

F4 PLUS



Technical Specifications

The F4 Smart Taximeter represent the state of the art and new generation of smart taximeters Its fully Certified by E-MARK, European MID and OIML notified body, comply with all international regulations for Taximeters “OIML R21” of the “International Organization of Legal Metrology”.

The taximeter has been designed integrated with all peripherals built-in the same casing, allowing to protect all the parts by a mechanical seal, preventing for any alter or modify in any way the operation of the taximeter making it really inviolable thanks to the Integration “sealed all in one” with the following components:

- A) Taximeter module
- B) Integrated Printer device
- C) Embedded GNSS receiver module with built-in antenna
- D) Embedded 4G LTE / Cat-M 5G Ready Modem with built-in antenna
- E) Embedded Bluetooth module for connection to cell phones and tablets
- F) Embedded Inertial accelerator at 9 axes.

TAXIMETER description:

Sizes & Weight:

- * W: 11.6 cm
- * H: 8.5 cm
- * D: 7 cm
- * 370 gr ca.

User interfaces:

- * Full Color Graphic LCD display.
Viewing area 4.3” diagonal WQVGA 480x272 Resolution Color TFT LED Display with 256,000 Colors Display clearly day and night viewable
- * 7 retro illuminated user buttons

Taximeter Hardware features:

- * Protected power supply switching system 8-16 Vcc with surge protections
- * High computing power M16 CPU chipset w/watch dog, high capacity data flash and Ram memory
- * High Precision clock chipset
- * 2 RS232 serial ports
- * 4 Digital I/O
- * 5 Power outputs controlled by the Software to indicate: operating modes, selected tariff, roof taxi sign.
- * extended operating temperature range -20 to +80 degrees Celsius
- * extended storage temperature range – 40 to +95 degrees Celsius
- * 95% Humidity
- * Power supply ON/OFF data logger

TARIFFs Structures:

63 smart and fully independent tariffs, with 27.000 programmable parameters:

- * Night tariffs
- * Holidays tariffs
- * Auto fare Tariffs
- * Auto-distance tariffs
- * Fix rate tariffs
- * Regular tariffs distance or time Tariff
- * Double tariffs distance and time
- * Smart combined tariffs structures

TARIFF Management manual or fully automatic by:

- * Distance automatic switching
- * Time automatic Switching
- * Date automatic Switching
- * Fare amount automatic Switching
- * Remote command switching
- * Fix agree rate
- * Geo-fencing GPS automatic zone-cross switching

TOTALIZERS:

- * 45 totalizers (partial) + 45 totalizers (no erasable) containing 45 details of work activity data, storage and report printing
- * Independent Shift data totalizer for each Driver activity, storage and printing
- * Automatic and secure Fiscal relevant data download to a secure server, storage, printing and downloading.
- * Storage of last 5000 Trip by Trip full data, storing the detail for each trip IE:
 - A) Progressive number of the Trip
 - B) Time and date of Trip start
 - E) Time and End date of the Trip
 - D) Trip total Km
 - E) Amount of the Trip
 - F) Type of payment, cash or card
 - G) GPS start-up Trip coordinates
 - H) End-of-Trip GPS coordinates
- * Storage of last 1000 Disconnections and connections to the vehicle power supply 12 Volt. With the detail of each type disconnection:
 - A) Time and Date of disconnection
 - B) Time and date of connection

EMBEDDED 9 AXES Inertial sensors.

Embedded inertial acceleration sensors at 9 axes, which detects accelerations X-Y-Z Accelerations / Braking, swerves/curves, rotation and jumps above pre-set levels of acceleration to efficiently control driving behavior for passenger comfort, safety and accident prevention/alarm.

Accelerations X-Y-Z in excess over pre-set limits, are saved in the data flash and downloaded through modem network for driver behavior analysis and eventual sanctions.

Technical Specifications

ACCIDENT ALARM:

Embedded Inertial acceleration sensors at 9 axes continuously control Impacts and in case of accident impact, it will memorize the accelerations of the 9 axes from 20 seconds before and 20 seconds after impact, sending in real time to the central office an accident alarm for rescue and furthermore will provide useful information for the accident analysis. Furthermore by means of the accelerometer the taximeter through an odometer distance data crossing algorithm and Accelerations, will continually checks if have been over-entered Illegal distance impulses to increase illegally the FARE.

GPS Funtionalities:

GPS TRACKING:

The GPS provide continuous and precise vehicle position at all times to all available running applications, with the purpose of Taxi tracking intended for:

- * Precise location for Job dispatching
- * Precise location for Emergency aggression alarm or accident
- * Geo-fencing tariff management
- * Precise clock and date auto setting

GEO-FENCING

The taximeter is equipped with an algorithm of GPS geo-referencing that allows the selection and Automatic introduction of the tariff corresponding to the transit zone (For those cases in which zone-tariff is established), When the taxi enters the georeferenced zone; for example, Motorway, airport, city periphery, and others the taximeters will select and enter the corresponding tariff Automatically (not manually).

ANTI-TAMPERING by GPS:

A data-crossing algorithm between the distance traveled by the GPS and the distance Calculated by the odometer, will continuously check if the Odometer distance calculated for the purposes of the tariff correct price calculation

4G LTE/5G READY Cat-M COMMUNICATION MODEM:

The taximeter can be equipped with either 4G LTE Modem or a 5G Ready Cat-M Modem.

Cat-M could work on the LTE Network (if enabled by the operator) or in the next 5G NR standard.

It is important to check the availability of Cat-M technology available on the LTE networks: in many countries, the Cat-M network is not deployed on the LTE network. In this case, the Cat-m modem will work as a 2G GPRS modem if a 2G network is available. Please checks the current worldwide Cat-M deployment status from the following web link: <https://www.gsma.com/iot/deployment-map/>

The integrated modem provide communication with:

*** Internet network**

The taximeter is connected with internet network for any information or data will be required for its operation.

*** Data center**

The taximeter can download and/or up load any data for company data center management

*** Fiscal data center**

The taximeter can download in real time the Fiscal relevant data to the fiscal office servers in secure way.

*** Call center**

The taximeter can receive and send text messages from/to the company call center

The taximeter can be blocked and/or controlled from remote command from the company call center

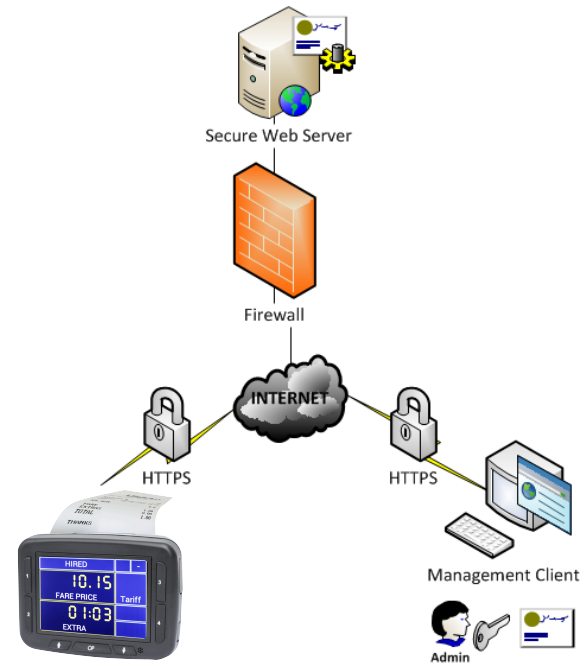
*** Emergency center**

by pressing a Panic Button the taximeter will send the GPS position by the 4G LTE/5G Ready Cat-M modem to an emergency center for rescue operations coordination.

OTA Tariff update (Over The AIR)

The F4 thanks to its embedded 4G LTE or 5G Ready Cat-M modem and powerful CPU/Memory/Software is capable to change upgrade the tariffs and OS software over the air at any time, without need to drive the Taxi to any workshop for tariff re-programming or software upgrade, its completely automatic, quick, safe and free of any charge. This unique OTA feature prevent any mistake or irregular tariff reprogramming by workshops, making the taximeter very safe and cheat-free from irregular tariffs manipulation.

Furthermore, for those large fleets, IE 5.000/50.000 taxis to be updated periodically with new tariffs, with the F4 OTA system it's possible to update the complete fleet at the same minute, having the full fleet updated the same minute and not requiring over 30 more days required for manual update, this saving a lot of time and money. Been the OTA system very flexible, with the possibility to tele charge special events-tariff, even limited to some group of taxis, to some areas, Its possible also to tele charge special tariff for a limited time, very useful for special tariff to be temporally applied for temporally events, like football match, concerts, snow, ect, etc.



Device Real-time Tracking

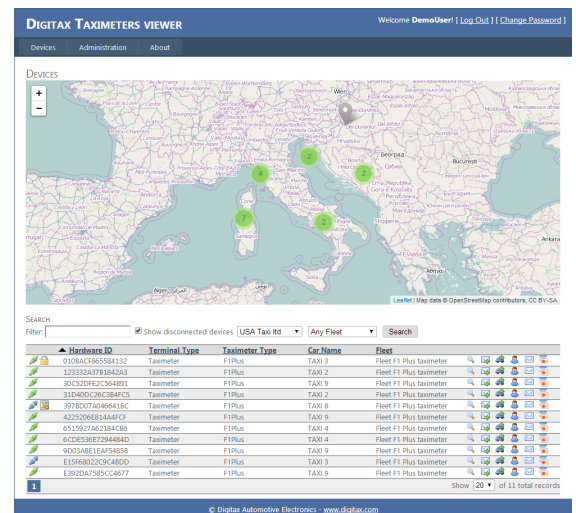
The F4 taximeter can be used in conjunction with the Digitax DeviceTrack system: a control system that takes advantage of the GPRS communication capabilities of F4 taximeter to provide taxi fleet administrators with a powerful tool to control, supervise and manage vehicles. Devices send and receive several kind of data to and from a central server, with the aim to perform real-time tracking of vehicles, reporting, moderation and more.

Fleet Supervision

The DeviceTrack system is capable of processing a vast amount of information sent from the F4, including real-time position, direction and speed, driver shift and jobs history, in addition to every detail of the device itself.

The taximeter sends to the server all available data, including:

- Real-time device position, direction and speed, allowing to even retrace the path of a car in a particular moment or timeframe
- Jobs history, including the date, pickup and drop-off GPS coordinates, traveled distance, duration and fare amounts
- Driver shift history and details, including the breakdown of traveled distance, time and total fare amounts



This makes the F4 taximeter an excellent tool for fleet supervisors who become capable of monitoring their fleet in real-time from an easy-to-use web interface.

By using the web interface, and taking advantage of the bi-directional communication, it is also possible to use advanced security features like taximeter lock and unlock. Fleet supervisors can, in specific cases, lock the taximeter and completely prevent its unauthorized usage.



INTERNAL PRINTER for receipts, working reports, ect.

The Internal Graphics printer, prints 24 or 32 characters per line and its totally controlled by the taximeter, printing the following data for each ticket:

Company Graphic heading, Logo and advertisings each ticket is composed by:

1. Trip Date;
2. Time the trip has been started and the time it was completed;
3. The tariff activated or applied;
4. The Taximeter number and official license provided by the authorities;
5. Vehicle license plate;
6. The total amount (FARE) (EXTRAS) for the trip;
7. The city and municipality where the service is provided;
8. The site or radio taxi, corresponding to the vehicle;
9. The phones of the authorities, radio taxi, with clear instructions for complaints, loss and fund or anomalies in the service.
10. Duration of service in minutes and kilometers Courses.

The F4 is certified as per automotive standard capable to well operate at 75 degrees Celsius.

EXTERNAL ACCESSORIES Interfaces

- * Smart card reader for driver identification or automatic access or tariff selection.
- * POS Terminals (Point of Sales) to receive payment with credit cards, Debit or credit cards.
- * Smart roof sign
- * LED roof sign
- * External tariff indicators
- * Passenger sensor
- * Mechanical odometer
- * Can bus
- * RS232 serial link
- * Mobile data terminal
- * Mobile phone/tablet



PAPER LOAD

Paper Load



Paper Roller Dimension

Width: 5,7 cm

Height: 5 cm

Diameter: 1,2 cm





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