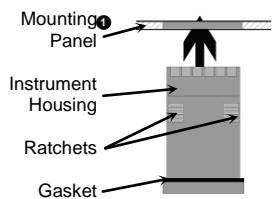
The mounting panel must be rigid, and may be up to 6.0mm (0.25inch) thick. Cut-out sizes are:

- 1/16: Width = 45mm, Height = 45mm
- 1/8: Width = 45mm, Height = 92mm

For *n* multiple instruments mounted side-by-side, cut-out width *W* is 48*n*-4mm.



Tolerance +0.5, -0.0mm



- Insert instrument into the panel cut-out.
- Hold front bezel firmly (without pressing on display area), and fit mounting clamp. Push clamp forward, using a tool if necessary, until gasket is compressed and instrument is held firmly in position.

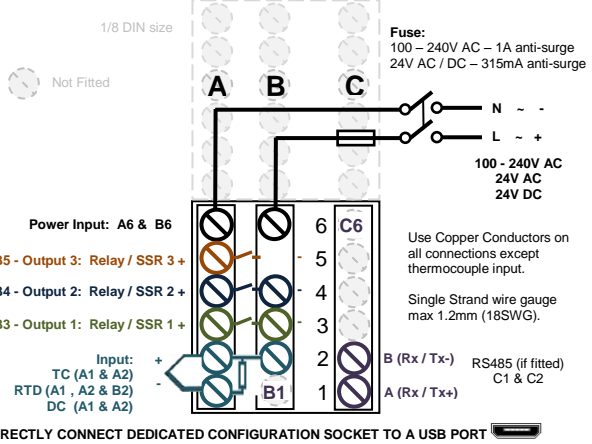


**CAUTION:** For an effective IP65 seal against dust and moisture, ensure gasket is well compressed against the panel, with the 4 tongues located in the same ratchet slot.

### Rear Terminal Wiring

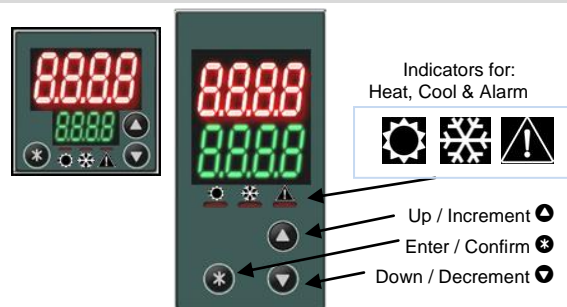
This diagram shows all possible option combinations. Check the product configuration before wiring.

**CAUTION:** Check information label on housing for correct operating voltage before connecting supply to Power Input



## 2. FRONT PANEL

### Displays & Indicators



Indicators for:  
Heat, Cool & Alarm



- Up / Increment
- Enter / Confirm
- Down / Decrement

### Keypad & General Navigation

Menu navigation, parameter editing and keypad use are described below. See the relevant manual sections for further information and exceptions.

#### General keypad usage & parameter editing:

- Press **▲** or **▼** keys to navigate between parameters
- To edit a parameter, press **↵**. The Parameter name (lower display) flashes when the parameter above can be edited / adjusted.
- Press **▲** or **▼** to change the parameter value (upper display).
- Edited values stop changing at the parameters limits. A further press of **▲** or **▼** past the parameter limit "wraps" the value back to the start (e.g. 0, 1, 2... ...98, 99, 100 **▲** 0, 1, 2...)
- To confirm the change, press **↵** within 60s otherwise the change is rejected.

#### To navigating to Setup or Advance Configuration from User Mode:

- Press and hold down **↵** and press **▲** for setup Mode, or
- Press and hold down **↵** and press **▼** for advanced configuration.

#### Returning to User Mode from other modes:

- After 120 seconds without key activity the unit returns automatically to the 1st User mode screen, or
- Press and hold down **↵** and press **▲** to move back up one level.

## 3. FIRST POWER-UP (SETUP MODE)

When first powered up, or after a "reset" & power-cycle or time-out" sequence, the instrument enters and Setup Mode.

It remains in Setup until all screens are completed and the user exits the Setup Mode.

Screen Name	Lower Display	Upper Display	Adjustment Range & Description	Default Value		
Setup mode lock code	S.Loc		Visible when attempting to enter Setup unless instrument is new, following a reset with power-down or lock code is OFF). Set value ( 1 to 9999) matching the defined lock code to allow entry to the following screens.	10		
Input Type	TYPE	J Thermocouple	-200 – 1200°C -328 – 2192°F	-128.8 – 537.7°C -199.9 – 999.9°F		
		K Thermocouple	-240 – 1373°C -400 – 2503°F	-128.8 – 537.7°C -199.9 – 999.9°F		
		PT100	-199 – 800°C -328 – 1472°F	-128.8 – 537.7°C -199.9 – 999.9°F		
		B Thermocouple	100 – 1824°C 211 – 3315°F			
		C Thermocouple	0 – 2320°C 32 – 4208°F			
		L Thermocouple	0 – 762°C 32 – 1403°F	0.0 – 537.7°C 32.0 – 999.9°F		
		N Thermocouple	0 – 1399°C 32 – 2551°F			
		R Thermocouple	0 – 1795°C 32 – 3198°F			
		S Thermocouple	0 – 1762°C 32 – 3204°F			
		T Thermocouple	-240 – 400°C -400 – 752°F	-128.8 – 400°C -199.9 – 752.0°F		
		0 – 50mV DC				
		Input Units	Un t	C	Temperature displayed as °C.	C
				F	Temperature displayed as °F.	
		Process Display Resolution	dEc.P	0000	No decimal places	0000
000.0	1 decimal place					
00.00	2 decimal places			Not available for temperature inputs.		
0.000	3 decimal places					
Scale Input Upper Limit	ScUL		Scale Input Lower Limit +100 display units to range maximum. (Only visible in Setup Mode when 0 to 50mV is selected)	Input max Lin=1000		
Scaled Range Lower Limit	ScLL		Range minimum to Scale Input Upper Limit -100 display units. (Only visible in Setup Mode when 0 to 50mV is selected)	Input min Linear=0		
Output 1 Usage	OUT 1	HEAt	Heat Power	HEAt		
		COOL	Cool Power			
		NLCL	Non-Linear Cooling			
		AL 1	Alarm 1			
		AL 2	Alarm 2			
		AL 12	Alarm 1 or 2			
	Loop	Control loop alarm (2 x Integral time)				

Output 2 Usage	OUT 2	As Output 1 Usage	AL 1	
Output 3 Usage	OUT 3	As Output 1 Usage	AL 2	
Alarm 1 Adjust	AL 1	Range minimum to range maximum OFF disables the alarm. Default high alarm	1373	
Alarm 2 Adjust	AL 2	Range minimum to range maximum OFF disables the alarm. Default low alarm	-240	
Setpoint Adjust	SP	Target setpoint adjustable between setpoint upper and lower limits	0	
Automatic Tuning Start/Stop	tunE	OFF	Use current PID control terms or manually tune	OFF
		PrE	Start a pre-tune routine	
		ALSP	Start the tune at setpoint	

## 4. USER MODE

Screen Name	Lower Display	Upper Display	Screen Usage and Visibility
Basic Setpoint Control 1st Screen (Automatic Mode)	Effective Setpoint	Process Variable	Basic Setpoint Control enabled – automatic control. Press <b>▲</b> or <b>▼</b> to instantly adjust setpoint. If ramping, the target setpoint is shown while adjusting. OFF replaces the setpoint if control is disabled.
Basic Setpoint Control 1st Screen (Manual Mode)	Manual Power	Process Variable	Basic Setpoint Control enabled - manual control. Press <b>▲</b> or <b>▼</b> to instantly adjust manual power. The power value is shown as Pxxx.

The following screens are not shown in Basic User Mode (see the display sub-menu d iSP in Advance configuration – Section 6)

User 1st Screen (Automatic Mode)	Effective Setpoint	Process Variable	Available in automatic control mode. If ramping, the target setpoint is shown while adjusting. OFF replaces setpoint if control is disabled. dLY replaces setpoint if control delayed.
User 1st Screen (Manual Mode)	Manual Power	Process Variable	Available in manual control mode. Manual Power value is shown as Pxxx

**Important: To appear in the User Mode the visibility setting for any of the parameters below must be SHLW in the OPtR sub-menu.**

Alarm Status	ALSt	Active Alarms	Active only when alarms are active. 1 = Alarm 1 active 2 = Alarm 2 active L = Loop Alarm active. Any combination can be displayed here
Latch Status	LAch	Latched Outputs	Active only when an output is latched on. 1 = Output 1 2 = Output 2 3 = Output 3 Clear by pressing <b>↵</b> .
Maximum PV	MAx	Value	Clear by pressing <b>↵</b> .
Minimum PV	MI n	Value	Clear by pressing <b>↵</b> .
Control Enable	CntL	OFF	Control output(s) disabled. (except in manual mode)
		On	Control output(s) enabled. PID or On-Off control available.
Manual Control Enable	MA nCt	OFF	Instrument in automatic control mode (manual control OFF).
		On	Manual control ON. Power is shown as Pxxx in 1st User screen.

### Messages & Error Codes

Some messages provide useful information about the process, others indicate error, or problem with the process variable signal or its wiring.  
**Caution: Do not continue with the process until the issue is resolved.**

Screen Name	Lower Display	Upper Display	Screen Meaning and Visibility
Alarm Active	Normal	-AL-	One or more alarms are active (alternates with PV). Optional – see d iSP
Output Latched	Normal	Ltch	One or more output are latched on (alternates with PV), and no alarm is active
Input Over Range	Normal	-HH-	Process variable input >5% over-range.
Input Under Range	Normal	-LL-	Process variable input >5% under-range.
Input Sensor Break	OFF	OPEN	Break detected in process variable input sensor or wiring.
Un-calibrated Input	OFF	Err	Selected input range has not been calibrated.
Manual Power	Pxxx	Normal	Manual power value replaces the setpoint.
Control Disabled	OFF	Normal	Control is disabled, control outputs are off.
Control Delayed	dLY	Normal	Visible if control delayed by Delayed Start Time (dLt i)
Automatic Tuning	tunE	Normal	Tuning is active (alternates with setpoint).

Screen Name	Lower Display	Upper Display	Screen Meaning and Visibility
Automatic Tuning Errors			If the tune fails the display alternates between the tune error code and the setpoint. Remains visible until tune set to off.
	tEr 1		PV is within 5% of setpoint
	tEr 2		Setpoint is ramping
	tEr 3		Control is ON/OFF
	tEr 4		Control is manual
	tEr 5	Normal	Pulse tune not able to run
	tEr 6		Sensor break
	tEr 7		Timer running
	tEr 8		Sensor break

## 5. SPECIFICATIONS

### UNIVERSAL INPUT

- Thermocouple Calibration: ±0.25% of full range, ±1LSD (±1°C for Thermocouple CJC). BS4937, NBS125 & IEC584.
- PT100 Calibration: ±0.25% of full range, ±1LSD. BS1904 & DIN43760 (0.00385Ω/Ω°C).
- DC Calibration: ±0.2% of full range, ±1LSD.
- Sampling Rate: 4 per second.
- Impedance: >10MΩ resistive.
- Sensor Break Detection: Thermocouple and RTD ranges only. Control outputs turn off.
- Isolation: Isolated from all outputs (except SSR driver) by at least BASIC isolation. Universal input must not be connected to operator accessible circuits if relay outputs are connected to a hazardous voltage source. Supplementary insulation or input grounding would then be required. Isolated from Mains Power Input by basic isolation.

### OUTPUTS

- RELAYS (OPTIONAL)
- Contacts: SPST Form A relay; current capacity 2A at 250VAC.
- Lifetime: >150,000 operations at rated voltage/current, resistive load.
- Isolation: Basic isolation from universal input and SSR outputs.

### SSR Drivers (OPTIONAL)

- Drive Capability: SSR drive voltage >10V at 20mA
- Isolation: Not isolated from universal input or other SSR driver outputs.

### SERIAL COMMUNICATIONS (OPTIONAL)

- Physical: RS485, at 1200, 2400, 4800, 9600, 19200 or 38400 bps.
- Protocols: Modbus RTU.
- Isolation: Basic safety isolation from Universal input and SSR. Basic safety isolation to Mains and Relay Circuits.

### OPERATING CONDITIONS

- Usage: For indoor use only, mounted in suitable enclosure
- Ambient Temp: 0°C to 55°C (Operating), -20°C to 80°C (Storage).
- Relative Humidity: 20% to 95% non-condensing.
- Altitude: <2000m
- Supply Voltage & Power: 100 to 240VAC ±10%, 50/60Hz, 7.5VA (for mains powered versions), or 24VAC +10/-15% 50/60Hz 7.5VA or 24VDC +10/-15% 5W (for low voltage versions).

### ENVIRONMENTAL

- Standards: CE
- EMI: Complies with EN61326 (Susceptibility and Emissions).
- Safety: Complies with EN61010-1
- Considerations:
- Front Panel Sealing: Front to IP65 when correctly mounted, Rear of panel to IP20.

### PHYSICAL

- Front Bezel Size: 1/16 Din = 48 x 48 mm, 1/8 Din = 48 x 96 mm
- Depth Behind Panel: 67mm with sealing gasket fitted.
- Weight: 0.20kg maximum.



## 6. ADVANCED CONFIGURATION

The advanced configuration gives access to all of the features of the unit.

### Advanced Configuration Mode Navigation

Press **▲** or **▼** to navigate to the required sub-menu, then press **▶** to enter.

### Advanced Configuration Main Menu

Screen Name	Lower Display	Upper Display	Sub-Menu Usage and Visibility
Advanced Configuration Mode Lock Code	<b>A.Loc</b>	Value	Visible when attempting to enter Advanced Configuration unless lock code is <b>OFF</b> . Set value (1 to 9999) matching the defined lock code to allow entry to the following screens. Default code is <b>20</b> .
User Settings	<b>A.du</b>	<b>USEr</b>	Provides access to Control and Manual Mode enable/disable. Only shown if Basic User mode is select in <b>d.SP</b> (see below).
Input Setup	<b>A.du</b>	<b>InPt</b>	Configuration parameters for the process input.
Input Calibration	<b>A.du</b>	<b>CAL</b>	Single or two point calibration adjustments for the process input.
Output Setup	<b>A.du</b>	<b>OUTP</b>	Configuration parameters for the outputs.
Control Setup	<b>A.du</b>	<b>COnt</b>	PID control tuning & configuration parameters. Hidden if no control output set.
Setpoint Setup	<b>A.du</b>	<b>SP</b>	Setpoint settings.
Alarm Setup	<b>A.du</b>	<b>ALn</b>	Alarm configuration parameters.
Communications Setup	<b>A.du</b>	<b>COm</b>	Modbus communications settings. Only shown if RS485 option is fitted.
Display Settings	<b>A.du</b>	<b>d.SP</b>	Enable Basic Mode and change lock codes.
Product Information	<b>A.du</b>	<b>InFo</b>	View product serial number and manufacturing information.

### User Sub-Menu: USEr

Provides access to Control Enable/Disable.

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Alarm Status	<b>ALSt</b>	Active Alarms Visible when alarms are active - <b>L2 1</b> are active. 1 = Alarm 1 active 2 = Alarm 2 active 3 = Loop Alarm active	Blank
Latch Status	<b>LAth</b>	Latched Alarms Active when an output is latched - <b>123</b> are active. 1 = Output 1 2 = Output 2 3 = Output 3	Blank
Maximum PV	<b>P7A</b>	Max/Min PV recorded whilst powered up or since last reset.	
Minimum PV	<b>P7m</b>	To clear press <b>▶</b> then to select <b>YES</b> . Press <b>▶</b> to accept.	
Control Enable	<b>CnEt</b>	<b>OFF</b> Control output(s) disabled. <b>On</b> Control output(s) enabled. PID or On-Off control available.	<b>On</b>
Manual Control Enable	<b>P7Ct</b>	<b>OFF</b> Instrument in automatic control mode (manual control OFF). <b>On</b> Manual control ON. Power is shown as <b>Pxxx</b> in 1 <sup>st</sup> User screen.	<b>OFF</b>
Alarm Status	<b>ALSt</b>	Active Alarms Visible when alarms are active. 1 = Alarm 1 active 2 = Alarm 2 active L = Loop Alarm active.	Blank

### Input Sub-Menu: InPt

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Input Type	<b>TYPE</b>	Options available same as in setup mode (section 3)	<b>TCM</b>
Input Units	<b>UnIt</b>	<b>C</b> Temperature displayed as °C <b>F</b> Temperature displayed as °F	<b>C</b>
Process Display Resolution	<b>dEc.P</b>	<b>0000</b> No decimal places <b>000.0</b> 1 decimal place <b>00.00</b> 2 decimal places <b>0.000</b> 3 decimal places <i>Not available for temperature inputs.</i>	<b>0000</b>
Scaled Range Upper Limit	<b>ScUL</b>	Scale Input Lower Limit +100 display units to range maximum	Input max Lin=1000
Scaled Range Lower Limit	<b>ScLL</b>	Range minimum to Scale Input Upper Limit - 100 display units	Input min Linear=0
Input Filter Time	<b>FiLt</b>	<b>OFF</b> or <b>0.5</b> to <b>100.0</b> seconds in <b>0.5</b>	<b>2.0</b>

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Cold Junction Compensation	<b>CJC</b>	<b>On</b> Enables the internal thermocouple CJC. <b>OFF</b> Disables the internal CJC. External compensation must be provided for thermocouples.	<b>On</b>

### Input Calibration Sub-Menu: CAL

Single or two point calibration adjustments for the process input. If the error is not constant across the sensor range, measure the error at a low point and high point in the process, and use two point calibration to correct it.

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Single Point Offset	<b>OFF5</b>	Shifts the input value up or down by the offset amount across the entire range.	<b>0</b>
Low Calibration Point	<b>L.CAL</b>	The value at which the low point error was measured.	Lower Limit
Low Offset	<b>L.OFF</b>	Enter an equal, but opposite offset value to the observed low point error.	<b>0</b>
High Calibration Point	<b>H.CAL</b>	The value at which the high point error was measured.	Upper Limit
High Offset	<b>H.OFF</b>	Enter an equal, but opposite offset value to the observed high point error.	<b>0</b>

### Output Setup Sub-Menu: OUTP

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Output 1 Usage	<b>OUT1</b>	<b>HEAt</b> Heat Power <b>COOL</b> Cool Power <b>NLCL</b> Non-Linear Cooling <b>AL1</b> Alarm 1 <b>AL2</b> Alarm 2 <b>AL12</b> Alarm 1 or 2 <b>LoOP</b> Control loop alarm (2 x Integral time)	<b>HEAt</b>
Output 1 Alarm Action	<b>Act1</b>	<b>dIr</b> Output changes with the alarm <b>rEu</b> Output changes in opposition to alarm	<b>dIr</b>
Output 1 Alarm Latching	<b>LAc1</b>	<b>OFF</b> Latching off <b>On</b> Latching on	<b>OFF</b>
Output 2 Usage	<b>OUT2</b>	As Output 1 Usage	<b>AL1</b>
Output 2 Alarm Action	<b>Act2</b>	As Output 1 Alarm Action	<b>dIr</b>
Output 2 Alarm Latching	<b>LAc2</b>	As Output 1 Alarm Latching	<b>OFF</b>
Output 3 Usage	<b>OUT3</b>	As Output 1 Usage	<b>AL2</b>
Output 3 Alarm Action	<b>Act3</b>	As Output 1 Alarm Action	<b>dIr</b>
Output 3 Alarm Latching	<b>LAc3</b>	As Output 1 Alarm Latching	<b>OFF</b>

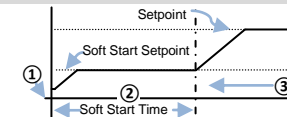
### Control Sub-Menu: COnt

PID control tuning & configuration parameters. Hidden if no control outputs are set.

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Heat Proportional Band	<b>H.Pb</b>	In display units. 0.0 ( <b>0.00F</b> ) and range: 0.5 to 999.9 units.	<b>16.1</b>
Cool Proportional Band	<b>C.Pb</b>		<b>16.1</b>
Automatic reset (integral time)	<b>In.t</b>	<b>1</b> second to <b>99</b> minutes <b>59</b> seconds and <b>OFF</b>	<b>5.00</b>
Rate (derivative time)	<b>dEr.t</b>	<b>OFF</b> 0 seconds to <b>99</b> minutes <b>59</b> seconds	<b>1.15</b>
Overlap/Deadband	<b>Od</b>	In display units, range -20 to +20% of Heat and Cool Proportional Band	<b>0</b>
ON/OFF differential	<b>dIFF</b>	In display units, centred about the setpoint, range: 0.1% to 10.0% of input span	<b>8</b>
Loop Alarm Time	<b>LA.t</b>	Visible when using On/Off control (i.e. when <b>H.Pb</b> or <b>C.Pb</b> = <b>On.OFF</b> ) Sets the time to wait before the loop alarm becomes active.	<b>99.59</b>
Manual Reset (Bias)	<b>b.RS</b>	<b>0</b> to <b>100%</b> ( <b>100%</b> to <b>100%</b> if heat/cool control)	<b>25</b>
Soft Start Time	<b>SS.t</b>	<b>0</b> ( <b>OFF</b> ) to <b>60</b> hours	<b>OFF</b>
Soft Start Setpoint	<b>SS.SP</b>	Soft start target setpoint adjustable between scale input upper and lower limits	<b>-240</b>
Heat Cycle Time	<b>HcYc</b>	<b>0.1</b> to <b>5.120</b> seconds	<b>32.0</b>

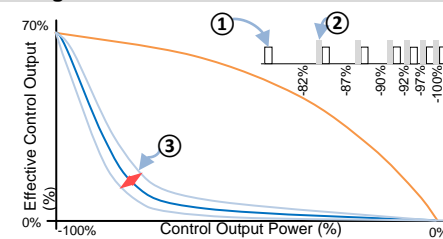
Cool Cycle Time	<b>CcYc</b>		<b>32.0</b>
Heat and Cool output Inhibit	<b>OPLC</b>	Inhibits simultaneous switching of both heat and cool outputs.	<b>OFF</b>
Heat Power Limit	<b>HPL</b>	% power upper limit <b>0</b> to <b>100%</b>	<b>100</b>
Cool Power Limit	<b>CPL</b>	% power upper limit <b>0</b> to <b>100%</b>	<b>100</b>
Cooling Minimum	<b>COOL</b>	Range minimum to range maximum	<b>120</b>
Impulse Length	<b>t.on</b>	<b>1</b> to <b>9999</b> seconds	<b>10</b>
Minimum off time	<b>t.off</b>	<b>1</b> to <b>9999</b> seconds	<b>20</b>
Non-linear cooling adjust	<b>C.AdJ</b>	<b>0</b> to <b>9999</b>	<b>5</b>
Power Up Action	<b>PUP</b>	<b>LAST</b> Powers up with control enable in the same state as on power fail <b>On</b> Always powers up with control enabled	<b>LAST</b>
Automatic Tuning Start/Stop	<b>tunE</b>	<b>OFF</b> Use current PID control terms or manually tune <b>PrE</b> Start a pre-tune routine <b>AtSP</b> Start the tune at setpoint	<b>OFF</b>

### Soft Start



① At power on the unit will control to the Soft Start Setpoint, **SS.SP**. ② Then remain at this value for the time defined by the Soft Start Time, **SS.t**. During this period the control cycle time is a ¼ of the value entered and the heat power limit, **HPL**, is used. ③ When soft start timer expires the unit returns to normal operation. The unit controls to the normal setpoint and from this point the heat power limit is not used by the controller.

### Non-linear Cooling



With non-linear cooling, the cooling curve adjusts the output power so that the effective power over 0% to -70% is weaker. ① The length of time the output will be on for is set by the parameter **t.on**. ② The minimum time the output will be off for is set by the parameter **t.off**. ③ When **C.AdJ** is set to a value greater than 0 the cooling is non-linear and the value adjusts the characteristics of the curve.

### Setpoint Sub-Menu: SP

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Ramp Rate	<b>rAtE</b>	The rate (in units / hour) from current PV to setpoint following power-up or control enable. From <b>0.00</b> to <b>9999</b> or <b>OFF</b> Setpoint changes also follow this rate.	<b>OFF</b>
Setpoint Upper Limit	<b>SPUL</b>	The maximum allowed setpoint value, from current setpoint to scaled upper limit.	Upper Limit
Setpoint Lower Limit	<b>SPLL</b>	The minimum allowed setpoint value, from current setpoint to scaled lower limit.	Lower Limit

### Alarm Sub-Menu: ALn

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Alarm 1 Type	<b>AL1t</b>	<b>nonE</b> None <b>P.h</b> Process High Alarm <b>P.Lo</b> Process Low Alarm <b>dEv</b> Deviation Alarm <b>bRNd</b> Band Alarm	<b>P.h</b>
Alarm 1 Value	<b>AL1</b>	Range minimum to range maximum <b>OFF</b> disables the alarm.	<b>1373</b>
Alarm 1 Hysteresis	<b>HYS1</b>	0 to full span.	<b>1</b>
Alarm 2 Type	<b>AL2t</b>	As Alarm 1.	<b>P.Lo</b>
Alarm 2 Value	<b>AL2</b>	Range minimum to range maximum <b>OFF</b> disables the alarm.	<b>-240</b>
Alarm 2 Hysteresis	<b>HYS2</b>	0 to full span.	<b>1</b>
Alarm Inhibit	<b>inh</b>	Inhibit these alarms if active at power-up and on change in setpoint. <b>nonE</b> None	<b>nonE</b>

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Alarm Notification	<b>NotE</b>	Alternating indication <b>-AL-</b> shown when these alarms are active. <b>nonE</b> None <b>1</b> Alarm 1 <b>2</b> Alarm 2 <b>1 2</b> Alarm 1 and Alarm 2	<b>1 2</b>
Alarm LED Indicator selection	<b>A.Ind</b>	Select the alarms that will show on the alarm LED indicator <b>nonE</b> None <b>1</b> Alarm 1 <b>2</b> Alarm 2 <b>1 2</b> Alarm 1 and Alarm 2	<b>1 2</b>
Sensor Break Alarm	<b>SbAc</b>	<b>On</b> activates both alarms when a sensor break is detected.	<b>OFF</b>

### Communications Sub-Menu: COm

Modbus communications settings. Only shown if RS485 option is fitted

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Modbus Address	<b>ADD</b>	The device network address from 1 to 255	<b>1</b>
Baud Rate	<b>bAud</b>	The communications data rate in kbps from <b>1.2</b> (1200), <b>2.4</b> (2400), <b>4.8</b> (4800), <b>9.6</b> (9600), <b>19.2</b> (19200), <b>38.4</b> (38400).	<b>9.6</b>
Parity	<b>Prty</b>	Parity checking: <b>Odd</b> , <b>EvEn</b> or <b>nonE</b>	<b>nonE</b>

### Display Sub-Menu: d.SP

Enable Basic Mode and change lock codes.

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Setup Lock Code	<b>S.Loc</b>	View and adjust lock code to allow entry to the Setup Mode. Adjustable from <b>1</b> to <b>9999</b> or <b>OFF</b> to allow unrestricted access	<b>10</b>
Advanced Configuration Lock Code	<b>A.Loc</b>	View and adjust lock code to allow entry to the Advanced Configuration. Adjustable from <b>1</b> to <b>9999</b> or <b>OFF</b> to allow unrestricted access	<b>20</b>
Basic Setpoint Control Enable/Disable	<b>bASc</b>	Basic Setpoint Control allows user to only change the setpoint or manual power.	<b>dISA</b>
Reset to Defaults	<b>dFlt</b>	Reset all parameters back to their factory defaults Reset by pressing <b>▶</b> and selecting <b>YES</b>	

### Operator Sub-Menu: OPtR

Controls what appears in the User Mode when Basic Mode is disabled.

Screen Name	Lower Display	Upper Display	Sub-Menu Usage and Visibility
PV Maximum	<b>P7A</b>		Hide or show parameters in User Mode when Basic Mode is disabled.
PV Minimum	<b>P7m</b>		
Alarm Status	<b>ALSt</b>		
Latch Status	<b>LAth</b>		
Control Enabled	<b>CnEt</b>		
Manual Control Enabled	<b>P7Ct</b>		

### Product Information Sub-Menu: InFo (Read-Only view)

Read-only view product serial number and manufacturing information.

Screen Name	Lower Display	Description
Product Revision	<b>PrL</b>	The hardware/software revision level.
Firmware Type	<b>FtYP</b>	The firmware code type.
Firmware Issue	<b>ISS</b>	The firmware version number
Serial Number 1	<b>SEr1</b>	First four digits of serial number
Serial Number 2	<b>SEr2</b>	Middle four digits of serial number
Serial Number 3	<b>SEr3</b>	Last four digits of serial number
Manufacture Date	<b>dOn</b>	Date of Manufacture (mmyy)

