

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

OIML Certificate No
R21/2007-GB1-17.02

OIML CERTIFICATE OF CONFORMITY

Issuing authority: **NMO**
Person responsible: **Mannie Panesar – Head of Technical Services**
Applicant: **ITALTAX SRL**
Via dell'Industria, 16
62017 Porto Recanati (MC)
Italy
Manufacturer: **The applicant**
Identification of the certified pattern: **F4 Plus & F4 Slim**

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 R21 - 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: 27 July 2017



Grégory Glas
Technical Manager
For and on behalf of the Head of Technical Services



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The conformity was established by testing and examinations described in the associated Evaluation Report P02134 which includes 15 pages.

Characteristics of the instrument:

Characteristics:

The pattern is a family of taximeters designated the F4 Plus and F4 Slim, 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 modes S (single application of tariff) or D (double 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 F4 Plus comprises a PCB housed within a plastic enclosure, one LED or LCD display, seven push buttons, and a thermal printer built-in at the back of the meter. The F4 Slim comprises a PCB housed within a plastic enclosure, one LED or LCD display, seven push buttons, and an external thermal printer connect to the meter.

The PCB holds all the electronics, including the components associated to the remote download of tariff (GPRS modem, GSM Simcard, GSM antenna).

The plastic enclosure consists of front and rear parts held together with screws, with a sealed removable part on the right-hand side allowing access to the test connector. The manufacturer seal seals the enclosure. The third sealing point is the wiring harness seal.

An additional plate is fitted at the bottom (F4 Plus) / rear (F4 Slim) of the instrument, which is used to seal the instrument in the vehicle.

Devices:

- Display check
- Calculation modes S or D
- Fare calculation (initial fare, fare increments, extras)
- 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 (via sealed interface)
- Real time clock
- Long-term totalisers (non-resettable)
- Display of parameters, software and tariff information (read-only)
- Test connector
- Hardwire connected Thermal Printer (built into the enclosure or stand out):
The taximeter has a secure RS232 serial connection-link with a Digitax printer that at any trip starts the secure connection checks:
 - a) The online presence of the printer
 - b) The pairing serial number between the taximeter and printer (only the paired taximeter & printer will work)
 - c) The paper presence

In case of one of the above checks is False, the taximeter gets blocked.

In case that the pair has been done successfully and the taximeter is not blocked, then the taximeter and printer are defined as a one combined system.

- Remote download of tariff (“Over The Air”)

Interfaces:

- 2 x RS232
- Passenger Sensor
- External Lights Input
- Odometer Input
- External Lights power output
- Magnetic Card reader
- Dallas 1-Wire Net
- CAN Bus input
- Mobile data terminal interface
- Test Connector
- Service/Programming Keys
- POS point of sale interface
- TIM Reader
- Protocol Interface with third part device
- Interface for external Bluetooth device

Technical data:

Power supply	9 to 16 VDC (12 V nominal)
Taximeter constant k	500 to 65,535 pulses/km
Maximum speed	200 km/h
Pulse voltage amplitude (low/high)	0 - 0.3 VDC / 5 -12 V DC
Pulse frequency	≤ 1 kHz
Minimum pulse width	50 μs
Electromagnetic environment	E3
Mechanical environment	M3
Climatic environment	-25°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 at the same time K2+K3+K4
- Wait few seconds
- In the main display will be shown the CRC Firmware number
- In the secondary display will be shown the Country identification with 3 letters and 2 numbers.

The software identification shall be as follows:

Software release name	CRC (checksum value)	Country / Language
F4G01	64883	Generic / Programmable

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

Tariff

The instrument allows the remote download of tariff ("Over The Air", OTA), without breaking the mechanical seal.

In order to be able to download the tariff and the firmware OTA, the taximeter has to be enrolled to the OTA Server. This is a manual procedure that is started from the taximeter, using a dedicated ID memory key, and then confirmed from the OTA Server.

Taximeter communication with the OTA server is protected using SSL and uses both client and server certificates for authentication. Access to the OTA Server Web Interface is only allowed using HTTPS and registered security tokens for client and user identification and authentication.

Using the OTA Server Web Interface, it is possible to load a new tariff or firmware into the server, and then download them to all the registered taximeters or only to a group of them. Each taximeter periodically polls the OTA server, and if a new tariff or firmware is found then it is automatically downloaded, authenticated and programmed into the taximeter itself, without the need for breaking the mechanical seal.

The tariff is protected by a CRC-16 checksum, the checksum value can be displayed on the taximeter by pressing K1+K4 keys in For Hire status: the taximeter will start the display self-check procedure and at the end will show the tariff CRC in its main display and the firmware name in the secondary display.

Sealing measures:

The taximeter is fitted with sealing points preventing access to the metrological components and sealing the instrument to the vehicle.

Alternatives:

There are currently no authorised alternatives

CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
R21/2007-GB1-17.02	27 July 2017	Certificate first issued.
-	-	No revisions have been issued.