

# Instruction Manual



KONGSBERG

## TTC30 and TTC10 Transponder Test and Configuration







KONGSBERG

***TTC***  
***Transponder test and configuration unit***  
***Instruction Manual***

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# About this manual

Observe this general information about the TTC Instruction Manual; its purpose and target audience.

## **Purpose of manual**

The purpose of this instruction manual is to provide the descriptions and procedures required to install, operate and maintain the TTC.

## **Target audience**

The manual is intended for all users of TTC.

## **Registered trademarks**

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### **Topics**

[System description, page 7](#)

[General supply conditions, page 7](#)

[Support information, page 8](#)



## System description

The TTC unit is for on deck testing and configuration of the transponders. It can test all KONGSBERG transponder channels, Cymbal and HPR 400. It can also test telemetry transponders with internal and external sensors. The TTC 30 operates for the medium frequency transponders and the TTC 10 for the low frequency.



## General supply conditions

The following general supply conditions apply to this TTC delivery.

### Receipt, unpacking and storage

Upon accepting shipment of the equipment, the shipyard and/or the dealer must ensure that the delivery is complete and inspect each shipping container for evidence of physical damage.

If the inspection reveals any indication of crushing, dropping, immersion in water or any other form of damage, the recipient should request that a representative from the company used to transport the equipment be present during unpacking.

All equipment must be inspected for physical damage, i.e. broken controls and indicators, dents, scratches etc. during unpacking. If any damage to the equipment is discovered, the recipient must notify both the transportation company and Kongsberg Maritime so that Kongsberg Maritime can arrange for replacement or repair of the damaged equipment.

Once unpacked, the equipment must be stored in a controlled environment with an atmosphere free of corrosive agents, excessive humidity or temperature extremes.

The equipment must be covered to protect it from dust and other forms of contamination when stored.

### Equipment responsibility

Unless otherwise stated in the contract, the shipyard doing the installation and/or equipment dealer becomes fully responsible for the equipment upon receipt.

The duration of responsibility cover:

- The period of time the equipment is stored locally before installation
- The entire installation process

- Commissioning
- The period of time between commissioning and the final acceptance of the equipment by the end user or owner

Unless other arrangements have been made in the contract, the TTC warranty period (as specified in the contract) begins when the acceptance documents have been signed.

## Support information

If you need support for your TTC you must contact Kongsberg Maritime AS.

- **Company name:** Kongsberg Maritime AS
- **Address:** Strandpromenaden 50, 3190 Horten, Norway
- **Telephone, 24h support:** +47 33 03 24 07
- **Telefax:** +47 33 04 76 19
- **Website:** <http://www.km.kongsberg.com>
- **Support website:** [http://www.km.kongsberg.com/support\\_hpr](http://www.km.kongsberg.com/support_hpr)
- **E-mail address:** [km.support.hpr@kongsberg.com](mailto:km.support.hpr@kongsberg.com)

# Main system units

## Topics

[TTC \(Transponder Test and Configuration unit\), page 10](#)

## TTC (Transponder Test and Configuration unit)

The TTC unit is for on deck testing and configuration of transponders. Two models are available:

- TTC30 for medium frequency transponders
- TTC10 for low frequency transponders

The TTC can test all KONGSBERG transponder channels, Cymbal and HPR 400. It can also test telemetry transponders with internal and external sensors.

The TTC unit comes with:

- Test transducer
- Serial line cable
- Mains cable



### **Test transducer for acoustic test**

The test transducer is used for acoustic test. The TTC communicates with transponder through the transducer. Acoustic test includes interrogation, read/set transponder parameters and reading internal and external transponder sensors.

### **Serial line cable for configuration**

The serial line cable connects a transponder to the TTC and is used for transponder configuration such as changing acoustic mode and default channels and SW download.

### **Power supply for charging the unit**

Mains power cable is used to connect the TTC to a standard 115/230 Vac mains supply to recharge the internal battery.

# Getting started

## Topics

[Front panel, page 12](#)

[Powering up the unit, page 13](#)

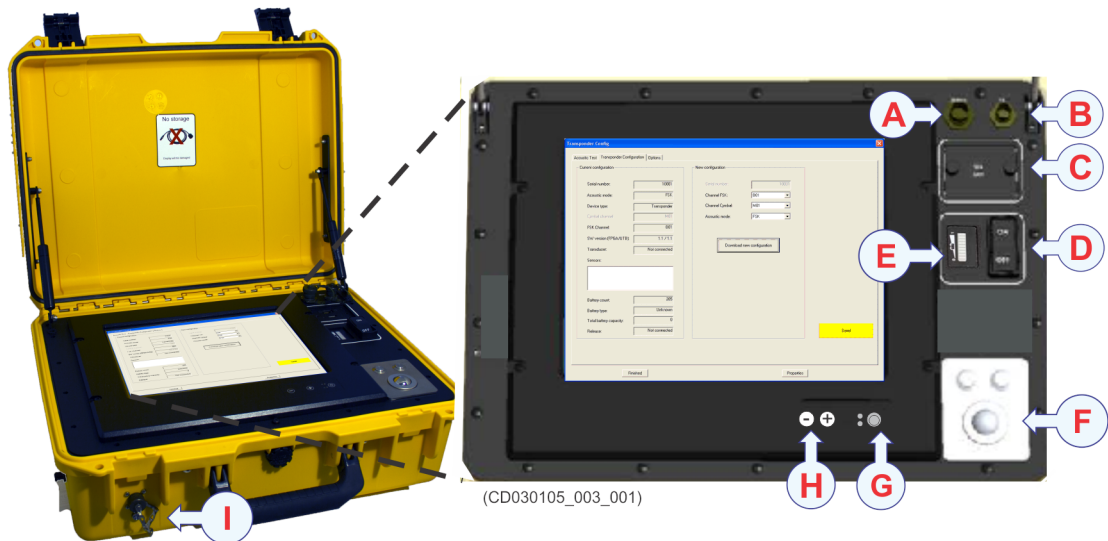
[Main menu, page 13](#)

[Acoustic test, page 14](#)

[Configuring the transponder, page 14](#)

## Front panel

The touch screen is mostly used when performing an acoustic test and transponder configuration.



- A Connector (with protection cap) for Serial line. For service personnel only. (For program downloads and configuration purposes).
- B Connector (with protection cap) for test transducer.
- C Connector for USB and LAN. For service personnel only. (Connection to network and possible APOS/PC program download via USB.)
- D Power ON/OFF switch.
- E Battery status indicator. The battery should last for approximately 3 hours of continuous use.
- F Trackball for positioning the cursor on the screen.
  - Left button: Used to click on buttons, operate menus and select displayed symbols.
  - Right button: Used to display menus and pop-up windows.
- G Stand-by wake up, with two LEDs indicating status.
- H Display light (-/+) adjustment.
- I Power connector - male 3-pins connector for the mains cable.

## Powering up the unit

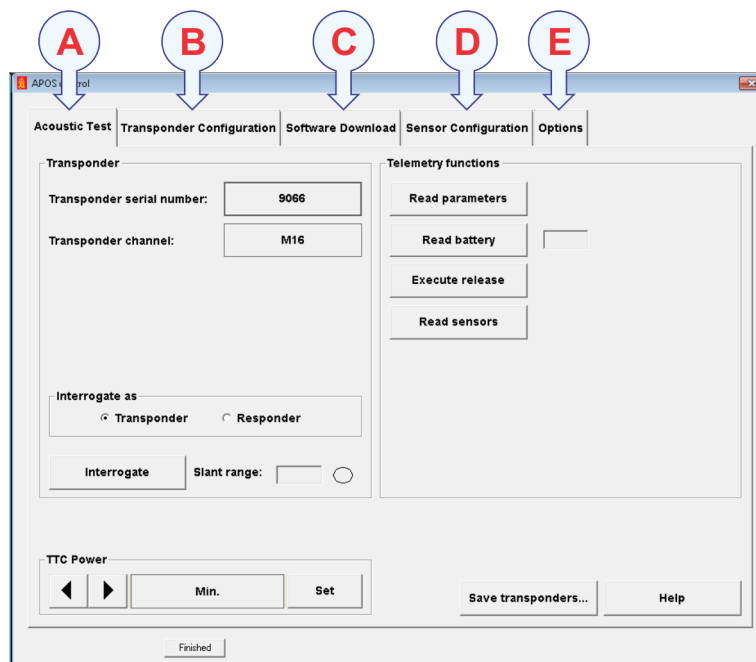
### Procedure

- 1 Place the unit in a suitable location.
- 2 Open the case by pressing the handle knobs and pulling the handles up.
- 3 Turn on the main power switch to load the software (this takes approximately 1.5 minutes).

### Result

The system is now ready for operation.

## Main menu



(CD030105\_004\_001)

- A Acoustic test
- B Transponder configuration
- C Software download
- D Sensor configuration
- E Options

## Acoustic test

Perform the acoustic test to make sure the transponder is functioning.

### Prerequisites

Pre-deployment checks have been done.

### Context

To set **TTC POWER** use left/right arrows to choose power level and tap **SET** to confirm your selection.

### Procedure

- 1 Connect the test transducer cable to the upper right connector.
- 2 Place the Test transducer face to face with the transponder.
- 3 Communication between the TTC and the transponder may easily be tested by selecting the **ACOUSTIC TEST** tab.
- 4 Enter serial number.
- 5 Enter the transponder channel number.
- 6 Tap **INTERROGATE**.
- 7 A green indicator will blink on the display if there is acoustic contact with the transponder.
- 8 Tap **INTERROGATE** again to stop the **ACOUSTIC TEST**.

## Configuring the transponder

This will leave your transponder with a new configuration.

### Prerequisites

The transponder must be connected to the TTC unit via the test and configuration cable.

### Procedure

- 1 Tap **Transponder Configuration**.
- 2 Make changes to the configuration in the relevant fields.
- 3 Tap **DOWNLOAD A NEW CONFIGURATION** to update the transponder.

### Result

If the configuration is successful you will receive a message; Downloaded new configuration succeeded and reset performed successfully.



If the configuration is not successful you will receive a warning message; Download config failed. Check all cables and try again.

# Maintenance

All maintenance procedures you can do on the TTC are listed here.

## **Topics**

[Preventive maintenance schedule, page 17](#)

[Charging the TTC unit, page 17](#)

[Cleaning the TTC unit, page 18](#)

## Preventive maintenance schedule

In order to secure long and trouble-free operation of the TTC, certain specific preventive maintenance tasks must be done. The tasks are organized in a preventive maintenance schedule.

- Annually
  - Clean the unit
  - Charge the battery

## Charging the TTC unit

### Context

If the TTC battery indicator indicates LOW power then connect the charging cable and charge the battery.

Charging options:

- A Turn the unit off during charging and then turn it back on again when you are going to use it.
- B Leave the TTC on during charging.

### Procedure

- 1 Locate the Mains cable in the folder inside the unit.
- 2 Connect the cable to the power connector at the front of the TTC.  
Mains power connector is located at the front of the unit on the left hand side.

Note \_\_\_\_\_

*Use only the Mains cable supplied with the unit.*

---

- 3 Connect the other end of the cable into a 115/230 Vac mains supply.

Note \_\_\_\_\_

*It is important that the battery is fully charged when the TTC is stored. It is recommended that the battery is recharged at least every 12 months.*

---

## Cleaning the TTC unit

Kongsberg Maritime recommends that the unit is switched off during cleaning.

Use a damp lint-free, non-abrasive cloth and a neutral cleaner based on a non-abrasive cleaning solution or glass cleaner for best result.

# Illustrated spare parts catalogue

## Topics

[Transponder Test and Configuration unit \(TTC30\) spare part, page 20](#)

[Transponder Test and Configuration unit \(TTC10\) spare part, page 20](#)

[Test transducer and cables spare part, page 20](#)

## Transponder Test and Configuration unit (TTC30) spare part

- **Part name:** TTC 30
- **Part number:** 345775



## Transponder Test and Configuration unit (TTC10) spare part

Transponder test and configuration unit for low frequency transponders.

- **Part name:** TTC 10
- **Part number:** 364845



## Test transducer and cables spare part

### Test transducer

- **Part name:** Test transducer
- **Part number:** 312–219822

### Cables

- **Part name:** Serial line cable
- **Part number:** 355047
- **Part name:** Mains cable
- **Part number:** 375781

# Drawing file

This chapter lists all the drawings needed for installation and maintenance.

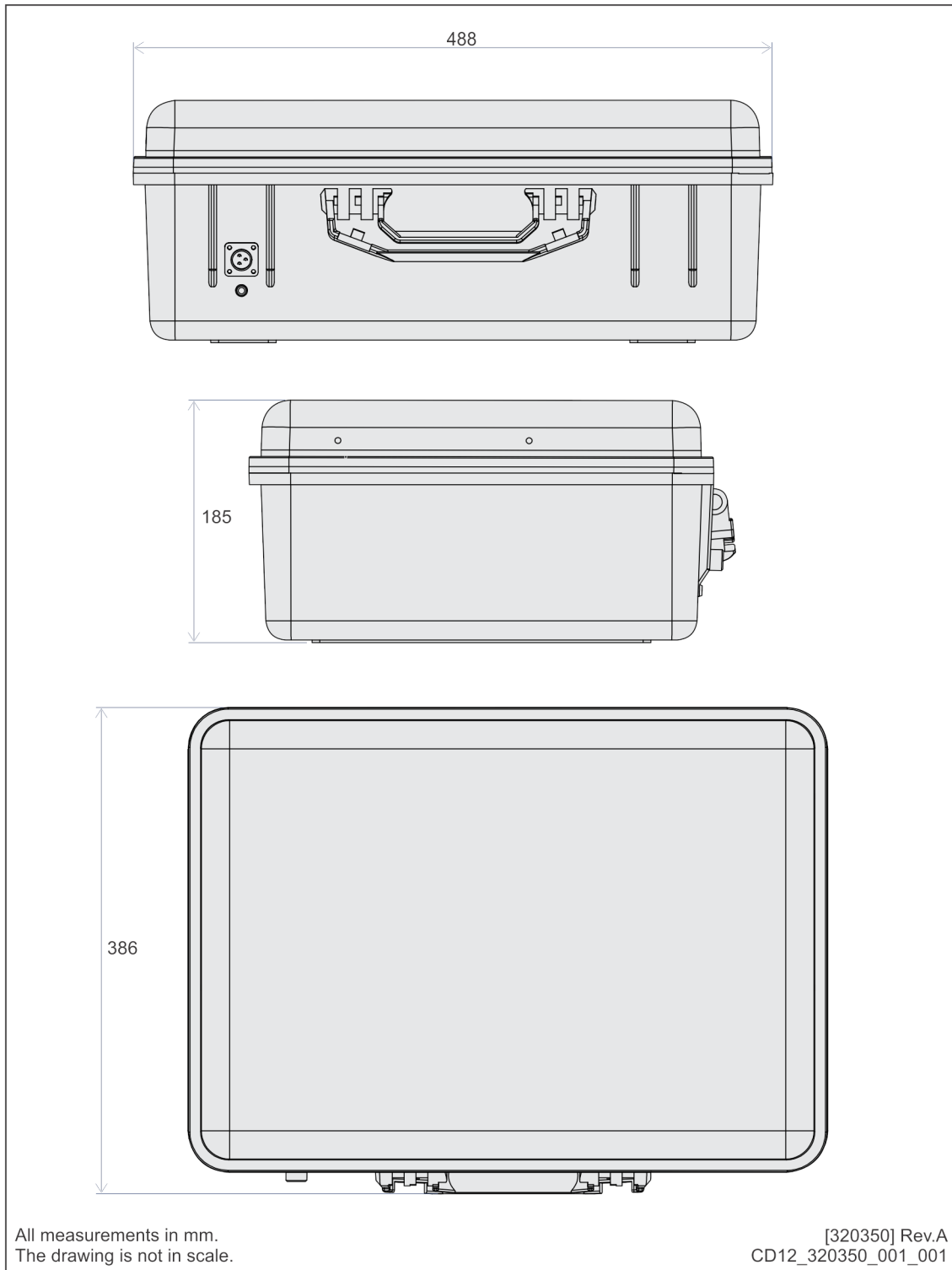
## **Topics**

[TTC outline drawing, page 22](#)

[Test transducer outline drawing, page 23](#)

## TTC outline drawing

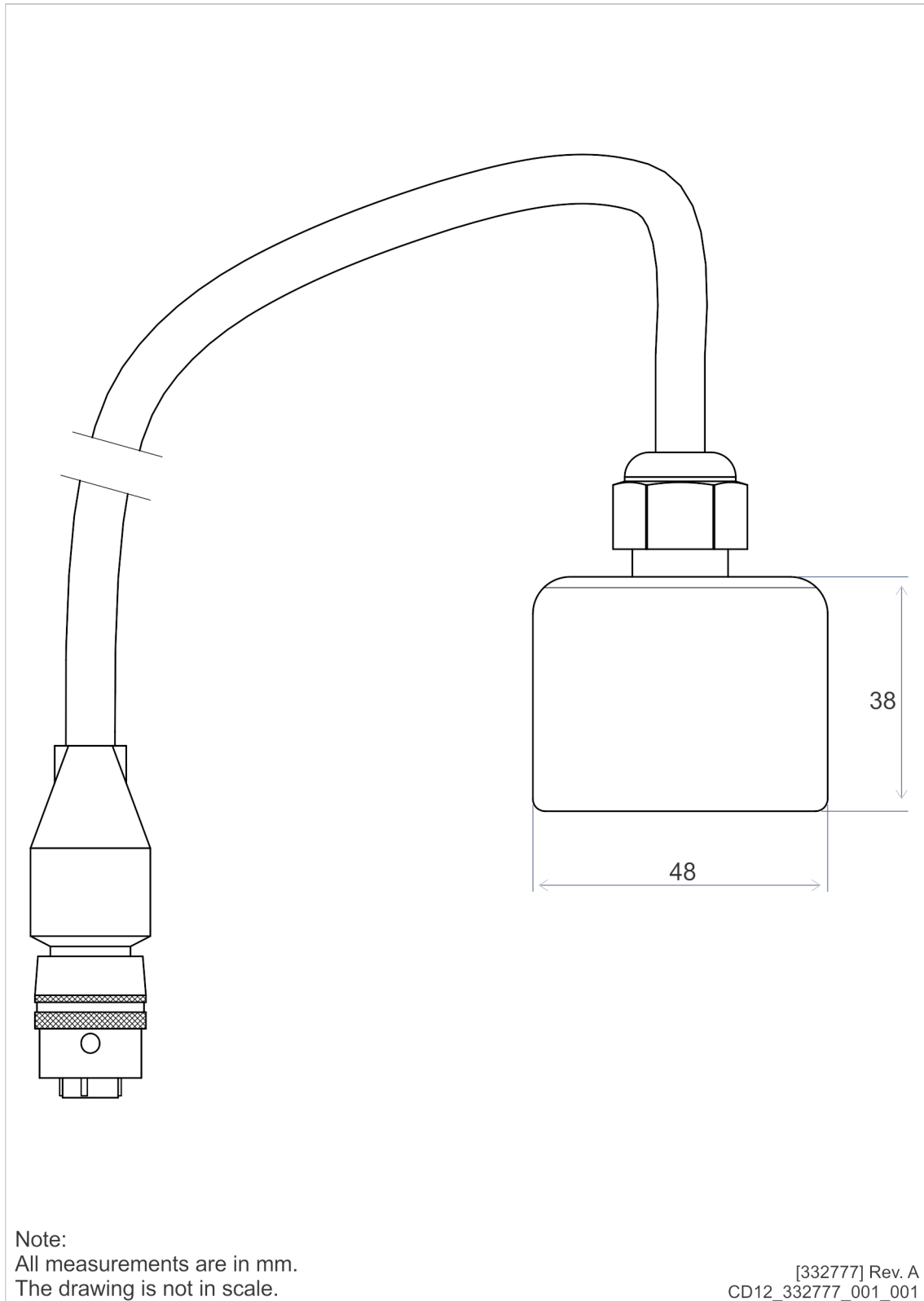
Drawing 320350





## Test transducer outline drawing

Drawing 332777



# Technical specifications

## Topics

[Environmental requirements, page 25](#)

[Performance specification, page 25](#)

[Power requirements, page 25](#)

[Weight and outline dimensions, page 25](#)

## Environmental requirements

These environmental specifications summarize the temperature and humidity requirements for the TTC.

- **Operation temperature:** –5 to +55 °C
- **Storage temperature:** –30 to +70 °C

## Performance specification

These performance specifications summarize the main functional and operational characteristics of the TTC.

### TTC30

- **Operating frequency:** Medium frequency
- **Battery cell type:** Lead/Acid
- **Battery lifetime:** Approximately 3 hours
- **Degree of protection:** IP 54

### TTC10

- **Operating frequency:** Low frequency
- **Battery cell type:** Lead/Acid
- **Battery lifetime:** Approximately 3 hours
- **Degree of protection:** IP 54

## Power requirements

These power characteristics summarize the supply power requirements for the TTC.

- **Input voltage:** 100 to 240 Vac (47 to 63 Hz)

## Weight and outline dimensions

These weights and outline dimension characteristics summarize the physical properties of the TTC.

### TTC30 and TTC10

- **Case dimensions:** 386 mm x 488 mm x 185 mm

- **Weight:** Approximately 19.5 kg

**Test transducer**

- **Cable length:** 2.5 m

**Serial line cable**

- **Cable length:** 5 m

**Mains power cable**

- **Cable length:** Approximately 2 m

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