59572-5 MaxVU Standard Controller Concise manual

Risk of electric shock.

Caution, refer to the manual.

Alternating or direct current could be present.

Equipment protected through-out by double insulation.

1. INSTALLATION

Installation Guidance

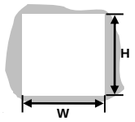
- Standards compliance shall not be impaired when fitted into the final installation.
- Installation should be only performed by technically competent personnel.
- It is the responsibility of the installing engineer to ensure that the configuration is safe.
- Local regulations regarding electrical installation & 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.
- 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

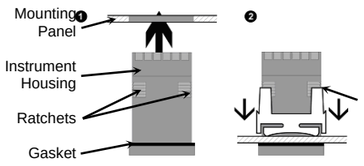
The mounting panel must be rigid, and may be up to 6.0mm (0.25inch) thick. Cut-out sizes are:

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



❶ Insert instrument into the panel cut-out.

❷ Hold front bezel firmly (*without pressing on display area*), and fit mounting clamp.

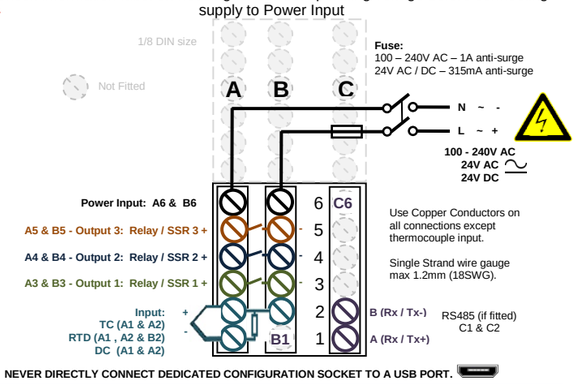
Push clamp forward, using a tool if necessary, until gasket is compressed and instrument is held firmly in position.

For 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.

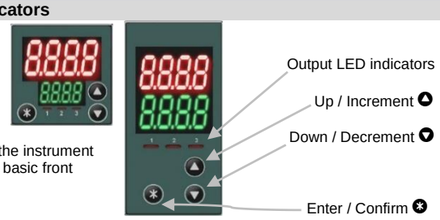
Check information label on housing for correct operating voltage before connecting supply to Power Input



NEVER DIRECTLY CONNECT DEDICATED CONFIGURATION SOCKET TO A USB PORT.

2. FRONT PANEL

Displays & Indicators



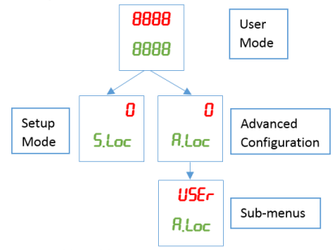
All versions of the instrument have the same basic front panel layout.

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 the parameter value, press ✱. The parameter name (*lower display*) flashes when the value (*upper display*) can be adjusted.
Press ▲ or ▼ to change the value.
To confirm the change, press ✱ within 60s otherwise the change is rejected.



Navigating to Setup or Advanced Configuration from User Mode:

- Press and hold ✱ then press ▲ for Setup Mode.
- Press and hold ✱ then press ▼ for Advanced Configuration.

Returning to User Mode:

- After 120 seconds without key activity the unit returns automatically to the User Mode screen.
- Press and hold ✱ then press ▲ to exit or move back up one level.

3. SETUP MODE (FIRST POWER UP)

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

Setup mode lock code	S.Loc	Enter lock code to continue. Default is **10**. 10

Screen Name	Lower Display	Upper Display	Adjustment Range & Description		Default Value
Input Type	tYPE	tC_J	J Thermocouple *		tC_F
			-200 – 1200ºC -328 – 2192ºF	-128.8 – 537.7ºC -199.9 – 999.9ºF	
		tC_K	K Thermocouple *		
			-240 – 1373ºC -400 – 2503ºF	-128.8 – 537.7ºC -199.9 – 999.9ºF	
		P 100	PT100 *		
			-199 – 800ºC -328 – 1472ºF	-128.8 – 537.7ºC -199.9 – 999.9ºF	
		tC_b	B Thermocouple		
			100 – 1824ºC 211 – 3315ºF		
		tC_C	C Thermocouple		
			0 – 2320ºC 32 – 4208ºF		
		tC_L	L Thermocouple *		
			0 – 762ºC 32 – 1403ºF	0.0 – 537.7ºC 32.0 – 999.9ºF	
		tC_n	N Thermocouple		
			0 – 1399ºC 32 – 2551ºF		
		tC_r	R Thermocouple		
			0 – 1795ºC 32 – 3198ºF		
		tC_S	S Thermocouple		
			0 – 1762ºC 32 – 3204ºF		
		tC_t	T Thermocouple *		
			-240 – 400ºC -400 – 752ºF	-128.8 – 400.0ºC -199.9 – 752.0ºF	
		0_20	0 – 20mA linear dc		
		4_20	4 – 20mA linear dc		
		0_50	0 – 50mV linear dc		
		10 .50	10 – 50mV linear dc		
		0_5	0 – 5V linear dc		
		1_5	1 – 5V linear dc		
		0_10	0 – 10V linear dc		
		2_10	2 – 10V linear dc		
Input Units	Unit	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		
Scaled Range Upper Limit	ScUL	Scale Input Lower Limit +100 display units to range maximum. (Only visible in Setup Mode when a dc linear type 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 a dc linear type is selected)			Input min Linear=0
Output 1 Usage	Out1	HEAt	Heat Power		HEAt
		COOL	Cool Power		
		AL 1	Alarm 1		
		AL2	Alarm 2		
		AL 12	Alarm 1 or 2		
		LooP	Control loop alarm (2 x Integral time)		
Output 2 Usage	Out2	As Output 1 Usage			AL 1
Output 3 Usage	Out3	As Output 1 Usage			AL2
Alarm 1 Value	AL_1	Range minimum to range maximum OFF disables the alarm. Default high alarm			1373
Alarm 2 Value	AL_2	Range minimum to range maximum OFF disables the alarm. Default low alarm			-240
Setpoint Value	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.		
		AtSP	Start the tune at setpoint.		

4. USER MODE (NORMAL OPERATION)

Screen Name	Lower Display	Upper Display	Screen Usage and Visibility
"Indicator" enabled	*Warnings / Errors*	*Process Variable*	If Indc parameter is enabled, setpoint is hidden but warnings or errors may still appear.
Basic Setpoint Control 1st Screen (*Automatic Mode*)	*Effective Setpoint*	*Process Variable*	Basic Setpoint Control enabled – automatic control. Press ▲ or ▼ 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 ▲ or ▼ to instantly adjust manual power. The power value is shown as Pxxx.
The following screens are not shown when Basic Setpoint Control enabled (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 SHUU in the OPEr 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	LAtch	*Latched Outputs*	Active only when an output is latched on. 1 = Output 1 2 = Output 2 3 = Output 3 Clear by pressing ✱.
Maximum PV	MAX	*Value*	Clear by pressing ✱.
Minimum PV	MIn	*Value*	
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	MCtL	OFF	Instrument in automatic control mode (manual control OFF).
		On	Manual control ON. *Power is shown as Pxxx in 1st User screen.*
Time On Remaining	Ot1	*Time left for ON timer*	Active only when the ON Timer is decrementing. When time = 0 control is disabled. Screen persists until time = 0.
Delay Time Remaining	dt1	*Time left for delay timer*	Active only when the Delay time is decrementing. When this time expires control is enabled.

Warning Messages & Error Codes

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.
Setpoint Ramping	SPr	Normal	Setpoint ramp is active (alternates with 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 ı)
Automatic Tuning	tunE	Normal	Tuning is active (alternates with setpoint).
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	Normal	PV is within 5% of the scaled range from setpoint
	tEr2		Setpoint is ramping
	tEr3		Control is ON/OFF (not PID)
	tEr4		Control is manual (not Auto)
	tEr5		Tune at Setpoint not able to run
	tEr6		Sensor break
	tEr7		Timer running
	tEr8		Control is disabled

5. SPECIFICATIONS

UNIVERSAL INPUT

Thermocouple Calibration:	±0.25% of full range, ±0.4% of full range below 110°C with 1dp ranges, ±1LSD (±1°C for Thermocouple CJC). BS4937, NBS125 & IEC584.
PT100 Calibration:	±0.25% of full range, ±0.4% of full range above 520°C with 1dp ranges, ±1LSD. BS1904 & DIN43760 *(0.00385Ω/Ω/°C).*
DC Calibration:	±0.2% of full range, ±1LSD.
Sampling Rate:	4 per second.
Impedance:	>10MΩ resistive, except DC mA (5Ω) and V (47kΩ).
Sensor Break Detection:	Thermocouple, RTD, 4 to 20mA, 2 to 10V and 1 to 5V 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 Temperature:	0°C to 55°C (Operating), –20°C to 80°C (Storage).
Relative Humidity:	20% to 95% non-condensing.
Altitude:	<2000m
Supply Voltage and 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, UL and cUL.
EMI:	EN61326-1:2013.
Safety Considerations:	UL61010-1 Edition 3, Pollution Degree 2 and Installation Class 2.
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 or 1/8 Din = 48 x 96 mm
Depth Behind Panel:	67mm with sealing gasket fitted.
Weight:	0.20kg maximum

6. 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 Mode Navigation

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

Advanced Configuration Main Menu

Advanced Configuration Mode Lock Code	A.Loc	Enter lock code to enter Advanced Configuration. Default code is 20.	20

Screen Name	Lower Display	Upper Display	Sub-Menu Usage and Visibility
User Settings	Adv	USEr	Provides access to Control and Manual Mode enable/disable. Only shown if Basic User mode is select in d iSP (see below).
Input Setup		InPt	Configuration parameters for the process input.
Input Calibration		CAL	Single or two point calibration adjustments for the process input.
Output Setup		OUtP	Configuration parameters for the outputs.
Control Setup		COnt	PID control tuning & configuration parameters. Hidden if no control output set.
Setpoint & Timer Setup		SPt 1	Setpoint and timer settings.
Alarm Setup		ALM1	Alarm configuration parameters.
Communications Setup		CoM1	Modbus communications settings. Only shown if RS485 option is fitted
Display Settings		d iSP	Enable Basic Mode and change lock codes.
Operator Setup		OPtr	Control what appears in User Mode screen.
Product Information		InFo	View product serial number and manufacturing information.

User Sub-Menu: USEr

Provides access to Output Control Enable / Disable.

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

Input Sub-Menu: InPt

Screen Name	Lower Display	Upper Display Adjustment Range & Description		Default Value
Input Type	tYPE	*Options available same as in setup mode (section 3)*		tC_J
Input Units	Un it	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	
		0.000	3 decimal places	
			Not available for temperature inputs.	
Scaled Range Upper Limit	ScUL	Scale Input Lower Limit +100 display units to range maximum		Input max Lin=1000
Scaled Range Lower Limit	ScLL	Range minimum to Scale Input Upper Limit - 100 display units		Input min Linear=0
Input Filter Time	F iLt	OFF or 0.5 to 100.0 seconds in 0.5 increments		2.0
Cold Junction Compensation	CJC	On	Enables the internal thermocouple CJC.	On
		OFF	Disables the internal CJC. External compensation must be provided for thermocouples.	

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	OFFS	Shifts the input value up or down by the offset amount across the entire range.	0
Low Calibration Point	L.CAL	The value at which the low point error was measured.	Lower Limit
Low Offset	L.OFF	Enter an equal, but opposite offset value to the observed low point error.	0
High Calibration Point	H.CAL	The value at which the high point error was measured.	Upper Limit
High Offset	H.OFF	Enter an equal, but opposite offset value to the observed high point error.	0

Output Setup Sub-Menu: OUtP

Screen Name	Lower Display	Upper Display Adjustment Range & Description		Default Value
Output 1 Usage	OUt 1	HEAt	Heat Power	HEAt
		COOL	Cool Power	
		AL 1	Alarm 1	
		AL2	Alarm 2	
		AL 12	Alarm 1 or 2	
		LooP	Control loop alarm (2 x Integral time)	
Output 1 Alarm Action	Act 1	d ir	Output changes with the alarm	d ir
		rEu	Output changes in opposition to alarm	
Output 1 Alarm Latching	LAc 1	OFF	Latching off	OFF
		On	Latching on	
LED Indicator 1	Ind 1	d ir	LED Indicator changes with the output	d ir
		rEu	LED Indicator changes in opposition to the output	
Output 2 Usage	OUt2	As Output 1 Usage		AL 1
Output 2 Alarm Action	Act2	As Output 1 Alarm Action		d ir
Output 2 Alarm Latching	LAc2	As Output 1 Alarm Latching		OFF
LED Indicator 2	Ind2	As LED Indicator 1		d ir
Output 3 Usage	OUt3	As Output 1 Usage		AL2
Output 3 Alarm Action	Act3	As Output 1 Alarm Action		d ir
Output 3 Alarm Latching	LAc3	As Output 1 Alarm Latching		OFF
LED Indicator 3	Ind3	As LED Indicator 1		d ir

Control Sub-Menu: COnt

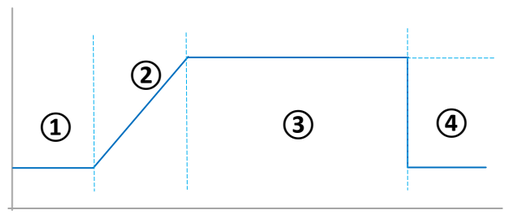
PID control tuning & configuration parameters. Hidden if no control outputs are set.

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Heat Proportional Band	H_Pb	0.0 (ON.OF) 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	16 1
Cool Proportional Band	C_Pb		16 1
Automatic reset (integral time)	In.t	1 second to 99 minutes 59 seconds and OFF	5.00
Rate (derivative time)	dEr.t	OFF 0 seconds to 99 minutes 59 seconds	1. 15
Overlap/ Deadband	O_d	In display units, range -20 to +20% of Heat and Cool Proportional Band	0
ON/OFF differential	d iFF	In display units, centred about the setpoint, range: 0.1% to 10.0% of input span	8
Loop Alarm Time	LAt 1	Visible when using On/Off control (i.e. when H_Pb or C_Pb = On.OF) Sets the time to wait before the loop alarm becomes active.	99.59
Manual Reset (Bias)	b iAS	0 to 100% (-100% to 100% if heat/cool control)	25
Heat Cycle Time	HcYc	0.1 to 512.0 seconds	32.0
Cool Cycle Time	CcYc		32.0
Heat and Cool output Inhibit	OPLC	Inhibits simultaneous switching of both heat and cool outputs.	OFF
Heat Power Limit	HPL	% power upper limit 0 to 100%	100
Cool Power Limit	CPL	% power upper limit 0 to 100%	100
Power Up Action	PUP	LASt	Powers up with control enable in the same state as on power fail.	LASt
		On	Always powers up with control enabled.	
Automatic Tuning Start/Stop	tunE	OFF	Use current PID control terms or manually tune.	OFF
		PrE	Start a pre-tune routine.	
		AtSP	Start the tune at setpoint.	

Setpoint & Timer Sub-Menu: SPt 1

Setpoint and timer settings. The timer can apply a delay before enabling control; a controlled ramp towards the target setpoint; a limit to the time at target setpoint before disabling control. Timer is not available in basic mode.

Screen Name	Lower Display	Upper Display Adjustment Range & Description		Default Value
Timer Enable	tEnb	EnAb	Enables the delay and on timers, functions at next power-up / control enable.	d iSA
		d iSA	Delay and on timers, are ignored, but setpoint ramping is not disabled.	
Delayed Start Time	d.t 1	The time from power-up or a control enable request before control begins, from 00.0 1 to 99.59 or OFF. (Hours.Minutes) Control disabled until time elapsed.		OFF
Ramp Rate	rAtE	The rate (in units / hour) from current PV to setpoint following power-up or control enable. From 0.00 1 to 9999 or OFF Setpoint changes also follow this rate.		OFF
On Time	O.t 1	The time the target setpoint will be maintained once reached, from 00.0 1 to 99.59 or OFF. Control remains on indefinitely if set to INF. (Hours.Minutes).		INF
Setpoint Upper Limit	SPuL	The maximum allowed setpoint value, from current setpoint to scaled upper limit.		Upper Limit
Setpoint Lower Limit	SPLL	The minimum allowed setpoint value, from current setpoint to scaled lower limit.		Lower Limit



① At switch on or from control enable the unit will delay enabling control until the start timer (Delayed Start Time) expires.
② The setpoint then ramps from the current PV to the setpoint at the Setpoint Ramp Rate.
③ When a ramp rate is not defined the active setpoint will step directly to the target setpoint. Once the active setpoint reaches the target setpoint, the 'on' timer (On Time) starts.
④ When the on timer expires the control switches off.

If no time is defined for the on timer, control continues indefinitely unless manually disabled.

Alarm Sub-Menu: ALM1

Screen Name	Lower Display	Upper Display Adjustment Range & Description		Default Value
Alarm 1 Type	AL 1t	nonE	None	P_h 1
		P_h 1	Process High Alarm	
		P_Lo	Process Low Alarm	
		dEu	Deviation Alarm	
		bAnd	Band Alarm	
Alarm 1 Value	AL_ 1	Range minimum to range maximum OFF disables the alarm.		1373
Alarm 1 Hysteresis	HYS 1	0 to full span		1
Alarm 2 Type	AL2t	As Alarm 1		P_Lo
Alarm 2 Value	AL_2	Range minimum to range maximum OFF disables the alarm.		-240
Alarm 2 Hysteresis	HYS2	0 to full span		1
Alarm Inhibit	inh 1	Inhibit these alarms if active at power-up and on change in setpoint.		nonE
		nonE	None	
		1	Alarm 1	
		2	Alarm 2	
		1 2	Alarm 1 and Alarm 2	
Alarm Notification	NotE	Alternating indication -AL- shown when these alarms are active.		1 2
		nonE	None	
		1	Alarm 1	
		2	Alarm 2	
		1 2	Alarm 1 and Alarm 2	
Sensor Break Alarm	SbAc	On activates both alarms when a sensor break is detected.		OFF

Communications Sub-Menu: CoM1

Modbus communications settings. Only shown if RS485 option is fitted

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

Display Sub-Menu: d iSP

Enable Basic Setpoint Control & change lock codes. ** Refer to the User Mode section 4.

Screen Name	Lower Display	Upper Display Adjustment Range & Description	Default Value
Setup Lock Code	S.Loc	View and adjust lock code to allow entry to the Setup Mode. Adjustable from 1 to 9999 or OFF to allow unrestricted access.	10
Advanced Configuration Lock Code	A.Loc	View and adjust lock code to allow entry to the Advanced Configuration. Adjustable from 1 to 9999 or OFF to allow unrestricted access.	20
Basic Setpoint Control Enable/Disable	bASc	Basic Setpoint Control allows user to only change the setpoint or manual power. **	d iSA
Indicator Enable/Disable	Indc	When enabled hides the lower display. **	d iSA
Reset to Defaults	dFLt	Reset all parameters back to their factory defaults Reset by pressing ✱ and selecting YES	

Operator Sub-Menu: OPtr

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

Screen Name	Lower Display	Upper Display	Sub-Menu Usage and Visibility	
PV Maximum	MAn	H idE SHUU	Hide or show parameters in User Mode when Basic Setpoint Control is disabled.	H idE
PV Minimum	Mn in			H idE
Alarm Status	ALSt			H idE
Latch Status	LAtH			SHUU
Control Enabled	CntL			H idE
Manual Control Enabled	MCtE			H idE
Time On Remaining	Ont 1			H idE
Delay Time Remaining	dLt 1			H idE

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

Screen Name	Lower Display	Description
Product Revision	PrL	The hardware/software revision level
Firmware Type	FtyP	The firmware code type
Firmware Issue	155	The firmware version number
Serial Number 1	SEr 1	First four digits of serial number
Serial Number 2	SEr2	Middle four digits of serial number
Serial Number 3	SEr3	Last four digits of serial number
Date of Manufacture	dOM1	Date of manufacture *(mmyy)*