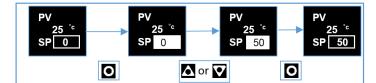


Press to highlight and edit a parameter value.

Press A or to change the parameter value, then press to 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.

parameters have been Some parameters may	Setup, or will keep powering up back into Setup reviewed and the user <u>exits</u> Setup. be hidden depending on configuration & hardw	are.		
Alternatively press	to enter Setup from Operator mode and	a & to exit. Default 10		
•	Enter code & press	Default Value		
Parameter	Description J Thermocouple *			
	-200 – 1200°C -128.8 – 537.7°C	-		
	-328 – 2192°F -199.9 – 999.9°F			
	K Thermocouple * -240 – 1373°C -128.8 – 537.7°C	-		
	-400 – 2503°F -199.9 – 999.9°F			
	PT100 * -199 – 800°C -128.8 – 537.7°C			
	-328 – 1472°F -199.9 – 999.9°F			
	B Thermocouple 100 – 1824°C	-		
	100 – 1824 C 211 – 3315⁰F			
	C Thermocouple	-		
	0 − 2320°C 32 − 4208°F			
>Input	L Thermocouple *	K Thermocoup		
Туре	0 – 762°C 0.0 – 537.7°C 32 – 1403°F 32.0 – 999.9°F			
	N Thermocouple			
	0 – 1399°C 32 – 2551°F			
	R Thermocouple			
	0 – 1795°C 32 – 3108°⊑			
	32 – 3198°F S Thermocouple			
	0 – 1762°C	-		
	32 – 3204°F T Thermocouple *	-		
	-240 – 400°C -128.8 – 400.0°C			
	-400 – 752°F -199.9 – 752.0°F	-		
	Linear dc 0 - 50mV	-		
>Input	°C or °F (hidden when a linear input is used)	°C		
Units * Maximu	m of 1 decimal place for temperature inputs ma	-		
Maxima	0000 *	ikeu.		
>Input	000.0 *	0000		
Decimal Place	00.00 0.000			
	ge max & min only visible when input is a linea	r type.		
Input Scale Range Maximum	Maximum for application working range.	1000		
>Input		^		
Scale Range Minimum		0		
	None Alarm Reset <i>(clears latched alarms)</i>			
>Input	Ctrl Enable/Disable (disables control)	Ctrl		
Digital I/P Action	Ctrl Auto/Manual Pre-Tune Start/Stop	Enable/Disabl		
	Tune at SP Start/Stop			
	Heat			
Cutrus 1	Cool Non Linear Cooling			
>Output 1 Usage	Alarm 1	Heat		
	Alarm 2 Alm. 1or2			
	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	Same options as Output 1 Usage.	Alarm 2		
Usage	Heat			
<u>or</u> >Linear Outp	Cool	PV Retx		
>Linear Outp Usage	PV Retx	PVRetX		
	0-10V			
	2-10V			
>Linear Outp Type	0-20mA 4-20mA	0-10V		
1340	4-20mA 0-5V			
	1-5V			

>Linear Outp Scale Range Maximu		um PV value correspond maximum linear output.	ing to	Input type Max	5. S	PECIFIC			ucto	ode f		act be	rdwara fitta	ad	
>Linear Outp	Minimu	um PV value correspondi minimum linear output.	ing to	Input type Min	PROCES	Importar SS INPUT	tant: Check your product code for exact hardware fitted.			a.					
Scale Range Minimur >Alarm 1 Value	Range min (maxin	Range minimum to range maximum, or OFF (maximum +1). OFF disables alarm. Default PV High alarm type.		1373	Thermoco Calibratior		±0.25% of full range, ±1LSD & ±1°C for Th Factory calibration is accurate 0.25% of span abo accuracy is within +/- 0.9%. To meet 0.25% accur recalibrate using procedure in full manual.		above -100°	C, below -					
>Alarm 2 Value		Same options as Alarm 1.		-240	PT100 Ca	libration:	BS4937, N ±0.25% of								
Setpoint	De	efault PV Low alarm type Target setpoint.	,	0			BS1904 &					Ø∕∩2/°C)			
>Coms Unit Address	Mod	dbus address from 1 to 2	55	1	DC Calibra		±0.25% of		ge, ±	1LSD	•				
>Coms Baud Rate	1200, 24	00, 4800, 9600, 19200 8	38400	9600	Sampling Impedance		4 per seco >1MΩ resis		xcen	t dc m	A (F	50) an	d V (47kO)		
>Coms Parity		Odd, Even or None		None		eak Detection		,			``	'	()	10V and	l 1 to
>Control Automatic Tuning		t Pre-Tune or Start Tune		Off	DIGITAL	INPUT (Iso	5V ranges blated or N						<u>f</u> at sensor	break.	
		available for Heat & Coc and A to clear Contro			Functions		Reset Alar Start/Stop						Auto/Manua	al, Pre-Tu	ine
4. OPERATO					Signal:		Non-isolated -	ed - Op	en or	Clos	e on	ıly.	1 (<0 8V/dc)		
Name		Details					Open to Cl	•			·		•		
Lleer Cereen	PV ₀ _c		PV - top		OUTPUT					_					
User Screen	25		P - bottom		Relay Cor Relay Life		Form C SF >150,000 c								
	SP 37	I emper	rature Unit	- right.	-	er Capability:		•				•	anoni, 1681		••
Manual control	PV					(Output 3 o	ption only):								
	25 °° P% _50	Manual Por	wer is show	wn as P% .	Types: Accuracy:		0 to 20mA, ±0.25% (m increasing	A @ 2	50Ω,	V @ 3	2kΩ). Degr	ades linea		5% fo
Important: Visibility for	or parameters I	below must be set to Sho	-		Load Resi		Current Ou	tput 50	00Ω n	nax, ∖	/olta	ige Ou	tput 500Ω i		
	Alarm Stat			Alarm active arm set, but not	Resolution	1:	8 bits in 25	0ms (1	0 bits	s in 1s	; typ	ical, >	10 bits in >	1s typical).
Alarm State	Alarm 1 44 Alarm 2 4 Loop	To clear		active Alarm not set	RS485 S Data Rate		1200, 2400		•				00 bps.		
		a latches press then ▲ to select		Output Latched	OPERAT	ING COND	,	,	,	-, -					
Latah Stata		🔂 Yes.		□ Latch set, but	Usage:		For indoor	use on	ly, Dl	IN-rail	mo	unted i	n suitable	enclosure).
Latch State	Out 2 7 Out 3	Press to		put not Latched	Ambient T	•	<95% hum	idity 0°	C to	55°C	(Op	erating), −10°C to	80°C (St	orag
Maximum PV	1	accept.	Screens s	 Latch not set 	Relative H	umidity:	20% to 95%	% non-	cond	ensinę] .				
Minimum PV	To clear press Yes. Press	to select	Maximum	& Minimum PV	Altitude: Power Su	nlv.	< 2000m Mains pow		ion -	100 t	- 24	0\/ac +	-10% 50/6	∩H→ 0\/A	
Control Enable	OFF - Control	output(s) disabled. (Igno	reached. ored in man	ual mode).		·F·J·	Low voltag +10/-15% \$	e versi							
Manual Control		output(s) enabled. atic control, PID or On-Ofi	f control av	ailable	ENVIRO	NMENTAL									
Enable		control, Manual Power sh			Standards	:	CE, UL & c		-		~				
Warnings & Error					EMI: Warning	: This is a Cl	EN61326- ² ass A produc						nt. this prod	uct may o	cause
	unue your pro	cess until any issues a Details	re resolve	d. 🔼		terference in v					· ·			ate meas	ures.
Name		For example, Pop Up /	Alert for Ala	arm 1.	Safety:		UL61010-1 Pollution D								
Pop up Alerts:	Alarm 1				Protection	Rating:	IP20.	5							
Warnings and Confirmations		Pop Up Alerts need to Press and to clea			PHYSIC	AL									
Pop up Alorte: Alarm	1 Alorm 2 Alo	arm 1 & 2, Starting Calibra			Unit Size:		Height - 99	mm; W	/idth	- 22.5	imm	ı; Dept	h - 121mm		
	ntrol is Enabled	I, Tune Error messages, *	Tuning in p		Ventilation	:	A space of		mus	t be a	llow	ed abo	ve & belov	/ each un	it.
ALARM		ed & Offset in use (SP offset in use) ternates with PV to show	,	ectivo	Weight: ISOLATI	ON	0.20kg ma	xinum							
	Al	Alternates with PV to show		icuve.	ISOLATI			<u> </u>							1
LATCH		ore outputs are latched or	n <u>and</u> no al				5	irsal ut	ay	ĸ	ar	485 ms	ut tal	ted ut	fig
HIGH LOW		Process variable input > 5 Process variable input > 5		•			NSd	Universal Input	Relay	SSR	Linear	RS485 Comms	Non- Isolated Digital Input	Isolated Digital Input	Config
OPEN		ted in process variable input > 5		•								-	_		
-		elected. Shows OPEN u	ntil resolve	d, control is off.	PSU Universal	Input									
ERROR	Sh	Selected input range is r nows ERROR until resolv			Relay	•									
TUNE	Alte	ernates with SP. Auto-tun	ing is in pr	ogress.	SSR Linear										
P% Ramp		er value replaces setpoin		•	RS485 Co Non-Isolat	mms ed Digital Inpu	it								
OFF	-	es with actual setpoint. S introl is disabled. Control		1	Isolated D	igital Input	-								
Control Delayed		en Delay Timer is active.	,		Configura	tion Port Not Appli	cable		No le	olatior			Reinfo	rced Isolati	ion
Tuning in progress	A	Alternates with setpoint. T	uning is ac	ctive.	6 6									. Jea looidt	
		alternates between Tune			Δ.	AFETY 8 Risk of ele	Ctric shock.		5 T I				n, refer to	the man	ual.
	tErr1	visible until Automatic Tu PV within 5% of			<u></u>					∕!∖					
	tErr2		is ramping	,	\sim	Alternating could be p	g or direct c resent.	urrent					nent prote h-out by c		
		Control is ON	/OFF (not I	PID)		wo p						insula			
	tErr3			/											
Tune Errors	tErr4	Control i	is manual												
Tune Errors	tErr4 tErr5	Control i Tune at Setpoir	nt not able												
Tune Errors	tErr4	Control i Tune at Setpoir Senso													

59627 MaxVU Rail Extrusion Controller Concise manual (EN)

7. 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

User 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.	

Parameter	Desci	Default Value	
Alarm State	Alarm State Alarm 1 (44) 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 –	 A Output Latched Latch set but output not Latched Latch not set Latch not set To clear press O then to select Yes. Press O to accept. 	2/2
Maximum PV Minimum PV	whilst powered up To clear press 🖸 th	Minimum PV recorded or since last reset. en to select Yes . to accept.	n/a
Control Enable	OFF - Control output when in manual mode ON - Control output visible in U	ON	
Manual Control Enable	OFF - Instrument in a (PID or On- ON - Manual control Pxxx % in Operator	OFF	

Input menu				
Parameter	De	Default Value		
Input Type		able in SETUP (& FIRST WER UP).	K Thermocouple	
Units		/ed as °C or °F vhen a linear input is used)	°C	
		0000		
Decimal Place		000.0	0000	
Decimal Flace	00.00	Not for tomporature	0000	
	0.000	Not for temperature.		
Scale Range Maximum	Maximum for ap	pplication working range	Max allowed for Input Type.	
Scale Range Minimum	Minimum for ap	Minimum for application working range		
Filter Time		100.0 seconds in 0.5 crements	2.0	
CJC Enable		the internal thermocouple nction Compensation).	Enable	
	Disable Disa	bles the internal CJC.		
	External compens ther			
Digital I/P Action		Ctrl		
	Alarm Reset (Enable/Disable		
	Ctrl E			
	Ctrl Auto/Manual			
		ine Start/Stop		
		r t/Stop (not available for leat/cool)		

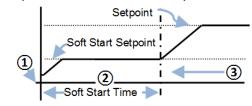
User Calib Single-point of		nenu vo-point calibration adjustment for process input. C	an be	used	
together, if re	quired.				
Parameter		Description Description	efault \	/alue	
Offset		e input value up or down by a single offset	C		
	amount a	across the entire range.	Ľ	,	
Low Point		ue at which the low point error was measured.	Lower	Limit	
Low Offset	Enter eq	ual, but opposite offset value to the observed			
	low point		C	,	
High Point	Enter val	ue at which the high point error was measured.	Upper	Limit	
High Offset	Enter an	equal, but opposite offset value to the			
		high point error.	C)	
Outputs m	nenu	· · · · · · · · · · · · · · · · · · ·			
			b 4		
Parameter		Description	Defa Valu		
			vait	ie	
>Output 1					
Usage		Heat			
		Cool			
		Non Linear Cooling			
		Alarm 1		Heat	
		Alarm 2			
		Alm. 1or2			
		Loop Alarm			
		is set as 2x Integral (PID) or Loop Alarm Time (O	n.Off co	ontrol)	
Alarm Action		Direct - Output active when alarm triggers			
		Reverse - Output active when alarm is no	ot 🕻	Direct	
		triggered			
Latching		Off - Alarm doesn't latch		-	
		On – Alarm latches & needs to be cleare	d	Off	
LED Indicato	r		_		
	71	Direct - LED Indicator lit when output is active		Direct	
		Reverse - LED Indicator lit when output i inactive	° L	JIEC	
		iiiacuve			
>Output 2					
Usage		Same options as Output 1 - Usage	Α	larm 1	
Alarm Action	1	Same options as Output 1 - Alarm Action		Direct	
Latching		Same options as Output 1 - Alarm Latching		Off	
LED Indicato	r	Same options as Output 1 - LED Indicator	-	Direct	
		· · · · · · · · · · · · · · · · · · ·			
>Output 3		3 rd output - either Relay/SSR driver (Output	3) or Li	near.	
or >Linear O	utp				
>Output 3		Output 3 - same options as Output 1 -	OL	Itput 3:	
Usage		Usage		arm 2	
>Linear Outp		Heat			
Usage)	Cool	L	inear:	
Usaye		PV Retransmit	-	PV .	
		SP Retransmit	Ret	ransmit	
>Output 3 Al	arm Actio			Direct	
- >Output 3 Al		Same options as Output 1 - Alarm Latching			
Latching				Off	
>Output 3 LE	D Indicat	or Same options as Output 1 - LED Indicator		Direct	
>Linear Outp		0-10V			
Туре		2-10V			
· / F · ·		0-20mA		101	
		4-20mA	C)-10V	
		0-5V			
		1-5V			
>Linear Outp		Display value for maximum output, -1999 to 999	99 Inp	out type	
Scale Range	Maximur	n		Max	
>Linear Outp		Display value for minimum output, -1999 to 999	99 Input type		
Scale Range	Minimum		Min		
Control m	enu				
		nfiguration & Loop Alarm. Hidden if no control out		a sot	
Parameter		Description		efault alue	
Drenster				alue	
Proportion H Band	eat	ON/OFF (0.0) or PID control in display uni	ιS.	161	
Band		1 to 9999 - 0 decimal places			
Proportion C	oportion Cool 0.1 to 999.9 - 1 decimal place				
Band		0.01 to 99.99 - 2 decimal places		161	
Auto D	Inte 1	0.001 to 9.999 - 3 decimal places			
Auto Reset (integral)	0.01 to 99.59 .		5.00	
		and OFF (0.00) (minutes & seconds).			
Rate (Deriva	tive)	0.01 to 99.59 or OFF (0.00) (minutes & second	ıds).	1.15	
Overlap/		In display units, range -20 to +20% of Heat &	Cool		
Overlap/ Deadband		Proportional Band. 0 is Off.	0001	0	
		1			
Differential		Visible when using On/Off control. In display units centred about the setpoint		8	
(On/Off)		Range: 0.1% to 10.0% of input span		Ö	
Loop Alarm 1	[ime	Visible when On/Off control & Loop Alarm assig	ined to		
		an output.			
		Sets time before the loop alarm triggers.		99.59	
		(minutes & seconds)			

Parameter	Description	Default Value	
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)		
Soft Start Setpoint	See Soft Start diagram.		
Heat Cycle Time	0.1 to 512.0 seconds	32.0	
Cool Cycle Time	0.1 10 0 12.0 Seconds	32.0	
Output Interlock	Prevents simultaneous activation of both heat & c outputs. On / Off Only set to On if Overlap/Deadband = 0.	ool Off	
Heat Power Limit	% power upper limit 0 to 100%	100%	
Cool Power Limit	% power upper limit 0 to 100%	100%	
Power Up Action	Last - Powers up with control enable in the same s as on power off or power failure. On - Always powers up with control enabled. Off - Always powers up with control disabled.		
Automatic Tuning	Off Start Pre-Tune	Off	
	Start Tune at SP *	•	
*Sta	rt Tune at SP not available for Heat & Cool process.		
Setpoint menu			
Parameter	Description D	efault 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 % of the value entered and the Heat Power Limit is used. 3 When soft start timer expires the unit returns to normal operation. It controls to the normal setpoint & from this point the Heat Power Limit is not used by the controller.

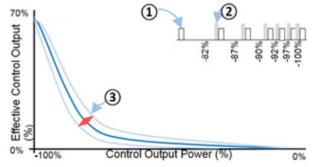


Non Linear Cooling diagram

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) At power on the unit will control to the Soft Start Setpoint.

 $\overbrace{0}^{2}$ Then remain at this value for the time defined by the **Soft Start Time**. During this period the control cycle time is % of the value entered and the Heat Power Limit is used. ③ When soft start timer expires the unit returns to normal operation. It controls to the normal setpoint & from this point the Heat Power Limit is not used by the controller.



Alarms menu

S

Parameter	Description Default Value	
>Alarm 1		
Туре	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.	
Hysteresis	0 to full span.	1
>Alarm 2		
Туре		PV Low
Value	Same options as Alarm 1	-240
Hysteresis		1

- Plielle		
Alarm Inhibit temporarily dea	activates alarms at power-up & on chang	e in setpoint.
larm Inhibit	None Alarm 1 Alarm 2 Alarm 1 & 2	None
Narm 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.	10
	From 1 to 9999 or Off for no lock code.	
Advanced Unlock	View & adjust Advanced lock code.	20
Code	From 1 to 9999 or Off for no lock code.	
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
Manual Ctrl Enabled	Hide or Show parameters in Operator Mode.	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	The firmware version number & code type.
FW Type	
Serial	Instrument serial number.
Out1	SSR (SSR driver) or Relay
Out2	SSR (SSR driver) or Relay.
Out3	None, SSR (SSR driver), Relay or Linear.
Comm	Comms option - Fitted or None.
DI	Digital Input options – Iso (isolated) or NonIs (non-isolated).

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