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MADE IN UNITED KINGDOM

# **CN2300** Graphical 1/4 DIN **Profiler and Recorder**



- FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA
- 1. Purchase Order number to cover the COST of the repair,
- 2. Model and serial number of the product, and
- 3. Repair instructions and/or specific problems relative to the product.

# **CN2300 SERIES GRAPHICAL 1/4 DIN PROFILER & RECORDER CONCISE PRODUCT MANUAL M5113**

This manual provides instructions for the using the optional USB Port, Data Recording and Profiling features. It should be used in conjunction with the main controller Concise Product Manual M5112.

For complete, comprehensive operator's manual, visit omega.com/CN2300. CAUTION: It is the responsibility of the installing engineer to ensure that the configuration is safe.

## THE USB INTERFACE

The features covered in this section of the manual are available on models fitted with the optional USB Interface and the Data Recorder version, which includes the USB Interface

### Introduction

The USB Interface option allows the user to upload or download instrument settings to or from a USB memory stick. This allows easy configuration of multiple instruments or the transfer to/from the PC configuration software

If the Data Recorder or Profiler options are fitted, recordings and profile information can also be transferred via USB memory stick. A USB Menu option is added to the Main Menu if the USB option is fitted.

See section 6 for details

### USB Memory Stick Folders & Files

When a USB stick is inserted, the instrument looks for, and if necessary creates the DEVICE, CONFIG, PROFILE and RECORDER folders. Files must be located in these folders in order to be used. When preparing to upload files from your PC. ensure that you save them to the correct folder on the memory stick.

Note: To speed up the disk operation, keep the number of files stored in these folders to a minimum



PROFILE - Profile program files (\*.pfl) RECORDER - Recorder log folders/files The user is asked for a new recorder subfolder name before transferring recorder

data to USB. The log files (\*.csv) are placed in this folder

CAUTION: If the file or folder named already exists, data will be overwritter

CAUTION: Do not remove the memory stick from the USB port whilst a data transfer operation is in progress. Data loss or corruption may result.

The first recorder log file is named 000001-1.csv. Stopping/starting a recording does not create a new file, but each time the parameters being recorded are changed a new file is created (e.g. 000002-1.csv then 000003-1.csv etc).

If any of these files would exceed 65500 data lines, a new file is created with the last digit incremented by 1 (e.g. 000001-2.csv then 000001-3.csv). CAUTION: During Data Transfer, normal operation carries on in the

background, but operator access to other screens is not possible. Transfer of full memory can take up to 12 minutes. Only begin a transfer when access (e.g. setpoint changes) will not be required

### DATA RECORDER OPTION 2.

The features covered in this section are available on models fitted with the Data Recorder option. This option includes a USB Interface (refer to section 1) and a battery backed Real Time Clock (RTC)

> CAUTION: Servicing of the Data Recorder/RTC circuit and replacement of the internal lithium battery on the should be carried out by only a trained technician.

### Introduction

The Data Recorder option allows the user to make a record the process over time Recordings can be transferred to a memory stick using the USB Port or downloade using one of the serial communications options.

Recordings are stored in Comma Separated format (.csv), suitable for use with spreadsheets, or for import in to other software. See Section 1 for file information. A Recorder option is added to the Configuration Menu and recorder control can be optionally added to the Main Menu or Operation Mode. The BTC also expands the profiling capabilities and allows a "calibration due" reminder to be shown at a date specified by the user. See section 7 for details.

### Operation Mode

The Data Recorder adds the option for a Calibration Reminder and a % memory us bar graph to the Operation Mode screen sequence.

### **Calibration Reminder**

A "calibration due reminder" can be shown if the date is equal to or after the Calibration Reminder Date. The reminder screen persists until the E key is presse If due, the reminder is shown at Power-up, and repeated every 24hrs until the reminder date is changed.

The Calibration Reminder enable/disable and Reminder Date parameters are set in the Input Configuration Menu

### Memory Use Bar Graph

The bar graph shown in the main Operation Mode screen has the option to show memory used in place of the standard PID power or control deviation options This graph shows the 0-100% memory used.

The Bar Graph Format is defined in the Display Configuration Menu.

### PROFILER OPTION

The features covered in this section are only available on models fitted with the Profiler (Setpoint Programmer) option

### Introduction

The Profiler option allows the user to store up to 255 profile segments, shared between a maximum of 64 Profiles. Each profile controls the value of the setpoint over time; increasing, decreasing or holding its value as required.

Profiler options are added to the Main Menu as well as the Operation Mode if this feature is fitted. See section 6 for details.

### Profiler Enabling

Controllers supplied without the Profiler option installed can be upgraded in the field

by purchasing a licence code number from your supplier To enter this code, hold down the **G** + **V** keys during the power-up splash screen. Enter the 16-character licence code in the displayed screen and press A unique code must be purchased to enable profiling on each controller that requires it. To confirm if profiling is installed, refer to Product Information mode

### **Profile Components**

The General Profile Configuration settings decide how profiles can be Run, Held or Aborted. These settings apply to all profiles.

### Each profile has it's own header information plus 1 or more segments. **Profile Header & Segment Information**

The profile header contains information about how the profile starts and stops, the power loss recovery action and if it should repeat.

Note: Profile Header information is stored to memory as the Segment creation sequence begins. No profile is created if you exit before this point Segments can be ramps, dwells, steps or special segments such as holds, ends or ioins. Note: Segment information is stored as each segment is created, but the profile remains invalid until an end or join segment is defined.



llowing a Start Trigger, profiles can start immediately, after a delay, or from the ner (*Recorder only*)

CAUTION: A timer start time should not clash with other profiles. A profile will not start if another is running, including delays caused by Manual or Auto-Hold. Segments have an end of segment Target Setpoint. If the 1<sup>st</sup> segment is a Ramp-Time, the slope need to reach the target will be changed by the Starting Setpoint value. For a **Ramp-Rate** segment, the time will change instead. A **Dwell** (or soak) holds the last segments value. Step segments jump straight to the target value. the last segment is a Join the join target profile will start. Note: The profile equence will abort if the join target has been deleted. An End segment ends the rofile sequence.



Hold during a segment maintains the current setpoint value. Once the hold is opped the Ramp or Dwell continues.

Note: A running profile will also hold while Manual Control is selected. Hold Segment maintains the value of the last segment. The profile does not

ntinue until a Continue Trigger occurs. This can be via a key press, a digital inpu signal or after waiting for a time of day (Recorder only).



required number of times (1 to 9999) before the profile continues onwards. More an one Loop Segment can be used, but they must not cross.



Join (Profile 4 to Profile 31) Join (Profile 31 to Profile 7 A profile can be made to run itself 1 to 9999 times or continuously using the Profile Cycles setting. A profile ending with Repeat Then End will run the entire sequence of profiles again 1 to 9999 times or continuously

### Auto-Hold

Each segment has individual Auto-Hold settings. If utilised, these ensure that the profile and the actual process remain synchronised. If the process does not closely match the required setpoint, the profile can be held until it returns within bounds. The segment time is increase by the time that the process is out of bounds. When Auto-Hold is active the profile status is shown as Held. The user can choose to hold the profile if the process beyond the Hold Band Above only, Below only or Band (either side of the setpoint)





### End, Abort and Power/Signal Lost Recovery

If the input or remote setpoint signal is lost, or the power cut while a profile is running, the instrument will start up using the defined Profile Recovery Method once the power returns. These options are explained below.



Abort the profile and maintain the profile value from the time the power failed. Abort the profile and use Controller Setpoint value.

- Abort the profile with the Control outputs off
- Restart the profile again from the beginning.

Continue profile from the point it had reached when the power failed On Recorder versions, option E will always be used if the Power Off Time is less than the Profile Recovery Time. If the power is off for more than this time the

defined Profile Recovery Method is used. Similar options are offered for the action taken at the normal profile end (the

Segment End Type) or if the user forces the profile to abort (the Profile Abort Action). These can be defined to act in a similar manner as A. B or C above

4. SPECIFIC	ATIONS		
This section details t	he extra specifications for units	fitted with USB	, Recorder or
Profiler options. The Refer to the Concise	se are in addition to the standar	d product speci	fications.
ADDITIONAL DIG	ITAL INPUT OPTIONS	nation about in	
Selectable Digital	Function	Logic High	Logic Low
Input Functions:	Profile Run/Hold	Hold	Run
	Hold Segment Release	No Action	Release
	Profile Abort	No Action	Abort
	Data Recorder	Stop	Start
Digital Input Sensitivity: Besponse Time:	Edge Sensitive. Requires High change function.	-Low or Low-Hi	gh transition to
ADDITIONAL CO	MMUNICATIONS OPTION	S Seconds.	
USB		•	
Connection:	Locates in Option Slot C. Conr connector.	ection via front	mounted
Protocol:	USB 1.1 or 2.0 compatible. Ma	ss Storage Clas	SS.
Supply Current:	Up to 250mA.		
Targeted Peripheral:	USB Memory Stick.		
Isolation:	Reinforced safety isolation from	n all inputs and	outputs.
ADDITIONAL AL	ARMS OPTIONS		
Combination Alarm Outputs:	Logical AND of alarms 1 to 5 v	vith Profiler Eve	nts 1 to 5.
DATA RECORDE	R		
Recording Memory:	1Mb non-volatile flash memory turned off.	I. Data retained	when power is
Recording Interval:	1; 2; 5; 10; 15; 30 seconds or	1; 2; 5; 10; 15; 3	30 minutes.
Recording Capacity:	Dependant on sample rate and Two values can be recorded for More values or faster sample r duration.	d number of valu or up to 7 days a rates reduce the	ues recorded. at 10s intervals. e maximum
RTC Battery Type:	VARTA CR 1616 3V Lithium. Clock runs for >1 year without	power.	
RTC accuracy	Real Time Clock error <1 second	nd per day.	
PROFILER			
Profile Limits	Number of profiles = 64 maxim Total number of segments ( <i>all</i>	ium. <i>programs</i> ) = 25	5 maximum.
Loop Back	1 to 9999 loops back to specifi	ed segment.	
Profile Cycling	1 to 9999 or Infinite repeats pe	r profile.	
Sequence Repeats	1 to 9999 or Infinite repeats of	joined profile se	equences.
Segment Types	Ramp Up/Down over time, Ran Hold, Join A Profile, End or Re	mp Rate Up/Do	wn, Step, Dwell, Then End.
Timebase	hh:mm:ss (Hours, Minutes & S	econds).	
Segment Time	Maximum segment time 99:59 longer segments (e.g. 24:00:00	:59 hh:mm:ss. l 0 x 100 loops =	Jse loop-back for 100 days).
Ramp Rate	0.001 to 9999.9 display units p	er hour.	
Hold Segment Release	Release With Key Press, At Ti	me Of Day or D	igital Input.
Start From	1st segment starts from curren	t setpoint or cu	rrent input value.
Delaved Start	After 0 to 99:59 (hh:mm) delay	, or at specified	dav(s) & time.
End On	Keep Last Profile Setpoint, Us Outputs Off.	e Controller Set	point or Control
Abort Action	Keep Last Profile Setpoint, Use Outputs Off.	e Controller Set	point or Control
Power/signal Loss Recovery	Continue Profile, Restart Profil Use Controller Setpoint or Cor	e, Keep Last Pr htrol Outputs Off	ofile Setpoint, f.
Auto-Hold	Hold if input >Band above and	/or below SP for	r each segment.
Profile Control	Run, Manual Hold/Release, At	port or jump to r	iext segment.
Profile Timing Accuracy	0.02% Basic Profile Timing Ac $\pm$ <0.5 second per Loop, End o	curacy. r Join segment.	-
Segment Events	Events turn on for the duration Segments, the event state per	of the segment sists until anoth	. For End er profile starts

the user exits from profiler mode, or the unit is powered down

### **OPERATION MODE – ADDENDUM**

This section details changes to Operation Mode on units fitted with USB, Recorder or Profiler options. These are in addition to the standard features and screens Refer to the Concise Product Manual for more information about these.

### **Normal Operation With Profile Progress**

Select Profile To Run

LED Indicators Process Value & Setpoint

Profile Progress Graph Segment Progress Graph

LED Function Labels 100.0 Engineering Units Profile Status Indicator: Profile Progress Screen ► Run, || Held, ■ Stopped

Other screens show detailed Profile & Segment information, the status of the Profile Event outputs and the Recorder status. If Enabled in Profiler Setup, the user can also Run, Hold or Abort the selected profile and Start/Stop a data recording in Operation Mode.

### Manual Control

Depending on the Control Configuration settings, automatic or manual control can be selected from the Auto/Manual selection screen, or via a digital input. Switching to or from manual mode is via Bumpless Transfer. In Manual mode the Setpoint display is replaced by a 0 to 100% power output level, labelled "Man" Press or to set the required manual power.

Note: Selecting Manual Control will cause a running profile to hold until control is returned to automatic mode.

Caution: Manual power level is not restricted by the output power limits.

### 6. AUTOMATIC TUNING MODE

Engage Pre-Tune, Self-Tune or Auto Pre-Tune as required, from the Automatic Tuning Menu. Pre-tune is a "single-shot" routine that disengages when complete. Note: Automatic tuning will not engage if either proportional band is set to On/Off control. Also, Pre-tune (inc. Auto Pre-Tune) will not engage if the setpoint is ramping, a profile is running, or the Process Variable is <5% of span from setpoint. If Auto Pre-Tune is selected, Pre-tune will attempt to run at every power up. Refer to the full user guide (available from your supplier) for details on tuning.

### ADDITIONAL SCREEN SEQUENCES – USB. DATA RECORDER AND PROFILER VERSION

Note: This section provides supplementary information for the additional screen sequences relating to the options covered by this manual. This information should be read in conjunction with the screen Sequences section of the Concise Product Manual. The parameters displayed depend on how the instrument has been configured. After 2 minutes without key activity, most screens revert to the next higher menu level, until

reaching the base Operation Mode display. Screens marked 🕲 persist unless changed by the user. Menus marked 🛢 = Require an un-lock code for access. Screen Navigation

C = Accept Value & Move Back = Next Item/Increment = Prior Item/Decrement = Accept Value & Move Forward + = Move Up One Menu Level mbols are showed to the right of the lists wh ailable ab

		The symbols	▼ d	Te showed to the right of the lists when more ment options are available above of below •.
		Additional Operation Mode Screen	s an	d Options:
		Calibration Check Due Warning	Q	If a Calibration Reminder is set, and the due date has passed if enabled in Control Configuration. Recorder version only.
		Base Operating Screen.	Q	Bar Graph = Primary/Secondary Power: Control Deviation or Recorder Memory Use see Bar Graph Format screen.
		Event Status		Active / inactive status of all configured Events - Profiler varian only
		Drefile Operating Serson	•	Partie Des Crante datas of an compared Events - Fromer Version to any and the second exercises also Burning/Led/Channed indicator
		Frome Operating Screen.	G	Frome bar Graph – Frome name & overall progress and Current segment number and progress, plus Kurrinig/Herd/Stopped indicator.
		Profile Control		If a profile is running, from: Do Nothing; Abort Profile (end immediately); Jump to Next Profile Segment; Hold Profile or Release Hold
				If no profile running, from: Do Nothing; Run Profile or End Profile Control (returns to std. controller operation) if enabled in Profile Control Menu.
		Profile Information		Profile Status (Running, Held, Aborted, Ended); Profile Time Remaining, Cumulative Held Time; Cycles Completed & Sequences Completed
		Segment Information		Current segment number and type (Ramp Up, Ramp Down, Dwell, or End); Segment Time Remaining, Loops completed if loop-back active.
		Recorder Memory Full Warning		Warns if recording has stopped after the memory is used up - only seen if recording mode is Record Until Memory Used
		Start/Stop Data Recording		Manually Stop, or Start a new recording - if Becorder Log Trigger is Operator Start/Stop
		Recorder Status Information		Shows if a recording is in progress: the recording mode: memory usage per sample: memory remaining and approximate recording time remaining
		Recorder Otatus mormation		onows in a recording is in progress, the recording mode, memory usage per sample, memory remaining and approximate recording time remaining.
		Refer to the Concise Product Manual	IOF I	mormation about the standard screens.
2	8	Setup Wizard:		Refer to the Setup Wizard section of the Concise Product Manual for more information.
Me	8	Supervisor Mode:		Refer to the Supervisor Mode section of the Concise Product Manual for more information.
5	8	Configuration Menu:		
Na Na		Configuration Mode Unlocking		Enter correct code number to access Configuration Mode, Default Value = 10
0		Configuration Options		Select required Configuration Menu Option from list. Press 🖬 to continue.
61		Refer to the Additional Configuration	Mon	u screens sequences opposite for information about the Configuration Sub-Manus
00		Automatic Tuning Monu:	WICH	There are no additional screens for these features. Pofer to the Complete Reduct Manual for more information shout this manu
2	•	Drofile Setur Morrie		
IOI	8	Frome Setup Menu:		
rai		General Profile Configuration:		Global Settings that apply to all profiles
be		Profile Setup Menu Unlocking		Enter correct code number to access the Profile Setup Menu. <i>Default Value = 10</i>
2		- Profile Run/Hold Signal		Selects the method used to Run or Hold a profile. From: Digital Input A; Digital Input B or Key Pad Only.
Бо		Profile Abort Signal		Selects the method used to force a profile to end immediately. From: Digital Input A: Digital Input B or Key Pad Only.
τ Έ		Control In Operation Mode		Enables/disables the ability to control profiles (run, hold or abort) from Operation Mode
9V6				Enables/diables the ability to control promos (full, not or abor) non-operator words.
Ĕ		Enable Edit while Running	~	Enables/disables the ability to eat prome is running (current or next segment will not change until after prome is restarted).
2		Create A Profile	<u> </u>	Creates a new profile. A warning is displayed if the maximum number of 64 profiles or 255 segments is exceeded.
3		Enter Profile Name	Q	Up to 16 characters can be used to name each profile
+		Profile Starting Point	Q	The setpoint value to be used at the beginning of the first segment. From: Actual Setpoint or Process Variable value at the time the profile starts.
4		Profile Start Trigger	Q	From: None (profile start is not delayed): After Delay or Day and Time (Recorder version only).
SS		Profile Start Time	à	The time (hh:mm:ss) when the profile should run - if Day and Time is the Profile Start Tringer Caution: Take care not to clash with other profiles
er.		Brofile Start Day(a)	Ă	Dev(a) when the profile should run Erem: Mass Ture Wash Thur Eric Set Sure Map Eric Mass that Full and Time an
-		Drafta Otart Dalau	0	Day(s) when the prome should full. From well, file, well, file, file, sat, Sun, won-Fri, won-Sat, Sat-Sun of All. – II Day and filme is the trigger.
		e Profile Start Delay	9	The delay time, up to 99:59 (nn:mm), for a profile to begin after the start request has been given.
an		T Profile Recovery Method	Ø	Power-on action if profile was running at power-down (e.g. a power cut), or following correction of a signal break. From: Control outputs off;
Ę.			•	Restart profile; Maintain last profile setpoint; Use controller setpoint; Continue profile from where it was when power failed.
lo lo		Profile Recovery Time	G	Recovery Method ignored (profile continues from where power failed), if power off for less than this time. Max 99:59 (hh:mm) Recorder only.
0		Profile Abort Action	Ø	Action after profile is forced to stop before it's end. From: Control outputs off: Maintain last profile setpoint or Use controller setpoint
+==		Profile Cycles	Ā	The number of times the program should run each time it is started (1-0000 or Infinite)
S S			<u> </u>	
es		Segment Number	G	Shows the number of the profile segment being created from 1-255
ē –			a	From: Ramp Time (time to reach target SP); Ramp Rate (rate of change towards target SP); Step (jump to target SP), Dwell (keep current SP);
st.		Segment Type	ĕ	Hold (hold profile until released); Loop (back to previous segment); Join (join to another profile); End (end the profile) or Repeat Sequence Then
2			-	End.
IO.		, Segment Target Setpoint	Q	The setpoint value to be reached by the end of this segment if type is Ramp Time, Ramp Rate or Step.
n t		Segment Ramp Time	Q	The time (hh:mm:ss) to reach the Segment Target Setpoint if segment type is Ramp Time.
10		Segment Ramp Pate	ā	The rate of change towards the Segment Target Segment type is Ramp time.
č		Z Segment Dwell Time	õ	The time (hermice) to maintain the current school t
2			9	The une (minimiss) to maintain the Content Settpoint.
ler		E Segment Loop	69	Enter the segment to loop back to, and the number of times to loop back, before continuing forward to the next segment. No 2 Loops can cross.
<		g Segment Auto-Hold Type	G	From: None (no auto-hold); Above Setpoint (hold if too high only); Below Setpoint (hold if too low only) or Band (hold if too high or low).
, e		Segment Auto-Hold Band Value	Q	The distance from setpoint beyond which the profile is held. The profile continues once the process is back within this band.
int		Segment Hold Release Type	Q	From: Digital Input A; Digital Input B; Front Keys or Time Of Day. (Time of day on Recorder version only)
5-		Hold Release Time	Q	The time of day (hh:mm:ss) when a Hold Segment will release if Release Type is Time Of Day. Release occurs at the next occurrence of this time.
t d		Times To Repeat Sequence	ā	The number of times the entire sequence of nofiles should run $-it$ the last sequence is Reneat Sequence Then End
ele		Sogmont End Typo	Å	Action offer profile and Error: Control outputs off Meinfall har profile action to the control of action of the first state of the stat
v2		Segment End Type	~	Action are profile rids. From Control outputs on, wantain has pointe septimit, use controller septimit.
		Select Profile To Join	9	Choose a profile to join to from the list provided. This profile will start immediately the current profile ends. – If the last segment is Join.
		Segment Events	ø	select the events to be active during this segment. For end segments, Active events stay on until the unit exits profiler mode or a new profile runs.
		Edit A Profile Header	Q	Choose the profile to be edited from the list of names is provided – For profile header details see "Create A Profile" above.
		Edit A Profile Segment	Q	Choose the profile, then the segment to be edited from the lists provided – For profile segment details see "Create A Profile" above.
		Insert A Segment	Q	Choose the profile, then the new segment's position from the lists provided - For profile segment details see "Create A Profile" above.
		Delete A Segment	Ø	Choose the profile, then the segment to be deleted from the lists provided. End, Join or Reneat segments cannot be deleted
			ē	Choose the profile to be deleted from the list of names is provided. End, both of reports degrafient but it should be deleted
			6	Choise die provine to se deteled nom the list of names is provided. The user is then prompted commit that it should be deteled.
		Delete All Profiles	9	Deletes all profiles from memory. The user is prompted to confirm that all profiles should be deleted. Caution: Use with care!
	8	Profile Control Menu:		
		Profile Control Menu Unlocking		Enter correct code number to access the Profile Control Menu. Default Value = 10
		Deefle Control		If a profile is running, choose from: Do Nothing, Abort Profile (end immediately); or Jump to Next Profile Segment, Hold Profile or Release Hold
		Profile Control		If no profile running, choose from: Do Nothing, Run Profile or End Profile Control (Return to normal controller operation)

Choose the profile to run from the list of names is provided. The profile name and run status is then confirmed.

		8	USB Menu:	
inued)			USB Mode Unlocking	Enter correct code number to access USB Menu. I
			Read/Write To USB Device?	From: Read/Write Configuration File; Read/Write P
			Select Profile To Write	If writing a profile to the USB Memory Stick, choose
		fe	Enter A File or Folder Name	Enter an 8-character folder name for logs, or a file
		٧ri	Writing Profile/Configuration File	automatically . Caution: Existing files/folders with t
		-	Transfer Sussessful	Confirmation of autoconful data transfer. Drass
			Palaet File	Committation of succession data transfer. Press
	•	ad	Beading Profile/Configuration File	The file is being read Caution: Do not remove the
		Re	Transfer Successful	Confirmation of successful data transfer. Press
ant of			Transfer Failure	For write failures, check the disk space on the USE
ũ		۹	Recorder Menu:	
		•	Recorder Mode Unlocking	Enter correct code number to access Data Recorde
			Recording In Progress Warning	If recording in progress when Recorder Menu enter
			Start/Stop Data Recording	Manually Stop, or Start a new recording if Log T
			Abort Recording	Forces a recording to Stop, overriding the selected
			Recorder Status Information	Shows if a recording is in progress; the recording r
			Delete Recording	Clears the recorder memory. Caution: Permanent
			Product Information Mode:	There are no additional screens for these features.
			Service Information Mode:	There are no additional screens for these features.
-	-	-	Innut Configuration Additional On	
n			Onlikestice Descinder	uons:
Aer			Calibration Reminder	Enables/disables the Calibration Reminder at start
in N			Calibration Borninder Duo Data	Sata the due data for Calibration Reminder Read
to Mai			Calibration Reminder Due Date	Sets the due date for Calibration Reminder - Recon
			Refer to the Concise Product Manual	
ck			Control Configuration:	i nere are no additional Control Configuration optic
e ba			Output Configuration - Additional S	creens:
OVE			Output n Events	Direct or reverse acting for Profile Run or End; Eve
			Refer to the Concise Product Manual	for information about the standard screens.
÷			Alarm Configuration:	There are no additional Alarm Configuration option
+			Communication Configuration:	There are no additional Communication Configurat
			Recorder Configuration:	-
see.			No Recorder Warning	If the Recorder Configuration menu is entered on a
Ĺ,			Recording In Progress Warning	If recording in progress when Recorder Configuration
			recording in rogress warning	Record Lintil Memory Lised (Stop recording when t
une			Recording Mode	Caution: A FIFO recording will overwrite all previo
nti			Recording Sample Interval	From: Every 1: 2: 5: 10: 15: 30 Seconds or Every
			Recorder Trigger	The recording Start/Stop trigger method From: On
			Trigger On Alarms	Any from: Alarm $n = Where n is alarms 1 to 5 Any$
SS			Values To Record	Any from: Process Variable value: Maximum or Mi
-re			Fuente To Record	Any from Alerm a Statue or Unit On/Off Nate: An
st.			Events To Record	Any from Alarm // Status of Onit On/On. Note: An
ii u			Profiler Events To Record	Any from: Profiler Event n Status. Note: A profile
fror			Recorder Status Information	Shows it a recording is in progress; the recording r
SU			Clock Configuration:	
otto			Date Format	W The format used for displayed dates: dd/mm/yyyy (
0			Set Date	w Sets the internal clock Date Entered in the forma
tion			Set Day Of Week	w Sets the day of week used by the internal clock
ura			Set Time	w Sets the internal clock Time In hh:mm:ss (Hours
Dific	0		Display Configuration:	
Cor			Bar Graph Format	The type of bar graph to display in the main Opera
act (			Lock Code Configuration:	
ele			Lock Code View 2	View and edit the USB Menu; Recorder Menu: Pro

### Default Value = 10

Profile File or Write Recorder Log File. e a profile to write from the list provided.

name for configurations and profiles. An extension (bct for configurations, .pfl for profiles) is added the same name will be over-written.

ect USB device until completed! Data loss or corruption may result

to continue om the USB stick. Caution: A configuration read overwrites all existing instrument settings. memory stick whist this operation is in progress. Data loss or corruption may result. to continue

B stick. For read failures, check the maximum number of profiles/segments is not being exceeded.

r Menu. – if Log Trigger is Recorder Menu Start/Stop. Default Value = 10 red. - Access to the Start/Stop or Abort screens only until the recording is stopped. rigger is Recorder Menu Start/Stop

record trigger. - if Log Trigger is During Alarms; Digital Input A or B; or During Profile. node; memory usage per sample; memory remaining and approximate recording time remaining. y removes All recorded data.

Refer to the Concise Product Manual for more information about this menu. Refer to the Concise Product Manual for more information about this menu

-up (and daily thereafter), if the due date has passed - Recorder version only

rder version only

ions. Refer to the Concise Product Manual for information about the standard screens.

ent 1; 2; 3; 4; 5 or Logical AND of Event n & Alarm n . - Profiler version only

ns. Refer to the Concise Product Manual for information about the standard screens.

tion options. Refer to the Concise Product Manual for information about the standard screens.

an instrument without this option.

tion entered. - Access to the Start/Stop or Abort screens only until the recording is stopped. full) or Continuous FIEO (First In - First Out - overwrites oldest data when full) bus recordings in memory. Download the data to USB memory stick before selecting this option.

1; 2; 5; 10; 15; 30 Minutes. peration Mode: Recorder Menu: On Alarm: Digital Input A or B state: or During Profile.

combination of these can be set to trigger (TRG) or not (OFF).

nimum PV (since previous sample); Setpoint; Primary Power or Secondary Power.

alarm state change between samples is also recorded. This uses additional recorder memory.

event state change between samples is also recorded. This uses additional recorder memory. mode; memory usage per sample; memory remaining and approximate recording time remaining.

Day / Month / Year) or mm/dd/yyyy (Month / Day / Year). - Recorder versions only. at defined by Date Format screen. – Recorder versions only.

Recorder versions only

: Minutes : Seconds) format. - Recorder versions only.

ation Mode screen. From: PID Power; Control Deviation or % Recorder Memory Use.

ler Setup Menu and Profiler Control Menu Lock Codes (1-9999 or OFF) - if fitted. It. Refer to the Concise Product Manual for information about the standard screens