NMO

Member State of OIML
United Kingdom of Great Britain
and Northern Ireland

OIML Certificate No
R21/2007-GB1-16.01

OIML CERTIFICATE OF CONFORMITY

Issuing authority: **NMO**

Person responsible: **Max Linnemann – Head of Certification Body**

Applicant: **UCAST Pte Ltd**
1091 Lower Delta Road #04-02
Singapore 169202

Manufacturer: **The applicant**

Identification of the certified pattern: **MDT 900A**

This certificate attests the conformity of the above-mentioned pattern (represented by the samples identified in the associated test report) with the requirements of the following Recommendation of the International Organisation of Legal Metrology (OIML):

OIML R 21 - Edition 2007(E)

This certificate relates only to the metrological and technical characteristics of the pattern of the instrument concerned, as covered by the relevant OIML International Recommendation.

This certificate does not bestow any form of legal international approval.

Important note: Apart from the mention of the certificates reference number and the name of the OIML Member State in which the certificate was issued, partial quotation of the certificate or of the associated test report is not permitted, though they may be reproduced in full.

Issue Date: **03 August 2016**
Reference No: **TS16/0013**

Grégory Glas
Technical Manager
For and on behalf of the Head of Certification Body

UKAS PRODUCT CERTIFICATION
0135

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NMO is part of the Regulatory Delivery directorate within the Department for Business, Energy and Industrial Strategy

The conformity was established by testing and examination s described in the associated Evaluation Report P01808 which includes 15 pages.

Characteristics of the instrument:

Characteristics:

The pattern is a taximeter designated the MDT900A, designed to be installed in a road vehicle for the calculation of fares. The fares are calculated based on measurement of distance and time. The instrument operates in calculation mode S (single application of tariff). The instrument is powered via the vehicle battery.

The distance measuring device (transducer) is not covered by this certificate.

Main features:

The instrument is a taximeter based on a mobile data terminal, used in Taxi-cabs to display the fare to be paid for a taxi journey, calculated by time and distance, against the values in a tariff table, set by the local authority, or a taxi company.

The instrument comprises a printed-circuit board, an LED touch screen display and 6 push buttons, enclosed in a plastic enclosure. The plastic enclosure consists of front and rear parts held together with screws, with two cover plates on the bottom and the right side. An optional external printer may also be used.

The display uses Windows Embedded Compact operating system. The display comprises two distinct areas: one legally relevant area for the taximeter application, one non-legally relevant area for additional user applications. The taximeter area cannot be obscured by non-legally relevant information.

Devices:

- Display check
- Time or distance counting
- Fare calculation (initial fare, fare increments, extras)
- Segregated display (legally relevant for taximeter application, non-legally relevant for additional user applications)
- Display of rate, mode (For Hire, Hired, Stopped) and fare (actual fare and total fare with extras)
- Display of distance and time for the journey
- Loading of tariffs and software
- Real time clock
- Long-term totalisers (non-resettable)
- Display of parameters and software information (read-only)

Interfaces:

- Earphone Interface
- 2 x SIM Card
- Micro SD
- USB OTG
- TTL For Debug
- GPS Antenna Connector
- 3G / 4G Antenna Connector
- WIFI Antenna Connector
- 2 x USB Host

- RJ45 Ethernet
- 26 Pin Connector for Power Input/Power Output/Input IO/Output IO/Odometer Input/RS232/Camera AV In/Can Bus

Technical data:

Power supply	9 to 32 VDC (12 V or 24 V nominal)
Taximeter constant k	1,000 to 6,000 pulses/km
Maximum speed	200 km/h
Pulse voltage amplitude (low/high)	0.1 – 0.3 VDC / 5.0 – 12.0 VDC
Pulse frequency	≤ 500 Hz
Minimum pulse width	2 ms
Climatic environment	-10°C to +70 °C
	Condensing (closed)

Firmware:

The legally relevant software is held in the firmware and is unambiguously identified by its release name and CRC-16 checksum value.

The firmware release name and CRC versions programmed in the taximeter can be displayed as follows:

- From For Hire Position press and hold key number 1 key for a few seconds
- In the display the CRC Firmware number will be shown
- As well as the Country identification with 3 letters and 2 numbers will be shown.

The software identification shall be as follows:

Software revision number	CRC (checksum value)	Country / Language
USTM16	61906	Generic / Programmable

Software download is only possible via the Service programming software, which is protected by the mechanical seal described in the Sealing measures section.

Tariff:

The tariff is protected by a CRC-16 checksum, the value for the tariff checksum can be displayed as follows:

- From the For Hire Position press and hold key number 6 key for 3 seconds

Sealing measures:

The taximeter is fitted with a sealing point preventing access to the metrological components and sealing the instrument to the car.

CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
R21/2007-GB1-16.01	03 August 2016	Certificate first issued.
-	-	No revisions have been issued.