0001-1531 Telemetry Dongle
User Manual
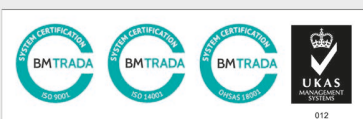
Revision History

Revision	Date	Changes
1.0	11.08.2023	Initial Release

Contents:

1.0   Overview

The TD-3.0 is designed for use with all products within the d+ range. It is a multi-channel display which can be used to display values from various load cells and load monitoring equipment.

The TD-3.0 operates on a free band 2.4GHz frequency and utilises a bespoke frequency hopping protocol which hops frequency 20 times per second to help reduce interference.

The TD-3.0 is "paired" with transmitting devices and can be paired with 12 transmitters simultaneously, with each transmitter occupying a single channel on the network.

The TD-3.0 Handheld can be configured as a Master or a Slave, the Master is paired with the transmitters and the Slaves pick up any wireless data traffic on the network they are set to.

The TD-3.0 has a wireless range of 800m, therefore to avoid interference when multiple Master TD-3.0 Dongles are used within an 800m radius they should be configured on different networks.

Some network setup examples are shown overleaf to illustrate the operation.
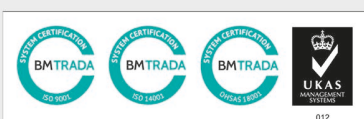
2.0   Network Examples

Example 1: Using two TD-3.0 with two TL-3.0 Telemetry Tensile links within range of each other.

Pair 1 needs to be paired on a network, i.e. Network 1
Pair 2 needs to be paired on a different network, i.e. Network 2
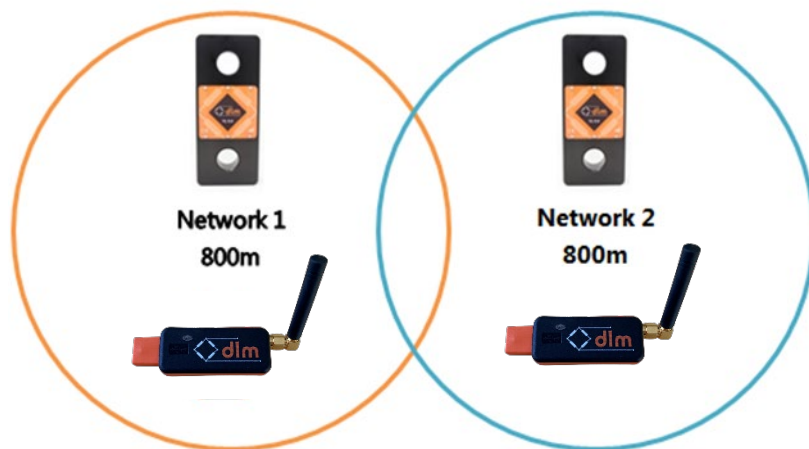
Example 2: Using two TD-3.0 with two TL-3.0 Telemetry Tensile links outside of the range of each other.

Both pairs can be paired on the same network as they are far enough apart that interference will not occur.
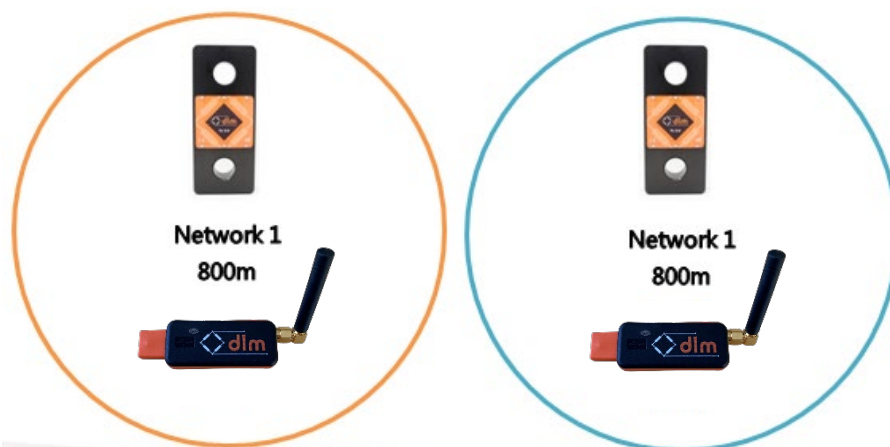
Example 3: Using one TD-3.0 with two TL-3.0 Telemetry Tensile links.

The TW-3.0 is set to operate on network 1 and both TL-3.0 Telemetry Tensile Links are paired, as channel 1 and channel 2 to the TW-3.0.
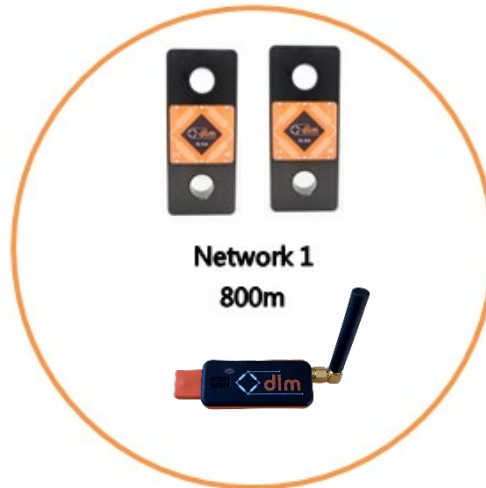
Example 4: Using two or more TD-3.0 with one TL-3.0 Telemetry Tensile link.

One TW-3.0 is set to Master on network 1, the second TW-3.0 is set to a Slave on network 1 and the TL-3.0 is paired on channel 1.

3.0   Quick Set up

The TD-3.0 features a USB 2.0 which can be plugged into any PC that has the TW-3.0 Toolkit installed onto it.

To connect the TD-3.0 remove the USB cap and plug the device into a free USB port on the PC. If the body of the dongle is obstructed by other PC components, then use the supplied USB male to female lead supplied with the TD-3.0. Once connected a red status LED will illuminate showing that the device has power supplied to the TD-3.0.
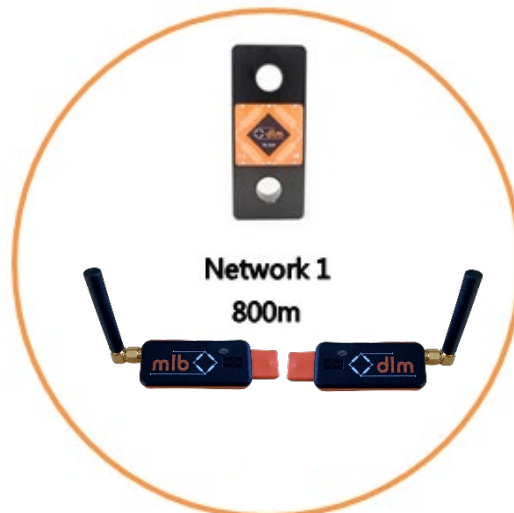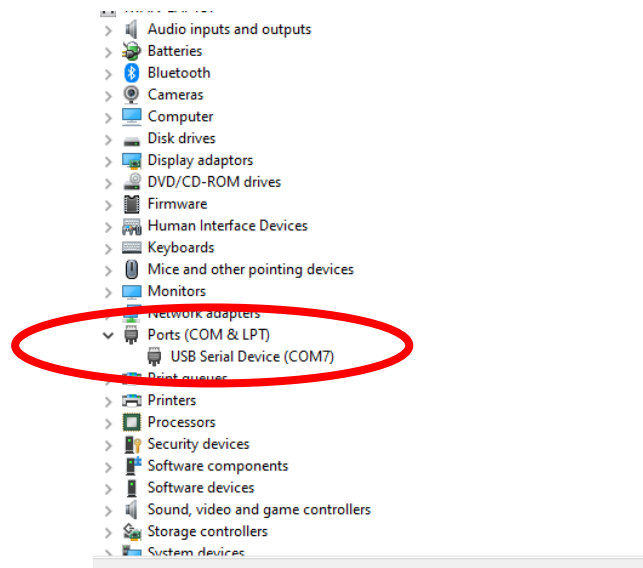
Before using the TD-3.0 with the TW-3.0 toolkit a COM port must be assigned to the device. In order to find a COM port open windows device manager and select the ports tab. The tab should drop down and give you a list of which COM ports are in use. Please see below:

This will need to be known for later especially if there are multiple COM ports connected to the PC.

Once a COM port has been found Open up the TW3.0 Toolkit and ensure that the DLM supplied licence has been uploaded onto the toolkit. If not this can be done from the Licence manager tab. Once selected press the browse button and navigate to the area in which the licence is saved.

To come out of the Licence manager tab click on the DLM logo located on the black area on top of the page.

4.0   TD-3.0 Setup

In order to start using a telemetry dongle with a TW-3.0 load cell / tensile link, the two must be paired together. The dongle can be paired directly to a load cell via the TW-3.0 Toolkit. To do this select on the Dongle set up section highlighted in blue in the below screen shot.

Once the dongle set up screen has been displayed, select the correct COM port that the dongle is connected to via the drop down box.

When selected the toolkit will connect to the dongle and the network and channels will populate on the screen.

Directly below the COM port box will be the device information table. This includes generic information such as Serial number of the Dongle, whether it is set up to be a master or a slave device and which version of firmware is loaded onto the Dongle.
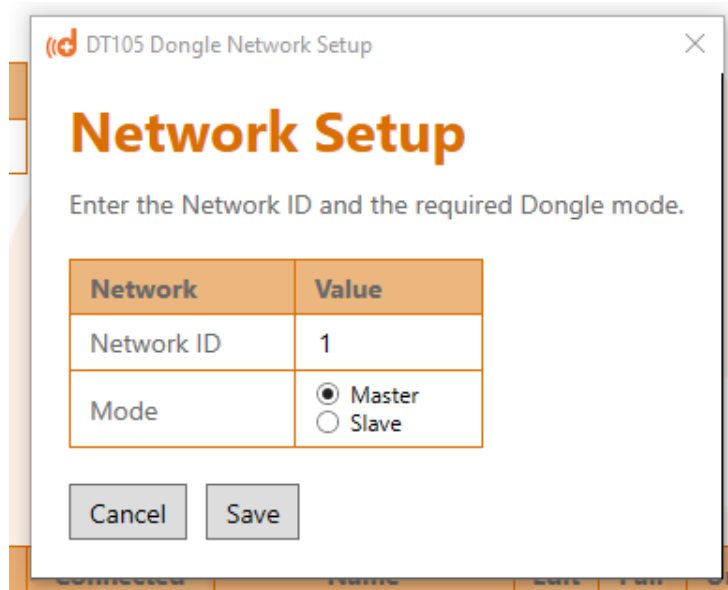
The table below shows network setup. This allows the operator to change which network number the Dongle is assigned as well as allowing the Dongle to be switch from master or slave mode. Section 2 will give guidance when these settings will need to be changed.

If these settings need to be change this can be done by clicking on the edit button.

This will bring up the Network set up dialog box. Network ID can be changed to any number that is different to those dongles that are being used within the area of the dongle that needs to change its network ID. I.E. if one dongle is set with a network ID of 1 then change the other dongle to a network ID of 2.

After network ID there will be a mode box that enables the operator to switch between master and slave modes. This is typically used when 2 of more dongles need to be connected to one load cell for example a telemetry link.

To switch the settings simply click on the master or slave button depending on which mode is needed.

5.0   Pairing Procedure

Before a Dongle can start communicating between a TW3.0 Load cell and the TW3.0 Toolkit, the dongle must be paired to a load cell.

Under the Channels table within dongle set up, there are 12 ''pair able'' channels, by clicking the pair button.

Channels

Channel	Serial Number	Enabled	Connected	Name	Edit	Pair	UnPair
1	11000667	☑	☐	DLM8380	...	Pair	UnPair
2	11000877	☑	☐	LINK 2	...	Pair	UnPair
3	0	☐	☐		...	Pair	UnPair
4	0	☐	☐		...	Pair	UnPair
5	0	☐	☐		...	Pair	UnPair
6	0	☐	☐		...	Pair	UnPair
7	0	☐	☐		...	Pair	UnPair
8	0	☐	☐		...	Pair	UnPair
9	0	☐	☐		...	Pair	UnPair
10	0	☐	☐		...	Pair	UnPair
11	0	☐	☐		...	Pair	UnPair
12	0	☐	☐		...	Pair	UnPair

Once the pair button has been selected a new window will appear with a 30 second count down timer. During this timer the TW3.0 Product you wish to pair to must be placed in pairing mode.

The below steps indicate briefly on how to do this:

- On the device to be paired with the TD-3.0 locate the PAIRING button
- Ensure the device is powered off
- Press and hold the PAIR button for 8secs until the LED flashes twice per second
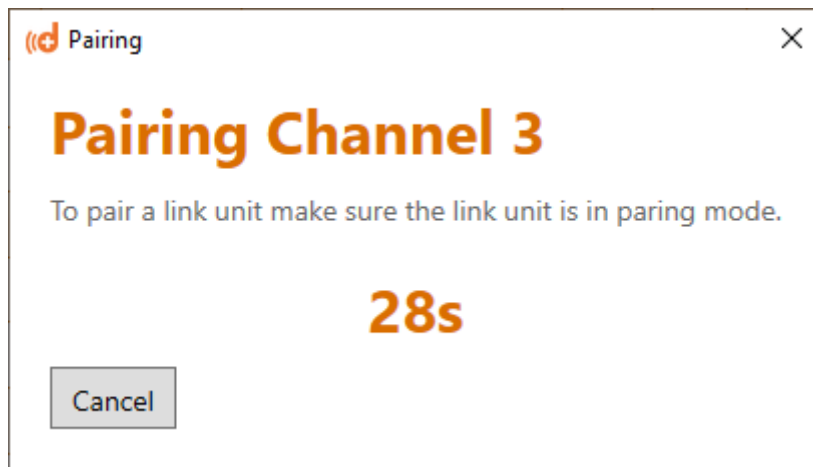
If the timer reaches zero before the products are paired than the pair cycle must be restarted.

Once paired the table will auto complete for the channel that has been paired. This includes the serial number of the paired device (this serial number will be of the PCB inside the paired device). As well as the name given typically this will remain as the DLM serial number of the product.

There are also two tick boxes which are names enabled and connected, if the channel needs to be disabled for any reason click on the edit button, and click on the enabled box to remove the tick, this will disable the device. If the device then needs to be re-enabled follow the same process only click on the box to add a tick.

If for any reason the device needs to be unpaired, whilst the device is paired to the dongle, click on the Unpair button to remove the device from the dongle channel.

Once pairing functions are completed click on the black bar at the top of the page to exit to the home screen.

You can now use the functions that are permitted on the licence with your TD-3.0 and TW3.0 Load cell. Please refer to supplied TW3.0 Software user manuals on how to navigate and use the software.

6.0   Warranty

Subject to the terms and conditions set out below, Dynamic Load Monitoring (UK) Ltd (Hereinafter 'DLM' or 'the company') warrants its products against defects in materials or workmanship for a period of one year from the date of original purchase.

Should a circumstance or condition be observed which might give rise to a claim under this warranty; the user should immediately take the unit out of operation. The item should then be returned carriage paid (including any and all taxes and duties) to DLM. It is advisable to notify DLM, by telephone or fax, of the details of the case prior to dispatch.

The extent of the company's liability under the terms of this warranty shall be the repair or replacement of the defective product, or defective part thereof, and the decision whether to repair or replace shall be made by DLM at its sole discretion.

After completion of any remedial work / replacement, the company will return the goods carriage paid.

Exclusions
Defects arising from the following circumstances are excluded from the benefit of this warranty:

• Unauthorised modification;
• Misuse, mishandling, abuse;
• Improper or inadequate maintenance;
• Operation outside the environmental specifications of the product.

7.0   Standards and Approvals

7.1 UKCA and CE Mark

Dynamic Load Monitoring (UK) Ltd tímto prohlašuje, že tento *TL-3.0* je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2014/53/EU.
Undertegnede, *Dynamic Load Monitoring (UK) Ltd* erklærer herved, at følgende udstyr *TL-3.0* overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU.
Hiermit erklärt, *Dynamic Load Monitoring (UK) Ltd* dass sich das Gerät TL-3.0 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EU befindet.

Käesolevaga kinnitab , *Dynamic Load Monitoring (UK) Ltd* seadme *TL-3.0* vastavust direktiivi 2014/53/EL põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

Hereby, *Dynamic Load Monitoring (UK) Ltd* declares that *TL-3.0* is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

Por medio de la presente *Dynamic Load Monitoring (UK) Ltd* declara que el *TL-3.0* cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/UE.

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ, *Dynamic Load Monitoring (UK) Ltd* ΔΗΛΩΝΕΙ ΟΤΙ TL-3.0 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/ΕΕ.

Par la présente, *Dynamic Load Monitoring (UK) Ltd* déclare que l'appareil *TL-3.0* est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/UE.

Con la presente , *Dynamic Load Monitoring (UK) Ltd* dichiara che questo *TL-3.0* è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/UE.

Ar šo *Dynamic Load Monitoring (UK) Ltd* deklarē, ka *TL-3.0* atbilst Direktīvas 2014/53/ES būtiskajām prasībām un citiem ar to saistītajiem noteikumiem,

Šiuo *Dynamic Load Monitoring (UK) Ltd* deklaruoja, kad šis *TL-3.0* atitinka esminius reikalavimus ir kitas 2014/53/ES Direktyvos nuostatas.

Hierbij verklaart , *Dynamic Load Monitoring (UK) Ltd* dat het toestel *TL-3.0* in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU.

Hawnhekk, *Dynamic Load Monitoring (UK) Ltd*, jiddikjara li dan *TL-3.0* jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2014/53/UE.

Alulírott, , *Dynamic Load Monitoring (UK) Ltd* nyilatkozom, hogy a *TL-3.0* megfelel a vonatkozó alapvetõ követelményeknek és az 2014/53/EU irányelv egyéb elõírásainak.

Niniejszym *Dynamic Load Monitoring (UK) Ltd* oświadcza, że *TL-3.0* jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2014/53/UE.

Dynamic Load Monitoring (UK) Ltd declara que este *TL-3.0* está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/UE.

Dynamic Load Monitoring (UK) Ltd izjavlja, da je ta *TL-3.0* v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2014/53/UE.

Dynamic Load Monitoring (UK) Ltd týmto vyhlasuje, že *TL-3.0* spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/EÚ.
Dynamic Load Monitoring (UK) Ltd vakuuttaa täten että *TL-3.0* tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Härmed intygar *Dynamic Load Monitoring (UK) Ltd* att denna *TL-3.0* står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU.
Hér með lýsir *Dynamic Load Monitoring (UK) Ltd* yfir því að *TL-3.0* er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 2014/53/EU.
Dynamic Load Monitoring (UK) Ltd erklærer herved at utstyret *TL-3.0* er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/EU.
Noi, *Dynamic Load Monitoring (UK) Ltd*, declarăm pe propria noastră răspundere că produsul *TL-3.0* este în conformitate cu cerinţele esenţiale şi celelalte prevederi aplicabile ale Directivei 2014/53/UE.

A copy of the signed Declaration of Conformity can be found here:

www.dlm-uk.com/downloads/certificates.html

7.2 FCC

FCC warning statement:

Per FCC 15.19(a)(3) and (a)(4) This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying the RF

exposure compliance. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

7.3 IC

Per RSS-Gen, Section 8.4 This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.
3. The product passes RF exposure with a distance of 5mm or greater.

Conformément à RSS-Gen, section 8.4, cet appareil est conforme aux normes RSS sans licence d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas provoquer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

1. Cet appareil ne doit pas provoquer d'interférences.
2. Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.
3. le produit passe l'exposition RF à une distance de 5 mm ou plus.