SPL 8028X Single Phase Logger

User Manual

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Specification

BANDWIDTH Measurement	30 Hz TO 2KHz Accuracy @ 0.5% reading
VOLTAGE Measurement	1 VAC TO 280 VAC RMS Accuracy @ 0.5% reading
CURRENT Measurement	10mA TO 1A RMS Scaleable 10mA TO 5A RMS Scaleable 5mV TO 200mV Scaleable Accuracy @ 0.5% reading
POWER Measurement	5 W TO 400 KW Accuracy @ 0.5% reading
VA Measurement	0 TO 10000 VA Accuracy @ 0.5% reading
POWER FACTOR Measurement	+/- 0.3 TO +/- 1.000 Accuracy +/- .001
FREQUENCY Measurement	30 Hz to 2KHz Accuracy @ 0.5%
KW HR Measurement	40000 KW Hrs
SAGS / SWELLS	0 – 280 Vac minimum 1 Cycle Measures Duration of SAG or SWELL Stores 2000 events.
AVERAGING	0.5 sec to 60 min. TRMS
MAX/MIN	Values stored for each measurement
POWER SUPPLY	40 VAC – 280 VAC
SAMPLING SPEED	UP TO 10 KS/s
MEMORY	8 M BIT Standard
MEMORY CAPACITY	72K DATA POINTS
ANALOGUE INPUTS	2 CH. @ 12 BITS
DISPLAY	2 X 16 CHARACTER BACK LIT
COMMUNICATIONS PORT	RS232
BAUD RATE	9.6K / 19.2K / 38.4K / 54K
CLOCK / CALENDAR	YEAR / MONTH / DAY HOUR / MIN / SEC

POWER CONSUMPTION	1 WATT
PROTECTION RATING	600VAC 100KA Fuse
DIMENSIONS	225H X 110W X 90DMM
WEIGHT	1KG excluding clamps
OPERATING TEMP.	0 TO 50 DEG C
ENCLOSURE RATING connections used.	IP 61 upto 67 depending on Clamp and Comms
INPUT CONNECTORS	4MM BANANA (IP64 DIN OPTIONAL)

SPL Hardware Operation.

The SPL has been designed for simple field and Office compatibility. The SPL keyboard allows the user to enter all required operation parameters in the field without the requirement of a PC.

The Menu Control is Simple, when the unit is plugged in, it is turned on and ready for operation and will continue to log at the setting already programmed previously or at factory default settings.

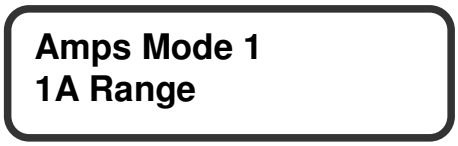
The unit will splash up on the display, Unit Wavecom SPL and Firmware version Number, perform a memory test and be in operation within 2 seconds. Displaying main menu.

If left in an alternate display the SPL will default to the main display after 2 minutes turning back light off also.

The Back light defaults to OFF unless a key is pressed.

Going Down in the Menu

Using DWN Key



This window displays the settings of the current input device and what its CT ratio is.

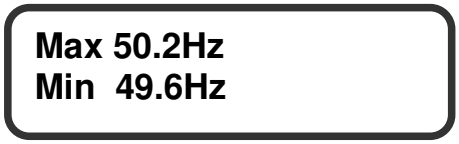
DWN

DWN

This Display if set at O or at any expired date and time will enable the logger to log as soon as it powered up. To set start delayed logging time see Setup Menu Start delay time. If the date and time is set to a future date time setting then logger will not log until that time has arrived**.**

This display shows the user what percentage of the memory is used. When displaying 99% the memory is full and all 4096 pages of memory are used. The unit will need to be downloaded and cleared prior to logging more data.
The average period is the time interval the sampling is average over. The unit collects the data for say 5 minutes (as shown in above Sample) and averages all temporary accumulated data and stores the averaged value with date and time stamp.

This Display shows the user Site Identification this input is optional. But recommended for tracing where unit was located for testing.
V x1 shows the user if any Voltage multipliers or VT are used. This can be seen on the main display if a VT is used, the Volts reading will display KV values if ratios are high enough.
A x1 shows the user if any Current multipliers or CT are used. This can be seen on the main display if a CT is used, the Amps reading will display KA values if ratios are high enough.

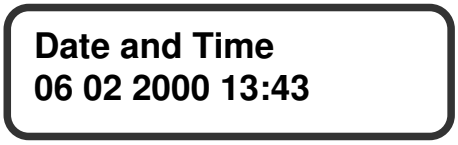


This Display shows the user what the Maximum and Minimum Frequencies measured during the time of recording. To reset these values to zero the user must Reset MAX & MIN Values in setup Menu.

This Display shows the user what the Maximum and Minimum Power Factors measured during the time of recording. To reset these values to zero the user must Reset MAX & MIN Values in setup Menu.

This Display shows the user what the Maximum and Minimum Current measured during the time of recording. To reset these values to zero the user must Reset MAX & MIN Values in setup Menu.

This Display shows the user what the Maximum and Minimum Voltage measured during the time of recording. To reset these values to zero the user must Reset MAX & MIN Values in setup Menu.



This Display shows the user what the real time is set too. The Setup Menu or PC can altar the Date and Time. The Time will only update every minute although the system measures and stamps recordings including seconds.

This Display shows the user what the power usage is upto the second reading. The value is updated. The Frequency is also displayed real time.

Using the DWN Key again will bring the user to the MAIN DISPLAY screen completing the Display Data Loop.

SETUP MENU

MEN **KEY**

Pressing the menu key enables the user to toggle between the MAIN DISPLAY and SETUP MENU DISPLAY.

Setup Logger?
No, Press Menu

Pressing the MENU key twice is not required. If pressed once Press key and the display will not locked. If Keyboard Locked

ENT

will acknowledge the setup menu the above display will be displayed. ask for confirmation if keyboard is See Lock Unlock Key board.

Setup Logger?
Confirm?

ENT Press to confirm Setup menu.

SPL Setup Mode
Use Up and Down

This prompts the user to use the Up and DWN Keys to select function the User wishes to get to and Change. Once in this mode and left without any keystrokes for 2 minutes the SPL will change back to the MAIN DISPLAY screen resetting into normal operation mode.

Using DWN the Key the menu flows as following.

Change Amps Mode
Enter, Up or Dwn

Press ENT to confirm Setup menu.

Amps Input 1A
Use Up and Dwn

Pressing UP or DWN Key will give the Choice of 3 settings 1A, 5A, 200mV

Amps Input 5A
Use Up and Dwn

Amps Input 200mV
Use Up and Dwn

Select input option required ENT press to confirm selection.

Amps Input 5A
Done!

The Flash screen confirms the entry with DONE! Then resets to the top of setup menu allowing user to change the next setting or Pressing menu to opt back to logging /MAIN DISPLAY by Pressing MENU button.

Set Amps Ratio?
Enter, Up or Dwn

ENT

Set Amps Ratio?
Confirm?

ENT

Pressing UP or DWN Key will give the Choice of 24 Ratio settings.
1,2,5,10,12,20,26,30,32,40,50,100,105,150,200,240,320,400,500,600,700,800,900,1000.
Select ratio setting to match CT.

Select input option required press ENT to confirm selection.

Amps Ratio 20
Done!

The Flash screen confirms the entry with DONE! Then resets to the top of setup menu allowing user to change the next setting or Pressing menu to opt back to logging /MAIN DISPLAY by Pressing MENU button.

Scroll Down Menu DWN Using Key. Until

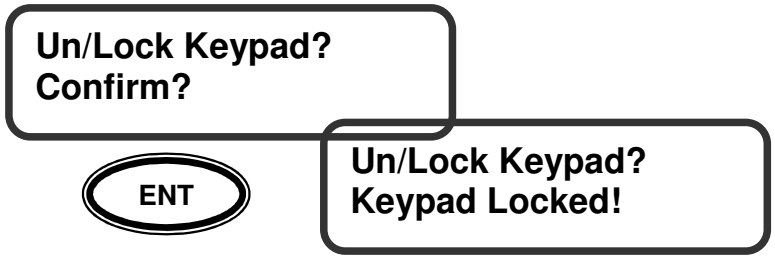
Un/Lock Keypad?
Enter, Up or Dwn

ENT

To unlock Keyboard press menu key to display:

Setup Logger?
No, Press Menu

Then hold the DWN & ENT together for 3 seconds and scroll to



Once the keypad is locked the SPL will only display the MAIN Display and the SETTING Displays. The key lock takes effect when the setup program is exited.

Unlocking the Keypad. The user must hold the DWN key then the ENT Key together for 3 seconds. The Lock system remains locked until the above process is reversed.

Defaults
Amps Mode 1 1A Amp
Start Log Delay 00 00 0000 00:00
Memory 0 % Full
Avg Period 60 minutes (log data every 60 Minutes)
Site ID Norwood
Volts Ratio x1
Amps Ratio x 1
This also clears all Memory and resets Max & Mins.

Logger Memory - The datalogger has standard memory capacity of approx 72000 this is stored in date/time. This can be upgraded to 144000 if required.
The keyboard can erase the Logger, this can only be done in the setup menu.

Storage Rate SEC	Hours/Storage	Days Storage	Months Storage	Years Storage
0.5	10	0.41		
1	20	0.83		
2	40	1.6		
5	100	4.16		
10	200	8.3		
20	400	16.6		
30	600	25	0.83	0.06
60	1200	50	1.6	0.1
120	2400	100	3.3	0.2
300	6000	250	8.3	0.6
600	12000	500	16.6	1.3
900	18000	750	25	2.0
1200	24000	1000	33.3	2.7
1800	36000	1500	50	4.1
2700	54000	2250	75	6.1
3600	72000	3000	100	8.2

Site ID – Up to 8 Characters can be entered Letters from A-Z and Number Digits 0 – 9 using the Up starts at A through to Z then 0 – 9 DWN starts at 9 – 0 then Z to A.
Holding the Up or DWN key for 1 sec will enable fast scrolling.

Calibration

Software Setup

Install CD into drive select "RUN" from the "Start Menu" selection bar.

Select SPL D:\disks\setup.exe to begin installation. (D: Drive being your CD.)

When prompted install program into desired directory or folder. Create new name of file or folder if you wish.

Follow prompts to complete installation.

When complete installation click on application name in PROGRAM menu bar name is called "SPL20". A splash screen will appear with the main Data logger terminal page.

Check Connection settings and ensure power is on in the logger. Allow default of terminal settings answer selected comms port and IRQ

Set logger - Standard default settings (9600,n,8,1)
Baud 9600
Parity N
Bits 8
Stopbits one

Serial Comms Port. Default to 2.

Press ok to accept.