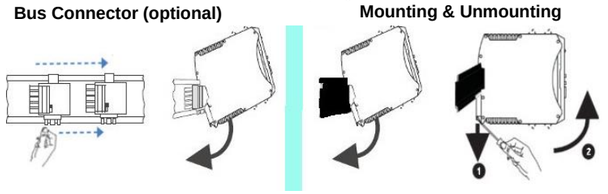
59627-3 MaxVU Rail Extrusion Controller Concise Manual

1. INSTALLATION

Installation Guidance

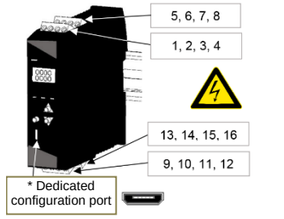
- Installation should only be performed by technically competent personnel.
- Standards compliance shall not be impaired when fitting into the final installation.
- It is the responsibility of the installing engineer to ensure that the configuration is safe.
- Local regulations regarding the electrical installation & safety must be observed.
- Impairment of protection will occur if the product is used in a manner not specified by the manufacturer.
- Due to the low weight of this instrument there are no special lifting or carrying considerations.
- 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 position the equipment so that it is difficult to operate the disconnecting device.
- Ventilation slots must not be covered and adequate air circulation must be allowed.
- Use conductor sizes 30-12 AWG, minimum temp rating of cables to be 80c.

Bus Connector (optional) **Mounting & Unmounting**



Terminal Wiring

Check information label on housing for correct operating voltage before connecting supply to Power Inputs.
Diagrams show all possible option combinations, check your exact product specification before connecting.



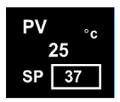
1	RS485 Data A (Rx/Tx+)	Communications
2	RS485 Data B (Rx/Tx-)	
3	Relay COM / Linear +	Output 3
4	Relay NO / Linear -	
5	Relay COM / SSR-	Output 2
6	Relay NO / SSR+	
7	L+	Power
8	N-	
9	Volt-free or TTL Compatible	Digital Input
10		
11	Relay COM / SSR -	Output 1
12	Relay NO / SSR +	
16	Relay NC	
13	RTD	Input
14	TC / RTD / Linear +	
15	TC / RTD / Linear -	

*** NEVER DIRECTLY CONNECT DEDICATED CONFIGURATION SOCKET TO A USB PORT.**

2. FRONT PANEL

Ok / Select ⊙ Up ▲ Down ▼

Display turns off after 5, 15 or 30 minutes without key presses.



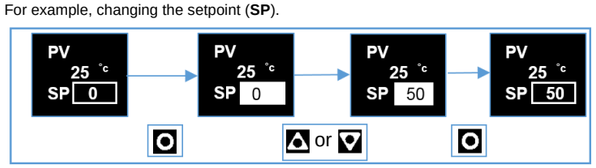
Display shows PV (process variable), units, SP (setpoint), alarm/latch statuses, error & warning messages.

Fixed LEDs - Heat, Cool & Alarm:

Navigation & Editing

Press ▲ or ▼ keys to navigate between parameters or menu items.
Press ⊙ to highlight and edit a parameter value.
Press ▲ or ▼ to change the parameter value, then press ⊙ within 60 seconds to confirm change.

For example, changing the setpoint (**SP**).



Navigating to Setup Mode or Advance Configuration from Operator Mode:
Setup Mode - press ⊙ & ▲.
Advanced Configuration - press ⊙ & ▼.

Returning to Operator Mode:
Press ⊙ & ▲ to move back one level. After 120 seconds without key presses the unit returns automatically to the first Operator Mode screen.

3. SETUP (& FIRST POWER UP)

Important Note: When powered up for the first time, or after a factory reset (default) the instrument enters Setup.
The device remains in Setup, or will keep powering up back into Setup, until all parameters have been reviewed and the user exits Setup.

Some parameters may be hidden depending on configuration & hardware.
Alternatively press ⊙ & ▲ to enter Setup from Operator mode and ⊙ & ▲ to exit.

Setup Lock	Enter code & press ⊙	Default **10**

Parameter	Description	Default Value
>Input **Type**	J Thermocouple *	**K Thermocouple**
	-200 – 1200ºC / -128.8 – 537.7ºC	
	-328 – 2192ºF / -199.9 – 999.9ºF	
	K Thermocouple *	
	-240 – 1373ºC / -128.8 – 537.7ºC	
	-400 – 2503ºF / -199.9 – 999.9ºF	
	PT100 *	
	-199 – 800ºC / -128.8 – 537.7ºC	
	-328 – 1472ºF / -199.9 – 999.9ºF	
	B Thermocouple	
	100 – 1824ºC	
	211 – 3315ºF	
	C Thermocouple	
	0 – 2320ºC	
	32 – 4208ºF	
	L Thermocouple *	
	0 – 762ºC / 0.0 – 537.7ºC	
	32 – 1403ºF / 32.0 – 999.9ºF	
	N Thermocouple	
	0 – 1399ºC	
	32 – 2551ºF	
	R Thermocouple	
	0 – 1759ºC	
	32 – 3198ºF	
	S Thermocouple	
	0 – 1762ºC	
	32 – 3204ºF	
	T Thermocouple *	
	-240 – 400ºC / -128.8 – 400.0ºC	
	-400 – 752ºF / -199.9 – 752.0ºF	
	Linear dc	
	0 - 50mV	
>Input **Units**	°C or °F (hidden when a linear input is used)	**°C**
*Maximum of 1 decimal place for temperature inputs marked.		
>Input **Decimal Place**	0000 * / 000.0 * / 00.00 / 0.000	**0000**
Scale Range max & min only visible when input is a linear type.		
>Input **Scale Range Maximum**	Maximum for application working range.	**1000**
>Input **Scale Range Minimum**	Minimum for application working range.	**0**
>Input **Digital I/P Action**	None / Alarm Reset *(clears latched alarms)* / Ctrl Enable/Disable *(disables control)* / Ctrl Auto/Manual / Pre-Tune Start/Stop / Tune at SP Start/Stop	**Ctrl Enable/Disable**
>Output 1 **Usage**	Heat / Cool / Non Linear Cooling / Alarm 1 / Alarm 2 / Alm. 1or2 / Loop Alarm	**Heat**
Control Loop Alarm time is 2x Integral (PID) or Loop Alarm Time (if mode is On.Off)		
>Output 2 **Usage**	Same options as Output 1 Usage	**Alarm 1**
>Output 3 **Usage** or >Linear Outp **Usage**	Same options as Output 1 Usage. Heat / Cool / PV Retx / SP Retx	**Alarm 2** / **PV Retx**
>Linear Outp **Type**	0-10V / 2-10V / 0-20mA / 4-20mA / 0-5V / 1-5V	**0-10V**
>Linear Outp **Scale Range Maximum**	Maximum PV value corresponding to maximum linear output.	Input type Max
>Linear Outp **Scale Range Minimum**	Minimum PV value corresponding to minimum linear output.	Input type Min
>Alarm 1 **Value**	Range minimum to range maximum, or OFF (maximum +1). **OFF** disables alarm. Default PV High alarm type.	**1373**
>Alarm 2 **Value**	Same options as Alarm 1. Default PV Low alarm type.	**-240**
Setpoint	Target setpoint.	**0**
>Coms **Unit Address**	Modbus address from **1** to **255**	**1**
>Coms **Baud Rate**	**1200**, **2400**, **4800**, **9600**, **19200** & **38400**	**9600**
>Coms **Parity**	**Odd**, **Even** or **None**	**None**
>Control **Automatic Tuning**	**OFF**, **Start Pre-Tune** or **Start Tune at SP ***	**OFF**
*Start Tune at SP not available for Heat & Cool processes.		
If necessary, press ⊙ and ▲ to clear **Control is Enabled** Pop Up Alert.		

4. OPERATOR MODE

Name		Details
User Screen	PV 25 °C SP 37	PV - top SP - bottom Temperature Unit - right.
Manual control	PV 25 °C P% 50	Manual Power is shown as **P% xxx**.

Important: Visibility for parameters below must be set to **Show** in **Operator** sub-menu.

Alarm State	Alarm State: Alarm 1 (active), Alarm 2 (set, not active), Loop –	To clear latches press ⊙ then ▲ to select **Yes**. Press ⊙ to accept.	Alarm active Alarm set, but not active – Alarm not set
Latch State	Latch State: Out 1 (latched), Out 2 (set, not latched), Out 3 –		Output Latched Latch set, but output not Latched – Latch not set
Maximum PV / **Minimum PV**	To clear press ⊙ then ▲ to select **Yes**. Press ⊙ to accept.		Screens show the Maximum & Minimum PV reached.
Control Enable	**OFF** - Control output(s) disabled. (Ignored when in manual mode). **ON** - Control output(s) enabled - Setpoint visible on user screen.		
Manual Control Enable	**OFF** - Automatic control, PID or On-Off control available. **ON** - Manual control, Manual Power shown as **P% xxx**.		

Warnings & Error Messages

***Caution:* Do not continue your process until any issues are resolved.**

Name	Details
Pop up Alerts: Warnings and Confirmations	 For example, Pop Up Alert for Alarm 1. Pop Up Alerts need to be acknowledged. Press ⊙ and ▲ to clear Pop Up Alert.

Pop up Alerts: **Alarm 1**, **Alarm 2**, **Alarm 1 & 2**, **Starting Calibration**, **Calibration Ongoing**, **Calibration Fail**, **Control is Enabled**, **Tune Error** messages (listed below), **Tuning in progress, Setup not Completed** & **Offset in use** (SP offset).

ALARM	Alternates with PV to show Alarm is active.
LATCH	Alternates with PV. One or more outputs are latched on and no alarm is active.
HIGH	Process variable input > 5% over-range.
LOW	Process variable input > 5% under-range.
OPEN	Break detected in process variable input sensor, wiring or wrong input type selected. Shows **OPEN** until resolved, control is off.
ERROR	Selected input range is not calibrated. Shows **ERROR** until resolved, control is off.
TUNE	Alternates with SP. Auto-tuning is in progress.
P%	Manual power value replaces setpoint, shows **P% xxx** of power.
Ramp	Alternates with actual setpoint. Setpoint ramp is active.
OFF	Control is disabled so control outputs are off.
Control Delayed	Visible if Delay Timer active. Control output(s) are off.
Tuning in progress	Alternates with setpoint. Tuning is active.
Tune Errors	Display alternates between Tune Error & Setpoint. Remains visible until **Automatic Tuning** is turned **Off**.
	tErr1 **PV within 5% of SP** (for pre-tune)
	tErr2 **Setpoint is ramping**
	tErr3 **Control is ON/OFF** (not PID)
	tErr4 **Control is manual**
	tErr5 **Tune at Setpoint not able to run**
	tErr6 **Sensor Break**
	tErr7 **Timer Running**
	tErr8 **Control is Disabled**

6. SPECIFICATIONS

Important: Check your product code for exact hardware fitted.

UNIVERSAL INPUT

Thermocouple Calibration:	±0.25% of full range, ±1LSD & ±1°C for Thermocouple CJC). *Factory calibration is accurate 0.25% of span above -100°C, below -100°C accuracy is within +/- 0.9%. To meet 0.25% accuracy below -100°C recalibrate using procedure in full manual.* BS4937, NBS125 & IEC584.
PT100 Calibration:	±0.25% of full range, ±1LSD. BS1904 & DIN43760 *(0.00385Ω/Ω°C).*
DC Calibration:	±0.25% of full range, ±1LSD.
Sampling Rate:	4 per second.
Impedance:	>1MΩ resistive, except dc mA (5Ω) and V (47kΩ)
Sensor Break Detection:	Thermocouple, RTD, 4 to 20mA, 10 to 50mV, 2 to 10V and 1 to 5V ranges only. Control outputs turn off when a sensor break is detected.

DIGITAL INPUT (Isolated or Non-Isolated version)

Functions:	**Reset Alarm**, **Control Enable/Disable**, **Auto/Manual**, **Pre-Tune Start/Stop** or **Tune at SP Start/Stop**.
Signal:	Non-isolated - Open or Close only. Isolated - Open (2 to 24Vdc) or Closed (<0.8Vdc). Open to Closed transition = **Reset**, **Enabled**, **Auto** or **Start**.

OUTPUTS

Relay Contacts:	Form C SPDT (Op 1) / Form A SPST relay (other), 2A @ 250Vac.
Relay Lifetime:	>150,000 operations at rated voltage/current, resistive load.
SSR Driver Capability:	SSR drive voltage >10V at 20mA
Output 3 option only: DC (Linear)	
Types:	0 to 20mA, 4 to 20mA, 0 to 5V, 0 to 10V or 2 to 10V
Load Resistance:	Current Output 500Ω max, Voltage Output 500Ω min.
Resolution:	8 bits in 250ms (10 bits in 1s typical, >10 bits in >1s typical).

RS485 SERIAL COMMUNICATIONS (Modbus RTU)

Data Rate:	1200, 2400, 4800, 9600, 19200 or 38400 bps.

OPERATING CONDITIONS

Usage:	For indoor use only, DIN-rail mounted in suitable enclosure
Ambient Temp:	<95% humidity 0°C to 55°C (Operating), –10°C to 80°C (Storage).
Relative Humidity:	20% to 95% non-condensing.
Altitude:	< 2000m
Power Supply:	Mains power version - 100 to 240Vac ±10%, 50/60Hz, 9VA Low voltage version - 24Vac +10/-15% 50/60Hz 9VA or 24Vdc +10/-15% 5W.

ENVIRONMENTAL

Standards:	CE, UL & cUL.
EMI:	EN61326-1:2013, Table 2 & Class A. **Warning:** This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
Safety:	UL61010-1 Edition 3, EN61010-1 Version 2010, Pollution Degree 2 & Installation Class 2.
Protection Rating:	IP20.

PHYSICAL

Unit Size:	Height - 99mm; Width – 22.5mm; Depth - 121mm
Ventilation:	A space of 80mm must be allowed above and below each unit.
Weight:	0.20kg maximum

ISOLATION

	PSU	Universal Input	Relay	SSR	Linear	RS485 Comms	Non-Isolated Digital Input	Isolated Digital Input	Config Port
PSU	■								
Universal Input		■							
Relay									
SSR									
Linear					■				
RS485 Comms						■			
Non-Isolated Digital Input							■	■	
Isolated Digital Input									
Configuration Port									■

■ Not Applicable — No Isolation — Reinforced Isolation

7. SAFETY & WARNING SYMBOLS

Risk of electric shock. **Caution, refer to the manual.**

Alternating or direct current could be present. **Equipment protected through-out by double insulation.**

8. ADVANCED CONFIGURATION

Advanced Configuration gives access to all possible parameters; however, the device hides parameters that are irrelevant to your exact product specification & configuration.

Advanced Configuration Navigation

Enter by pressing ⊙ & ▼. Press ▲ or ▼ to navigate to the required menu, then press ⊙ to enter.

Press ⊙ & ▲ to exit up 1 level. Depending upon which menu you enter it may be necessary to exit 2 or 3 levels for Operator Mode.

Advanced Configuration menus

Advanced Lock	Enter code & press ⊙	Default **20**

Menus	Description
User	Includes Status, Control & Manual Mode enable/disable.
Input	Configure the process input.
User Calibration	Single or two-point calibration adjustments for the process input.
Outputs	Configuration parameters for the outputs.
Control	PID control tuning & configuration parameters.
Setpoint & Timer	Setpoint & timer settings.
Alarms	Alarm configuration.
Communication	Modbus communications settings.
Display	Lock codes and Factory Default.
Operator Screens	Control what appears in Operator Mode.
Information	View serial number & manufacturing details.

User menu

Provides access to Output Control Enable / Disable.

Parameter	Description		Default Value
Alarm State	Alarm State Alarm 1 🔔 Alarm 2 🔕 Loop –	🔔 Alarm active 🔕 Alarm set, but not active – Alarm not set	n/a
Latch State	Latch State Out 1 🔒 Out 2 🔓 Out 3 –	🔒 Output Latched 🔓 Latch set but output not Latched – Latch not set To clear press ⊙ then ▲ to select **Yes**. Press ⊙ to accept.	n/a
Maximum PV **Minimum PV**	Maximum and Minimum PV recorded whilst powered up or since last reset. To clear press ⊙ then to select **Yes**. Press ⊙ to accept.		n/a
Control Enable	**OFF** - Control output(s) disabled. (Ignored when in manual mode) SP replaced by **OFF**.		**ON**
	ON - Control output(s) enabled. Setpoint visible in User screen.		
Manual Control Enable	**OFF** - Instrument in automatic control mode (PID or On-Off control).		**OFF**
	ON - Manual control ON. Power shown as **P*xxx* %** in User screen, in place of SP.		

Input menu

Parameter	Description	Default Value
Input Type	See Input Type table in SETUP (& FIRST POWER UP).	**K Thermocouple**
Units	**°C** or **°F** (hidden when a linear input is used)	**°C**
Decimal Place	**0000** **000.0** **00.00** **0.000** *Not for temperature.*	**0000**
Scale Range Maximum	Maximum for application working range	Max allowed for Input Type.
Scale Range Minimum	Minimum for application working range	Min allowed for Input Type.
Filter Time	**OFF** or **0.5** to **100.0** seconds in **0.5** increments	**2.0**
CJC Enable	**Enable** Enables the internal thermocouple CJC (Cold Junction Compensation).	**Enable**
	Disable Disables the internal CJC. External compensation must be provided for thermocouples.	
Digital I/P Action	**None** **Alarm Reset** (clears latched alarms) **Ctrl Enable/Disable** **Ctrl Auto/Manual** **Pre-Tune Start/Stop** **Tune at SP Start/Stop**	**Ctrl Enable/Disable**

User Calibration menu

Single-point offset or two-point calibration adjustment for process input. Can be used together, if required.

Parameter	Description	Default Value
Offset	Shifts the input value up or down by a single offset amount across the entire range.	**0**
Low Point	Enter value at which the low point error was measured.	Lower Limit
Low Offset	Enter equal, but opposite offset value to the observed low point error.	**0**
High Point	Enter value at which the high point error was measured.	Upper Limit
High Offset	Enter an equal, but opposite offset value to the observed high point error.	**0**

Outputs menu

Parameter	Description	Default Value
>Output 1		
Usage	**Heat** **Cool** **Non Linear Cooling** **Alarm 1** **Alarm 2** **Alm. 1or2** **Loop Alarm**	**Heat**
Control Loop Alarm is set as 2x Integral (PID) or Loop Alarm Time (On.Off)		
Alarm Action	**Direct** - Output active when alarm triggers **Reverse** - Output active when alarm is not triggered	**Direct**
Latching	**Off** - Alarm doesn't latch **On** – Alarm latches & needs to be cleared	**Off**
LED Indicator	**Direct** - LED Indicator lit when output is active **Reverse** - LED Indicator lit when output is inactive	**Direct**
>Output 2		
Usage	Same options as Output 1 - Usage	**Alarm 1**
Alarm Action	Same options as Output 1 - Alarm Action	**Direct**
Latching	Same options as Output 1 - Alarm Latching	**Off**
LED Indicator	Same options as Output 1 - LED Indicator	**Direct**
>Output 3 or **>Linear Outp**	3rd output - either Relay/SSR driver (Output 3) or Linear.	
>Output 3 **Usage**	Output 3 - same options as Output 1 - Usage **Heat** **Cool** **PV Retransmit** **SP Retransmit**	Output 3: **Alarm 2**
>Linear Outp **Usage**		Linear: **PV Retransmit**
>Output 3 **Alarm Action**	Same options as Output 1 - Alarm Action	**Direct**
>Output 3 **Alarm Latching**	Same options as Output 1 - Alarm Latching	**Off**
>Output 3 **LED Indicator**	Same options as Output 1 - LED Indicator	**Direct**
>Linear Outp **Type**	**0-10V** **2-10V** **0-20mA** **4-20mA** **0-5V** **1-5V**	**0-10V**
>Linear Outp **Scale Range Maximum**	Display value for maximum output, -1999 to 9999	Input type Max
>Linear Outp **Scale Range Minimum**	Display value for minimum output, -1999 to 9999	Input type Min

Control menu

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

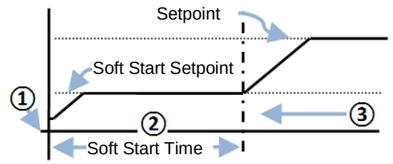
Parameter	Description	Default Value
Proportion Heat Band	**ON/OFF** (0.0) or PID control in display units. **1** to **9999** - **0** decimal places **0.1** to **999.9** - 1 decimal place **0.01** to **99.99** - **2** decimal places **0.001** to **9.999** - **3** decimal places	**161** **161**
Auto Reset (Integral)	**0.01** to **99.59.** and **OFF** (**0.00**) (minutes & seconds).	**5.00**
Rate (Derivative)	**0.01** to **99.59** or **OFF** (**0.00**) (minutes & seconds).	**1.15**
Overlap/ Deadband	In display units, range -20 to +20% of Heat & Cool Proportional Band. **0** is Off.	**0**
Differential (On/Off)	Visible when using On/Off control. In display units, centred about the setpoint. Range: 0.1% to 10.0% of input span	**8**
Loop Alarm Time	Visible when On/Off control & Loop Alarm assigned to an output. Sets time before the loop alarm triggers. (minutes & seconds)	**99.59**
Manual Rst (Bias)	Manual Reset **0** to **100%** (**-100%** to **100%** if heat/cool control)	**25%**
Soft Start Time	**0:01** to **60:00** or **OFF** (0:00) (hours & minutes)	**OFF**
Soft Start Setpoint	See Soft Start diagram.	**-240**
Heat Cycle Time	**0.1** to **512.0** seconds	**32.0**
Cool Cycle Time		**32.0**
Output Interlock	Prevents simultaneous activation of both heat & cool outputs. **On** / **Off** Only set to **On** if Overlap/Deadband = 0.	**Off**
Heat Power Limit	% power upper limit **0** to **100%**	**100%**
Cool Power Limit	% power upper limit **0** to **100%**	**100%**
Minimum Cooling	Minimum temperature at which water cooling will activate.	**120**
Impulse Length	**0.01** to **99.99** (seconds)	**10**
Minimum Off Time	**0.01** to **99.99** (seconds)	**20**
Non Linear Adjust	**1** to **999.9**	**5**
Power Up Action	**Last** - Powers up with control enable in the same state as on power off or power failure. **On** - Always powers up with control enabled.	**Last**
Automatic Tuning	**Off** **Start Pre-Tune** **Start Tune at SP ***	**Off**
*Start Tune at SP not available for Heat & Cool process.		

Setpoint menu

Parameter	Description	Default Value
Ramp Rate	Rate actual setpoint changes from current PV to target setpoint following power-up or control enable. From **0.001** to **9999.** or **OFF** (**10 000**) (Units / hr). Any setpoint changes also follow this rate.	**OFF**
Upper Limit	Used to limit the Maximum setpoint value.	Scale Range Maximum
Lower Limit	Used to limit Minimum setpoint value.	Scale Range Minimum
Offset	Offsets the setpoint. For use in multi-zone setpoint slave applications. **Offset in use** pop-up appears when SP is changed.	**0**

Soft Start diagram

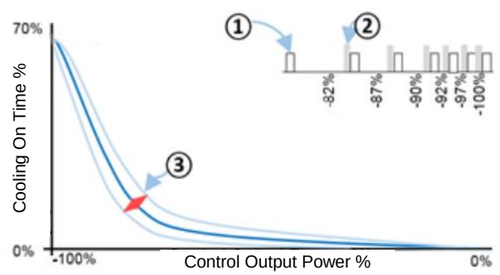
① At power on the unit will control to the Soft Start Setpoint.
② Then remain at this value for the time defined by the Soft Start Time. During this period the control cycle time is a ¼ of the value entered and the Heat Power Limit is used.
③ When soft start timer expires the unit returns to normal operation.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



Non Linear Cooling diagram

With non-linear cooling, the cooling curve adjusts the output power so that the effective power over 0% to -70% is weaker, by adjusting the % on vs off time.

① The length of time the output will be on for is set by Impulse Length
② The minimum time the output will be off for is set by Minimum Off Time.
③ Non Linear Cooling Adjust adjusts the characteristics of the cooling curve.



Alarms menu

Parameter	Description	Default Value
>Alarm 1		
Type	**None** **PV High** **PV Low** **Deviation** **Band**	**PV High**
Value	Range minimum to range maximum, or OFF (maximum +1). **OFF** disables alarm. Default PV High alarm type.	**1373**
Hysteresis	**0** to full span.	**1**
>Alarm 2		
Type	Same options as Alarm 1	**PV Low**
Value		**-240**
Hysteresis		**1**
>Options		
Alarm Inhibit temporarily deactivates alarms at power-up & on change in setpoint.		
Alarm Inhibit	**None** **Alarm 1** **Alarm 2** **Alarm 1 & 2**	**None**
Alarm PV Notification	**None** **Alarm 1** **Alarm 2** **Alarm 1 & 2**	**Alarm 1 & 2**
Sensor Break Alarm	**On** - activates both alarms, if configured, when a sensor break is detected.	**Off**

Communications menu

Modbus communications settings, only shown when RS485 option is fitted.

Parameter Name	Description	Default Value
Unit Address	Modbus address from **1** to **255**	**1**
Baud Rate	Coms data rate in kbps **1200**, **2400**, **4800**, **9600**, **19200** & **38400**.	**9600**
Parity	Parity checking: **Odd, Even** or **None**	**None**

Display menu

Lock codes & Factory Defaults.

Parameter Name	Description	Default Value
Setup Unlock Code	View & adjust Setup lock code. From **1** to **9999** or **Off** for no lock code.	**10**
Advanced Unlock Code	View & adjust Advanced lock code. From **1** to **9999** or **Off** for no lock code.	**20**
Screen Timeout	Screensaver time **5**, **15** or **30** mins.	**5**
Selected language	Display language, 2 available – **English** plus either **German** or **French**.	**English**
Reset to Defaults	Reset parameters back to factory defaults. To clear press ⊙ then ▼ to select **Yes**. Press ⊙ to accept.	

Operator Screens menu

Controls what appears in Operator Mode.

Parameter Name	Description	Default Value
Control Enabled	**Hide** or **Show** parameters in Operator Mode.	**Hide**
Manual Ctrl Enabled		**Hide**
Alarm State		**Hide**
Latch State		**Show**
Maximum PV		**Hide**
Minimum PV		**Hide**

Information menu (Read-Only)

Parameter Name	Description
PRL	The hardware/software revision level.
DOM	Date of manufacture *(mmyy)*.
FW Version **FW Type**	The firmware version number & code type.
Serial	Instrument serial number.
Out1 **Out2** **Out3**	**SSR** (SSR driver) or **Relay** **SSR** (SSR driver) or **Relay**. **None, SSR** (SSR driver), **Relay** or **Linear**.
Comm **DI**	Comms option - **Fitted** or **None**. Digital Input isolation – **Iso** (isolated) or **NonIs** (non-isolated).

Please refer to the full manual for further information on any topic.