

Data Logger 222



User Manual

Overview

This is the user manual for the Anemoment Datalogger 222. The Datalogger 222 (DL222) provides data logging for the TriSonica Mini (TSM) Family of Ultrasonic 3D Anemometers or other serial based instruments. It is available as a circuit board assembly, or in a water tight enclosure with either a single or a double TSM Pipe Mount connection. This document covers all versions of the DL222, describing mounting, connecting, data output, and configuration.

Mounting the Datalogger 222

Datalogger 222 Circuit Card Mounting

The DL222 has 6 mounting holes that align with the mounting hole of the standard Anemoment watertight enclosure. Figure 1 shows a dimensioned drawing of the DL222 with overall dimensions, hole locations, and hole sizes.

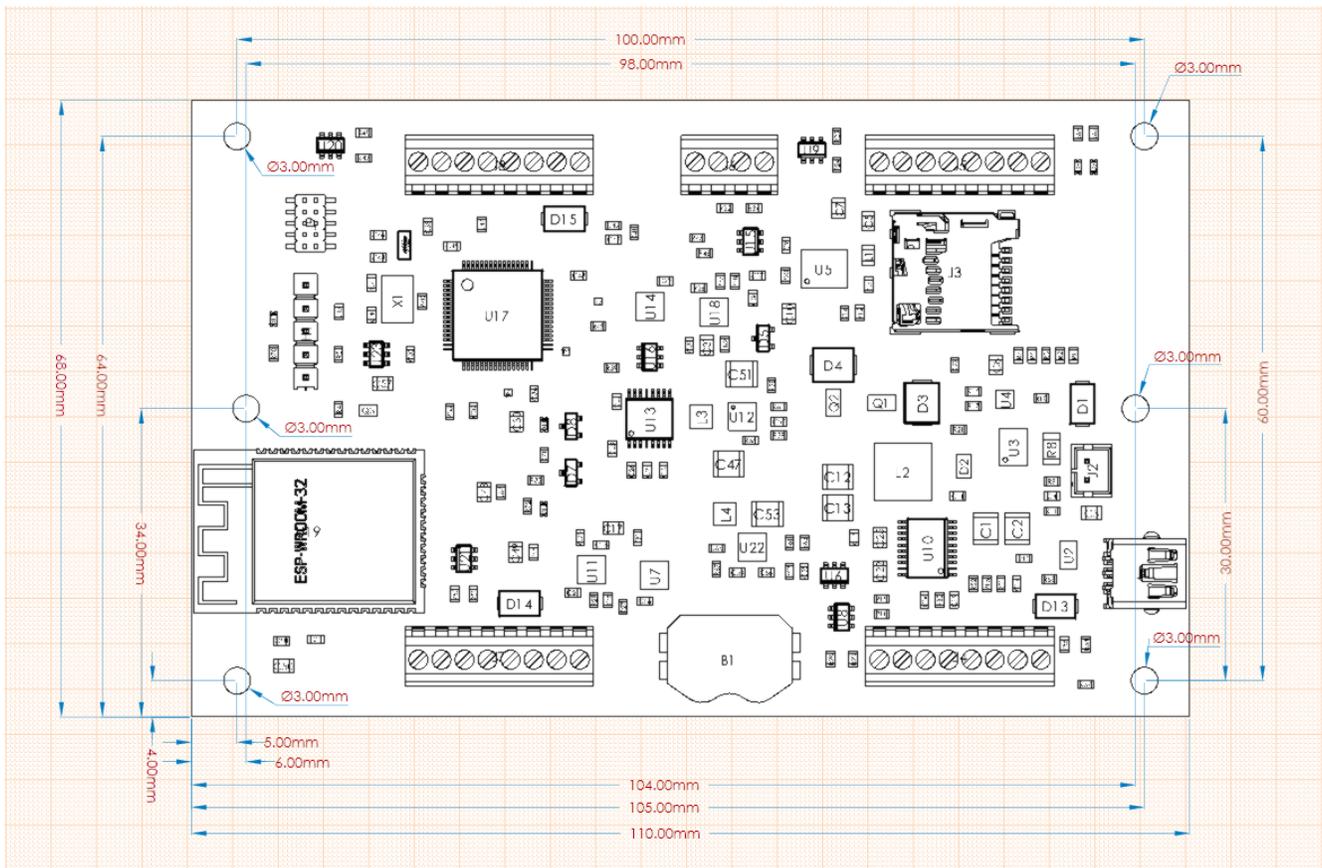


FIGURE 1: DATALOGGER 222 SIZE AND MOUNTING DIMENSIONS

Datalogger 222 Watertight Enclosure Mounting

The DL222 watertight enclosure protects the circuit card from the environment. It is an IP67 rated enclosure and the connectors are IP67 when mated and the mating connectors are sealed. Figure 2 shows a dimensioned drawing of the

Data Logger 222

enclosure viewed from the side. Figure 3 shows a dimensioned drawing of the enclosure viewed from the bottom, detailing the mounting holes available on the enclosure.

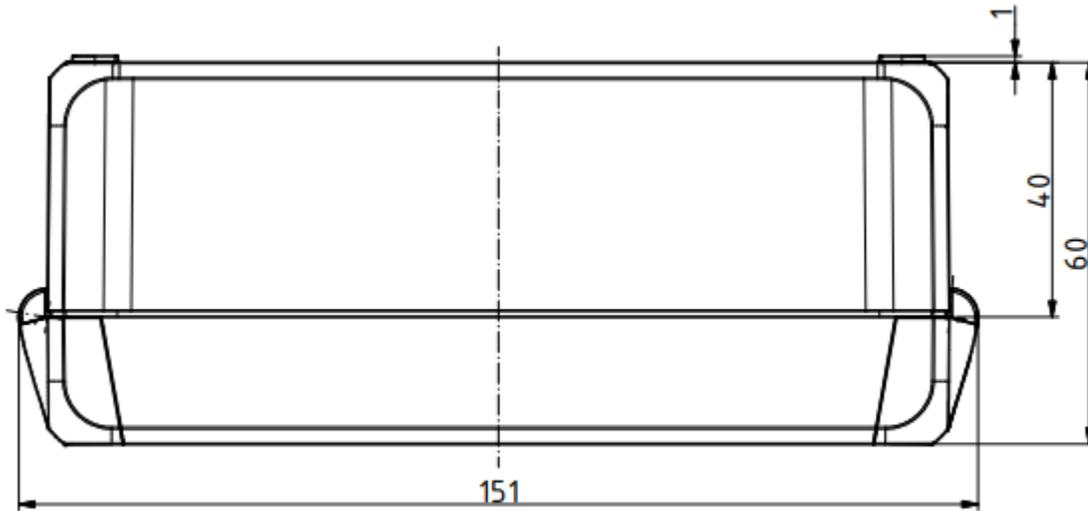


FIGURE 2: DL222 WATERTIGHT ENCLOSURE OUTSIDE DIMENSIONS

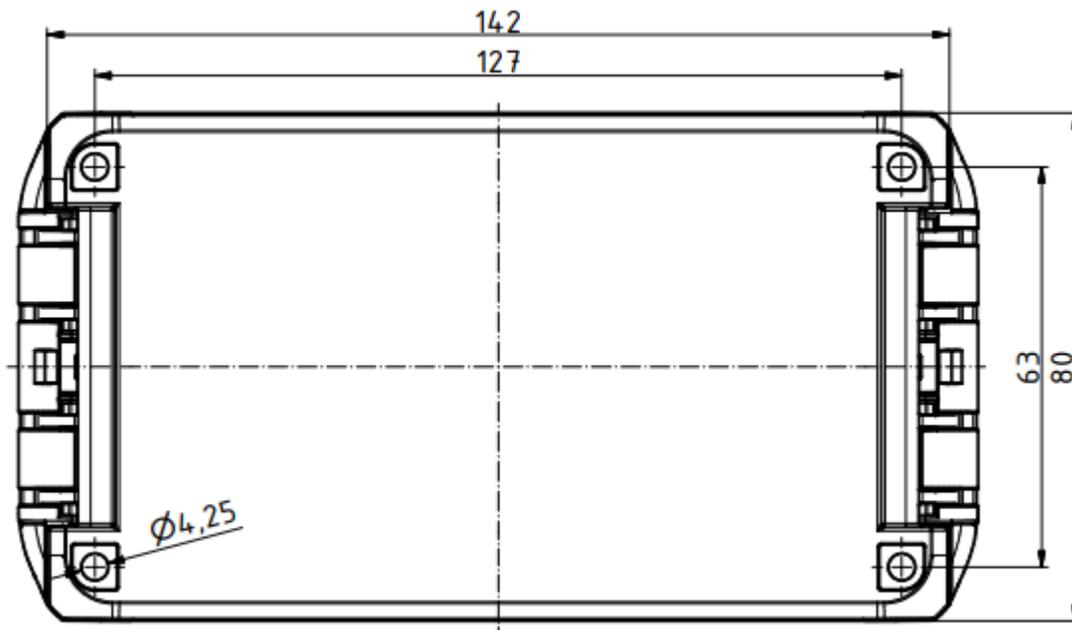


FIGURE 3: WATERTIGHT ENCLOSURE MOUNTING DIMENSIONS

Opening the Watertight Enclosure

The Watertight enclosure is opened by using a simple flat blade screwdriver. On either side of the lid, at the latches is a small screwdriver slot. As shown in Figure 4, insert a flat blade screwdriver into the slot and rotate the handle of the screwdriver down and to the center of the box. The latch will release with a pop.

Data Logger 222

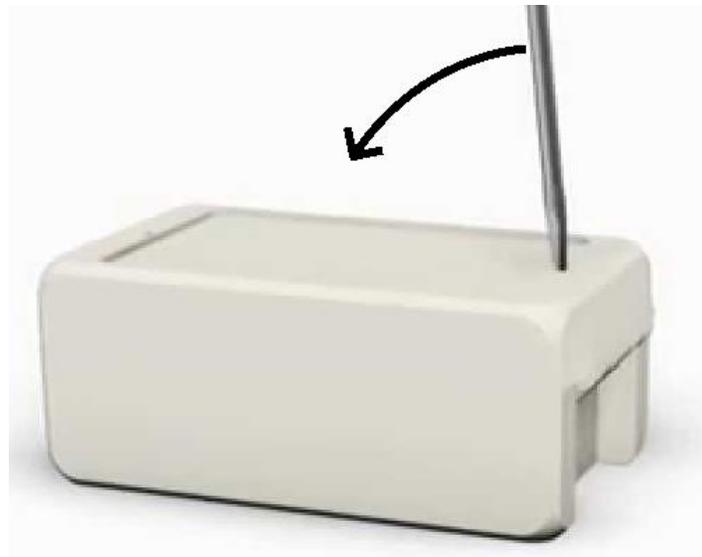


FIGURE 4: OPENING THE DL222 CASE

Connecting

Datalogger 222 to TriSonica Mini Connector

For connecting to a TriSonica Mini the DL222 uses the same 12 Pin Circular IP67 connector used on the TSM. The pinout is identical to the TSM. When connecting with cables provided by Anemoment either end of the cable can be connected to a DL222 or a TSM. Figure 5 shows the signal connections and positions when looking at the connector from the outside of the enclosure. Table 1 details the connector pinout. Table 2 shows the signal name to wire color match if using an Anemoment cable with a blunt cut end. Note that the connector must be mated and the mating connector sealed to achieve IP67 rating.

DL222 Connector

1 - VOUT	2 - GND	3 - Trigger	
4 - RX	5 - NC	6 - TX	7 - NC
	8 - NC	9 - NC	10 - NC
	11 - NC	12 - NC	

FIGURE 5: DATALOGGER 222 PINOUT

TABLE 1: DATALOGGER 12 CONNECTOR PIN DESCRIPTIONS

Pin Number	Signal Name	Description
1	VOUT	Voltage Output of 12V
2	GND	Ground connection. Only one of the GND connections are required for proper operation. The multiple GND connections are provided as a convenience for wiring.
3	Trigger	Synchronizing Trigger input. This input allows multiple instruments to synchronize their sampling.
4	RX	Receive data input

Data Logger 222



5	NC	Not connected Internally.
6	TX	Transmit data output
7	NC	Not connected Internally.
8	NC	Not connected Internally.
9	NC	Not connected Internally.
10	NC	Not connected Internally.
11	NC	Not connected Internally.
12	NC	Not connected Internally.

TABLE 2: DATALOGGER 222 CABLE SIGNAL AND WIRE COLOR FOR BLUNT CUT CABLES

Color	Signal Name
Brown	VIN
Red	GND
Orange	Trigger
Yellow	Rx
Green	NC
Blue	TX
Violet	NC
Gray	NC
White	NC
Black	NC
Green/Black	NC
Tan	NC

Datalogger 222 Power and Data Connector

The DL222 uses a 6-pin IP67 circular connector for power and serial connections. Table 3 details the pinout connections. Note that the connector must be mated to achieve IP67 rating.

TABLE 3: DATALOGGER 6 CONNECTOR PIN DESCRIPTIONS

Pin Number	Signal Name	Description
1	VIN	Voltage Input of 5V – 48V
2	TX	EIA232 Serial Transmit Data Output
3	RX	EIA232 Serial Receive Data Input
4	NC	Not connected Internally.
5	GND	Ground
6	NC	Not connected Internally.

Datalogger 222 Internal Connectors

Figure 6 shows the internal connectors that a user can interact with. The following sections provide detailed information for each of the connectors.

Data Logger 222

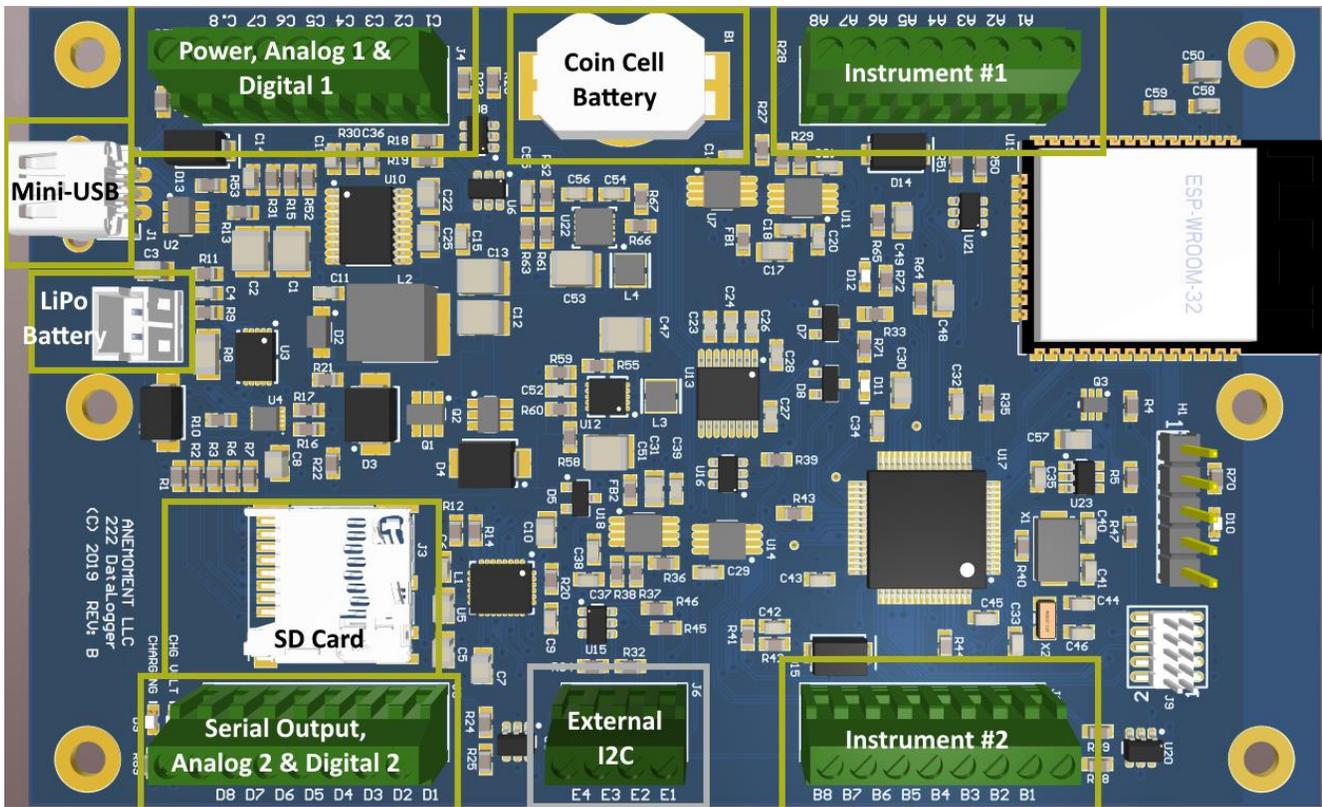


FIGURE 6: DATALOGGER 222 INTERNAL CONNECTORS

Instrument #1 Connector

The Instrument #1 connector is where the user connects the serial instrument that will show as the first instrument in the data stream of the DL222. It correlates to Serial Port 1 in the Menu, and Serial Port 0 in the CLI.

Pin Name	Signal Name	Description
A1	UART-TTL_TXD	Serial data output from the Instrument #1 UART with voltage levels 0 V to 3.3V. This is for connecting to serial devices that do not provide EIA232 voltage levels. Use only one connection of A1 or A5. This signal is normally connected to the serial data input of the instrument.
A2	UART-TTL_RXD	Serial data input to the Instrument #1 UART with voltage levels 0 V to 3.3V. This is for connecting to serial devices that do not provide EIA232 voltage levels. Use only one connection of A2 or A6. This signal is normally connected to the serial data output of the instrument.
A3	GND	Power and communication return path signal. Only one connection of A3 or A8 is required. Connecting to both is recommended.
A4	12V Output	12V Regulated voltage for powering external instruments, such as a TriSonica Mini.
A5	EIA232-TxD	EIA232 voltage level Instrument #1 Serial data output. This is for connecting to serial devices that operate with EIA232 voltage levels, such as the TriSonica Mini. Use only one connection of A1 or A5. This signal is normally connected to the RxD signal of the instrument.
A6	EIA232-RxD	EIA232 voltage level Instrument #1 Serial data input. This is for connecting to serial devices that operate with EIA232 voltage levels, such as the TriSonica Mini. Use only one connection of A2 or A6. This signal is normally connected to the TxD signal of the instrument.

Data Logger 222



A7	Trigger	Synchronizing trigger to signal an external instrument to sample. This is a feature of the TriSonica Mini and allows multiple TriSonica Minis to sample at the same time.
A8	GND	Power and communication return path signal. Only one connection of A3 or A8 is required. Connecting to both is recommended.

Instrument #2 Connector

The Instrument #2 connector is where the user connects the serial instrument that will show as the second instrument in the data stream of the DL222. It correlates to Serial Port 2 in the Menu, and Serial Port 1 in the CLI. Note that the pinout is the opposite of the Instrument #1 Connector so that the signals align across the board.

Pin Name	Signal Name	Description
B8	GND	Power and communication return path signal. Only on connection of B3 or B8 is required. Connecting to both is recommended.
B7	Trigger	Synchronizing trigger to signal an external instrument to sample. This is a feature of the TriSonica Mini and allows multiple TriSonica Minis to sample at the same time.
B6	EIA232-RxD	EIA232 voltage level Instrument #2 Serial data input. This is for connecting to serial devices that operate with EIA232 voltage levels, such as the TriSonica Mini. Use only one connection of B2 or B6. This signal is normally connected to the TxD signal of the instrument.
B5	EIA232-TxD	EIA232 voltage level Instrument #2 Serial data output. This is for connecting to serial devices that operate with EIA232 voltage levels, such as the TriSonica Mini. Use only one connection of B1 or B5. This signal is normally connected to the RxD signal of the instrument.
B4	12V Output	12V Regulated voltage for powering external instruments, such as a TriSonica Mini.
B3	GND	Power and communication return path signal. Only on connection of B3 or B8 is required. Connecting to both is recommended.
B2	UART-TTL_RXD	Serial data input to the Instrument #2 UART with voltage levels 0 V to 3.3V. This is for connecting to serial devices that do not provide EIA232 voltage levels. Use only one connection of B2 or B6. This signal is normally connected to the serial data output of the instrument.
B1	UART-TTL_TXD	Serial data output from the Instrument #2 UART with voltage levels 0 V to 3.3V. This is for connecting to serial devices that do not provide EIA232 voltage levels. Use only one connection of B1 or B5. This signal is normally connected to the serial data input of the instrument.

Power, Analog 1, and Digital 1 Connector

The Power, Analog 1 and Digital 1 Connector is where the user connects system power, analog and digital signals to the DL222. The analog and digital port on this connector correlate to Analog and Digital 1 in the Menu, and Analog and Digital 0 in the CLI.

Pin Name	Signal Name	Description
C1	ANALOG 1	Analog Input #1. This signal accepts voltage inputs of 0V to 6V.
C2	GND	Power and signal path ground. Only a single connection of C2, C4, or C8 is required. Connecting a separate ground for each of the analog, digital, and power inputs is recommended.
C3	Digital 1	Digital Input #1. This signal accepts voltage of 0V to 3.3V.
C4	GND	Power and signal path ground. Only a single connection of C2, C4, or C8 is required. Connecting a separate ground for each of the analog, digital, and power inputs is recommended.

Data Logger 222



C5	UART-TTL_TXD	Serial data output from the Console UART with voltage levels 0 V to 3.3V. This is for connecting to serial devices that do not provide EIA232 voltage levels. Use only one connection of D1 or C5. This signal is normally connected to the serial data input of the instrument.
C6	UART-TTL_RXD	Serial data input to the Console UART with voltage levels 0 V to 3.3V. This is for connecting to serial devices that do not provide EIA232 voltage levels. Use only one connection of D3 or C6. This signal is normally connected to the serial data output of the instrument.
C7	VIN	System Voltage Input of 5V to 48V. The DL222 has three voltage sources and they are selected by the hardware in the following priority. <ol style="list-style-type: none"> 1. VIN – If VIN is present it is selected as the source of power for the system. 2. USB – If USB power is present and VIN is absent then USB Power is used. 3. LiPo Battery – The LiPo battery is used for power is VIN and USB are both absent.
C8	GND	Power and signal path ground. Only a single connection of C2, C4, or C8 is required. Connecting a separate ground for each of the analog, digital, and power inputs is recommended.

Serial Output, Analog 2, and Digital 2 Connector

The Serial Output (Console), Analog 2 and Digital 2 Connector is where the user connects for serial data output, analog and digital signals to the DL222. The analog and digital port on this connector correlate to Analog and Digital 2 in the Menu, and Analog and Digital 1 in the CLI. This port can be software configured to be an instrument input to allow connection to a EIA422 device.

Pin Name	Signal Name	Description
D8	ANALOG 2	Analog Input #2. This signal accepts voltage inputs of 0V to 6V.
D7	GND	Power and signal path ground. Only a single connection of D7, or D5 is required. Connecting a separate ground for each of the analog and digital inputs is recommended.
D6	Digital 2	Digital Input #2. This signal accepts voltage of 0V to 3.3V.
D5	GND	Power and signal path ground. Only a single connection of D7, or D5 is required. Connecting a separate ground for each of the analog and digital inputs is recommended.
D4	RX-	EIA422 Receive Data Negative data input to the serial output port.
D3	RX+	EIA232 Receive Data input when in EIA232 Mode, or EIA422 Receive Data Positive data input when in EIA422 mode.
D2	TX-	EIA422 Transmit Data Negative data output from the serial output port.
D1	TX+	EIA232 Transmit Data output when in EIA232 Mode, or EIA422 Transmit Data Positive data output when in EIA422 mode.

External I2C Connector

The External I2C Connector is where the user can connect external I2C device. Currently, there are no external devices supported. This feature is reserved for future firmware expansion. Currently there is no firmware support for this feature.

Pin Name	Signal Name	Description
C1	GND	I2C Signal Ground.
C2	SCL	I2C SCL Signal
C3	SDA	I2C SDA Signal
C4	3.3V	3.3V for power external I2C peripherals.

Data Logger 222



MicroSD Card Connector

The MicroSD card connector accepts a standard MicroSD card. The system automatically detects card insertion and removal.

LiPo Battery Connector

The LiPo Battery connector is a standard 2-pin JST-PH 2mm connector found on many LiPo battery packs. The battery pack is required to have internal protection and UVLO circuitry.

Coin Cell Battery Connector

The Coin Cell Battery is used to power the Real Time Clock in the DL222 when there is no other power source available. This is a standard CR1225 coin cell battery. If the DL222 loses time when all other power sources are disconnected, this battery likely needs to be replaced.

USB Connector

This is a standard Mini-B USB connector. When connected to a USB port on a computer, the DL222 will create a serial communication port to the computer. The DL222 will draw power from the USB port and attempt to charge the LiPo battery. A USB charger also functions as a power supply for the DL222.

Power Selection

The DL222 has three voltage sources and they are automatically selected by the hardware with the following priority.

1. VIN – If VIN is present it is selected as the source of power for the system.
2. USB – If USB power is present and VIN is absent then USB Power is used.
3. LiPo Battery – The LiPo battery is used for power if VIN and USB are both absent.

No power is drawn from the lower priority power sources when a higher priority source is connected. When a battery is connected and either VIN or USB power is available, the LiPo Battery will charge. The battery charge circuit will trickle charge the battery to keep it ready for use when the other power sources are removed.

Data Output

Serial Data Format

The data output is an ASCII character string ending with carriage return and line feed characters. The DL222 concatenates the ASCII text outputs of the instruments connected and appends the analog, digital, and battery data to the end of the serial data strings collected from the connected instruments. Each line is a single record containing all the collected parameters contained in a single sample. The parameters on an output line are separated by spaces. An optional data tag indicates the measurement associated with the value and can be turned on or off for each measurement. Tags for the parameters coming from connected instruments are controlled by those instruments. The DL222 does not interpret or modify the instrument data.

Time Tagging

An optional time tag can appear at the beginning of each line of collected data. The time tag is enabled and formatted using the menu or CLI.

Instrument Tagging

An optional tag can be placed in front of each of the serial instrument streams to differentiate the serial streams. The tags are enabled and formatted using the menu or CLI.

Data Logger 222



Datalogger 222 Analog Input Values

The DL222 has two external and two internal analog input channels. The two external channel connections are described in the sections above that discuss the connections to the DL222. The two internal channels monitor the VIN and USB VBUS voltages. Monitoring the VIN voltage is useful when using an external battery. The values displayed in the data stream are enabled and configured using the menu or CLI.

Datalogger Digital Input Value

The DL222 has two external digital input channels. These channels monitor on-off type signals. They can also be configured to be used as a synchronizing trigger input to keep the internal clock in sync with an external clock. The most common use for this feature is to sync to a GPS time pulse so that multiple stations can be sampling at the same time using the GPS pulse as the timing standard.

Datalogger Battery Values

The battery values allow monitoring and logging of the internal LiPo battery performance. There are five parameters that can be monitored.

Parameter	Description
CVP	Charge Voltage Present – Indicates if there is enough voltage to charge the LiPo Battery.
CHG	Charging – The LiPo Battery is actively being charged.
% Capacity	The Fuel Gauge Percentage estimate of battery capacity. This will be most accurate after a full charge discharge cycle. If the battery is changed, the fuel gauge chip will need to relearn the capacity of the battery. Menu and CLI commands are provided to change parameter that the fuel gauge needs to accurately characterize the battery.
LiPo Voltage	The current voltage of the LiPo Battery pack.
LiPo Current	The amount of current going into or out of the battery. Negative values indicate current going into the battery (charging).

Missing Instrument Data

The DL222 has a mode where it will replace missing data from an instrument. This feature is user configurable and can be set to a specific string of data or substitute the last good data as the missing data. This feature is enabled and configured in the menu or CLI.

Datalogger 222 Configuration

Serial Communication

The DL222 is configured by default to these serial parameters:

- Baud Rate: 115,200
- Data Bits: 8
- Parity: None
- Stop Bits: 1

The DL222 starts generating data 0.5 seconds after power up, and outputs data continuously when in sampling mode.

Menu Interface

Pressing ESC in the serial terminal will enter the Menu Mode. All data sampling is stopped, and the storage file is closed. Upon exiting the menu mode, sample is resumed, and a new storage file is created. Upon pressing ESC you are greeted with the main menu.

Data Logger 222



```
Anemoment LLC - Data Logger 222
Version: 1.0.0
Serial Number: 000-000-000

Main Menu:
A. Serial Setup
B. Analog Setup
C. Digital Setup
D. Battery Setup
E. Station Settings
F. Current Settings
G. Trigger Options
H. Hook Up Docs
P. Program Update
S. Storage Options
T. Time Options
W. Wifi Options
X. Exit Without Storing Changes
0. Exit and Store Changes

Choice: [ ]
```

FIGURE 7: MAIN MENU

Serial Setup Menu

The serial menu is channelized and provides all the settings to control the serial ports. There are three serial ports to configure. Select the channel then adjust the parameters for that channel. The USB COM Port connection is not configurable.

```
Anemoment LLC - Data Logger 222
Serial Menu:
A. Channel Select
B. Channel 1 Enable ..... ( Enabled )
C. Channel 1 Baud Rate ..... ( 115200 )
D. Channel 1 Parity ..... ( None )
E. Channel 1 Missing Data Type ..... ( Disabled )
F. Channel 1 Missing Data String ..... ( )
G. Channel 1 Last Good Data As Missing Data . ( Disabled )
H. Channel 1 Serial Pass Thru .....
J. Channel 1 Console Mode ..... ( Disabled )
M. Channel 1 Serial Tag Enabled ..... ( Disabled )
N. Channel 1 Serial Tag Value ..... ( )
0. Main Menu

Choice: [ ]
```

FIGURE 8: SERIAL SETUP MENU

Menu Option	Description
Select	Select the Serial Port to configure. <ol style="list-style-type: none"> 1. Port 1 is Instrument #1 2. Port 2 is Instrument #2 3. Port 3 is the Serial Output or optional third Instrument port.
Enable	Toggles the Serial Port Enable setting. This turns on the data sampling for the port
Baud Rate	Presents a secondary menu to choose the Baud Rate
Parity	Presents a secondary menu to choose the Parity
Missing Data Type	Toggles the Missing Data Type Enable. When Missing Data Type is Enabled the DL222 fills in false data when the instrument data is missing. The values filled in are either the value in the Missing Data String field below, or the last good data received from the instrument.
Missing Data String	User entered text string that is substituted for instrument data when Missing Data Type is enabled and Last Good Data as Missing Data is disabled.
Last Good Data as Missing Data	Toggles the Last Good Data as Missing Data Enable. When this setting is enabled, it overrides the Missing Data String value when the Missing Data Type function is enabled.
Serial Pass Thru	Presents a submenu for the serial pass thru function. Serial pass thru makes a direct connection with the instrument using the DL222 as a bridge between the computer and the instrument. In the submenu is a command to allow the user to select a character to exit the pass thru mode. When the user enter this character (Default = Ctrl+D) the Serial Pass Thru mode is terminated and control return to the DL222.

Data Logger 222



Console Mode	Toggles the enable for the Console Mode for this channel. The data stream is presented on all ports with the Console Mode enabled, and configuration can be done with any of the Console ports. To enable Port 3 to be an instrument input, turn of Console Mode for Port 3. If you want to use a port other than the USB as a Console Port, then enable this mode for that port.
Serial Tag Enabled	Toggles the enable for a Serial Tag that is placed in the data stream in front of the instrument data. The value inserted is contained in the Serial Tag Value below.
Serial Tag Value	The text string that is inserted in the data stream in front of the instrument data when the Serial Tag is Enabled.

Analog Setup Menu

The analog menu is channelized and provides all the settings to control the analog ports. There are four analog ports to configure. Select the channel then adjust the parameters for that channel.

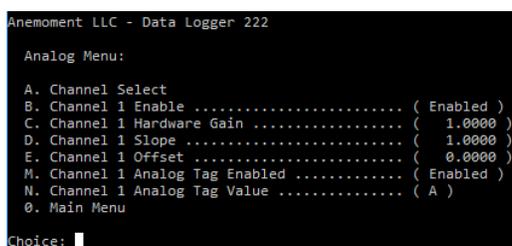


FIGURE 9: ANALOG OPTIONS MENU

Menu Option	Description
Select	Select the Analog Port to configure
Enable	Toggles the Analog Port Enable setting. This turns on the data sampling for the port
Hardware Gain	Presents a submenu to select from the available hardware gain options. The custom gain option on this submenu must be between the lowest gain of 0.5 and the highest gain of 8.0. The hardware has limited capability for setting the actual hardware gain, it will select the gain value closest to the desired gain that it can actually support.
Slope	The software slope value for a linear conversion of the analog to digital values into some other units. The output is multiplied by the slope and then the offset is added.
Offset	The software offset value for a linear conversion of the analog to digital values into some other units. The output is multiplied by the slope and then the offset is added.
Analog Tag Enabled	Toggles the enable for an Analog Tag that is placed in the data stream in front of the Analog channel data. The value inserted is contained in the Analog Tag Value below.
Analog Tag Value	The text string that is inserted in the data stream in front of the Analog channel data when the Analog Tag is Enabled.

Digital Setup Menu

The digital menu is channelized and provides all the settings to control the digital ports. There are two digital ports to configure. Select the channel then adjust the parameters for that channel.

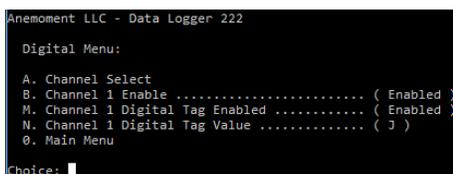


FIGURE 10: DIGITAL SETUP MENU

Data Logger 222



Menu Option	Description
Select	Select the Digital Port to configure
Enable	Toggles the Digital Port Enable setting. This turns on the data sampling for the port
Digital Tag Enabled	Toggles the enable for a Digital Tag that is placed in the data stream in front of the Digital channel data. The value inserted is contained in the Digital Tag Value below.
Digital Tag Value	The text string that is inserted in the data stream in front of the Digital channel data when the Digital Tag is Enabled.

Battery Setup Menu

The battery menu is channelized and provides all the settings to control the battery ports. There are five battery ports to configure. Select the channel then adjust the parameters for that channel.

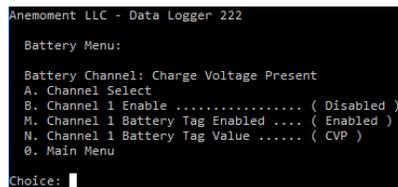


FIGURE 11: BATTERY SETUP MENU

Menu Option	Description
Select	Select the Battery Port to configure
Enable	Toggles the Battery Port Enable setting. This turns on the data sampling for the port
Battery Tag Enabled	Toggles the enable for a Battery Tag that is placed in the data stream in front of the Battery channel data. The value inserted is contained in the Battery Tag Value below.
Battery Tag Value	The text string that is inserted in the data stream in front of the Battery channel data when the Battery Tag is Enabled.

Station Settings Menu

The station menu provides all the settings to control the display of the Station ID output to identify the DL222 among multiple dataloggers.

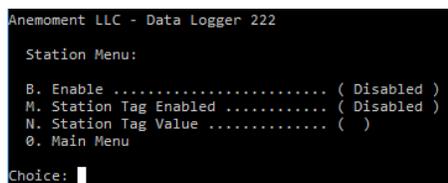


FIGURE 12: STATION SETTINGS MENU

Menu Option	Description
Enable	This menu option is present to be consistent across the menus, however because the only function of this menu is to enable the Station ID, the Enable and Station Tag Enabled choices are tied together and will enable and disable together regardless of which option is chosen.
Station Tag Enabled	Toggles the enable for a Station ID that is placed in the data stream in front of the Station channel data. The value inserted is contained in the Station Tag Value below.
Station Tag Value	The text string that is inserted in the data stream in front of the Station channel data when the Station Tag is Enabled.

Data Logger 222



Current Settings

The Current Settings menu option displays a list of all the parameters and their current settings.

Trigger Options Menu

The Trigger Options Menu controls the sampling rates and trigger sources for the DL222.

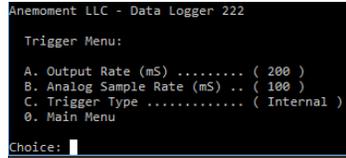


FIGURE 13: TRIGGER OPTIONS MENU

Menu Option	Description
Output Rate	This value is the number of milliseconds between data output samples. The most recent values from the instruments is presented in the output. If the instrument is providing data faster than the sample rate, only the most recent value is provided. If the instrument is providing data slower than the sample rate then the Missing Data options from the serial menu decided what data is inserted into the output data stream.
Analog Sample Rate	This value is the number of milliseconds between internal analog samples. If this value is smaller than the Output Rate, the samples are averaged until the Output Rate time is reached. If this value is larger than the Output Rate, the most recent analog sample is provided.
Trigger Type	The DL222 supports two trigger types: Internal and Sync. When set to Internal the DL222 will use its internal clock to sample the data for output. The Sync trigger type will align the internal clock to the edge of the Sync trigger. This is useful for using an external time standard to synchronize multiple sampling station.

Hook Up Docs

The Hook Up Docs menu option displays a pinout description of the DL222 as a quick reference.

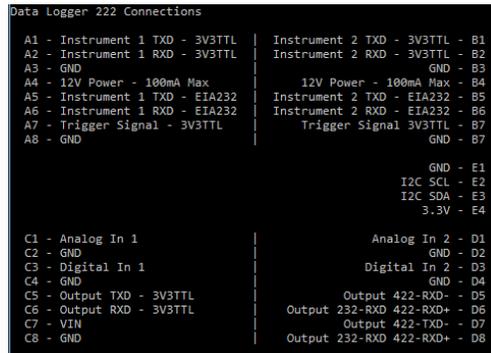


FIGURE 14: HOOK UP DOCS

Program Update

Selecting the Program Update menu option will prompt you with an “Are you sure?” question, to which you must type the text “YES” to go into the program update mode. The response is case sensitive, so you must enter it as all capitals. The program update uses the YModem protocol, and you will need a data logger update file from Anemoment to proceed. It is not recommended that you use this menu option unless you are ready to perform an update.

Storage Options Menu

The Storage Options Menu provides all the settings to control how the DL222 logs data onto the MicroSD Card.

Data Logger 222

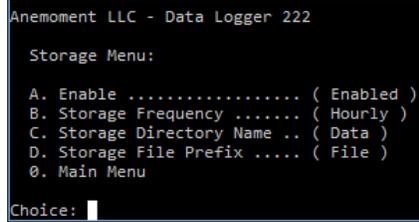


FIGURE 15: STORAGE OPTIONS MENU

Menu Option	Description
Enable	Enable the logging of data to the MicroSD Card
Storage Frequency	Sets the time frequency for when a new file is started. The frequency choices are Weekly, Daily, Hourly, Half Hourly, and Quarter Hourly.
Storage Directory Name	This is name of the directory where the data files will be stored. This directory is created in the root directory of the MicroSD Card
Storage File Prefix	This text string is prefixed to the time tag to create the filename.

Time Options Menu

The Time Options Menu provides all the settings to enable and set the time data feature of the DL222.

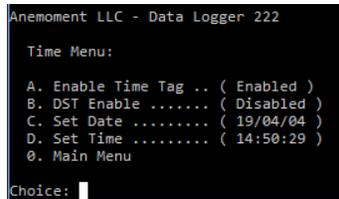


FIGURE 16: TIME OPTIONS MENU

Menu Option	Description
Enable Time Tag	Enable the time tagging of data for the output stream and logging
DST Enable	Enable the DSP Feature
Set Date	Set the Datalogger Date
Set Time	Set the Datalogger Time

WiFi Options Menu

The WiFi Options Menu provide the controls to enable and configure the WiFi features of the DL222. In this menu the user can view the Current IP, GW, & NM settings for the network that the DL222 is connected to and configure the Access Point and Station Names and Passwords.

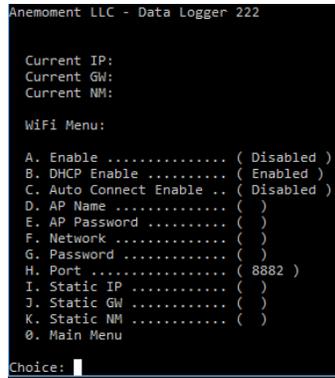


FIGURE 17: WiFi OPTIONS MENU

Menu Option	Description
Enable	Enable the WiFi module to be able to exit low power mode. When disabled, the WiFi module is being held in reset so that it draws minimal power.
DHCP Enable	When DHCP mode is enabled for Station Mode the WiFi module uses the network address provided by the network Access Point. When the DL222 is in AP mode DHCP is always enabled. When DHCP is disabled, the WiFi module attempts to connect to the network using the Static IP values.
Auto Connect Enable	When Auto Connect is enabled, the DL222 will attempt to connect on startup. When disabled, a manual connection command is required.
AP Name	IF this value is blank and the WiFi module is enabled, this field will be filled in by the DL222. The default AP Name is “Anemoment” followed by the MAC Address of the WiFi module.
AP Password	The password for AP mode. Default = password
Network	This is the name of the network for the WiFi module to connect to.
Password	This is the password for the network for the WiFi module to connect to.
Port	This is the socket port to use for communication
Static IP	User specified Static IP address
Static GW	User specified Static Gateway address
Static NM	User specified Static Netmask

Exit Without Storing Changes

This menu option will exit the menu mode and start sampling with the parameters as set by the user while in menu mode. However, the parameters will not be stored in non-volatile memory and will be lost after a system reset.

Exit and Store Changes

This menu option will exit the menu mode, start sampling, and store the parameters in non-volatile memory as set by the user while in menu mode. The parameters will be recalled from non-volatile memory after a system reset.

Command Interface

To enter command line interface (CLI), press Ctl+C. The DL222 stops sampling and provides a user prompt: “>”.

Details of all available commands and their parameters are accessed within the Command Line interface by typing “help” at the user prompt. For reference, some of the commands are also listed below. Parameters are indicated with “<” and “>” characters, replace the angle brackets and the text with the parameter value. Parameters shown within square brackets “[” and “]” are optional.

NOTE: We attempt to make the DL222 CLI self-documenting, so the detailed help for each command may be more current than the information in the following table.

Data Logger 222



TABLE 4: SERIAL COMMANDS IN THE COMMAND LINE INTERFACE

COMMAND	DESCRIPTION
Help	Displays a list of CLI commands.
help <command>	The command word "help" followed by the name of another command displays detailed help for that command.
Exit	Leave the CLI and return to sampling.
analog [<port> [...]]	Show or set the analog input port parameters. Use "help analog" for full parameter list.
analograte [<rate>]	Show or set the analog input sampling rate.
battery [<port> [...]]	Show or set the Battery parameters. Use "help battery" for full parameter list.
diagnostic	Performs a self diagnostic on the Data Logger 222
digital [<port> [...]]	Show or set the digital input port parameters. Use "help digital" for full parameter list.
hookup	Show Data Logger Connections
lipoconfig [...]	Show or set the Internal LiPo Battery configuration parameters. Use "help batteryconfig" for full parameter list.
log [...]	Show or set the logging parameters. Use "help log" for full parameter list.
missingdata [<port> [...]]	Show or set the port missing data parameters. Use "help serial" for full parameter list.
nvwrite	Writes parameter data to non-volatile memory
passthru [<port> [...]]	Show or set the serial pass thru parameters. Use "help passthru" for full parameter list.
programupdate [YES]	Starts a ymodem session to download new firmware.
samplerate [<rate>]	Show or set the Sampling Rate.
serial [<port> [...]]	Show or set the serial port parameters. Use "help serial" for full parameter list.
setdate <date>	Set the datalogger date
settime <time>	Set the datalogger time
settings	Dump Flash Settings.
station [...]	Station Tag

Data Logger 222



systemreset	Software Reset.
time	Show the current date and time.
timetag [...]	Show or set the timetag parameters. Use "help timetag" for full parameter list.
trigger [...]	Show or set the trigger parameters.
version	Displays software version and build numbers
wifi [...]	Show or set the wifi parameters. Use "help wifi" for full parameter list.

Computer Command Interface

The DL222 provides a method to simplify computer command automation. It is a variation on the CLI interface and uses the same commands as the CLI interface. The difference is that the commands are enclosed in curly braces "{" and "}" without a carriage return or line feed character. The open curly brace "{" instructs the DL222 that a computer command is starting, and the close curly brace "}" indicates the end of the command. Once the close curly brace "}" is received the command is executed and the results returned within the same curly braces. This is not fully compatible with the JSON protocol.

Non-Volatile Parameters

Command Line Mode

The Datalogger 222 operates with a copy of its configuration parameters in volatile memory (RAM). When changes are made using the CLI, the parameters are updated in the volatile memory. These changes will be lost when the unit restarts and pulls the parameters out of Non-Volatile Memory (Flash). To copy the parameter changes made in volatile memory to the non-volatile memory use the "nvwrite" command. The changes will then be remembered during a restart.