COLT3
Clamp On Line Tensionmeter

COLT3 Android/iOS Application

Part No:
SU3715
Issue 3

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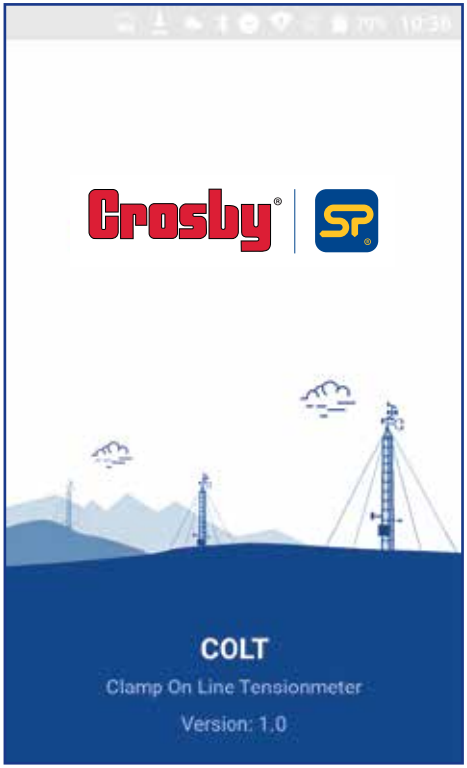

1.0 COLT3 App Introduction

This Android/ iOS application has been developed to use with the Clamp On Line Tensionmeter (COLT), to measure the tension in tower lines, wire ropes etc. under Bluetooth Low Energy communication standard.

The Application will accurately search, connect and display the tension value from the measuring device under specific manufacturing standards.

The COLT app is very simple, reliable and easy to use. This application can do a high-end data logging according to the mobile device's memory capacity and it will allow user to view or send the logged data via email.

Another attractive feature is the 'database update', the COLT3 app currently supports around 150+ wire ropes and Straightpoint will add more wire ropes to the library. The user will be able to update their database with just one click and get all the wire rope details free of charge.

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2.0 Downloading and Installing the App

For full instructions on the COLT3 App, please download the app from Play Store /iOS App Store, using the QR codes below and then see the help section.

Android Screen

iOS Screen

Note: The app will work from Android 4.4 version onwards, and the application is suitable to work with almost all manufacturer's mobiles with a 4" display size or above, except some Samsung models; this is due to manufacturer's defect with BLE connectivity.

With Apple devices, the app will work from iOS version 6 upwards, and is suitable to work with iPhone 5 upwards.

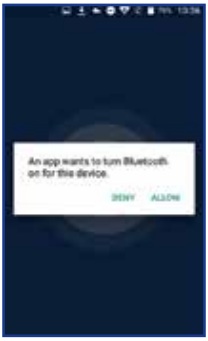
3.0 Description

After the installation, the app will open via a splash screen and then ask for a T&C agreement, followed by another screen where the user can select the required operating mode (check mode selection description to find out more).
Once the required mode is selected, the app will start the Bluetooth scanning process. The app will ask to turn on Bluetooth if it is not ON already, and will list all the COLT devices available in range.
The user can the identify the names of the devices using the serial number engraved in the device.

Please refer to screens 1, 2, 3 and 4 below (Android/IOS).

Android Screen 1

Android Screen 2



Android Screen 3

Android Screen 4

iOS Screen 1

iOS Screen 2

iOS Screen 3

iOS Screen 4

Once the user is connected to the device for the first time, the screen shown on the next page will appear without any wire rope database. It will take around 30-60 seconds to load the app when connected for the first time.

Android Screen 5

iOS Screen 5

The first thing the user should do is carry out an application database update. For that select the ☰ menu button and user will go to the menu list, where the user can select 'Update Database' and the application will display a pop up confirmation message. Select 'OK' (for Android) or 'Yes' (for iOS), then the application will start downloading the database (Note: In order for a successful application update to take place, the mobile data or Wi-Fi needs to be switched ON). See screenshots below:

Android Screen 6

Android Screen 7

Android Screen 8

Android Screen 9

Android Screen 10

iOS Screen 6

iOS Screen 7

iOS Screen 8

iOS Screen 9

iOS Screen 10

After a successful update the user will get around 150 plus ropes in the application database. They can select and use the wire ropes according to the application and rope availability.

3.1 Home Screen

The Home screen is where the user can see the tension reading from the COLT device. From the Home screen the user can access various options like unit change, Data logging, Set Zero and Peak hold. User can also see the selected wire rope details such as rope diameter, configuration, current sheave position of the COLT device, maximum calibration range of the selected rope and wire rope colour. The user will also get an indication of battery level in the COLT device, Bluetooth connection, overload condition, and type of selected data log from the top right corner of the screen.

Android Screen 11

iOS Screen 11

Data Log: User can start the data logging through this tab. Press this tab and enter the required 'Job Details' including latitude, longitude, temperature, windspeed, wind direction etc and select the required Datalog type from the same screen. The method of data logging will be different according the type of Datalog selected. The selected Datalog type can be found from the top right corner of the home screen.

Unit: From this tab the user will get provision to change the default load unit to other different units. The available units in the drop-down list will be kg, te, lbs, kN. This will not be a permanent unit change.

Peak Hold: Using this tab selection, the user can hold the peak load value in the home screen. Press the tab again to release the peak hold value.

Zero: Using this tab, the user can zero the present load value. For each rope there will be a zero shift because this zeroing is common for all the wire ropes, so each time before measuring the rope tension, the user should make sure that the home screen display is zero.

Alarm: Home screen will give the overload and under load alarm-both visual and audio- according to the user setting threshold. The alarm can be turned off by tapping the screen or by bringing the load value into the alarm limit. The user can disable the alarm functionality from user settings. It will show an orange visual for the low alarm and red for high alarm.

Android Screen 12

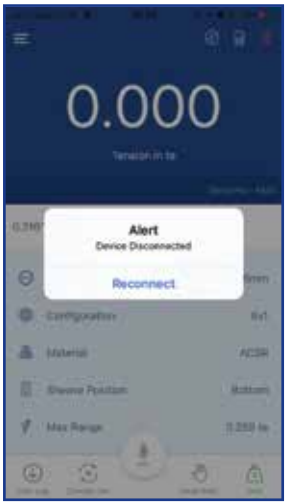
iOS Screen 12

Android Screen 13

iOS Screen 13

Note: Once the COLT device is disconnected from the application, or the mobile device is disconnected from the COLT, the home screen will give a pop-up informing about the device disconnection. The user can reconnect through the connect button in the pop-up. The display will then list out all the available devices and select the required device from that list.

Android Screen 14



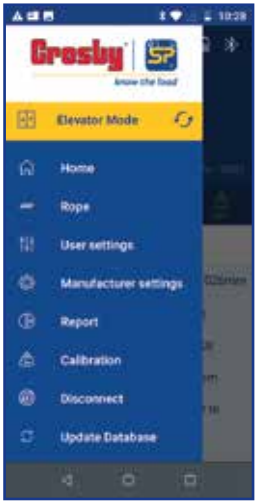
iOS Screen 14

3.2 Mode Selection

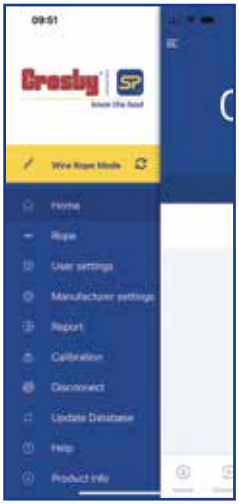
There are two modes available in the COLT App:

1. Wire Rope Mode
2. Elevator Mode

The Mode Selection is possible via the menu. The current running mode is determined from the name showing on the yellow background under the menu. Pressing the refresh button near to the name will give user the opportunity to change the mode.
The Wire Rope Mode is the standard mode where the user can select wire rope and do normal datalogging processes.
The Elevator Mode is a recently-added feature where the user can do elevator weighing and elevator balancing data logging.



Mode selection via Menu
(Android)



Mode selection via Menu
(iOS)

3.2.1 Wire Rope Mode

Once the user has selected this mode, the app will search for the Bluetooth devices nearby and list it under a 'Devices' screen; the user can then connect to the required device by pressing the 'Connect' button (users will need to allow all the required permissions for the perfect working of the app).
Once connected to the device, the user will be redirected to the home screen. First of all, the user will need to update the wire rope database by selecting 'Update Database', which can be found under the 'Menu'.
Once updated, select the required wire rope from 'Rope' menu and then the home screen will display the selected wire rope details.

Android Screen 15

iOS Screen 15

Android Screen 16

iOS Screen 16

From the home screen the user can view the load value and can select other options from there.

Datalog:

There are various types of datalogging available under this mode, they are:

- Manual
- Timed
- Multi Anchor
- Overload
- Average

• If the selected datalog type is 'manual', the home screen symbol will be . After entering the job details user should press the 'REC' button whenever he needs to log the data in to the log file – this is a manual on-demand process. After the full data entry, press the 'End log' for saving the logged data file and the screen will give a pop-up options to view, send or delete the logged file.

Android Screen 17

Android Screen 18

Android Screen 19

Android Screen 20

iOS Screen 17

iOS Screen 18

iOS Screen 19

iOS Screen 20

• If the data log type is 'timed', the home screen symbol will be .
In this mode, after entering the job details press the play button available on home screen to start the datalogging process then the data will be logged automatically according to the time set in user settings. After the full data entry, press stop button to stop/save the logged data file then the screen will give options to view, send or delete the logged file.

• If the data log type is 'Multi Anchor', the home screen symbol will be .
After entering the job details, the user can select the number of anchor leg and wires from the drop-down list (the user can also select the elevation requirement from the same screen). The change rope provision is available in the home screen. Data logging will be the same as manual on demand.
The user should press the REC tab whenever they need to log the load value.

Data will be stored after entering elevation value, if any; there is also an additional option to capture images after each measurement, these images will be attached with the datalog file when exporting. After the full data entry for all the leg and the wires, press 'End Log' to save the logged data file and the screen will then give options to view, send, or delete the logged file.

Note: If the user tries to log data for the same wire rope a second time, the app will provide the user with an option to override the old value with a new value or will allow a new value to be saved as 'after' reading.

Photos will appear next to each wire rope once taken. The report will show the image. When exported as a PDF, the images will be embedded.

Please note: Images will not appear within the file when exported as a CSV.

Android Screen 21

Android Screen 22

Android Screen 23

Android Screen 24

Android Screen 25

Android Screen 26

iOS Screen 21

iOS Screen 22

iOS Screen 23

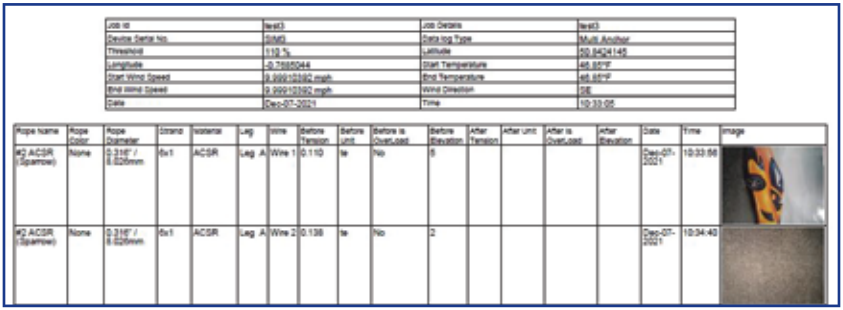
iOS Screen 24

iOS Screen 25

iOS Screen 26

Android Screen 27

iOS Screen 27



Job Id	test3	Job Details	test3
Device Serial No.	SIM3	Data log Type	Multi Anchor
Threshold	110 %	Latitude	50.8424145
Longitude	-0.7885044	Start Temperature	46.85°F
Start Wire Speed	9.99910392 mph	End Temperature	46.85°F
End Wire Speed	9.99910392 mph	Wind Direction	SE
Date	Dec-07-2021	Time	10:33:06

Rope name	Rope Color	Rope Diameter	Strand	Material	Leg	Wire	Before Tension	Before Unit	Before is Overload	Before Elevation	After Tension	After Unit	After is Overload	After Elevation	Date	Time	Image
#2 ACSR (Sparrow)	None	0.316" / 8.026mm	6x1	ACSR	Leg A	Wire 1	0.110	te	No	5					Dec-07-2021	10:33:56	
#2 ACSR (Sparrow)	None	0.316" / 8.026mm	6x1	ACSR	Leg A	Wire 2	0.138	te	No	2					Dec-07-2021	10:34:40	

Report Sample

• If the datalog type is 'Overload', the home screen symbol will be . After entering the job details, home screen will provide a start button to start the datalog, whenever the load value goes beyond the overload threshold limit set in the alarm high user settings, the overloaded load value will be logged automatically. Press the stop button to save the logged data file and then the screen will give options to view, send or delete the logged file.

• If the datalog type is 'Average' the home screen symbol will be . After entering the job details user should press the 'REC' button whenever user needs to log the data in to the log file – this is a manual on demand process. After the full data entry, press the 'End log' to save or view the average of the logged data and the screen will provide pop-up options to view, send or delete the logged file.

Note: All the data logged files will be available in the 'Report', from this, the user can view and send the files in .CSV/pdf format.

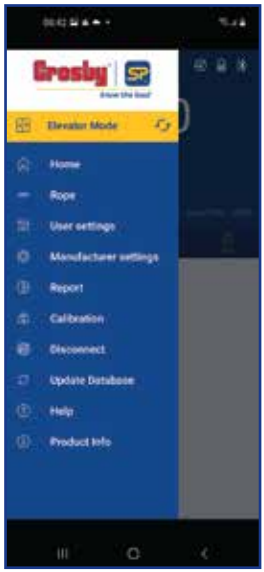
3.2.2 Elevator Mode

Elevator mode is used to weigh and balance elevator car based on elevator car weight. In the balancing job, the user can select the required number of wire ropes, and based on the selection, they can see the load on each wire rope, also based on the slider graph, the user can easily adjust the load on the wire rope.

Home Screen

Terms and Conditions

Mode Selection Screen



When Elevator Mode is selected – it will need activation. Tap '⏲' icon to mail Straightpoint with device ID. Once received, enter the verification code to activate the elevator mode. There is also a simulation mode available in the verification code screen to check and get a feel about the mode but is not for actual use.

When you are connected to the COLT for the first time, please update the database.

Once updated, please tap the 'Back to home' button and select the required wire rope from the 'Rope' section under the Menu.

Please tap the 'Job' button to open this screen.

Datalog job can be selected by selecting the 'Job' option in the home screen, this action will open a screen where user can enter the job details also can select the required job. There are 2 job selections available in the 'Enter Job Details' screen:

- Car Weighing
- Car Balancing

Job Entry Detail Screen (Android)

Job Entry Detail Screen (iOS)

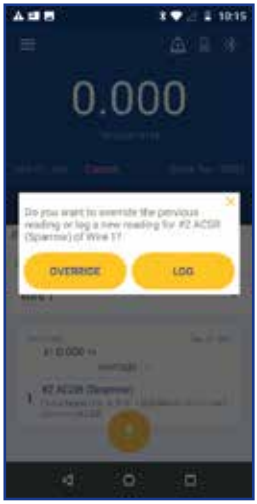
Car Weighing:

Before selecting the Datalog mode, the correct wire rope must be selected from the 'Rope' option. The user should also turn the tare off and make the load value zero. Once the user is on the 'Enter Job Details' screen, they need to enter all the required job details and select the Datalog type as 'Car Weighing', then press 'Start/Save'; a pop-up instruction will appear asking for three sets of readings to be taken for each wire rope, please confirm the pop-up and then use the record button to record the reading.

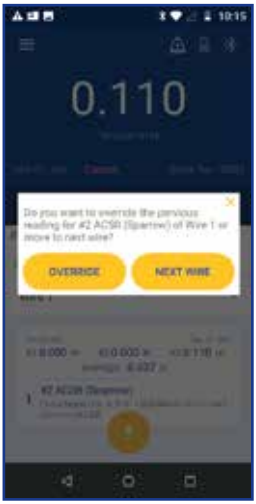
Select 'Car Weighing'

Fill in the job details and press Save (Android) or Save (iOS).

This pop-up appears asking for three sets of readings to be recorded.



Select 'Log' to record new reading or select override to override the last reading.



After the third set of readings for wire 1 have been taken, this pop-up appears. Select next wire or override last reading.

After three sets of readings have been taken for all wire ropes, a pop-up message appears to confirm 'End Weighing', once pressed, the app will display the total weight data via another pop-up. After submitting, the user has the option to view, send or delete the log; the popup will also give the user an opportunity to start a new Datalog job from there.

Car Balancing:

Before selecting the Datalog mode, the correct wire rope must be selected from the 'Rope' option. The user should also turn the tare off and make the load value zero. Once the user is on the 'Enter Job Details' screen, they need to enter all the required job details and select the Datalog type as 'Car Weighing', then press 'Start/Save'; a pop-up instruction will appear asking for three sets of readings to be taken for each wire rope, please confirm the pop-up and then use the record button to record the reading.

Select 'Car Balancing'

Fill in the job details and press Save (Android) or Start (iOS).

This pop-up appears asking for three sets of readings to be recorded.

Same as before:
Log or Override reading.

Same as before:
Select next wire or override last reading.

After all the rope readings have been taken, a pop-up will show to proceed to balancing. In Android, the user will need to press the balancing orange tab, after pressing the proceed to balancing pop-up. In iOS, the user will automatically see a slider graph and tolerance setting option on the home screen.

Pop-up appears asking to proceed to balancing.

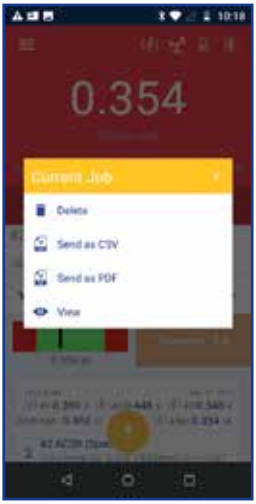
Screen showing slider graph and tolerance setting.

Pop-up appears asking to go to next wire or override.

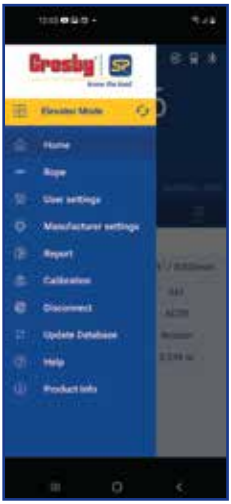
Balancing slider graph: Select the wire ropes again for balancing, using the slider graph with RED and green bands. The required target value shown under the graph will give the user the recommended required target. The rope can be balanced by keeping the value within the green band, and logging the reading once it is within the green band. The new balanced value will save as an 'After' reading. Once logged, move to the next rope or override the last one.

When the reading is outside the green band, the following pop-up will appear, asking if you want to proceed.

Once all the readings are taken, you have an option to end balancing or override the last reading.



Pop-up with the option of deleting, exporting or viewing the report, or starting a new job.



Select 'Report' from the menu to display saved reports. The second screen shows icons depicting 'Car Weighing' or 'Car Balancing'. The final screen shows a report opened within the app.

3.3 Rope

Under the Rope option, the user can select the required wire ropes, select 'Rope' from the menu bar and then select the required wire ropes from the rope list. If the user needs to add several wire ropes in their favourite list, that provision is also provided on this page. The Rope selection can be done by a single touch.

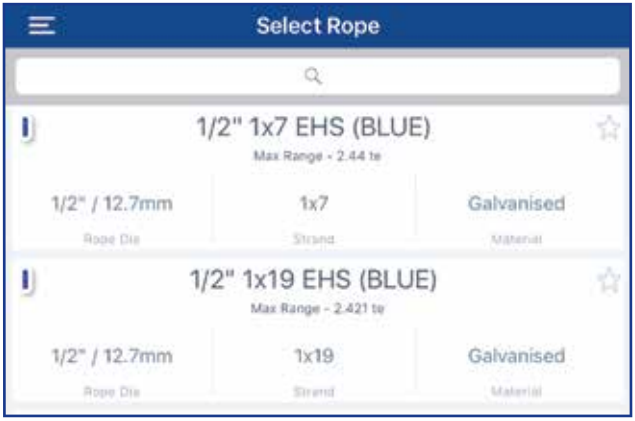
To add a rope to a favourite list: Press and hold the wire rope; the app will then display a pop-up message for confirmation. Press 'Yes' for adding the rope in your favourite list. The user can easily identify the favourite rope from the 'star' symbol that appears in the right-hand side of the rope details. To remove the rope from the favourite list, follow the same procedure – press and hold the wire rope name until a pop-up message appears for deletion (see screens below for reference).

Android Screen 28

Android Screen 29

Android Screen 30

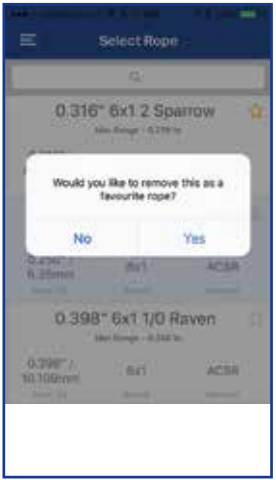
Android Screen 31



iOS Screen 28

iOS Screen 29

iOS Screen 30



iOS Screen 31

3.4 Calibration Check

Cal rod counter values can be checked within the CAL Check section. By clicking on 'CAL Check', it will list out rod count of corresponding serial numbers.

Cal Rod Counter:

The COLT device can be supplied with a CAL Rod (available for purchase) in order for checking and verifying the accuracy of the COLT.

How to use the CAL Rod to perform a calibration check:

1. Within the COLT3 App there is a 'CAL Check' option available in the 'Rope' section. When the user selects this, a pop-up window will appear, asking the user to input a serial number.
2. Enter the CAL rod serial number and select 'SAVE', the app will then go back to the home page.
3. Before starting a Cal check, make sure the COLT device is on a flat surface and zero the app home screen value if there is any load value showing.
4. Take the COLT and fix the CAL Rod between sheaves.
5. When the load value reaches in between 1.32te to 1.40te (2910lbs to 3090lbs) and once the value is stable, the app will display a 'Cal check is done' pop-up.
6. When the user presses 'OK' the app will redirect to the 'Rope' page and the user can select the required rope for the next job.

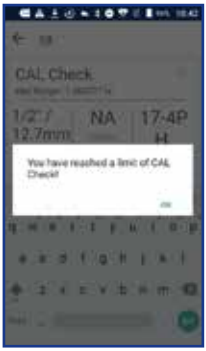
The maximum possible use of the CAL rod is limited to 500 counts, so the user should use the same mobile device to obtain the correct CAL rod count. The Cal rod count value will be available in the 'Report' section in the menu – see the 'Rope' section in this manual. Once the maximum count has been reached, the app will display an alert message for the user.

To view a video guide on performing a calibration check using the Cal Rod please select this link: https://youtu.be/d-wlbMeRfoo

Android Screen 32

Android Screen 33

Android Screen 34



Android Screen 35

iOS Screen 32

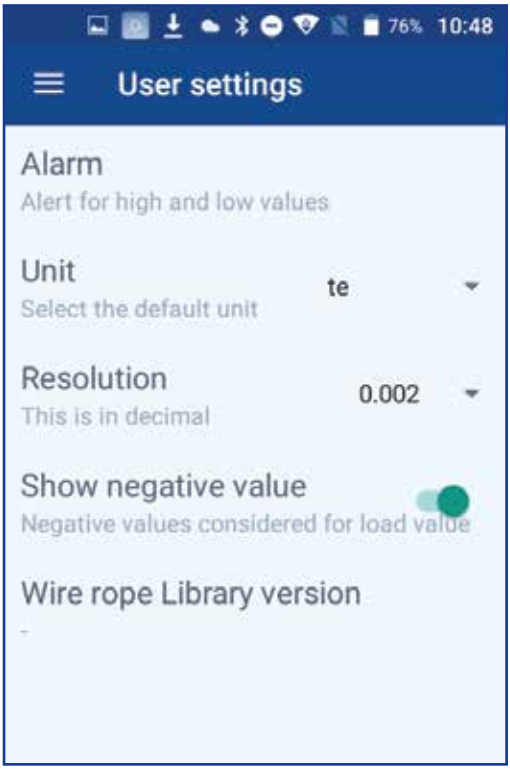
iOS Screen 33

iOS Screen 34

iOS Screen 35

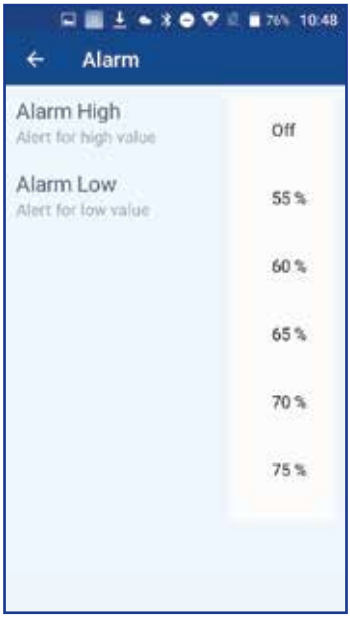
3.5 User Settings

This is the place where the user can do all the settings before taking the load reading. The user can set the default unit, resolution and the low and high alarm threshold. Everything can be set from this screen.



Android/iOS Screen 36

Alarm:
The alarm setting will allow the user to set the alarm threshold levels.
The setting will allow the provision to set the high and low alarm levels.



Android Screen 37

Android Screen 38

iOS Screen 37

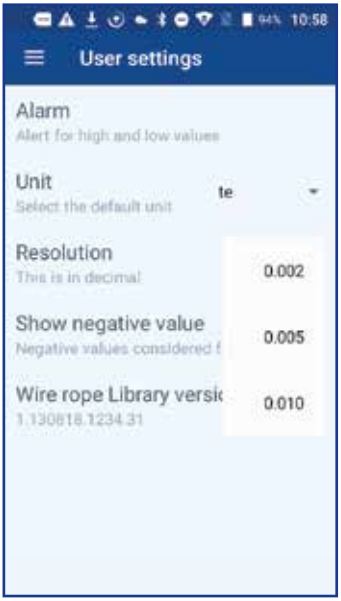
iOS Screen 38

Android Screen 39

iOS Screen 39

Unit:
This is the default unit setup. According to this setting the home screen will show the unit. Available units are kg, te, lbs, and kN.

Resolution:
Resolution is the minimum load value change setting. According to the unit selection, the resolution will vary. For the kg unit, available resolutions are 2, 5 & 10, for tonne unit it is 0.002, 0.005, and 0.010, for lbs it is 2,5,10 for kN it is 0.02, 0.05, 0.10. The user can select it from the drop-down list.



Android Screen 40

iOS Screen 40

Show Negative Value:
Show negative value setting allows the user to enable or disable the negative load readings showing on the home screen. If this setting is in disabled mode, the home screen value shows ‘0’ for all the load values less than or equal to zero.

Wire rope Library version:
This option will give the user regarding the current wire rope database version running on the app.

3.6 Report

Under the report option all the logged reports are available as well as the CAL rod counter. This page will allow the user to view or send the logged data and to download it in .CSV/pdf file format.

Android Screen 41

Android Screen 42

Android Screen 43

Android Screen 44

iOS Screen 41

iOS Screen 42

iOS Screen 43

iOS Screen 44

3.7 Disconnect:

Disconnect allows the user to search for the all available COLT devices within the range of the application. The application will list out all the devices in the scan list and the user can connect to the desired COLT device. If the user faces any application hang issue or load value issues, they can reconnect to the device through this option.

Android Screen 45

iOS Screen 45

3.8 Database Update:

This is the option the user should do first after the application installation. This allows the application to install the factory calibrated wire rope data to the mobile device.
Note: Once the app is updated with latest wire rope library it will not allow the user to revert to an older version or to the same version.

3.9 Help:

Help will provide the user manual for the COLT App to the user. The user's mobile device will need to be capable of opening pdf files.

3.10 Product Info:

This will redirect the user to the COLT product webpage on the Straightpoint website. Mobile devices should be connected to Wi-Fi/Internet for this to be successful.

Distributor Stamp

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2801 Dawson Road, Tulsa, OK 74110 · USA · Tel: +1 (918) 834-4611