

# Pocket Field Service Utility Manual

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# 1. Field Service Unit Installation

Tip: If you have purchased your PDA from CASWA, then this step will be complete.

Ensure that your PocketPC is connected to your computer and that the minimum required software versions are installed (see Appendix A: System Requirements).

## 1.1 Procedure for configuring a PDA

### 1.1.1 Installing the Pocket FSU application

The latest PDA Liftlog Pocket FSU software (pda\_setup) can be downloaded from <http://liftlog.com.au/updates.asp>.

You should check this location periodically for updates and information.

Instructions for installing the Pocket FSU application are now found in the document “Installing the FSU Update”.

This document can be downloaded from <http://www.liftlog.com.au/literature.asp>

## 1.1.2 Configuring the PDA

From the start menu, choose settings.



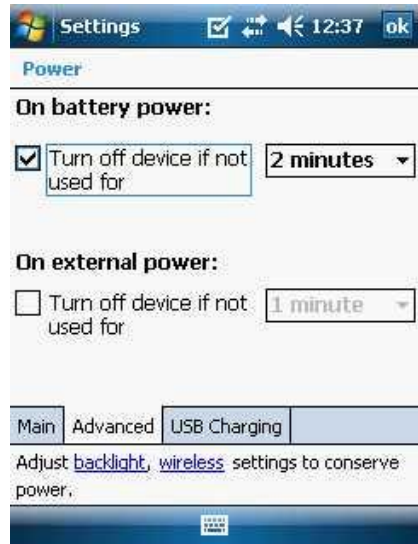
Tap the power icon (scroll down if required).



And tap the advanced tab at the bottom of the screen.

Uncheck “Turn off device if not used for...”

Click OK to close.



## 2. Launching the application

### *Turn on Bluetooth*

Turn on the PDA's Bluetooth by tapping on the Bluetooth icon clicking in the IPQ Wireless bar.

The blue LED will illuminate and the Bluetooth icon will turn green



### *Starting Pocket FSU*

Tap the start icon in the top left corner of the PDA window, and choose PocketFSU.



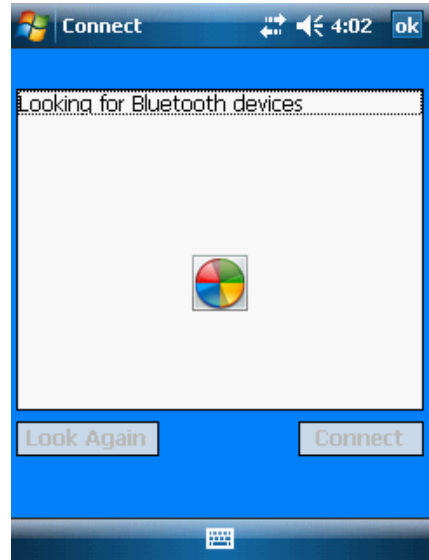
## 2.1 Connecting

The Bluetooth link between PDA and Liftlog logger or AccessPack has a range of approximately 20m, so ensure that you are as close as practical to the Liftlog Log or AccessPack that you want to connect to.

The FSU will scan for Bluetooth enabled devices. This process takes approximately 10 seconds, when complete a list of all loggers (and mobile phones, and laptops, and PDA's) discovered will be displayed. If devices are not found, ensure they are powered up and tap **Look Again** to repeat the search.

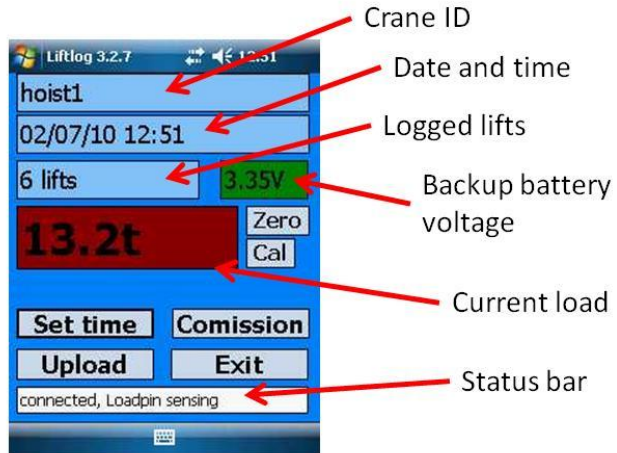
Select the Logger or AccessPack you wish to connect to and tap the **Connect** button.

If the selected device is a Liftlog data logger then proceed to section 3 for an explanation of the Liftlog section of the product. If the device selected is an AccessPack then proceed to section 4 for an explanation of the AccessPack section of the software.



### 3. Configuring a Liftlog Logger

After a brief exchange of security information, the connection will be made and the main screen will appear



#### 3.1 Setting the date and time

Firstly, ensure the PDA is set up with the correct time and date (if the PDA battery has run flat, the date and time will be incorrect). To set the device

time, tap the **Set time** button. The Liftlog time is now set to be the same as the PDA

## 3.2 Calibrating the Liftlog Logger

With the crane load display reading 0.00t click on the **Zero** button

Within a few seconds the display will change to 0.0t

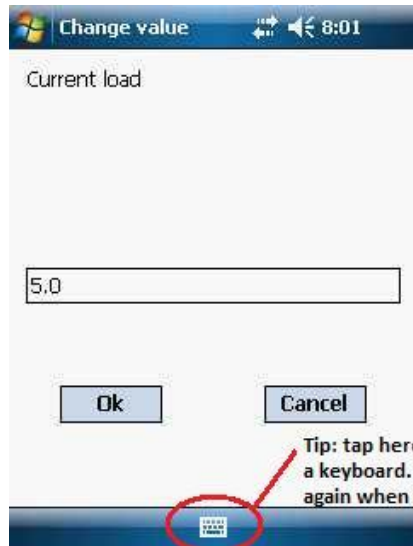


Lift a load (minimum 80% of rated capacity) and click the button.



Enter the mass shown on the load display when prompted

Nb, if the fault output of the logger is used as an overload, you may need to go to the commission screen and set a large overload limit (eg 3000) to allow the load to be lifted. See section 3.3 for details



Tip: tap here to pop up a keyboard. Tap here again when you're done

Tap the **Ok** button and the main screen will now display the load on the hook.

NB: An overload is shown as the maximum load has not yet been set.



### 3.3 Commissioning

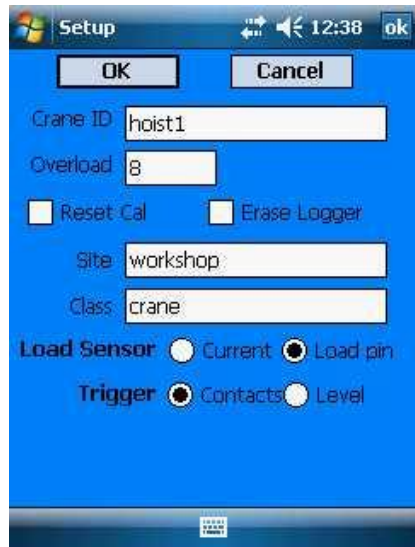
To set the crane ID, erase the device or set the overload limit, Click on the button.

#### Commission

The Crane ID must be 18 characters or less.

The overload can be in 0.1t increments. (E.g. 9.4)

Setting the crane ID and overloads should be the last steps in configuring the device. Whilst the craneID is “unconfigured” and the overload is not set, the device will display lifts but not log them. This prevents data from lifts prior to calibration affecting later analysis.



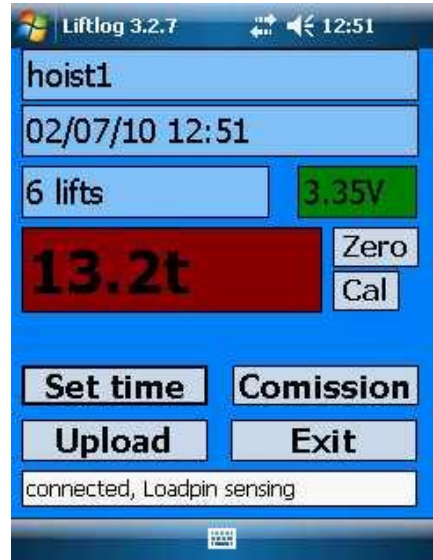
If the logger will be used with the Liftlog AccessPack system, set the crane ID, site and class as directed by your AccessPack vendor or administrator of the AccessPack manager software at your location.

Tip: Whilst you can set the Crane ID to anything you want, setting it to cranes serial number or other external marking will help you distinguish it from other logger equipped cranes. If you also include the crane classification such as C4M5 in the ID then the analysis software will use this in its calculations.



### 3.4 Uploading Data

Clicking the **Upload** button brings up a dialog asking where to save the data.



Enter the required file name (usually the crane name or serial number). Make sure the Location entry is set to "Storage card" and tap **Save**

Progress is indicated on the main screen. Time to download depends on the number of lifts and can be up 20 minutes.



## 4. Configuring an AccessPack

### 4.1 General Tab

The first tab allows you to configure:

- The name of the equipment
- The location (site) of the equipment
- The class of the equipment

Editing any of these fields will activate the <set> button. Tap <set> to save the changes.

NB: If this AccessPack is bound to a logger, DO NOT change these fields here. Instead, change them on the logger.

#### Bind to a Logger

To bind AccessPack to a logger, first check that the logger is connected, powered up and configured (commissioned). If the logger was not powered up when the FSU application was started, cancel out of this screen and exit the FSU. Power up the logger and tap **Look Again**.

To begin the binding tap on **Bind to a Logger**. Select the logger to bind too and tap **OK**.



A dialogue box will pop up to explain that the AccessPack will restart and the FSU will close. The PDA will go back to the Connect screen. If required you can connect to either the Liftlog or AccessPack for further settings adjustments.



NB: If the AccessPack is in Door Mode, you will not be able to bind the AccessPack to a logger as the <Bind to a Logger> button will be disabled. To check whether the AccessPack is in Door Mode, click on the <Signals> tab (see Section 4.5).

## 4.2 Usage Tab

This tab shows the list of users who have recently activated the AccessPack. Depending on the model of AccessPack, it may also show the date and time of each access and whether the user's card was accepted or rejected.

The **refresh** button updates the logon list in the event that another operator has logged on while connected to the AccessPack.

The **save** button commences a dialogue to save the list to a text file on the PDA.

When the list is long, only first 10 entries are shown and the load all button is activated. Tap <load all> to load the remaining entries.



## 4.3 Motion Tab

This tab displays sliders that adjust parameters relating to the AccessPack's motion detection hardware. Simply touch the slider to change the value. A text box at the bottom of the page contains an explanation of each parameter and its current value.

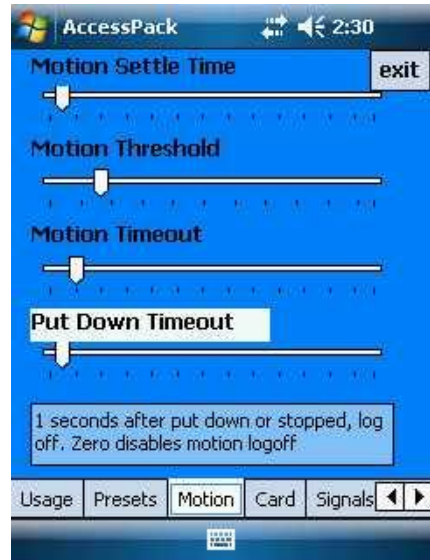
### Motion Parameters

**Motion Settle Time** is the amount of time the AccessPack will wait after logging on or off before beginning to look for motion. It is typically set to a low value.

**Motion Threshold** is the basic sensitivity of the motion system. Smaller numbers are more sensitive; 10-20 are typical values. In use, the AccessPack also dynamically adjusts the basic motion sensitivity to eliminate the chance of inadvertent logouts.

**Motion Timeout** sets the time between the AccessPack motion system detecting stillness and the beginning of the Put Down timeout. Set this to a larger value if the unit will be periodically put down for a few seconds.


**Put Down Timeout** sets the time the red LED will flash (after the motion timeout has expired) before the AccessPack will log the user out. In Door Mode this parameter sets how long the door is held unlocked after an authorised card swipe.



## Setting up motion detection

To manually tune motion detection, first set the Motion Timeout to 1 or 2 and the Put Down Timeout to about 200. Then swipe a valid card to activate the AccessPack.

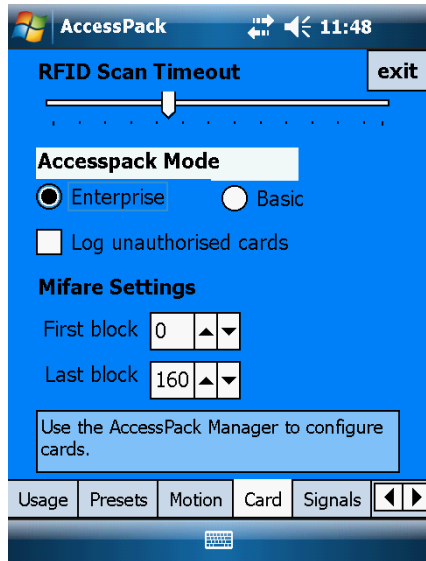
This will cause the AccessPack to flash the red LED whenever it thinks it is motionless.

In addition to the red LED being off, the motion icon  will appear at the bottom of the screen when AccessPack senses motion.

You can now adjust the Motion Threshold (ie the sensitivity of the system) to a level appropriate for the installation. When you are happy with the sensitivity. Adjust the Motion Timeout and Put Down Timeout as required.

## 4.4 Card Tab

This tab displays sliders that that adjust parameters relating to the AccessPack's card reader. Simply touch the slider to change the value. A text box at the bottom of the page contains an explanation of each parameter and its current value.



### Card Parameters

**RFID Scan Timeout** sets the length of time the AccessPack will look for a valid card before returning to an idle state. Setting this value to zero will disable the return to idle and the AccessPack will scan continuously for a card

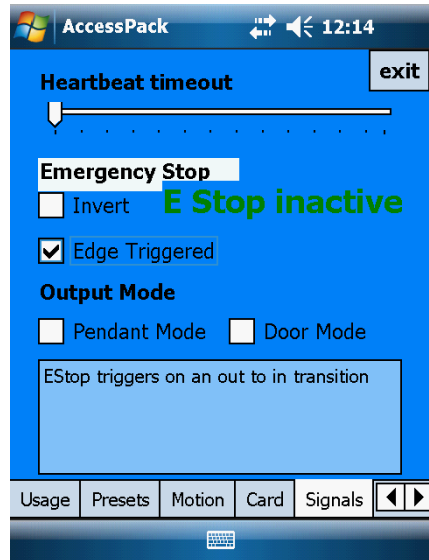
**AccessPack Mode:** Select Basic mode to enable any RFID card to grant access to the controlled device. In this mode only the card serial number is recorded. Select Enterprise mode to enable the use of the AccessPack Manager to configure permissions to individual devices.

**Log Unauthorised Cards:** Checking this box will cause the AccessPack to record the names or serial numbers for both accepted and rejected card swipes.

**Mifare Settings:** These settings configure the AccessPack to use only part of the space on the swipe card. This is usually done to allow a customers existing access card to be used with the AccessPack system. They should be set to 0 and 160 (as shown) unless directed by the AccessPack Support desk.

## 4.5 Signals Tab

This tab displays sliders that adjust parameters relating to the AccessPack's inputs and outputs. Simply touch the slider to change the value. A text box at the bottom of the page contains an explanation of each parameter and its current value.



### Signals Parameters

**Heartbeat Timeout** sets the time after a heartbeat signal (a flashing LED, a closed set of contacts etc) stops that the AccessPack will consider the equipment to have stopped or timed out. After the Heartbeat Timeout has expired, the user is logged out.

**Emergency Stop Invert** sets the polarity (active high, or active low) of the emergency stop input that will cause the current user to be logged out.

**Edge Triggered** Configures the AccessPack to log out the user only when the E Stop signal transitions from not stopped to stopped. After logging out and disabling the equipment, the AccessPack will immediately start looking for a card. Check this box when the equipment is stationary and has a separate start/stop circuit which will be activated after the user has swiped their card (eg fixed equipment with the AccessPack mounted on the wall). It is recommended that the RFID scan timeout slider be set to 0 (ie scan indefinitely) and motion sensing disabled when this checkbox is set.

**Pendant Mode:** When unchecked output 1 will toggle high or low to indicate the current locked/unlocked status of the AccessPack. When checked output 1 will pulse high for one second when a user logs on. This output is used to push a start button.

**Door Mode:** When Door Mode is checked, the Estop output (output 1) will pulse for the duration set by “Put Down Time Out” (see Motion Tab). It will also not be possible to bind an AccessPack to a logger (see General Tab).

**Two Push Start:** When checked and a valid card is swiped, the AccessPack will:

- Close the start contacts for 600mS
- Open them for 500mS
- Close them for 2500mS

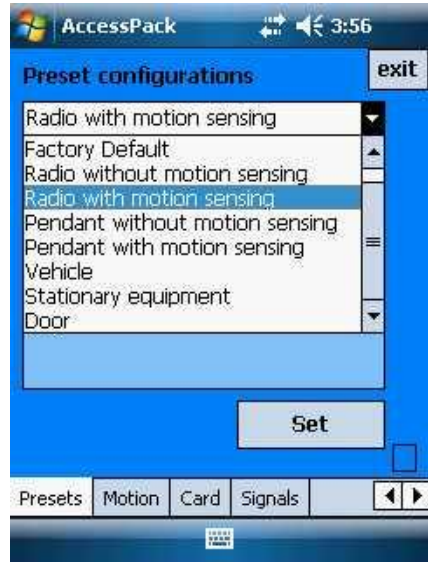
Otherwise the AccessPack will close the start contacts for 1000mS

## 4.6 Presets Tab

The presets tab provides an easy way to set all the configuration values of the AccessPack based on the type of equipment being commissioned. After applying a preset configuration, it is still possible to go back and tune individual settings.

To set a preset configuration, select the equipment type from the dropdown list and tap the <Set> button.

NB: If an AccessPack was bound to a logger, selecting a preset will remove this binding.



## 4.7 Run Hours tab

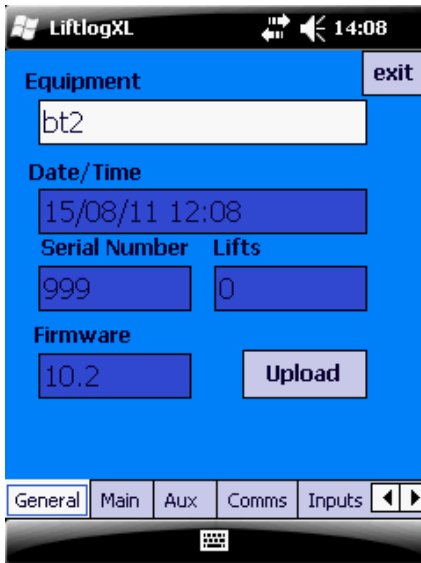
The Run Hours tab allows you to view the total operating hours of the equipment. Nb run hours are only available on later model AccessPacks. A reading of N/A indicates that this model AccessPack does not support tracking of run hours.

### Run Hours Parameters

**Add to Bluetooth Name** causes the total operating hours to be appended to the Bluetooth name of the device. This allows the run hours to be read with any mobile phone or laptop. Under normal conditions, the run hours will be updated twice a day.

## 5 Configuring a Liftlog XL

### 5.1 General tab



The screenshot shows the 'LiftlogXL' application interface. At the top, there is a status bar with a signal strength indicator, a speaker icon, and the time '14:08'. Below this is a blue header area with the title 'Equipment' and an 'exit' button. The main content area is divided into several sections: 'Equipment' with a text input field containing 'bt2'; 'Date/Time' with a date and time input field showing '15/08/11 12:08'; 'Serial Number' with a numeric input field showing '999'; 'Lifts' with a numeric input field showing '0'; and 'Firmware' with a numeric input field showing '10.2' and an 'Upload' button. At the bottom, there is a navigation bar with tabs for 'General', 'Main', 'Aux', 'Comms', and 'Inputs', with 'General' being the active tab. A keyboard icon is visible at the very bottom.

The only configurable item on the general page is the Equipment ID. This text can be up to 18 characters long and it is used to identify the crane in the reporting system. Whilst any name may be used, it is highly recommended that the XL be named according to the registration details provided at the time of purchase.

Clicking the **Upload** button brings up a dialog asking where to save the data.

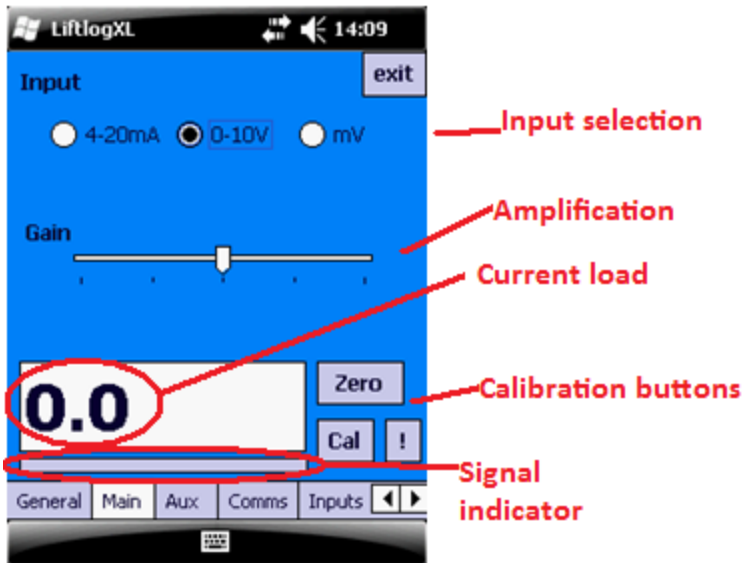
Enter the required file name (usually the crane name or serial number).

Make sure the Location entry is set to "Storage card" and tap

**Save**

Progress is indicated on the main screen. Time to download depends on the number of lifts and can be up 20 minutes.

## 5.2 Main and Aux Hoist configuration



### 5.2.1 Input selection

Select the button that corresponds to the input you have connected to the Liftlog XL. For connection details see the “Liftlog XL Hardware Guide”.

If the Auxiliary input is not used, it is recommended that its input selection be set to 4-20mA as this input is relatively insensitive to electrical noise.

### 5.2.2 Amplification and the Signal indicator

Irrespective of the indicated load (which is determined from the calibration), the signal indicator shows the absolute magnitude of the input signal.

Before undertaking a calibration, check the magnitude of the signal at near full load. It should be approximately 70-80% of the full scale reading.

If the signal is too large, the signal indicator will turn red and you should reduce the amplification applied to the signal by moving the gain slider to the left.

If the signal is less than half of full scale, then increase the amplification by moving the gain slider to the right.

### 5.2.3 Calibration

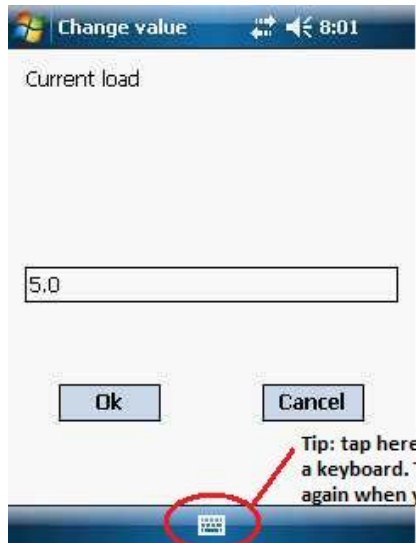
With no load on the hook, press the **Zero** button.

After a brief pause the indicated load will show zero. Don't be concerned if the indicated load changes or is slightly higher than zero, in this state the indicated load is very sensitive to electrical noise and very small changes in applied load.

Next, lift a known load with the crane. Ideally this load should be >80% of the cranes lifting capacity. In practice, it is often not possible to arrange test weights for every install. Provided the input amplification has been set correctly (5.2.2) then an acceptable calibration may be performed with 30-50% of the cranes capacity. The Liftlog XL should then be recalibrated when the crane is next subject to a full load test. With this known load lifted, press


the **Cal** button. The Pocket FSU application will prompt you to enter the load. Do so and tap **Ok**

After a brief pause the indicated load will match the load on the hook.



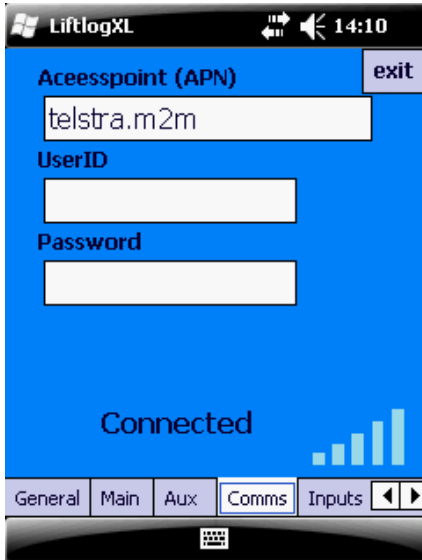
### 5.2.3.1 Resetting the calibration.

Under some circumstances, it may be necessary to erase the calibration of a hoist. BE CAREFUL, IF YOU ERASE THE CALIBRATION THEN YOU WILL NEED A TEST WEIGHT TO SET IT AGAIN!

To reset the calibration for a hoist, tap the  button.

Nb, resetting the calibration of one hoist (main or aux) does not affect the calibration of the other.

## 5.3 Comms tab



### 5.3.1 3G configuration

This tab allows the configuration of the 3G connection used to send data. The values for APN UserID and Password are usually provided by the company supplying the SIM card used. If the SIM card is provided by CASWA, then the settings are:

APN: telstra.m2m

UserID: <blank>

Password: <blank>

### 5.3.2 Link status

The text at the bottom of the tab will read either “Connecting”, “Connected”, or “Online” depending on the state of the 3G connection. After power on, the Liftlog XL will take up to two minutes to establish a connection to the 3G network. Once connected, any motion of the crane will cause the status to change to “Online” to the right of the link status is a signal strength meter. Nb, this meter is only updated when the Liftlog XL status is “Connected”

## 5.4 Inputs and Limits



These two tabs show the status of each of the LiftlogXL's input signals. They are intended to be used to confirm the correct wiring of the unit.

## 5.5 Overloads

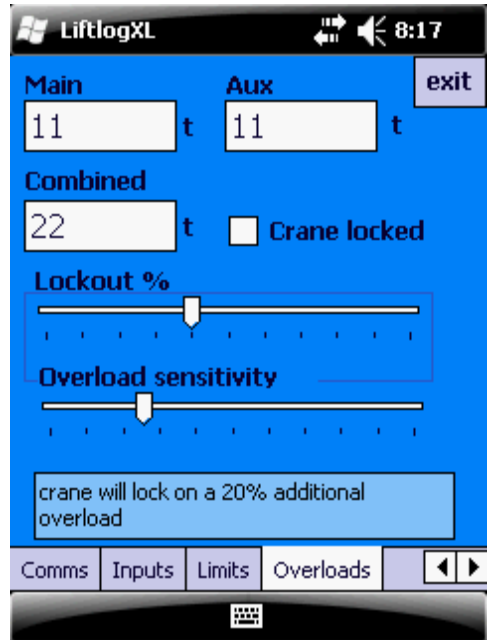
### 5.5.1 Main, Aux and Combined

In each of these boxes, enter the required overload in tons.

If only one load input is connected, it is recommended that the Aux and Combined overload be left at their default values.

### 5.5.2 Overload Sensitivity.

Moving this slider changes the period of time that the hoist must be in an overload state before an overload event is triggered. It should always be set as far to the left as practical. Where electrical noise (K1 contactor closures are important to test) a rough runway or high vibrations are triggering false overload events, move the slider to the right to decrease the sensitivity.



### 5.5.3 Lockout.

When an overload occurs, the fault output of the Liftlog XL opens.

When the load is reduced to a safe level, there is a delay of 3 seconds after which the fault output closes and allows lifting to continue.

If the Lockout control is set to a non zero value, then, should the indicated load exceed  $\langle \text{Overload} \rangle + \text{Lockout}\%$  then a special alert will be sent and the fault output will not close. This effectively disables the crane until it can be inspected and put back into service. Nb, The locked state can only be cleared by unchecking the “Locked” checkbox.

#### **An Example.**

Crane capacity: 10t

Overload set to: 11t

Lockout set to: 20%

Indicated load	Liftlog XL behaviour
>=11t and < 13.3t	An overload alert is sent, and lifting is disabled until the indicated load drops below 11t
>=13.3t	An additional locked out alert is sent and lifting is disabled until a technician re-enables it by clearing the “Locked” checkbox.

## Appendix A: System Requirements

- HP IPAQ 112 Pocket PC or better running Windows Mobile 6 or later
- 1GB SD Memory card.
- Desktop or laptop running Windows XP SP1 or later.
- Activesync 4.5 (comes with PDA)

## 5. Appendix B: Troubleshooting

Fault	Cause	Fix
Cannot connect to AccessPack	PDA or AccessPack in confused state	<ol style="list-style-type: none"> <li>1. Use stylus to press reset button on right hand side of PDA</li> <li>2. Power cycle AccessPack.</li> </ol>
Cannot connect to Liftlog logger	PDA or Logger in confused state	<ol style="list-style-type: none"> <li>1. Use stylus to press reset button on right hand side of PDA</li> <li>2. Power cycle hoist</li> </ol>
PDA reports logger error	Logger in confused state	Power cycle hoist
No lights on AccessPack	No Power EStop inverted	<p>Check for 5V between the red and black wire on the AccessPack connector.</p> <p>Check the EStop connection and try the EStop button in both positions. Invert the EStop Signal if required</p>
Swiping card fails (RED Light)	Mis spelt ID, Site or Class name	Check the spelling and case of all three fields
Any card will activate the AccessPack	AccessPack is in Basic mode	Set Enterprise mode on the card tab of the Pocket FSU Application.

<p>Green LED flashes for 20 seconds periodically</p>	<p>AccessPack is bound to a Liftlog and is unable to connect to it</p>	<p>Check that the Liftlog is in range and powered up.</p> <p>Connect to the AccessPack and reconfigure</p> <p>If all else fails, swipe the “Factory Defaults” card to reset the AccessPack configuration.</p>
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## 6. Appendix C: FSU AccesPack Application Presets

Parameter	Factory Default	Radio without motion sensing	Radio with motion sensing	Pendant without motion sensing	Pendant with motion sensing	Vehicle	Stationary equipment	Door
Motion Timeout	20	20	20	20	20	20	20	0
Motion Threshold	10	0	10	0	10	0	10	0
Put Down Timeout	10	0	10	0	100	0	10	40
Motion Settle Time	10	10	10	10	10	10	10	10
RFID Scan Timeout	60	250	60	250	60	60	60	0
Button Timeout	40	40	40	0	0	0	40	0
Estop Invert	0	0	0	1	1	1	1	1
Pendant Mode	0	0	0	1	1	0	0	0
Door Mode	0	0	0	0	0	0	0	1
Log Unauthorised Swipes	0	0	0	0	0	0	0	0
Edge Triggered EStop	No	No	No	No	No	No	Yes	No
Mifare Start/End block	Reset to 0/160	No change	No change	No change	No change	No change	No change	No change

