

Mass-Link App Manual Rev 0.2



The Mass-Link product produced by Concept Measurement Inc. transmits measured weight (in lbs or kg) via Bluetooth to the Mass-Link app on an operator’s phone or tablet.

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Android Minimum Requirements and Installation

Minimum Requirements:

Operating System: Android 6 (Marshmallow)


Install Space: 46 MB

Permissions: Location*

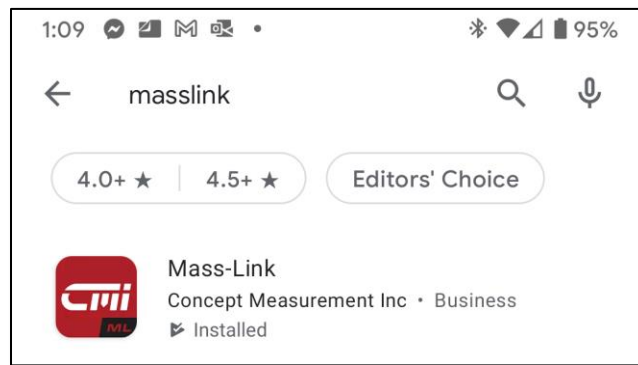
Hardware: Bluetooth

*This permission is to allow the program to access the Bluetooth chip within the phone. Android bundles the Bluetooth permission into the Location group. At no time does the App record or transmit your location.

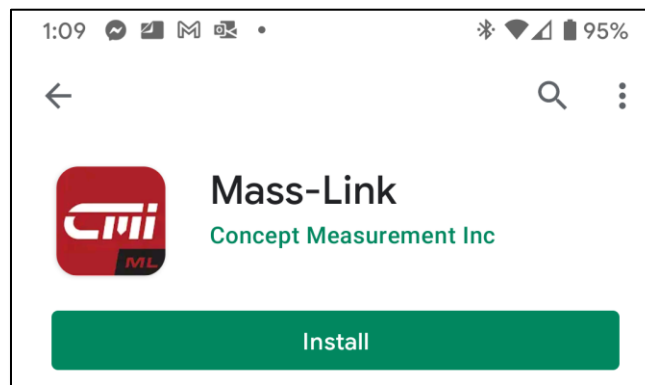
Install from the Android App Store

From within your phone open the Play Store  from your apps screen.

Search for the word “masslink” in the Play Store and you will see an icon like the one below.



Click on the “Mass-Link by Concept Measurement Inc” icon and you will be taken to the following screen.



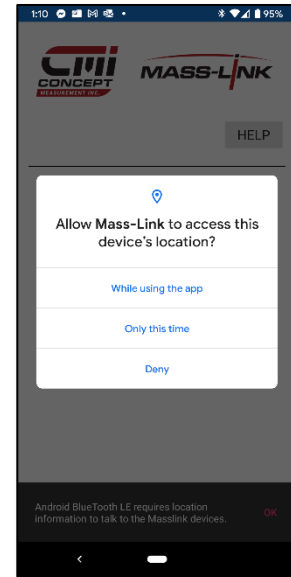
Click the Install button, and the Mass-Link App will be installed on to your phone or tablet.

When the app first opens, it will ask you to grant it permission to use the Bluetooth chip in your phone or tablet (see screen to right). Because of the way Bluetooth Beacons work – this technology could in theory be used to identify your location (e.g. If you know where the Mass-Link device is, then you know that a user in range is in the vicinity of the device). Therefore the Android permission screen raises this message. Rest assured, the Mass-Link app never records or transmits your location.

Click on “While using the app” which will allow the Mass-Link software to use the Bluetooth chip to listen to the Mass-Link devices.

If you click “Only this time” the app will work properly, however you will be presented with this screen each time you start the app.

If you Deny this permission, then the app will not be able to communicate with the Mass-Link devices and will not work.



iPhone and iPad Minimum Requirements and Installation

Minimum Requirements:

Operating System: iOS 10

Install Space: 56 MB

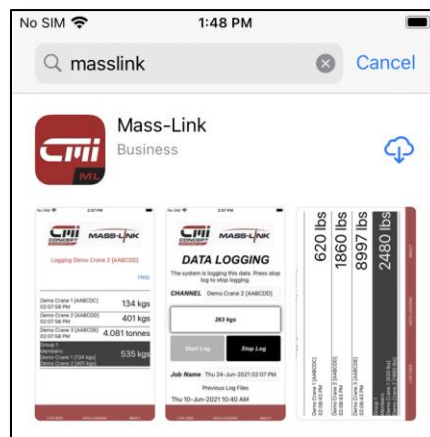
Permissions: Bluetooth

Hardware: Bluetooth

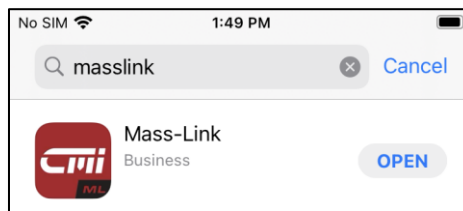
Install from the Apple App Store

From within your phone open the App Store  from your apps screen.

Search for the word “masslink” in the App Store and you will see an icon like the one below.



Click on the blue cloud at the right-hand side to download and install the app.

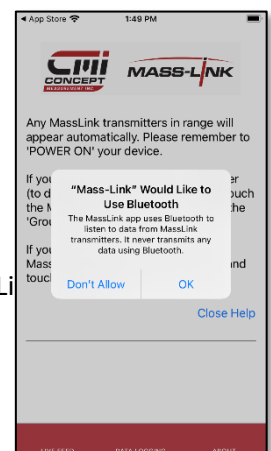


When it has finished installing, click on the “OPEN” button to start the app.

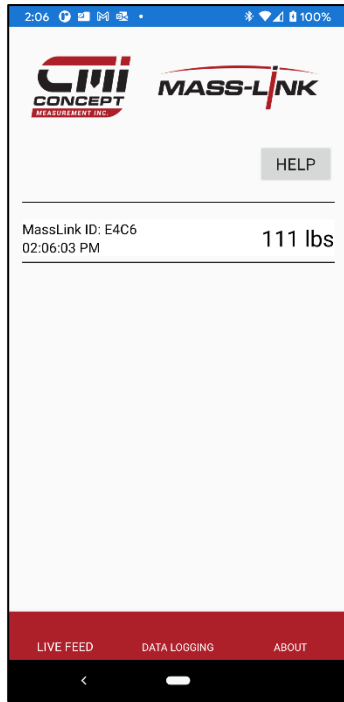
When the app first opens, it will ask you to grant it permission to use the Bluetooth chip in your phone or tablet (see screen to right).

Click on “OK” which will allow the Mass-Link software to use the Bluetooth chip to listen to the Mass-Link devices.

If you click “Don’t Allow”, then the app will not be able to communicate with the Mass-Link devices and will not work.



Connecting to Mass-Link Devices



Mass-Link devices broadcast their values every few seconds. The app listens for these broadcasts and will automatically display any Mass-Links within range.

On the screenshot to the left we can see that this unit has picked up MassLink E4C6.

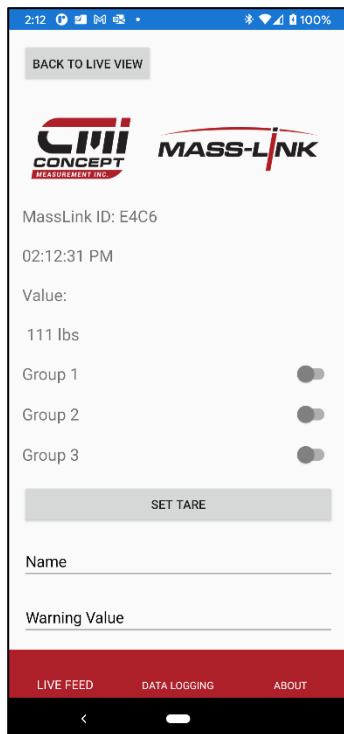
If no Mass-Link data is detected after a few seconds, make sure that the Mass-Links are powered on, and that Bluetooth has been enabled on the phone or tablet. If there still isn't any data, try restarting the app.

Navigation through the app is made by clicking on the three tabs at the bottom of the screen.

By default, the app starts on the "LIVE FEED" tab that displays the current live values of any Mass-Links within range.

If you tap on the line displaying the Mass-Link data, you will be taken to the detail screen for that device.

Mass-Link Detail Screen



The Mass-Link detail screen displays information which is specific to that Mass-Link device.

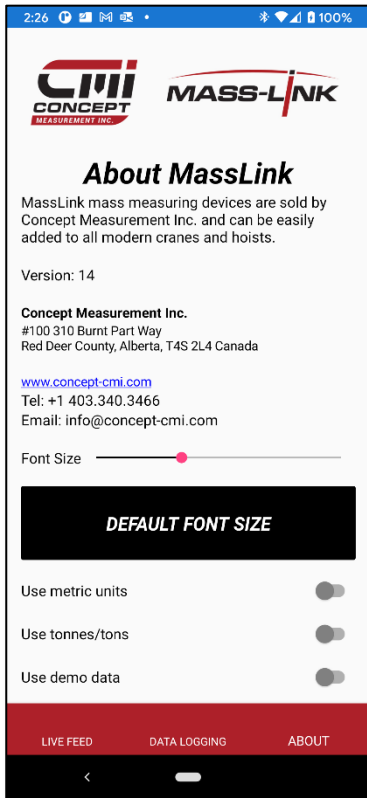
First off you probably want to assign a more meaningful name to the device. Click on the "Name" line at the bottom of the screen (you may have to scroll to bring it in to view) and type in a descriptive name.

While you are here you may also want to enter a warning value. If the Mass-Link exceeds this value, the display will highlight this Mass-Link in red.

Note: You have the option of changing the units of measurement in the About screen (kg/lbs). This warning value uses the selected units of measurement and does not convert if you switch between units. So, if you enter 10000 in as a warning value when the system is set to lbs, and then change the system to kg, the warning value will now be 10000 kg.

You can return to the Live View by clicking the button at the top of the screen.

About Screen



Click on the “About” tab at the bottom of the screen. This will display the About screen (you may need to scroll to see all of it).

Because the Mass-Link app can be used on a variety of different size phones and tablets, sometimes the size of the text may be too small or too large.

The “Font Size” slider gives you the option to drag the text size larger or smaller to suit your screen. Clicking the “DEFAULT FONT SIZE” button will return the font to its normal size. These changes will be remembered when you close the app down.

At the bottom of this screen there are three options that you can turn off or on.

Use Metric Units toggles the system units between lbs and kg.

Use tonnes/tons, if enabled, converts large weights to tons once they exceed 2,000 lbs for tons or 1,000 kg for tonnes.

The final option, use demo data, allows the user to play around with the features of the app, without actually having any Mass-Link devices present.

Click “Use demo data” and then click on “Live Feed” and you will see that three new Mass-Link devices have been added to your feed. These can be used to experiment with the various options.

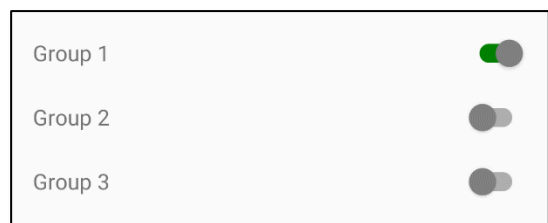
To remove the demo data from your feed, return to the About screen and turn off “Use demo data”.

Creating Groups

The Mass-Link app supports up to three groups, each of which can contain any number of Mass-Link devices. For example, if you were using two cranes to joint lift a component, then you might want to add them together as group 1. From the Live Feed screen, simply click on each Mass-Link device that you want in the group and when the detail screen for that device appears, select which groups you wish it to be a member of.

When you return to the Live View display you will now see the summed value of those cranes.

To remove the group from the display – simply deselect the individual group members from their detail’s screens.



Demo Crane 1 [AABDCD] 02:42:25 PM	793 lbs
Demo Crane 2 [AABCD] 02:42:25 PM	2379 lbs
Demo Crane 3 [AABCDE] 02:42:25 PM	8997 lbs
Group 1 Members: Demo Crane 1 [793 lbs] Demo Crane 2 [2379 lbs]	3172 lbs

Setting Tare

Often you might want to remove the weight of the lifting tackle or container from the weight being measured. We use the Tare function for this. From the Live Feed screen click on the Mass-Link that you wish to set and on the details screen, you will see there is a “SET TARE” button. Click this to subtract the currently measured weight from the displayed value.

Once pressed, the wording on the button will change to “RELEASE TARE”. Click this to release the Tare and read the raw value from the Mass-Link again.

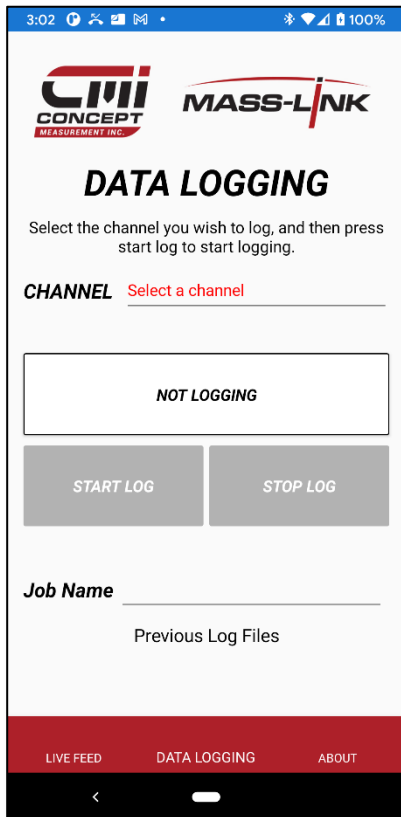
Devices that have a Tare applied will have a [T] marked next to their value. In the image to the right, Crane 2 has a Tare of 33 lbs.

Demo Crane 1 [AABCD]C] 02:57:59 PM	606 lbs
Demo Crane 2 [AABCDD] TARE: 33 lbs	1785 lbs [T]
Demo Crane 3 [AABCDE] 02:57:59 PM	4.499 tons

Tare can also be applied to a group using the same method. From the Live Feed screen, clicking on the group will lead you to the Group Details screen. From here the “SET TARE” and “RELEASE TARE” buttons operate on the total group value.

Note: The Tare does not affect the warning level. If you have a warning level of 10,000 lbs, and a Tare set at 2,000 lbs, the warning will trigger when the displayed weight exceeds 8,000 lbs.

Data Logging



Clicking on the “Data Logging” tab at the bottom of the screen will bring you to this screen. This allows you to log any Mass-Link device to an Excel compatible text file and then send that file to an email address.

First, click on “Select a channel” to select which Mass-Link you want to log.

When you wish to start recording data for that device, click “START LOG”. When you are finished click “STOP LOG”.

The Job Name will be auto populated with the current date and time, but this can be set to a more meaningful name before you start logging.

You can start and stop as many times as you want to append to a log file. If you want to start a new log file, simply clear (or type in a new) Job Name and a new log file will be started.

Once you have finished logging, the file will be saved to the phone/tablet and the filename added to the list of previous log files at the bottom of the screen.

Managing log files

The log files are listed at the bottom of the Data Logging page. Clicking on any of these brings up the option to “EMAIL LOG” or “DELETE LOG”.

Depending on your phone and operating system version you will be presented with a number of options when you click “EMAIL LOG”, allowing you to send the file as an e-mail or share on OneDrive or whatever other sharing programs you have installed.

The resulting e-mail has a comma delimited Excel compatible file attached. This data records both lbs and kg along with a timestamp. See below.

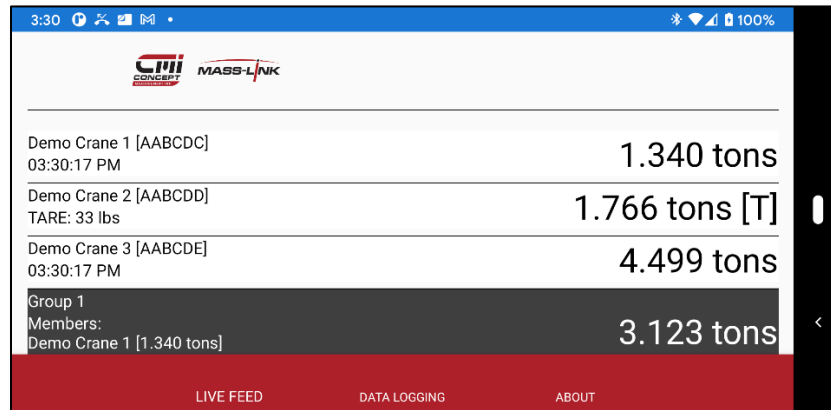
	A	B	C	D
1	Time [Mon 05-Jul]	lbs	kg	
2	15:09:53	3560	1615	
3	15:09:55	4520	2050	
4	15:10:05	2800	1270	
5	15:10:07	1880	853	
6	15:10:09	920	417	
7	15:11:16	2040	925	
8	15:11:18	920	417	
9	15:11:20	160	73	
10				
11				

Clicking on “DELETE LOG” will permanently delete the file from your device.

Further Questions

Does it work in landscape mode?

Yes. If you have auto rotate enabled on your phone or tablet, the system will happily re-size to a landscape display.



Can I use more than one phone/tablet at a time?

Yes. The Mass-Link devices broadcast their values out on Bluetooth. This method means that phones do not have to create a traditional Bluetooth one-to-one connection with the devices in order to read their values. So, you can have multiple phones all listening to the same Mass-Link device(s).

If I make changes to Tare, Warning Values or Names are these replicated to all users?

No. This is a deliberate design choice. The potential for sabotage or an accident is too great if anybody could change your settings. Any changes you have made on your device stay fixed.

Do I need to do anything to connect to a Mass-Link?

No. Simply being within range of Mass-Link (that is powered up) will make it appear on your screen.

I can't see my Mass-Link.

Make sure that it hasn't scrolled off the top of the screen. The phone Live-Feed has scrolling enabled to accommodate situations with lots of Mass-Link devices. This does mean that you can scroll the page upwards and push some devices temporarily off the screen.

Restarting the App or Phone/Tablet may help to resolve any issues.

Ensure that the Mass-Link is turned on and that it has good batteries in it.

I have an old Mass-Link on my screen.

Because Mass-Links can operate on small mobile cranes as well, you may want to remove a device which has left your vicinity. Such devices will be highlighted in grey. When you click on the Live Feed to pull up their details screen, you will notice there is an additional button now at the top of the screen marked "REMOVE". Clicking this button will remove that Mass-Link from the Live Feed.

How far away can I operate my Mass-Link/Phone?

Mass-Link devices operate with each other to create a mesh network (that is – each Mass-Link re-broadcasts data from the other devices to extend their range). So, the more Mass-Links you have, the

better the coverage area. But in factory testing we can maintain a good connection over 100' within line of sight. This does decrease with obstructions and interference from other devices.

Note: Interference from unshielded equipment such as generators may cause radio noise that interferes or even blocks WiFi signals. This type of interference will affect all devices using WiFi (not just MassLinks) and should be remedied where possible (usually by shielding or grounding equipment).