BOSCH
Technik fürs Leben

TDL Freight Guard – TDL140

Operating Instructions

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1. Introduction

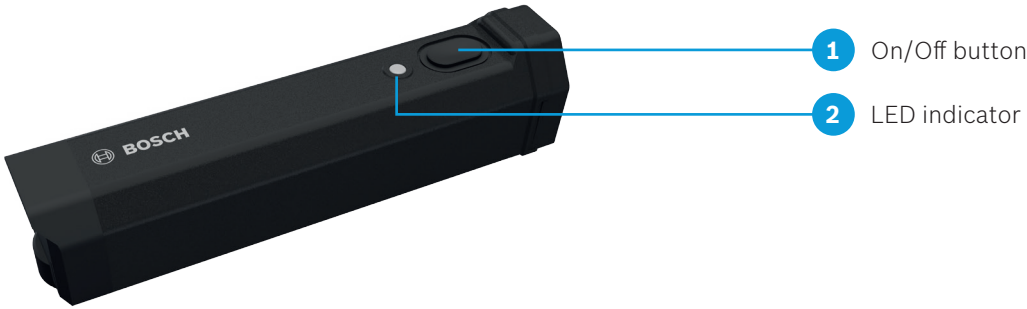
Transport Data Logger Freight Guard TDL140, is the solution for bringing transparency into the whole supply chain. To prevent concealed damages or misdirected shipments, internal sensors enable a 24/7 condition monitoring for critical shipments. TDL Freight Guard is your real time tool to track assets, shipments and goods in transit for creating customer trust with reliable information in every transportation mode. Reduce complexity with the Bosch TDL Freight Guard End to End solution by being active informed about the shipment status..

While transportation the device operates in sleep mode and monitors the environmental conditions.

TDL Freight Guard - TDL140 is a self-sustainable unit, capable of operating without the need for any physical connection or external wiring.

Reliable transparency for your supply chain

2. Quick Start Guide



The TDL Freight Guard – TDL140 works immediately without any configuration or modification – the device is preconfigured, SIM card and rechargeable battery are installed. Battery should be charged for at least 5 hours prior to the first use.

CAUTION: Charger
Using the wrong charger could lead to insufficient charging status or electrical hazard

- Only use the Bosch approved charger initially supplied with the device.

To turn the unit on, press the On/Off button. The LED will flash **white** three times

To check battery status, press the On/Off button. LED will switch on **green** for full battery and **red** for battery under 95%.

To force communication to Cloud application press long the On/Off button until **white** LED is switched On.:

1.The the LED will blink **green** until the unit successfully sends a message (or 5 minutes have passed).
2.The LED will blink **red** until the unit successfully finds the GPS position (or 5 minutes have passed).

The device uploadsall data automatically to TDL Cloud where you can manage and monitor them (for further information see **6. Management and Monitoring of Devices**).

To turn the unit off, press and hold (+10 seconds) the On/Off button until LED blinks. Device will blink **green** (if the battery is fully charged) or **red** (if the battery is used) three times.

3. Mounting the TDL Freight Guard – TDL140

Before mounting please insert the TDL140 into the mounting plate as seen below. Please be aware that TDL140 unit can be correctly inserted into the bracket part only in one specific position.

A Hold the unit slightly tilted to slide it into the bracket.

B Then, push the unit further inside the bracket until both parts fit together.

C The TDL140 can be attached to any cargo in any position required.

D The fastening, depending on the specific requirements, can be carried out with screws or with double-sided adhesive tape. In case shock shall be measured a direct and non-absorbing connection between the mounted TDL140 and the monitored goods is required. For achieving this we recommend using either screws or a fiber-reinforced adhesive tape.

Recommended screws: M4 (recommended with washer) raised cheese head / pan head / round head screws.

Recommended tightening torque: 1 Nm

Recommended tape: Double-sided fiber-reinforced adhesive tape.

CAUTION: Check Housing
Do not use de device if you see any signs of manipulation or damage in the housing. Please contact Bosch Connected Devices and Solutions for more information.

4. Package Contents

1

Mounting plate for TDL Freight Guard – TDL140

2

TDL Freight Guard – TDL140 unit

3

TDL Freight Guard – TDL140 charging cable

Recommended charger:
Input: 100-240 VAC 50/60Hz

Output: 5V - 2A

5. Technical Specifications

DEVICE SPECIFICATION

Dimension	165 mm x 38 mm x 40 mm
Weight	216 g
Power supply	Lithium-ion 3.7 V, 5200mAh
Battery Life	1 report every 1 hour: 30 days 1 report every 6 hours: 90 days 1 report every 24 hours: 300 days Note: based on ambient temperature conditions (~25°C)
Location/Tracking	GPS, A-GPS, GLONASS, Geofencing Cellular location
Cellular communication	2G GSM/GPRS/EDGE (850MHz, 900 MHz, 1800 MHz, 1900 MHz) 3G UMTS/HSDPA/HSUPA (800 MHz, 850 MHz, 900 MHz, 1900 MHz, 2100 MHz)
Radio power	Max. 33dBm for GSM/GPRS and 24dBm for UMTS/HSPA
Message	GPRS(TCP/IP over PPP)
Flight mode	Automatic (non-hermetic packaging)
Firmware update	FOTA
Enclosure protection class	IP 64 Note: IP64 rating only when provided USB protection cap is firmly closed and housing is not damaged..
Certifications	CE, WEEE, RoHS, REACH contains FCC ID: XPY1CGM5NNN

OPERATING CONDITIONS	
Operating Temperature Range	-20°C to +60°C
Storage Temperature Range	-20°C to +60°C
Shock Detection Range	+/-24 g per axis

ACCURACY	
Temperature	+/- 1 °C
Shock	+/- 20 %

6. Management and Monitoring of Devices

TDL Cloud is a web based fleet management application which allows you to monitor and manage all your devices online.

Go to **https://bosch-tdl.com**. **If you do not have an account,** please use the Activation code delivered with the TDL140 to create one.

Visit **www.bosch-connectivity.com** to get complete user manual for Cloud application.

7. Safety and Environment & Regulatory Notices

CAUTION: Lithium Battery!
The device contains a lithium battery. Handling the battery incorrectly could cause fire.

- Read and follow the valid transportation regulations.
- Do not replace the battery

CAUTION: Opening the Casing without Authorization!
Opening the casing without authorization will void any warranty and includes risks of injury to the user.

- Do not open the housing.
- Do not repair the device yourself. If required, send it in to Bosch Connected Devices and Solutions for repair.

Disposal according to the WEEE Directive 2012/19/EU

The unit, accessories and packaging should be sorted for environmental-friendly recycling. Do not dispose of the device into household waste! According to the European Guideline 2012/19/EU, electric and electronic devices that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

EU Declaration of Conformity

Hereby, Bosch Connected Devices and Solutions GmbH declares that the radio equipment type TDL Freight Guard – TDL140 is in compliance with Directive 2014/53/EU (Radio Equipment Directive).

The full text of the EU declaration of conformity is available at the following internet address: **www.bosch-connectivity.com/tdl140**

Operating the device in airplanes

TDL Freight Guard – TDL140 has a flight mode detection to suspend active communication over the cellular network during flight. Validate that the used air carrier's regulation allows the unattended use of an activated TDL Freight Guard – TDL140 during transport.

Operating the device in countries out of the EU and USA

The TDL Freight Guard – TDL140 carries the CE mark and is certified for operation in the European Union and it is authorized for operation in the USA according to FCC rules. For countries out of the EU and USA the customer is responsible to validate that local legal regulation allows the operation of the TDL Freight Guard – TDL140.

Intended Use

The housing of the TDL140 is not to be opened or tampered with. The TDL140 is designed for use within environmental conditions as further detailed in the technical specifications. Any intent to use or operate the product under deviating environmental conditions must be subjected to renewed validation and testing by the customer.

Neither the TDL140 nor a potential product derivation, are designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Bosch product could create a situation where personal injury or death may occur. The same applies for any kind of weapon, or any device or application which is potentially dangerous to human life.

The TDL140 is designed for monitoring purposes and shall not be used as an element of control and safety in machines under the scope of the Machinery Directive 2006/42/EC.

Bosch Connected Devices and Solutions GmbH shall not be held liable for any damages resulting from any use of the TDL140 outside/beyond the certified types of operation and/or defined field of application.

Radiofrequency radiation exposure information: this equipment complies with the radiation exposure limits prescribed for an uncontrolled environment for fixed and mobile use conditions. This equipment is not designed as a portable cellular radio device and should be installed and operated with a minimum distance of 20 cm between the radiator and the body of the user or nearby persons.

FCC Compliance Statement:

The TDL140 contains a radio module with FCC ID XPY1CGM5NNN which is in conformity with Part 15 C of the FCC rules.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to

cause harmful interference in which case the user will be required to correct the interference at his own expense.

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. The user shall not modify the device. The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications may void the FCC authorization to operate this equipment.

www.bosch-connectivity.com/TDL140

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