GRAPHICAL ¼ DIN PROFILER & RECORDER CONCISE PRODUCT MANUAL (59410-5)

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 (59405).

CAUTION: It is the responsibility of the installing engineer to ensure that the configuration is safe.

1. THE USB INTERFACE

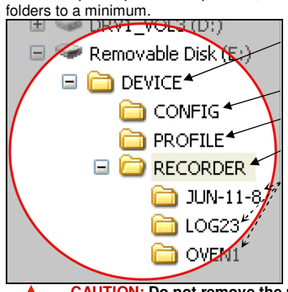
The features covered in this section of the manual are available on models fitted with the optional USB Interface and the Data Recorder version, which includes the USB Interface.

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.



DEVICE – This folder must be located in the Root of the USB memory stick

CONFIG – Configuration files (*.bct)

PROFILE – Profile program files (*.pfl)

RECORDER – Recorder log folders/files The user is asked for a new recorder sub-folder 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 overwritten

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.

2. DATA RECORDER OPTION

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 downloaded 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 RTC 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 use 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 ■ key is pressed. 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.

3. 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

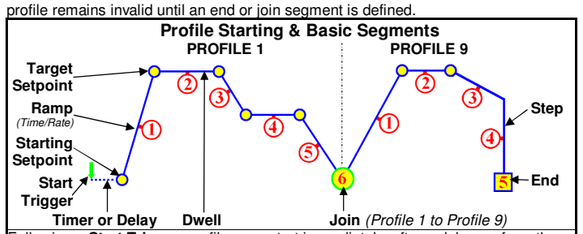
Controllers supplied without the Profiler option installed can be upgraded in the field by purchasing a licence code number from your supplier.
To enter this code, hold down the ◘ + ◘ keys during the power-up splash screen. Enter the 16-character licence code in the displayed screen and press ■.
A unique 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

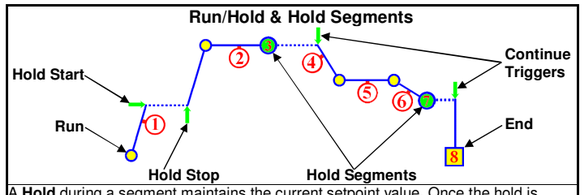
The profile header contains information about how the profile starts and stops, the power loss recovery action and if it should repeat.
Note: Profile Header information is stored to memory as the Segment creation sequence begins. No profile is created if you exit before this point.
Segments can be ramps, dwells, steps or special segments such as holds, ends or joins. **Note:** Segment information is stored as each segment is created, but the profile remains invalid until an end or join segment is defined.



Following a **Start Trigger**, profiles can start immediately, after a delay, or from the Timer (*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.

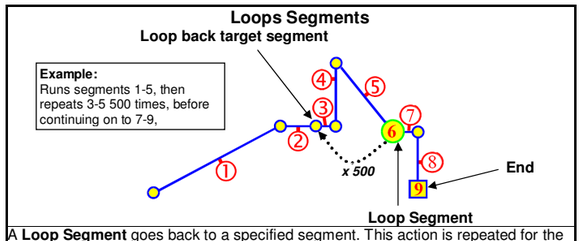
Segments have an end of segment **Target Setpoint**. If the 1st segment is a **Ramp-Time**, the slope need to reach the target will be changed by the **Starting Setpoint** value. For a **Ramp-Rate** segment, the time will change instead. A **Dwell** (or soak) holds the last segments value. **Step** segments jump straight to the target value.

If the last segment is a **Join** the join target profile will start. **Note:** The profile sequence will abort if the join target has been deleted. An **End** segment ends the profile sequence.

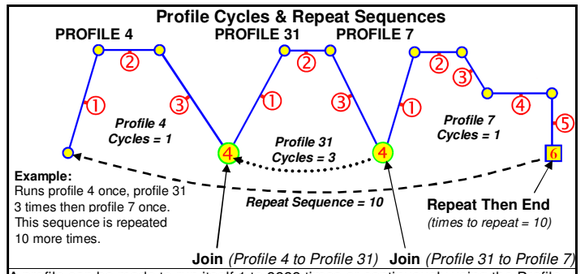


A **Hold** during a segment maintains the current setpoint value. Once the hold is stopped the Ramp or Dwell continues.
Note: ***A running profile will also hold while Manual Control is selected.***

A **Hold Segment** maintains the value of the last segment. The profile does not continue until a **Continue Trigger** occurs. This can be via a key press, a digital input signal or after waiting for a time of day (*Recorder only*).



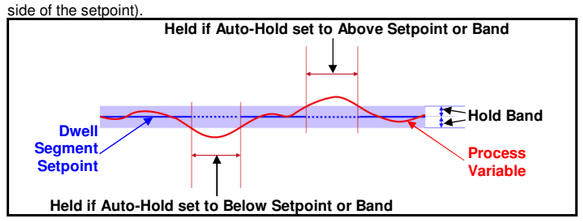
A **Loop Segment** goes back to a specified segment. This action is repeated for the required number of times (1 to 9999) before the profile continues onwards. More than one Loop Segment can be used, but they must not cross.

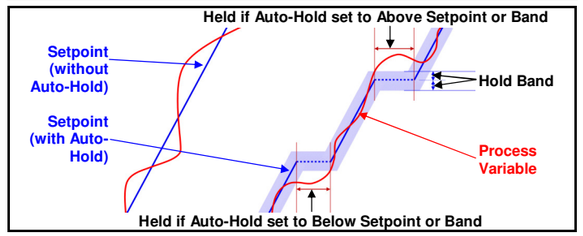


A profile can be made to run itself 1 to 9999 times or continuously using the Profile Cycles setting. A profile ending with **Repeat Then End** will run the entire sequence of profiles again 1 to 9999 times or continuously.

Auto-Hold

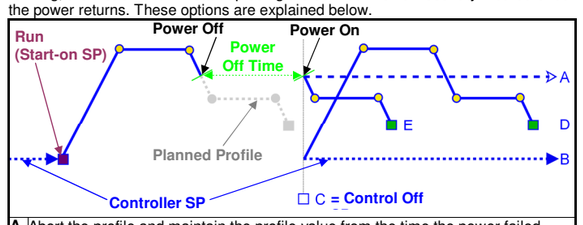
Each segment has individual Auto-Hold settings. If utilised, these ensure that the profile and the actual process remain synchronised. If the process does not closely match the required setpoint, the profile can be held until it returns within bounds. The segment time is increase by the time that the 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.



A	Abort the profile and maintain the profile value from the time the power failed.
B	Abort the profile and use Controller Setpoint value.
C	Abort the profile with the Control outputs off.
D	Restart the profile again from the beginning.
E	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. SPECIFICATIONS

This section details the extra specifications for units fitted with USB, Recorder or Profiler options. These are in addition to the standard product specifications.
Refer to the Concise Product Manual for more information about these.

ADDITIONAL DIGITAL INPUT OPTIONS

Selectable Digital Input Functions:

Function	Logic High	Logic Low
Profile Run/Hold	Hold	Run
Hold Segment Release	*No Action*	Release
Profile Abort	*No Action*	Abort
Data Recorder	Stop	Start

Digital Input Sensitivity: Edge Sensitive. Requires High-Low or Low-High transition to change function.
Response Time: Slot A <0.25 second, Slot B <1.5 seconds.

ADDITIONAL COMMUNICATIONS OPTIONS

USB

Connection: Locates in Option Slot C. Connection via front mounted connector.
Protocol: USB 1.1 or 2.0 compatible. Mass Storage Class.
Supply Current: Up to 250mA.
Targeted Peripheral: USB Memory Stick.
Isolation: Reinforced safety isolation from all inputs and outputs.

ADDITIONAL ALARMS OPTIONS

Combination Alarm Outputs: Logical AND of alarms 1 to 5 with Profiler Events 1 to 5.

DATA RECORDER

Recording Memory: 1Mb non-volatile flash memory. Data retained when power is turned off.
Recording Interval: 1; 2; 5; 10; 15; 30 seconds or 1; 2; 5; 10; 15; 30 minutes.
Recording Capacity: Dependant on sample rate and number of values recorded. Two values can be recorded for up to 7 days at 10s intervals. More values or faster sample rates reduce the maximum duration.
RTC Battery Type: VARTA CR 1616 3V Lithium. Clock runs for >1 year without power.
RTC accuracy Real Time Clock error <1second per day.

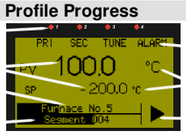
PROFILER

Profile Limits: Number of profiles = 64 maximum. Total number of segments (*all programs*) = 255 maximum.
Loop Back: 1 to 9999 loops back to specified segment.
Profile Cycling: 1 to 9999 or Infinite repeats per profile.
Sequence Repeats: 1 to 9999 or Infinite repeats of joined profile sequences.
Segment Types: Ramp Up/Down over time, Ramp Rate Up/Down, Step, Dwell, Hold, Join A Profile, End or Repeat Sequence Then End.
Timebase: hh:mm:ss (Hours, Minutes & Seconds).
Segment Time: Maximum segment time 99:59:59 hh:mm:ss. Use loop-back for longer segments (e.g. 24:00:00 x 100 loops = 100 days).
Ramp Rate: 0.001 to 9999.9 display units per hour.
Hold Segment Release: Release With Key Press, At Time Of Day or Digital Input.
Start From: 1st segment starts from current setpoint or current input value.
Delayed Start: After 0 to 99:59 (hh:mm) delay, or at specified day(s) & time.
End On: Keep Last Profile Setpoint, Use Controller Setpoint or Control Outputs Off.
Abort Action: Keep Last Profile Setpoint, Use Controller Setpoint or Control Outputs Off.
Power/signal Loss Recovery: Continue Profile, Restart Profile, Keep Last Profile Setpoint, Use Controller Setpoint or Control Outputs Off.
Auto-Hold: Hold if input >Band above and/or below SP for each segment.
Profile Control: Run, Manual Hold/Release, Abort or jump to next segment.
Profile Timing Accuracy: 0.02% Basic Profile Timing Accuracy. ±<0.5 second per Loop, End or Join segment.
Segment Events: Events turn on for the duration of the segment. For End Segments, the event state persists until another profile starts, the user exits from profiler mode, or the unit is powered down.

5. 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



LED Indicators — LED Function Labels
Process Value & Setpoint — Engineering Units
Profile Progress Graph
Segment Progress Graph — Profile Status Indicator: ▶ Run, ❚❚ Held, ■ Stopped

Profile Progress Screen

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.

7. 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

◘ = Accept Value & Move Back ▼ = Next Item/Increment ▲ = Prior Item/Decrement ◙ = Accept Value & Move Forward ▲+◙ = Move Up One Menu Level
The symbols ⬍ are showed to the right of the lists when more menu options are available above ⬆ or below ⬇.

MAIN MENU OPTIONS *(Select required Menu Option from list. Press ◙ to continue. - Press ▲+◙ to move from Operation Mode to Main Menu)*

Additional Operation Mode Screens and Options:

	Calibration Check Due Warning	🕓 If a Calibration Reminder is set, and the due date has passed. - *if enabled in Control Configuration. Recorder version only.*
	Base Operating Screen.	🕓 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 version only.*
	Profile Operating Screen.	🕓 Profile Bar Graph = Profile name & overall progress and Current segment number and progress; plus Running/Held/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 Recorder 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.
	Refer to the Concise Product Manual for information about the standard screens.	
🔒	**Setup Wizard:**	*Refer to the Setup Wizard section of the Concise Product Manual for more information.*
🔒	**Supervisor Mode:**	*Refer to the Supervisor Mode section of the Concise Product Manual for more information.*
🔒	**Configuration Menu:**	
	Configuration Mode Unlocking	Enter correct code number to access Configuration Mode. *Default Value = 10*
	Configuration Options	Select required Configuration Menu Option from list. Press ◙ to continue.
	Refer to the Additional Configuration Menu screens sequences opposite for information about the Configuration Sub-Menus.	
🔒	**Automatic Tuning Menu:**	*There are no additional screens for these features. Refer to the Concise Product Manual for more information about this menu.*
🔒	**Profile Setup Menu:**	
	General Profile Configuration:	Global Settings that apply to all profiles
	Profile Setup Menu Unlocking	Enter correct code number to access the Profile Setup Menu. *Default Value = 10*
General	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.
General	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.
General	Control In Operation Mode	Enables/disables the ability to control profiles (run, hold or abort) from Operation Mode.
General	Enable Edit While Running	Enables/disables the ability to edit profiles whist a profile is running (*current or next segment will not change until after profile is restarted*).
	Create A Profile	🕓 Creates a new profile. A warning is displayed if the maximum number of 64 profiles or 255 segments is exceeded.
Profile Header Details	Enter Profile Name	🕓 Up to 16 characters can be used to name each profile
Profile Header Details	Profile Starting Point	🕓 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.
Profile Header Details	Profile Start Trigger	🕓 From: None (profile start is not delayed); After Delay or Day and Time (Recorder version only).
Profile Header Details	Profile Start Time	🕓 The time (hh:mm:ss) when the profile should run. – *if Day and Time is the Profile Start Trigger.* **Caution:** *Take care not to clash with other profiles.*
Profile Header Details	Profile Start Day(s)	🕓 Day(s) when the profile should run. From: Mon; Tue; Wed; Thu; Fri; Sat; Sun; Mon-Fri; Mon-Sat; Sat-Sun or All. – *if Day and Time is the Trigger.*
Profile Header Details	Profile Start Delay	🕓 The delay time, up to 99:59 (hh:mm), for a profile to begin after the start request has been given.
Profile Header Details	Profile Recovery Method	🕓 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; Restart profile; Maintain last profile setpoint; Use controller setpoint; Continue profile from where it was when power failed.
Profile Header Details	Profile Recovery Time	🕓 Recovery Method ignored (profile continues from where power failed), if power off for less than this time. Max 99:59 (hh:mm). - *Recorder only.*
Profile Header Details	Profile Abort Action	🕓 Action after profile is forced to stop before it's end. From: Control outputs off; Maintain last profile setpoint or Use controller setpoint.
Profile Header Details	Profile Cycles	🕓 The number of times the program should run each time it is started (1-9999 or Infinite).
Profile Segment Details	Segment Number	🕓 Shows the number of the profile segment being created from 1-255
Profile Segment Details	Segment Type	🕓 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); Hold (hold profile until released); Loop (back to previous segment); Join (join to another profile); End (end the profile) or Repeat Sequence Then End.
Profile Segment Details	Segment Target Setpoint	🕓 The setpoint value to be reached by the end of this segment if type is Ramp Time, Ramp Rate or Step.
Profile Segment Details	Segment Ramp Time	🕓 The time (hh:mm:ss) to reach the Segment Target Setpoint if segment type is Ramp Time.
Profile Segment Details	Segment Ramp Rate	🕓 The rate of change towards the Segment Target Setpoint if segment type is Ramp Rate. The rate can be set from 0.001 to 9999.9 units per hour.
Profile Segment Details	Segment Dwell Time	🕓 The time (hh:mm:ss) to maintain the current setpoint.
Profile Segment Details	Segment Loop	🕓 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.
Profile Segment Details	Segment Auto-Hold Type	🕓 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).
Profile Segment Details	Segment Auto-Hold Band Value	🕓 The distance from setpoint beyond which the profile is held. The profile continues once the process is back within this band.
Profile Segment Details	Segment Hold Release Type	🕓 From: Digital Input A; Digital Input B; Front Keys or Time Of Day. (*Time of day on Recorder version only*)
Profile Segment Details	Hold Release Time	🕓 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.
Profile Segment Details	Times To Repeat Sequence	🕓 The number of times the entire sequence of profiles should run. – *if the last segment is Repeat Sequence Then End.*
Profile Segment Details	Segment End Type	🕓 Action after profile ends. From: Control outputs off; Maintain last profile setpoint; Use controller setpoint.
Profile Segment Details	Select Profile To Join	🕓 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.*
Profile Segment Details	Segment Events	🕓 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	🕓 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	🕓 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	🕓 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	🕓 Choose the profile, then the segment to be deleted from the lists provided. End, Join or Repeat segments cannot be deleted.
	Delete A Profile	🕓 Choose the profile to be deleted from the list of names is provided. The user is then prompted confirm that it should be deleted.
	Delete All Profiles	🕓 Deletes **all** profiles from memory. The user is prompted to confirm that all profiles should be deleted. **Caution:** Use with care!
🔒	**Profile Control Menu:**	
	Profile Control Menu Unlocking	Enter correct code number to access the Profile Control Menu. *Default Value = 10*
	Profile 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 If no profile running, choose from: Do Nothing, Run Profile or End Profile Control (Return to normal controller operation).
	Select Profile To Run	Choose the profile to run from the list of names is provided. The profile name and run status is then confirmed.

Continued….

MAIN MENU OPTIONS *(Continued)*

🔒	**USB Menu:**	
	USB Mode Unlocking	Enter correct code number to access USB Menu. *Default Value = 10*
	Read/Write To USB Device?	From: Read/Write Configuration File; Read/Write Profile File or Write Recorder Log File.
Write	Select Profile To Write	If writing a profile to the USB Memory Stick, choose a profile to write from the list provided.
Write	Enter A File or Folder Name	Enter an 8-character folder name for logs, or a file name for configurations and profiles. An extension (bct for configurations, .pfl for profiles) is added automatically . **Caution:** Existing files/folders with the same name will be over-written.
Write	Writing Profile/Configuration File	The file is being written. **Caution:** Do not disconnect USB device until completed! Data loss or corruption may result.
Write	Transfer Successful	Confirmation of successful data transfer. Press ◙ to continue
Read	Select File	Select the Configuration or Profile file to transfer from the USB stick. **Caution:** A configuration read overwrites all existing instrument settings.
Read	Reading Profile/Configuration File	The file is being read. **Caution:** Do not remove the memory stick whist this operation is in progress. Data loss or corruption may result.
Read	Transfer Successful	Confirmation of successful data transfer. Press ◙ to continue
Read	Transfer Failure	For write failures, check the disk space on the USB stick. For read failures, check the maximum number of profiles/segments is not being exceeded.
🔒	**Recorder Menu:**	
	Recorder Mode Unlocking	Enter correct code number to access Data Recorder Menu. – *if Log Trigger is Recorder Menu Start/Stop. Default Value = 10*
	Recording In Progress Warning	If recording in progress when Recorder Menu entered. - *Access to the Start/Stop or Abort screens only until the recording is stopped.*
	Start/Stop Data Recording	Manually Stop, or Start a new recording. – *if Log Trigger is Recorder Menu Start/Stop.*
	Abort Recording	Forces a recording to Stop, overriding the selected record trigger. – *if Log Trigger is During Alarms; Digital Input A or B; or During Profile.*
	Recorder Status Information	Shows if a recording is in progress; the recording mode; memory usage per sample; memory remaining and approximate recording time remaining.
	Delete Recording	Clears the recorder memory. **Caution:** Permanently removes **All** recorded data.
	Product Information Mode:	*There are no additional screens for these features. Refer to the Concise Product Manual for more information about this menu.*
	Service Information Mode:	*There are no additional screens for these features. Refer to the Concise Product Manual for more information about this menu.*

ADDITIONAL CONFIGURATION MENU OPTIONS *(Select Configuration Options from list. Press ◙ to continue. - Press ▲+◙ to move back to Main Menu)*

	Input Configuration - Additional Options:	
	Calibration Reminder Enable/Disable	Enables/disables the Calibration Reminder at start-up (and daily thereafter), if the due date has passed - *Recorder version only*
	Calibration Reminder Due Date	Sets the due date for Calibration Reminder - *Recorder version only*
	Refer to the Concise Product Manual for information about the standard screens.	
	Control Configuration:	*There are no additional Control Configuration options. Refer to the Concise Product Manual for information about the standard screens.*
	Output Configuration - Additional Screens:	
	Output *n* Events	Direct or reverse acting for Profile Run or End; Event 1; 2; 3; 4; 5 or Logical AND of Event *n* & Alarm *n* . - *Profiler version only*
	Refer to the Concise Product Manual for information about the standard screens.	
	Alarm Configuration:	*There are no additional Alarm Configuration options. Refer to the Concise Product Manual for information about the standard screens.*
	Communication Configuration:	*There are no additional Communication Configuration options. Refer to the Concise Product Manual for information about the standard screens.*
	Recorder Configuration:	
	No Recorder Warning	If the Recorder Configuration menu is entered on an instrument without this option.
	Recording In Progress Warning	If recording in progress when Recorder Configuration entered. - *Access to the Start/Stop or Abort screens only until the recording is stopped.*
	Recording Mode	Record Until Memory Used (Stop recording when full) or Continuous FIFO (First In - First Out - overwrites oldest data when full). **Caution:** A FIFO recording will overwrite **all** previous recordings in memory. Download the data to USB memory stick before selecting this option.
	Recording Sample Interval	From: Every 1; 2; 5; 10; 15; 30 Seconds, or Every 1; 2; 5; 10; 15; 30 Minutes.
	Recorder Trigger	The recording Start/Stop trigger method. From: Operation Mode; Recorder Menu; On Alarm; Digital Input A or B state; or During Profile.
	Trigger On Alarms	Any from: Alarm *n* – Where *n* is alarms 1 to 5. Any combination of these can be set to trigger (TRG) or not (OFF).
	Values To Record	Any from: Process Variable value; Maximum or Minimum PV (since previous sample); Setpoint; Primary Power or Secondary Power.
	Events To Record	Any from: Alarm *n* Status or Unit On/Off. ***Note:*** *An alarm state change between samples is also recorded. This uses additional recorder memory.*
	Profiler Events To Record	Any from: Profiler Event *n* Status. ***Note:*** *A profile event state change between samples is also recorded. This uses additional recorder memory.*
	Recorder Status Information	Shows if a recording is in progress; the recording mode; memory usage per sample; memory remaining and approximate recording time remaining.
	Clock Configuration:	
	Date Format	**w** The format used for displayed dates: dd/mm/yyyy (*Day / Month / Year*) or mm/dd/yyyy (*Month / Day / Year*). – *Recorder versions only.*
	Set Date	**w** Sets the internal clock Date. – *Entered in the format defined by Date Format screen. – Recorder versions only.*
	Set Day Of Week	**w** Sets the day of week used by the internal clock. – *Recorder versions only.*
	Set Time	**w** Sets the internal clock Time. - *In hh:mm:ss (Hours : Minutes : Seconds) format. – Recorder versions only.*
	Display Configuration:	
	Bar Graph Format	The type of bar graph to display in the main Operation Mode screen. From: PID Power; Control Deviation or % Recorder Memory Use.
	Lock Code Configuration:	
	Lock Code View 2	View and edit the USB Menu; Recorder Menu; Profiler Setup Menu and Profiler Control Menu Lock Codes (1-9999 or OFF) - *if fitted.*
	Reset To Defaults:	*There are no additional options for Reset To Default. Refer to the Concise Product Manual for information about the standard screens.*