Standard Operating Procedure of Pressure Datalogger (Lolog450)

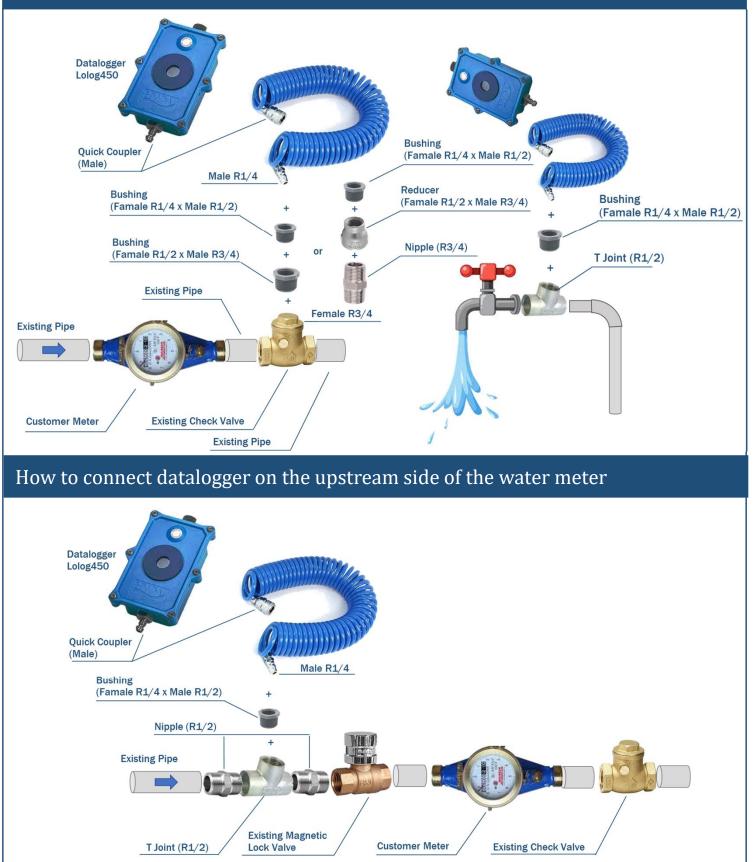
Different Ways of Connection

How to connect datalogger with tapping saddle



Connection of Datalogger

How to connect datalogger on the downstream side of water meter



Step 1

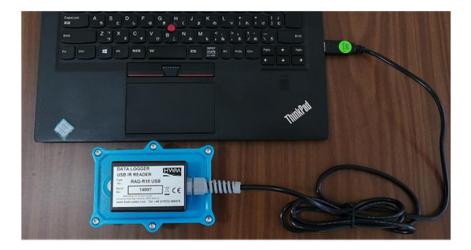
Download and run the Radwin installation file from the HWM website at http://www.hwmglobal.com) Home » Support » Help & Downloads

The latest version of the programming software is: Radwin Ver 4.84

Step 2

Connect the USB plug to a spare USB port on your computer or the Serial plug to a spare Serial port on your computer.

Position the reader head on the logger as shown below



Step 3

Start Radwin View (unless already running) and from the menu select [Configuration] >> [Advanced Configuration...].

M File	Download Options	Graph Options	Data Options	Advanced	Con	figuration	Start	Window	Help
ា 🕮	🕂 🕫 🖓	2			5	Basic Con	figurati	on	
	Hard Ale	~				Advanced	Config	uration	

Step 4

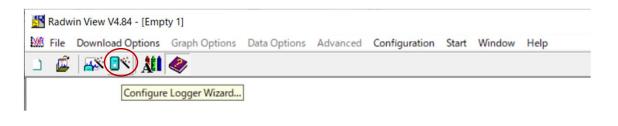
4. The menu below shows details of all the setup functions available to Radwin, for the Communications port configuration click the <<Manual Call>> item from the list.

5. The Manual Call menu now appears, from the Direct Cable Port dropdown list pick the COM port that you will be using.

Configure:		comm ports to be used for Manual Data Downloads. For loggers connected irect RS232 Port must be specified that is used to connect the logger to the PC
Radwin All	Database System Selection	
- 😽 Autocall	Comms Port	
- Data Generator	Direct Cable Port	COM3: USB Serial Port (COM3)
- 🔀 Export - 📆 Alarm Programm	Modern Port	CDM3: USB Serial Port (CDM3)
- K Alarm Receiver	Satellite Modern Port	ස් COM4 කි COM5
Remote Autocall	Bluetooth Port	\$ COM6
	Paknet Modern Port	<i>ି</i> COM1
	USB Transceiver Port	S COM4
	SMS Modern Port	Messages are sent from Autocall using a port configured as SMS Modem
	Always Enter Comment	Insert Default Comment:
_		
	Help - Find Available Ports	OK Cancel

Step 5

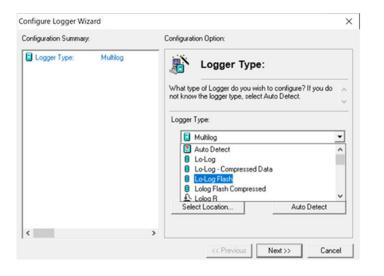
From the menu, click the button to launch the [Configure Logger Wizard].



Step 6

Radwin now needs to know the type of logger you are using. You can either select this from the Logger Type drop down menu (LoLog Flash) or click the <<Auto Detect>> button to allow Radwin to discover the type automatically.

Then click <<Next>> to continue.



Step 7

You need to tell Radwin how the logger is currently connected to the computer. As you are physically connected to the logger, choose the default type, "Direct (Cable)"

Configuration Option:	
Logger Type: What type of Logger do you wish to configure? If you not know the logger type, select Auto Detect.	do 🛆
Logger Type:	•
Lo-Log - Compressed Data Lolog Flash Lolog Flash Compressed Lolog R	v
,	
	Image: Construction of the state of the

Then click <<Next>> to continue.

Step 8

You are now ready to download the current settings from the logger.

onfigure Logger Wizard	×
onfiguration Summary:	Configuration Option:
Logger Type: Lo-Log Flash Connection Type: Direct (Cable) Baud Rate: Baud Rate: 9600	Analyse Logger: The logger is about to be downloaded. If the download fails check the logger is connected to the computer as Select 'Next' To Download The Logger Parameters.

Step 9

Radwin will now retrieve the current settings from the logger,

Downloading	×
S 2	
Comm 3 - 9600 (Lo-Log Flash)	
Downloading Header	
	Abort

Step 10

You now are able to give your logger a unique identity - Enter the details in the four fields according to your chosen Zone and Location plan as described on page 26 and then click <<Next>>.

Logger Type:	Lo-Log Flash	Logger Identity
Connection Type:	Direct (Cable) Baud Bate: 9600	Togger identity
Logger Type:	Lo-Log Flash	The Zone is the first part of the logger identity, and is used for grouping loggers within the software. The Location is
Sone: Location:	00: _00:	Zone: Select.
		Identity:00
		Name:
		Location
		Identity: _00
		Name:
<	>	

Step 11

You now need to define how the logger will transfer its data for downloading.

For this logger it will be by 'Direct Cable'.

You now need to configure the channels (1 channel per signal/sensor) that you wish to use. (This manual show for datalogger with only 1 channel)

Configuration Summary:	Configuration Option:
Logger Type: Connection Type: Baud Rate: Baud Rate: Logger Type: Logger Type: Locag Flash Connection Type: Location: 00: Location: 00: Connection Type: Baud Rate: Baud Rate: Baud Rate: Baud Rate: Soone Connection Type: Direct (Cable) Baud Rate: Baud Rate: Soone Connection Type: Direct (Cable) Baud Rate: Soone Connection Type: Direct (Cable) Baud Rate: Soone Connection Type: Direct (Cable) Baud Rate: Soone Connection Type: Direct (Cable) Soone Soone Connection Type: Direct (Cable) Soone Connection Type: Direct (Cable) Soone Soone Connection Type: Direct (Cable) Soone Soone Soone Connection Type: Direct (Cable) Soone Soone Connection Type: Direct (Cable) Soone Soone Soone Connection Type: Direct (Cable) Soone Soone Soone Connection Type: Direct (Cable) Soone Soone Connection Type: Direct (Cable) Soone Soone Soone Connection Type: Soone Connection Type: Soone Soone Connection Type: Soone Connection Type: Soone Connection Type: Soone Connection Type: Soone Connection Type: Soone Connection Type: Soone Connection Type: Connection Type:	Connection Type: How will the logger be downloaded when it has been installed.

Step 12

The Channel 01 configuration menu appears as below:-

To turn ON the Pressure channel, tick the "Enabled" box.

The default transducer is for a pressure transducer with a Calibration factor of 0.1. If you are configuring any other type of sensor, please refer to HWM support.

To turn ON the Pressure channel, tick the "Enabled" box.

Configuration Summary:		Configuration Option:
 Logger Type: Connection Type: Baud Rate: Logger Type: Zone: Location: Connection Type: Baud Rate: Channel 1: 	Lo-Log Flash Direct (Cable) Baud Rate: 9600 Lo-Log Flash 00: 00: Direct (Cable) Baud Rate: 9600 Analogue (Pressure)	Channel 01 Configuration: Enable the channel if required and set the logging mode for digital channels. Select the required transducer type Enabled Count Standard Transducer Analogue (Pressure) Configure Sensor Type: Pressure Chiraviaric: 0,100000
		0.000000 V

To turn ON the Pressure channel, tick the "Enable" box.

The default transducer is for a pressure transducer with a Calibration factor of 0.1.

If you are configuring any other type of sensor, please refer to HWM support.

Click <<Next>> to continue.

Step 13

Next you need to specify the Sample Rate that you require.

Configuration Summary:	Configuration Option:	
Logger Type: Connection Type: Baud Rate: Direct (Cable) Baud Rate: Connection Type: Lo-Log Flash Connection Type: Locagin: Connection Type: Connection Type: Baud Rate: Baud Rate: Baud Rate: Baud Rate: Sample Rate:	Sample Rate: Select the required data logging interval. 15 minutes is advisable for standard applications. Sample Rate: 15 Minutes	<u></u>

In most cases the default setting of 15 minutes will be sufficient, however, if you wish to change the rate, simply select a period from 1 min to 24 hrs from the dropdown menu.

In case of analysis of the inflow water volume in reservoir using the water level fluctuation, 1 min will be convenient for this purpose.

Click <<Next>> to move on

Step 14

You now need to choose how the logger is to record data.



This setting is based on set time of your PC.

Be assure that the time & date here are before the current time & date.

[Record Start Time]

The logger will automatically start recording at the set time here.

[Record Stop Time]

If you want to stop recording at a specific time, tick the box to set the time.

Logger Type: Lo-Log Flash	
Connection Type: Direct (Cable) Baud Rate: 9600 Logger Type: Locagier:00: 00: Location:00: Location:00: Connection Type: Direct (Cable) Baud Rate: 9600 Channel 1: Analogue (Pressure) Channel 1: 5 Minutes Channel 1: 12:00:00 2022/06// Pecord Start Time: 12:00:00 2022/06// Memory Mode: Cyclic Memory	Recording: Enter the recording start time. If a stop time is required, select enable stop and enter the stop time. Loggers are Record Start Time: Record Start Time: Record Stop Time: 11:46:54 2022/06/08 Cyclic Memory Block Memory

Click <<Next>> to continue.

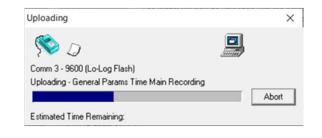
Step 15

Configuration Summary:		Configuration Option:	
Logger Type: Connection Type: Baud Rate: Logger Type: Zone: Location: Connection Type: Baud Rate: Channel 1: Sample Rate: Record Start Time: Record Stop Time: Memory Mode:	Lo-Log Flash Direct (Cable) Baud Rate: 9600 Lo-Log Flash 00: 00: Direct (Cable) Baud Rate: 9600 Analogue (Pressure) 15 Minutes 11:45:00 2022/06// 14:41:12 2022/07// Cyclic Memory	Upload Logger: The logger will now be uploaded with the entered parameters and will start logging. The information will be Select 'Next' To Upload The Logger Parameters.	<

Check your configuration in the summary box.

Click <<Previous>> to return through the menus to make any corrections.

To begin the programming sequence, Click <<Next>>.



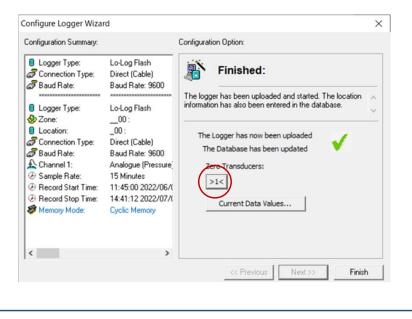
Programming will now take place... Note that the bar will turn Red once programming begins.

Note: If the programming step fails at this point simply wait 60 seconds and retry.

Step 16

Radwin has now completed the programming sequence for your logger and stored its details on your computer. It is now recording and will begin logging data.

To obtain an accurate value, press the "Zero Transducers >1<" button to perform a calibration with the unconnected value set to zero.

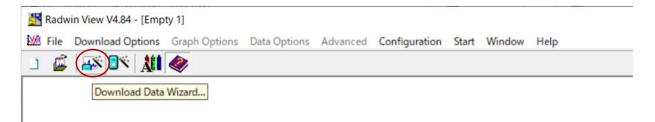


Data Downloading from Datalogger

Step 1

The information that has been recorded by, and stored in, the data logger can be downloaded directly to a PC and viewed by using the Radwin Download Data Wizard.

Select the Download data wizard from the Download Options drop-down menu or the wizard icon on the title page. Proceed after each option by clicking on the Next button.



Select the type of logger (i.e. Lo Log Flash) being used and its location (from select location) – Next>>

Select the type of connection to the logger (Direct RS232) and the Baud Rate (9600) – Next>>

This is similar to the procedure used to configure the logger.

After making the above selections, the Download Data screen will appear.

Step 2

The logger is about to be downloaded. If the download fails, check the logger is connected to the computer as specified and the connection configuration is correct.

Click the Next button for the software to download the logger parameters.

ownload Data Wizard Configuration Summary:		Configuration Option:	×
Logger Type: Connection Type: Baud Rate:	Lo-Log Flash Direct (Cable) Baud Rate: 9600	Download Data: The logger is about to be downloaded. If the download fails check the logger is connected to the computer as Select 'Next' To Download The Logger Parameters.	`
<	>	<< Previous Next >> Canc	el

The following screen will now appear to show the Logger Parameters are being downloaded.

Downloading	5	×
S 2		
Comm 3 - 9600 (Lo-Log Flash)		
Downloading Header		
	Abort	
Estimated Time Remaining:		

The wizard then allows the operator the opportunity to change the transducer configuration for the data downloaded from each channel of the logger. Follow the procedures used to configure the logger if changes are required.

Proceed through the logger configuration screens until you arrive at the Data Filename screen.

Step 4

The Data Filename screen assigns a filename for the data to be stored, but allows the operator to insert a text comment into the Comment field (i.e. date of transfer, logger identity) that will be stored as part of the file.

ownload Data Wizard Configuration Summary:		Configuration Option:
Logger Type: Connection Type: Baud Rate: Logger Type: Sone:	Lo-Log Flash Direct (Cable) Baud Rate: 9600 Lo-Log Flash _00 :	Data Filename: Enter download comment.
Location: Channel 1:	00: _00: Analogue (Pressure; M0001	Filename: M0001 Comment:
٢	>	

The recorded data will now be stored into the selected location shown in the Configuration Summary panel.

Image: Second system Lo-Log Flash Image: Second system Direct (Cable) Image: Second system Baud Rate: 9600	Configuration Option: Store Data:	
Connection Type: Direct (Cable) Baud Rate: Baud Rate: 9600	Store Data:	
Eogger Type: Lo-Log Flash Zone:00 : Location: _00 : Analogue (Pressure) Filename: M0001	The Data will now be stored in the selected location. Select Next to store the data.	< >
< >		_

Click <<Next>> to store the data.

The Finish Screen will now appear.

Click the Finish button to exit the Download Logger Wizard.

After the Finish button has been clicked and the data downloaded, the recorded data will be displayed as a graph and data table.

Showing Graphs of Pressure Data

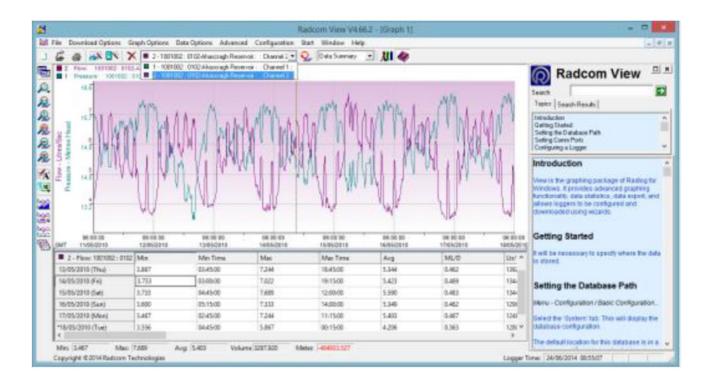
Step 1

The graph and data table can be manipulated to display information for either channel. The type of graph and the format of the displayed data can be altered either by using the drop-down menu, the toolbars or by right clicking on the mouse.

[Selecting the Input Channel Data to be viewed]

The graph and table will display the data stored for each channel. If the logger has a single input, the data for that channel will be displayed. If the logger has two inputs the information for the either channel can be selected by either:

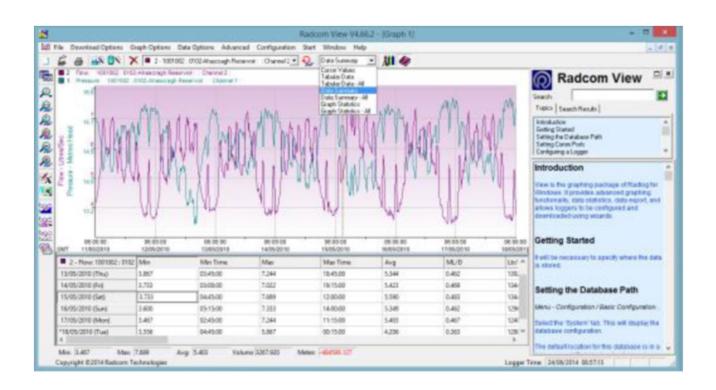
Using the drop-down menu on the toolbar, clicking on the 'Cycle Through Graphs' icon or right clicking on the mouse and selecting the required channel from the Graph Select option -



[Changing the Information in the Data Table]

The information that is displayed in the data table below the graph can be changed to show Cursor Values, Tabular Data, Data Summary or Graph Statistics. The cursor values option displays the value for each graph, while the other options display the values for the selected channel. The information in the table can be opened in .CSV or .TXT file format. The required information can be selected by either:

Selecting the option from the [Data Options] tab on the main menu, or by clicking on the Toolbar to display the options for the Table Data



The data format options are summarized in the table below -

Cursor Values	Displays graph data values for each graph in the tabular data table below the graph as the cursor is moved across the graph.
Tabular Data	Displays tabular data for the current graph in the tabular data table. The value at the cursors position is highlighted in the table as the cursor is moved across the graph.
Data Summary	Displays a daily summary for the current graph in the tabular data table. The day of the cursors position is highlighted in the table as the cursor is moved across the graph.
Graph Statistics	Displays Statistics for the current graph in the tabular data table. The statistics are for the currently visible time span of the graph.
Open CSV File (MS Excel)	Writes the contents of the tabular data table to a temporary CSV file that is automatically opened using the default CSV file viewer - normally MS Excel.
Open TXT File	Writes the contents of the tabular data table to a temporary TXT, file that is automatically opened using the default TXT file viewer.

The operator can change the style of the graph, view the graph from different axes, remove a graph from the display, or copy and export the graphs to be viewed by other programs. These options can be selected by either:



Clicking on the Graph Options tab on the main menu, clicking on the Zoom toolbar icons , or right clicking on the mouse and selecting the required Graph Type or Zoom option -

By right clicking on the mouse and selecting Cursor Position from the menu, the data value (Day, Date, Time and recorded value) will be displayed for the position of the cursor in the current graph.

A summary of the options is shown in the table below-

[ZOOM OPTIONS]

Zoom Time Region	Puts the graph in Zoom X axis mode. Left click the graph once
	to specify the start point, and again to specify the end point.
Zoom Y Axis Region	Puts the graph in Zoom Y axis mode. Left click the graph once
	to specify the start point, and again to specify the end point.
Zoom Y Axis Region	Puts the graph in Zoom XY axis mode. Left click the graph once
and Time Region	to specify the start point, and again to specify the end point.
Zoom Out	Zooms out to the previous zoom level
Zoom Full	Displays the graph full size removing all zoom levels.

[GRAPH OPTIONS]

ys graphs with data points as joined lines.
as Line but fills the area under the graph.
as Line but with a 3D effect.
lata point is displayed as a bar.
as Bar but with a 3D effect.
ves the current graph - indicated as the top most graph
pove the graph
ves all displayed graphs.
t
an export format to be selected and exports the data to
copy of the graph on the clipboard so it may be pasted
ther application as an image.