

Version: 1.0

Title – LX Configuration for float switch

Made By: AB_150514 (Issue 1)

User guide for configuring a float switch with a Radcom data logger

Note – in the example shown a Multilog LX SMS logger is used – if the logger is GPRS the procedure is the same except you need to substitute Multilog LX GPRS for the logger type and configure GPRS settings instead of SMS settings.

Logger Configuration for Float switch

To configure the logger, you need to open 'Radcom Manual Call'.

<u>س</u>	Manual Call Wizard V4.65.2	- 🗆	x
File Option Configuration Start Help			
	🔞 Manual Call		
	Search: Topics Search Results		Ð
	Introduction		_

Click the 'Advanced Download/Upload/Utilities' button.

Select your Logger type from the drop-down menu, the Baud rate will automatically update. Select the correct Comm port which the logger is connected to.

	Advanced Download/	Jpload/Utilities	×
Logger Zone Location Type: Connection: Number:	딸 Multing LX Direct (Cable)	● Baud: ● Port:	ு 9600 ▼ எ COM11: L ▼
Download/Upload Utilit	es Signal		
C Enter New Paramet	ers - Cattines Factors Decoding		
Download Parameter	er Settings For Last Recording		
 Download Parameter 	er Settings And All Hecorded Data		
C Download Last Nur	nber Of Days Data:	30	
C Download Logger N	lemory From Address:	Of Length:	0
		OK	Cancel

Click 'Download Parameter Settings For Last Recording' and the 'OK' button to continue. The information will then start downloading from the logger.





Ensure that the logger has stopped recording before continuing. To do this, click the Upload button –

		Multilog LX - v3.27	×
Multilog LX - v3.27 Identity Channel Configuration Main Recording Pseudo Recording Secondary Recording Data Display Configurat GPRS Configuration Status	Identity: Zone: Location: Time Logger Time: GSM Clock: Comments: Name:	00 0F 09:06:01 16/01/2013 Error: 0 Minutes 09:06:07	
	Site Info:	Halma Water Management Ty Coch House Llantarnam Park Way CWMBRAN UK NP44 3AW	
	Load	Save Upload Canc	el

Check the 'Stop Main Recording' checkbox, and click the 'OK' button.

	Upload Parameters	×
Logger Zone00 Location0F Type: Connection: GSM Data Number: SIM Voice Number:	Image: Multilog LX Baud: Direct (Cable) Image: Port: Image: Height of the state of the s	ශි 9600 ▼ ශි COM3: AT ▼
Main Recording and Res Update Logger Time Stop Main Recording	tart	
Update Logger Time as:	PC Time	Advanced OK Cancel

A box should appear to show that the Logger recording is stopping.





To start programming your logger, select your Logger type from the drop-down menu, the Baud rate will automatically update. Select the correct Comm port which the logger is connected to.

Click 'Download Parameter Settings For Last Recording' and click the 'OK' button to continue.

Advanced Download/Upload/Utilities				
Logger Zone Location Type: Connection: Number:	ﷺ Multilog LX Direct (Cable) Port: 200	10 ▼ M3: A1 ▼		
Download/Upload Utili	ties Signal			
C Enter New Parame	ters			
Ownload Paramet	er Settings For Last Recording			
C Download Paramet	er Settings And All Recorded Data			
O Download Last Nu	mber Of Days Data: 30			
O Download Logger N	Memory From Address: 0 Of Length: 0			
	OK	Cancel		

The information will then start downloading from the logger.



If you are using Alarms put a comment in the 'Comments' 'Name' box (above) as you wish it to appear in any text messages that are sent to recipients mobile phones. (For example location name and what is being measured)

		Multilog LX - v3.27	×
Multilog LX - v3.27 I Identity Channel Configuration Main Recording Secondary Recording Secondary Recording Data Display Configurat GRRS Configuration Status	Identity: Control Location: Inne Logger Time: GSM Clock: Comments: Name: Site Info:	_00 0F 09:52:31 16/01/2013 Error: 0 Minutes 09:52:36 Irest Comment Ty Coch House Unatarnam Park Way CWMBRAN UK NP-44 3AW	~ ~
	Load	Save Upload C	Cancel

Click the 'Location' button to choose a new Location for the logger.



To create a new Location, select the Zone in which it is to be located, then click the 'Tools' button, and then click 'Create New Location...'.

Select Database Location	– 🗆 🗙
Zones/Locations	
Cones/Locations	💼 🛛 🗙 🛅 📰 • 📯 •
E-C: Wy Documents Customer Services ECM Oct 11 DATA	Edit Zone TEST
E Zones/Locations	Delete Zone TEST
E - 60 : Pipework GB	
E Southlakeland Parks	Create New Zone
3 : Partingtons Holiday Centres	Create New Location
🕀 🍌 🔄 4 : Cowal Leisure	
🕀 🏀5 : Darwin NW	
H → Second data	
E 31 : Bristol Test	
🗉 🂑33 : Pressure Data	
Ē-� _50 :	
⊞	
H & _/5 : Pressure Data	
Bristol SMS LIte Jan 2012	
91 : Murray	
📄 🕀 _002 :	

The Location Configuration screen will open. Enter your new Location number (and comment if required) as highlighted below.

	Location Configuration EH2_4SD : Radwin All
Configure: Basic Radwin All Manual Call Kiew Call Kiew Call	Location - Specify the location identity and name. Enter names for each of the logger channels.
Data Generator Export Alarm Programm Alarm Receiver Remote Autocall Remote Alarm Re	Identity EH2_ Zone: EH2_ Location: 4SD Float switch GIS Position: 00° 00' 0.00" N, 00° 00' 0.00" E Image: Comparison of the switch
	Channel Name Channel Name Channel Name Channel Name Channel Name A 01 A 02 A 03 A 04
	Print Save Cancel



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Click the 'Logger' tab, and change the following:

- Select 'SMS Modem' from the Connection Type drop-down menu.
- Enter the phone number of the logger in the SMS Voice Number text box in International format (e.g. for UK +44).

	Location Configuration TEST101 : Radwin All
Configure: Basic Radwin Al Manual Call View Call	Logger - Select the logger type and baud rate. Select the connection type (how the computer will communicate with the logger), and enter telephone numbers if required. The logger manufacture Location Logger Statistics Transducer Unit/Levels Meter Autocall Memo Auto Database E Logger Type: Multilog LX Baud: Date Manufactured: 11/01/1970 Serial: 10/134 Last Battery Change: 11/01/1970 Last Known Logger Configuration
	Connection Connection Type: SMS Modem G5M Data Number: SMS Voice Number: +4478765443322
	Print Save Cancel

Go to main recording tab and change the sample rate to 1 minute (the smallest sample rate for an LX logger) Ensure the channel is 'Enabled' (box ticked) 'Count' and 'Standard' are configured

	Multilo	g LX - v3.30 -	Main Recordi	ng		×
Multilog LX - v3.30 Identity Channel Configuration Main Recording Secondary Recording Secondary Recording Call Times Status	Record Start T Record Start T Record Stop Tr Sample Rate: Enable Sto	ime: 08:1 me: 12:2 00 р С В	5:00 • 1 2:53 • 0 : 01 : 00 ock Memory •	6/08/2013 16/09/2013	▼ ▼ hory	
	Channel 1: Channel 2: Channel 3:	Enabled Enabled Enabled Enabled Enabled	Count Count Count	• • •	Standard Standard Standard	
	Load	Save	Jeoune		Upload	Cancel



Go to the Data Display configuration Tab and for Channel 1 enter a 'litres per pulse value' of 1.000 and a 'Meter Reading' of 0.001

The pulse value configures the logger to record a value of 1 when in overflow situation -

	Multilog LX - v3.50	- Data Displa	y Configuration	×
Multilog LX - v3.50 I Identity Cogging Channel Configuration Main Recording Pseudo Recording Secondary Recording Data Display Configurat Status Comms Call Times	Load	Channel 01 Digital (Flow) 1.000 0.0010	Offset: Cubic Metres	0.0

Go to the 'Call Times' tab to configure the logger call in times as required for the logger to send its data into Radwin.

	Mu	ltilog LX - v3.30 - Call T	imes	×
Multilog LX - v3.30 Identity Channel Configuration Main Recording Pseudo Recording Secondary Recording Data Display Configurat	Number			
Status			Edit Selected List Item	
	Enable	Time	Number	^
	R 01	00:00:00	[01]	
	€02	00:00:00	[01]	
	Total 100 - 100	00:00:00	[01]	
	7 604	00:00:00	[01]	
	To 05	00:00:00	[01]	
	Fig. 06	00:00:00	[01]	*
			Edit Selected List Item	
	Load	Save	Upload	Cancel

Double click on the 01 call in time -

Enter the call time required and the call in number in international format (the number of the SMS modem attached to the Radwin PC)

Cont	figure Call Time 01
Call Time	
🔽 Enable Call	
Call Time:	00 🔻 : 00 💌 :00
Call Number:	[01]
	UK Cancel



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Click the 'Upload' button to upload the parameters to the logger.

	Mul	tilog LX - v3.21 - Call Tir	mes	×
Multilog LX - v3.21 Identity Channel Configuration Main Recording Pseudo Recording Secondary Recording Data Display Configurat	Number	2504966		
Status			Edit Selected List Item	
	Enable	Time	Number	^
	a 01	07:00:00	[01] +447702504966	
	R 02	08:00:00	[01] +447702504966	
	X 03	00:00:00	[01] +447702504966	
	X 04	00:00:00	[01] +447702504966	
	805	00:00:00	[01] +447702504966	
	1 06	00:00:00	[01] +447702504966	×
			Edit Selected List Item	
	Load	Save	Upload	Cancel

The Upload Parameters page will display.

	Upload Parameters	×
Logger00 Location,0F		
Type:	Multilog LX Baud:	<i>ब्र</i> ें 9600 💌
Connection:	Direct (Cable) Port:	💭 COM3: AT 💌
GSM Data Number:		
SIM Voice Number:	+447500087128	
Main Recording and Re Update Logger Time Stop Main Recording	start	
J Update Logger Time as:	PC Time	Advanced
		OK Cancel

Click the 'Advanced' button.



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Tick the following checkboxes:

• Main Recording Params and Restart

• General Parameters

• Update Logger Time (this will enable the 'Update Logger Time as' drop down menu, where you can choose to set the logger time as the same time as your PC, or +/- up to 24 hours as required).

• SMS Parameters (or GPRS parameters)

• SIM Card Voice Number (this will enable the 'SIM Card Voice Number ('+' format)' text box where you must enter the phone number of the logger.

	Uploa	ad Paramete	rs	×
Logger00 Location0F Type: Connection: GSM Data Number: SIM Voice Number:	Multilog LX Direct (Cable)	8	Baud:	র্ট 9600 ▼ র্টি COM3: AT ▼
Options Channel Configuration Update Logger Time SMS Parameters SIM Card Voice Number Stop Main Recording Stop Secondary Record	And Stop Recording			~
Update Logger Time as: SIM Card Voice Number ('-	-' format):	PC Time		Basic X Cancel

Click the 'OK' button to upload the parameters to the logger, and the Uploading box will appear. When this is complete the parameters have been uploaded to the logger.



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To set up alarms for the 'Tank full' situation –



Select Options, Alarm configuration -

Select the correct Logger type, Connection by Direct (cable) and 'Enter New Alarm Configuration'. Then 'OK'

	Download Co	onfiguration			×
Logger Zone Location					
Туре:	👑 Multilog LX	•	Baud:	a 9600	-
Connection:	Direct (Cable)	•		,	
GSM Data Number:					
SIM Voice Number:					
Options C Enter New or Load S	tored Alarm Configuration				
🗢 Download Alarm Cor	Inguration Iarm Conditions, Levels, Teleol	hone Numbers, Co	mmente		
	larm Profiles	Ione Numbers, co	mments		
Alarm Report	larm Occurences in/Max Data	🗖 Profile	e Exceedar	nces	
			0	ж	Cancel



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You should now see the alarm set up screen -

Ĭ		Alarm Configuratio	n : Levels		- 🗆 🗙
Hultilog LX Levels Profiles Tel Numbers Comments	Channel 1 01 [Invalid Sensor -] 2 [Invalid Sensor -] 3 03 [Invalid Sensor -] 3 04 [Invalid Sensor -]	Upper L 0.000000 0 0.000000 0 0.000000 0 0.000000 0	.ower 0.000000 0.000000 0.000000 0.000000	Minimum Night 0.000000 0.000000 0.000000 0.000000	Rate Of Change 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000
Load Configuration:	Alarm Channel 1 01 01 10 01 01 10 02 01 10 03 01 10 04 01 10 05 01 10 06 01 10 07 01	Type: LUAE - Lower or Upper . LUAE - Lower or Upper .	Telephone 01 - " 01 - " 01 - " 01 - " 01 - " 01 - " 01 - "	Persist 1 Out 1 1 Out	ence Df 1 Occurences Df 1 Occ

For alarm levels on Channel 1 – leave all the values at Zero. The normal 'tank empty' event has a value of Zero and the 'tank full' event has a value of 1 – so an alarm will trigger directly the status moves away from Zero (from 'Empty to Full')

In the Tel Numbers list insert the phone numbers that you want the Alarms to be sent to. Double click on each to insert the numbers.

		Ala	rm Configuration : Te	Numbers		x
Multilog LX Levels Profiles Tel Numbers Comments	Position 201 202 203 203 204 204 205 206 207 206 207 208 209 201 201 201 201 201 201 201 202 203 203 204 205 204 205 206 207 208 207 208 207 208 207 208 208 209 207 208 208 209 207 208 208 208 208 208 208 208 208	Num +44	nber 163362780			*
Load Configuration:	Alarm 1 01 1 02 1 0 1 02 1 0 1 02 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	Channel 01 01 01 01 01 01 01 01 01	Type: LUAE - Lower or Upper LUAE - Lower or Upper	Telephone 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780' 01 - '+44163362780'	Persistence 1 Out Of 1 Occurences 1 Out Of 1	el

Then select 'Upload' to load the alarm configuration to the logger.



	Upload Options	×
Logger Zone Location		
	🎽 Multilog LX 💽 🖌 Baud: 🧔 9600	•
Connection:	Direct (Cable)	
GSM Data Number:		
SIM Voice Number:		
- Options		
Alarm Conditions, Le	evels, Telephone Numbers, Comments	
	ОК Са	ancel

And select 'OK' to complete



Configuration of Radwin View for float switch status graphs

If you are going to use Radwin to view the graphs of the data at any time you will need to create a Special Transducer type in order for the titles on the Graph axis to appear correct.

To do this go to Radwin Set Up > Options > System Configuration > 'Transducers/Sensors/Units' tab -

Configure: Transducers/Sensors/Units - Select the default units for sensor types. Base flow units may be selected to change between Metric and Imperial units. Redwin All Database Sensors/Units Startup Transducers/Sensors/Units Startup Manual Call Database Sensors/Units Startup Sensors/Units Startup Manual Call Edit Base Base Flow Units: Litres Transducers Channel Type: Channel Type: Channel Type: Units: Sensors/Units Sensor Type: Units: Missing Data Replacement Value Pressure Metres Head 43.599998 Flow Litres/Sec Next Data Value		System Configuration : Radwin All
Autocall Configuration Path: C:\Radwin Edit Data Generator Export Base Flow Units: Litres Alarm Programm Alarm Receiver Transducers Transducers Remote Autocall Channel Type: Cigital (Flow) Edit Transducer Types Sensors/Units Sensors/Units: Units: Missing Data Replacement Value Pressure Metres Head 43.599998 Flow Flow Litres/Sec Next Data Value	Configure: Basic Badwin All Manual Call View	Transducers/Sensors/Units - Select the default units for sensor types. Base flow units may be selected to change between Metric and Imperial units.
Sensors/Units Sensor Type: Units: Missing Data Replacement Value Pressure Metres Head 43,599998 Flow Litres/Sec Next Data Value	Autocall Data Generator Export Alarm Programm Alarm Receiver Remote Autocall Content of the second of the se	Configuration Path: C:\Radwin Edit Base Flow Units: Litres Image: Constraint of the second sec
Depth Metres Next Data Value Dissolved 0xygen Base Units Next Data Value Chining Base Units Next Data Value Edit Sensor Types Edit Selected Item		Sensors/Units Sensor Type: Units: Pressure Metres Head 43.599998 Flow Litres/Sec Depth Metres Dissolved Oxygen Base Units Rest Data Value Vext Data Value Edit Sensor Types Edit Selected Item

Select Edit Sensor Types -

Edit Sensor Types	5	×
Allows new Sensor Types to be created, and for both pre-defined and new sensor types.	new Units to be created To create a new Sensor	`
Current Sensor Types		
Select Sensor Type:	Edit Units	
Pressure	Remove	
Leak	^	
U Noise Spread		
Noise Level		
Overflow Duration		-1
- Oser Denned Sensol	✓ Create	
		_
	OK	

From the 'Select Sensor Type' drop down select -User Defined Sensor-



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Create a new Sensor – (Tank) Full = 1 (Tank) Empty = 0 Units

Edit Sensor Types	5	×
Allows new Sensor Types to be created, and for both pre-defined and new sensor types.	new Units to be created To create a new Sensor	¢
Current Sensor Types		-1
Select Sensor Type:	Edit Units	
User Defined Sensor	Remove	
User Defined Sensor		
Sensor Type to Create:		
Empty=0 Full = 1 Units	Create	
	ОК	

Then Select OK to save it (see below)

System Configuration : View - Advanced						
Configure: Advanced Radwin All	Transducers/Sensors/Units - Select the default units for sensor types. Base flow units may be selected to change between Metric and Imperial units.					
	Startup Transducers/Sen: Configuration Path:	sors/Units Statistics Manua C:\Radwin	al Call Graph Options Graph Colours/S	tyles (
Export Alarm Programm Alarm Receiver Remote Autocall	Base Flow Units: Transducers Channel Type:	Litres	Edit Transducer Types			
	Sensors/Units Sensor Type: Leak Noise Spread Noise Level	Units: Yes/No dBuG dBuG	Missing Data Replacement Value Next Data Value Next Data Value Next Data Value	I^		
	Empty= 0 Full =1 Units	pes	Next Data Value Edit Selected Item			
			OK	Cancel		



In the location Database for the float switch logger you will need to select this Sensor type so that it appears on the Y axis of the graph –

Go to the Radwin Data File, find the logger, right click on it and select 'Location Database' and 'Edit location' and select the 'Transducers' tab -

Data File Data Time Period Function Sets Data Time Period	.65.2 - [Graph 1] leip Leip Leip	× - ×
Configure: > Does ⊕ _00: ⊕ _01: ⊕ _05: ⊕ _06: ⊕ _08: ⊕ _09: ⊕ _01: ⊕ _02: ⊕ _03: ⊕ _03: ⊕ _04: ⊕ _03: ⊕ _04: ⊕ _03: ⊕ _04: ⊕ _03: ⊕ _04: ⊕ _03: ⊕ _04: ⊕ _04: ⊕ @ 04:	Curson: 10:38:00 1: Location Configuration _12_01 : Radwin All Transducer - Select the transducer type for each channel. Transducers Must be configure or d each recording dhamel in order to calibrate the downloaded data. Select Configure or d Location Logger Statistics Transducer Unit/Levels Meter Autocal Memo Auto Data channel: Channel: Calibration: D.016667 Offset: D.000000 Transducer Name: Units Per Nise: Units Per Nis	1/09/2013 Radcom View ed for orics addict price iting the Database Path iting iting the Database Path iting the Database Path
01	Print Save	Cancel enu - Configuration / Basic Configuration Select the 'System' tab. This will display the database configuration. The default location for this database is in a v Logger Time: 11/09/2013 11:37:19

Then select 'Configure' and from the Transducer type drop down select 'Full = 1 Empty = 0 Units '

Flow Transducer ×					
Select the units Sensor type. This defines the type of units that can be applied to the data. Select a stored transducer from the list, or select user \checkmark					
Sensor Type: Float Switch Full = 1 Empty = e					
Select:					
Enter/Edit Transducer					
Name:					
Units Per Pulse: 1.000000					
Offset: 0.000000					
Data Type: All Data Values					
Add to Select Transducer List Bands					
Export OK Cance	J				



Now when you view the graph the X Axis will show the timescale and the Y axis will show the Tank full and Tank empty events -



The Horizontal portions of the graph at |eve| = 1 are the durations of the overflow events. The angles in the vertical lines of the graph indicate where the event has occurred across one of the 1 minute sample rate boundaries.

Change of Status

By default the logger is factory configured to register a normal situation as = 0 and an abnormal situation as = 1.





If the reverse is required you would need to specify how the logger should be configured at point of order of the logger so it can be manufactured for that condition.

Document History:

Edition	Date of Issue	Modification	Notes
1st	15/05/14	Release	