The DLM J-Tube Pull Tension Monitoring System is a unique set of load monitoring equipment designed specifically for use in offshore cable installations on wind farm platforms.

The system monitors the load using a tensile load link/shackle load cell/ load pin, mounted on/in a sheave block connected to the pull-in winch cable. It is possible to have a telemetry load link or load shackle and load pin connected to the display, and then retransmit one of the load values back to the cable laying vessel.

A local rugged display enclosed in a peli case is used to display the load on the offshore platform, which has a wireless link to a TW-2.0-T handheld display and a slave display designed to be mounted on the cable laying vessel.

The system comes complete with an audible alarm on the peli display, RS232/RS485 retransmission options on the slave display and also a "bolt-on" data logger option offering the ability to log data over time and view load trends in graphical format.

### Key features:
- Robust offshore design with displays mounted in Peli cases
- Wireless transmission of signals to Load Cell and then back to remote display on vessel
- Data logging
- RS232 retransmission on vessel display for connection to survey
- Long battery life with removable battery packs
- Use of multiple handheld displays to one Load Cell if required
- Wireless connection to multiple vessel displays

### Applications:
- Offshore Windfarm power cable installations
- Cable laying operations

### Specification

#### Load Cell Options:
- 25T Wireless Shackle load cell / Tensile Link / 20T load pin (CIF Frame Load cell)

#### Load Cell Master Display:
- Housed in a rugged Peli 1450 case display sealed to IP66
- Tough Polycarbonate viewing window
- Red Lion bright red LED panel meter display
- TW-2.0-T to view shackle
- External Tare Buttons
- External ON/OFF switch
- External pairing button for wireless load shackle
- Removable magnetic antenna with 5m extension lead
- 5m power connection to 24VDC battery box
- Internal 433MHz wireless transmission to Slave Display with 250m range
- Internal 2.4GHz wireless transmission to load cell
- CA connection to battery box
- Optional RS485 retransmission (not supplied)

#### Wireless Remote Shackle tensile Link Display:
- TW-2.0-T display / 2.4GHz wireless transmission

#### Receiver Slave Display
- Housed in rugged wall mountable Polyglass enclosure with viewing window.
- Sealed to IP66.
- Dimensions 308x255x130mm.
- Red Lion bright red LED panel meter display.
- Wall mounting brackets.
- External On/Off and switch.
- Requires 110VAC - 240VAC supply.
- 5m mains cable via IP67 cable gland.
- RS232 / RS485 retransmission ports with 5m retransmission cable for connection to PC.
- Removable Antenna with 5m extension lead.
- Internal 433MHz wireless receiver with 250m range.

#### Battery box:
- House in rugged peti 1400 case sealed to IP66
- CA connector bulkhead for connection to Master Display box
- Internal 24VDC rechargeable battery
- External bright DC volt indicator to show battery charge status

#### Documentation:
- Manual including required setup software / wiring diagrams / calibration certificate / declaration of conformity

#### Optional extras:
- Data logger / remote load monitoring and trend viewer via web browser / slave audible alarm / visual alarms / audible alarm