FASTORQUE

A Digital Clipboard™ Application

Seamlessly integrate Digital Clipboard™ with your Wireless LightStar™ residual torque audits

FasTorque is a flexible "light torque" offering with streamlined set up and data capture all within Digital Clipboard. Perfect for campaigns, containment, sorting or yard audits.

- Define specifications and master to the correct wrench size directly within Digital Clipboard – no gage suite editor required.

- Trigger escalations and notifications on non-conforming events.

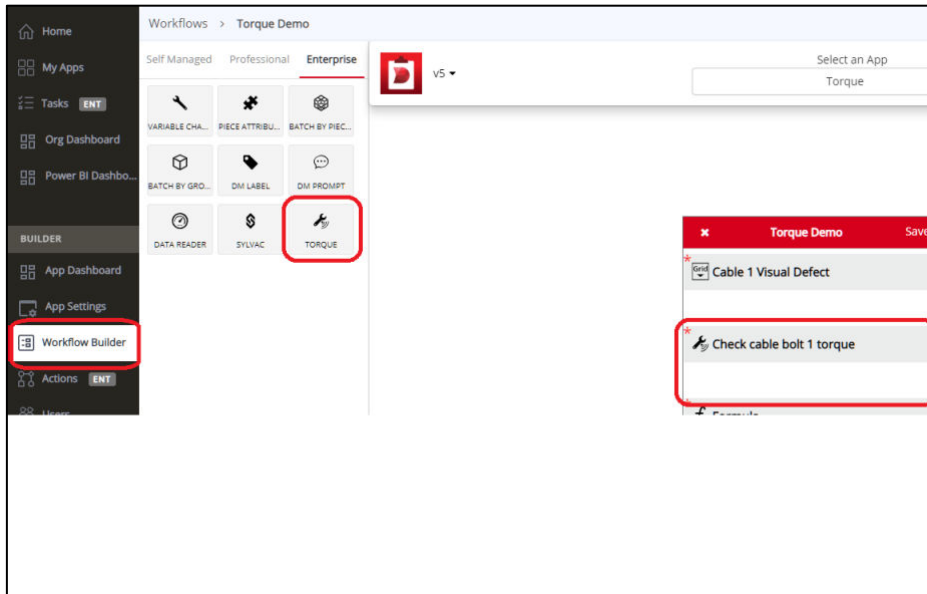- Currently available only on Android tablets and phones.

DATAMYTE™
Experts in the Connected Factory

2800 Campus Drive, Suite 60, Plymouth, MN 55441
800-455-4359 | www.datamyte.com | info@datamyte.com
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User Manual – Torque Wrench Widget - Android

1. The Torque Wrench widget was designed to enable torque data collection by establishing communication interface between Digital Clipboard application and DataMyte wireless torque wrenches (WLS)

2. The user can add torque widget to any workflow by using Workflow Builder and Torque widget

3. The user is ***required*** to set the Wrench Size parameter to correct size of the WLS torque wrench to be able to establish communication with the gage
    "Wrench Size":
    - **Default: 25**
    - Supported torque wrench sizes: 1, 5, 10, 25, 75, 90, 150, 300, 500, 800, 1200

4. The user shall select torque value calculation algorithm.
    "Wrench Algorithm":
    - **Default:"Restart"**
    - "Restart"
    - "Set"

5. The user shall use default or change remaining torque wrench configuration parameters
    "Wrench Unit": (same as Numeric and Decimal)
    - **Default:** "Lb-ft"
    - Lb-ft (pound-foot),
    - Nm (newton meter),
    - Lb-in (pound-inch),
    - Kgfm (kilogram – force meter),
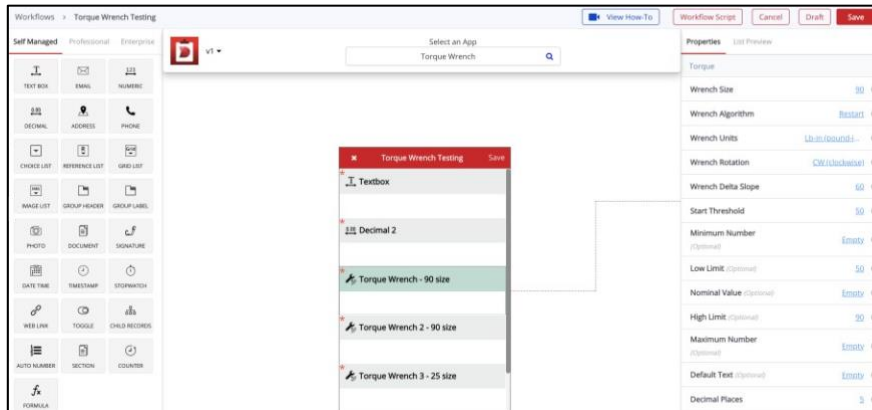   - Kgfcm (kilogram – force centimeter)

    "Wrench Rotation":
    - **Default:** "CW"
    - CW (clockwise)
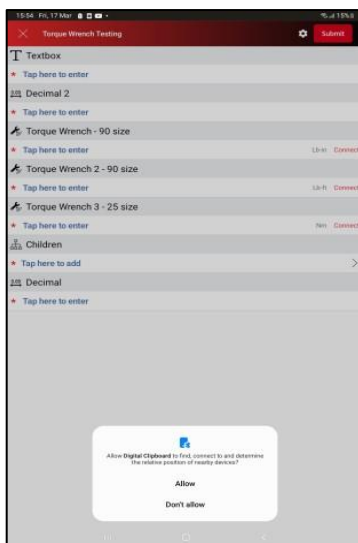   - CCW (counterclockwise)

    "Delta Slope": Between 1 and 99 [1, 99], default is 60 "
    <u>Note:</u> Required percentage change in the slope of the torque curve in indicate breakaway point.

"Start Threshold": Between 2 and 99 [2, 99], default is 50

Note: A percentage of Low Limit (or of the torque wrench size if Low Limit is not defined) that signal rise above in order to consider a valid signal. If the value is too high it may mask the actual value. If the value is too low, it will not mask the noisy portion of the reading.

6. The user shall save and publish an application.

7. **Open the DigitalClipBoard App** on Android device.

8. Choose your application and open the workflow. Allow the required permission to find the nearby devices on **DigitalClipBoard App.**
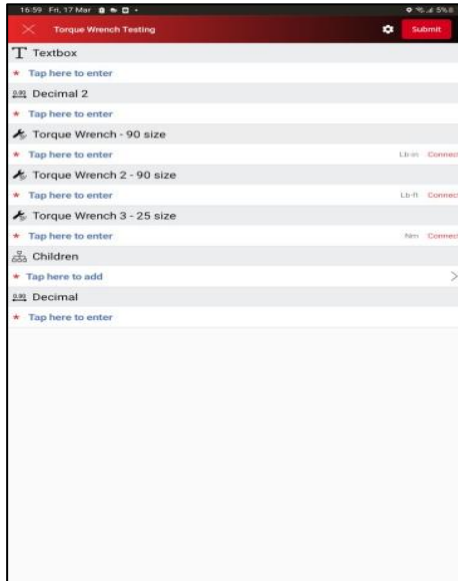

9. Pair the torque wrench with the mobile device. Put the torque wrench into discovery enabled mode by performing the following steps:

    - Select and open Setting control on the Android device
    - Select Connections option
    - Select Bluetooth option (make sure that Bluetooth is enabled)
    - Click Scan if necessary
    - Remove previous pairing information from the torque wrench memory by pressing the upper button on the torque wrench (power) 4 times. The communication top left led shall blink.
    - Press top and bottom torque wrench buttons at the same time to switch the torque wrench to the discovery enabled mode.
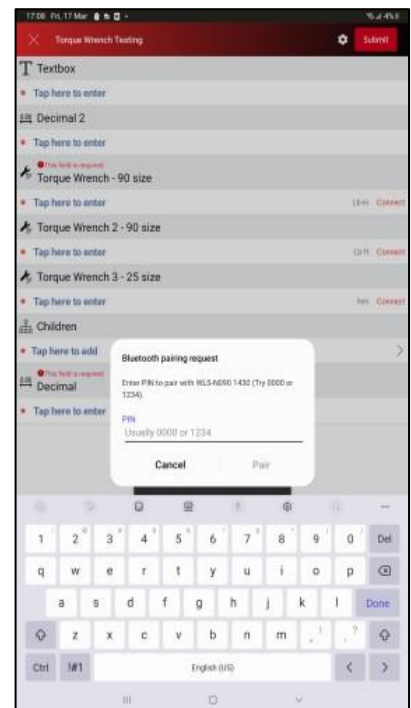
- Select WLS wrench in the Available deices list
- Type 1234 in the Bluetooth pairing request dialog
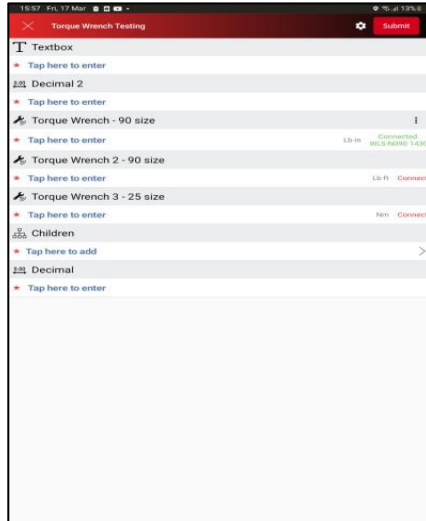
10. Connect Torque wrench device with Torque wrench widget
    a. If User has never used or connected to Torque wrench device before with DigitalClipBoard App.
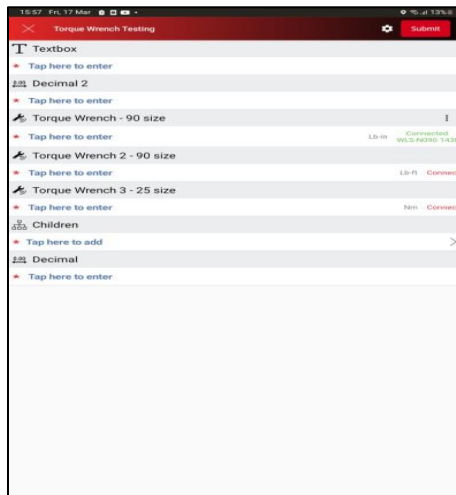   - User can see the "Connect" button with Torque wrench widget in red color.

- Tap "Connect" button to redirect to another screen where it will display paired devices based on the **size** or user can scan the available Torque wrench devices based on the size and listing all the devices based on the size with name and address. Select Torque wrench device of user choice. If the device is not paired, then it will automatically first ask for pair. Once paired it will connect to that device.
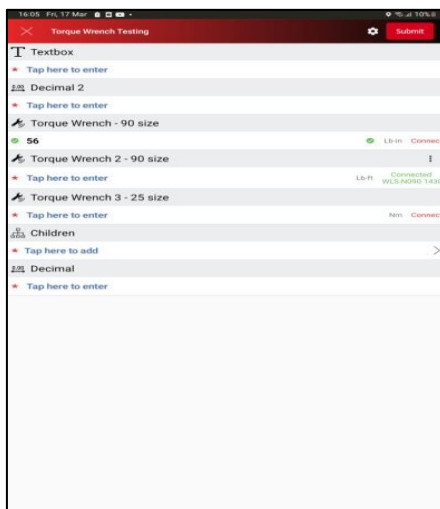
- Device will be connected and attached to that widget. User can see the status with device name to that Torque wrench widget in green "Connected WLS-N090 1430"
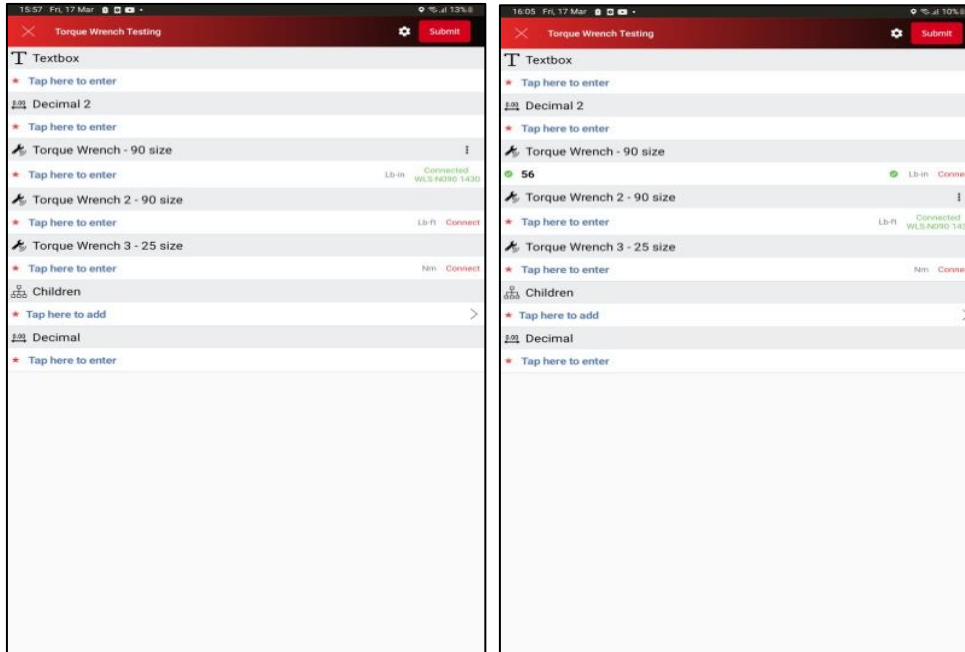

b. If User has already connected or used Torque wrench device before, App will automatically connect to last connected device based on the size (If device is in range and paired and device's Bluetooth is on) when user is focused on torque wrench widget.
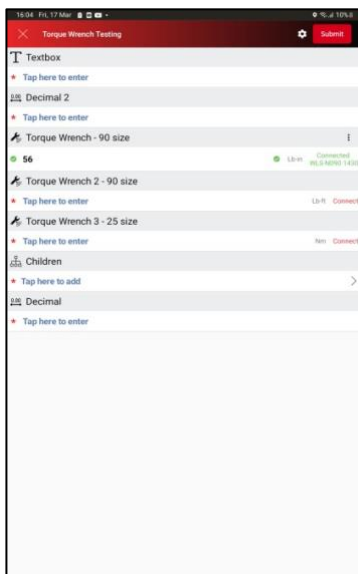

c. If the user focuses on another Torque wrench widget of the same size or different size and the device is already connected, then status of focused widget is changed from "Connect" to "Connected WLS-N090 1430". Device will be attached to that widget.

d. If User focuses on another torque wrench widget with different size and device is not connected before then user can connect to another device by following the connection from Step 9 above.

e. When User opens a workflow and first he/she will be connected and focused to the "Torque Wrench - 90 size" (Refer below left image). After that he/she will change the focus or select to "Torque Wrench 2 - 90 size" (Refer the below right image). User can see first "Torque Wrench - 90 size" will be in connected status in green ("Connected WLS-N090 1430"). After changing focus to next widget "Torque Wrench 2 - 90 size", the first widget state becomes a "Connect" and focused widget which is "Torque Wrench 2 - 90 size" state will become a "Connected WLS-N090 1430".
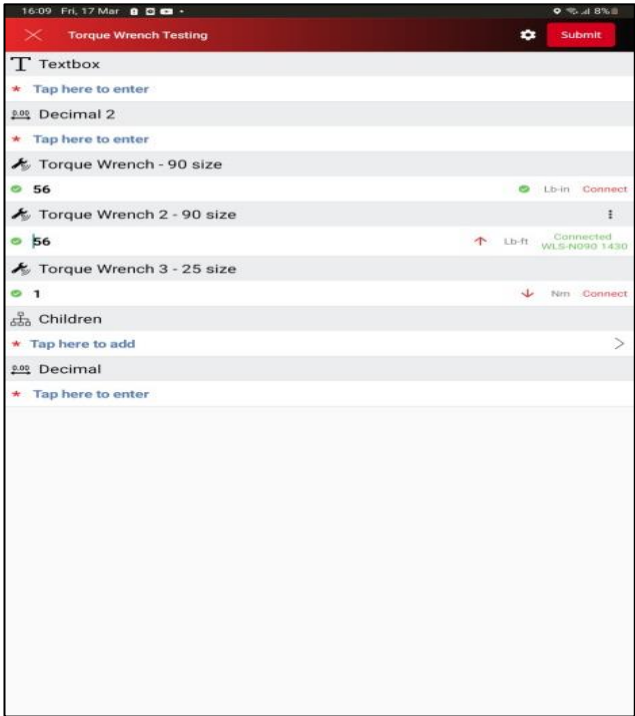

11. Once Device is connected, it will be automatically armed, and user can take reading. The reading sent by device will be displayed in focused widget with device attached.

12. Torque wrench widgets have properties like minimum number, low limit, high limit, maximum number, decimal places same as Decimal widget and behave or act similar to Decimal widget. Torque wrench widget support 0 up 7 decimal places. After putting the measurement or read value to the Torque wrench widget,
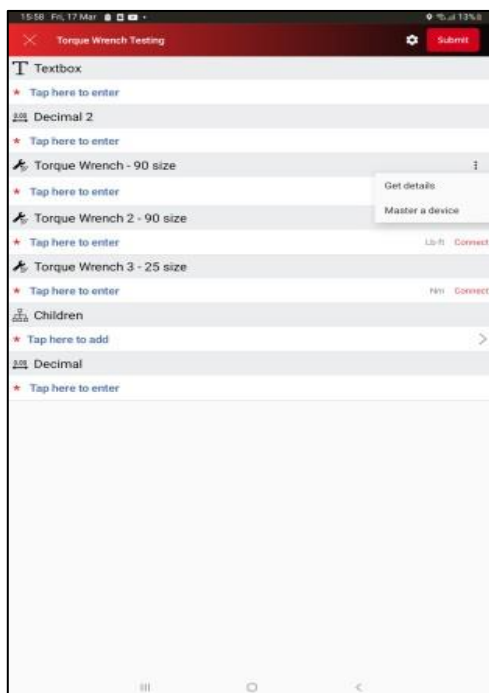
the Torque wrench widget will display the result based on the properties like minimum number, higher limit, low limit, maximum number, decimal places. Please refer to the images and table below to see how it behaves.
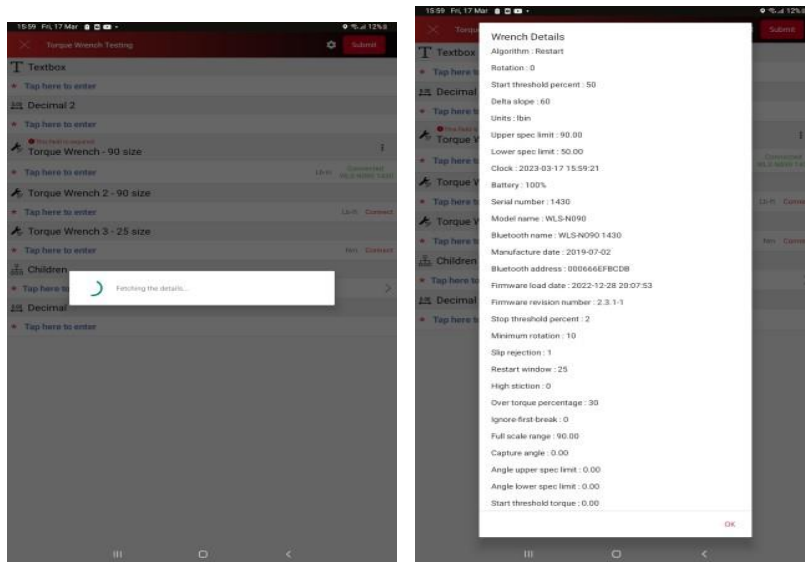

Num	Action	Result	Exception
1	The user selects Torque wrench widget and input value between high and low limits	The Application shall display ✓ green check mark in the front of the data value and play shot beep sound	• If low limit value does not exist, the input value below the high limit shall be considered as inside of the limits. • If high limit value does not exist, the input value above low limit shall be considered as inside of the limits • If high and low limit values do not exist, the input value shall be considered as inside of the limits
2	The user selects Torque wrench widget and input value above high limit	The application shall display ↑ red upward arrow in the front of the data value and play buzzer sound	• If high limit value does not exist, the input value above low limit shall be considered as inside of the limits • If high and low limit values do not exist, the input value shall be considered as inside of the limits

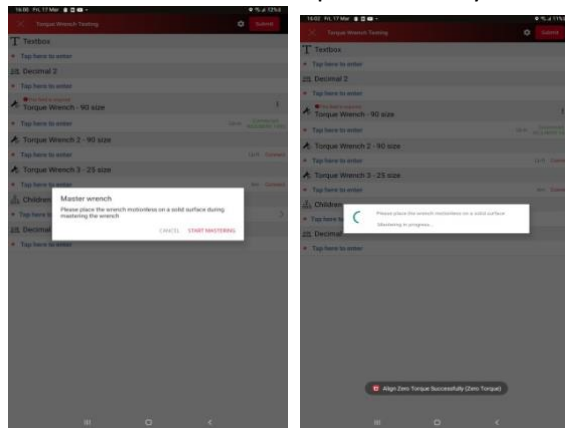| 3	The user selects Torque wrench widget and input value below low limit	The application shall display red downward arrow in the front of the data value and play buzzer sound ↓	• If low limit value does not exist, the input value below the high limit shall be considered as inside of the limits. • If high and low limit values do not exist, the input value shall be considered as inside of the limits
4	The user selects Torque wrench widget and input value above Maximum Number value	The application shall display red ! in the front of the data value, play buzzer sound and message with above Maximum value error description and ask the user to reenter data	Maximum value is an optional parameter
5	The user selects Torque wrench widget and input value below Minimal Number value	The application shall display red ! in the front of the data value, play buzzer sound and message with below Minimal value error description and ask the user to reenter data	Minimal value is an optional parameter

13. Torque wrench widget has Option menu (by tapping on three dots) or right corner (once device connected) to get details and mastering the torque wrench.
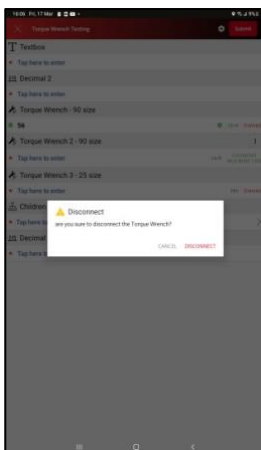
a. User can get Torque wrench details by selecting "Get details".

b. User can master the torque wrench by selecting "Master a device"

14. User can disconnect Torque wrench device by tapping on status "Connected WLS-N090 1430".

15. After disconnecting the device, User can connect to another device or same device based on size by following from the connection step 9 above.