EU-type examination certificate

Number **T10528** revision 4
Project number SO16202411

Issued by	NMi Certin B.V., designated and notified by the Netherlands to perform tasks with respect to conformity modules mentioned in article 17 of Directive 2014/32/EU, after having established that the measuring instrument meets the applicable requirements of Directive 2014/32/EU, to:
Manufacturer	QTwee Group B.V. Kerkenbos 1236 C 6546 BE Nijmegen The Netherlands
Measuring instrument	**Taximeter** Manufacturer's mark or name : Quipment Type : BCT | Focus Further properties are described in the annexes: – Description T10528 revision 4; – Documentation folder T10528-1.
Valid until	15 January 2024
Remarks	This revision replaces the earlier versions, except for its documentation folder.
Issuing Authority	**NMi Certin B.V., Notified Body number 0122** 25 August 2016 C. Oosterman Head Certification Board

NMi Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands
T +31 78 6332332
certin@nmi.nl
www.nmi.nl

INSPECTION RvA I 122

Description

1 General information about the taximeter

All properties of the taximeter, whether mentioned or not, may not be in conflict with the legislation.

1.1 Essential parts

Number	Pages	Description	Remarks
10528/0-02	4	Block diagram, printed circuit board layout and relevant parts list	-
10528/0-03	1	Test connector	-

EMI protective measure: Ferrite on the cable from the taximeter to the vehicle.

1.2 Essential characteristics

Electromagnetic immunity class		E3
Mechanical environment class		M3
Climatic environment	temperature range	-25 °C / +70 °C
	humidity	condensing
	intended location	closed

	Range	Resolution
Taximeter constant k [km^{-1}]	500 to 40 000	1
Time tariff [CU/h]	0,00 to 99 999,99	0,01
Distance tariff [CU/km]	0,00 to 99 999,99	0,01
CU = Currency Unit		

Time measuring signal frequency	2 Hz
Power supply voltage	12 – 24 V DC

Secured interfaces (annex IX, 4):
- RS232;
- Roof sign output.

Distance information:
- CAN; or
- Distance sensor input:

Low voltage	-12 – 0,8 V
High voltage	3 – 12 V
Trigger	high – low transition

Software taximeter:

Identification		Specification (WELMEC 7.2):		
Version number	Checksum	Type	Risk Class	Extension
TMC 12335 up to v01.01.22	32b283310891db667efa63e2202c633e8f17 2bfd17bae732f3470c499865c5ae	U	D	L / T / S
TMC 12866 up to v01.01.22	b034a080f2fc8fd3e166a78e133126f4a18b7 7595f0242f4533657e1a609e510			
TMC 12866 v01.01.22 to v02.00.00	573da8161a4f4c0eb34b5d2a512b81429e8 1dc8f08e004945d8ac9ce15aac943			
TMC 12866 from v02.00.00	9a11d030ba449370b50f05e6ccf5e015608c 16718c371989c174724eff0fe822			

Software taximeter controller:

Identification		Specification (WELMEC 7.2):		
Version number	Checksum	Type	Risk Class	Extension
TMC 12335	b562a355274053cace8d82ddec4ba9a0048a 31eb2c02b62094d29ed5f00ffaed	U	D	L / T / S
TMC 12866	7ae8fa7f16ee83bc0d22a5929c0b57298b7b 0442d85e13b4007362cb016d6f93			

Displaying parameters:

From operation position: For hire	
To display	Press or [action]
totaliser data	'Q' button (options), Activatie Info, Next Page '>' button, Next Page '>' button, Totalizer Waard button
software checksum	'Q' button (options), Activatie Info, Next Page '>' button, Next Page '>' button, Totalizer Waard button
tariff checksum	[login as service engineer], TM Tarief plannen, select tarief, Tarief checksum button
taximeter constant	(permanently shown in right bottom corner of display)
non-resettable counter for taximeter constant	'Q' button (options), Activatie Info, Next Page '>' button, Next Page '>' button, Totalizer Waard button
applied tariffs	[login as a driver], 'Q' button (options), Next Page '>' button, TM Taximeter button; Or: [login as service engineer], TM Tarief plannen

List of legally relevant functions:
- Display checking;
- Calculation modes S or D, incorporated in the tariff structure;
- Automatic change of tariffs due to:
  - distance of the trip;
  - duration of the trip;
  - time of the day;
  - date;
  - day of the week;

- Operating positions "For Hire", "Hired", "Stopped";
- Totaliser data;
- Long term data storage.

1.3 Essential shapes

Number	Pages	Description	Remarks
10528/0-01	2	General overview and exploded view	-

Markings:
- Fulfil the requirements stated in the legislation;
- The descriptive markings plate is fixed to the taximeter.
  - Markings marked on the right side (seen on the front) of the taximeter:
    - Manufacturers name or mark;
    - EU-type examination certificate number.
  - Markings displayed by software:
    - Taximeter constant is permanently shown in the display.
    - Software identification, see 1.2.

1.4 Conditional parts

The taximeter may be equipped with the following peripheral device(s):
- Printer with electromagnetic environment class E3;
- Device(s) prescribed by national legislation.

1.5 Conditional characteristics

Cut-off power supply voltage : 7 V DC;
Working time limiter, only allowed in operation position ‘For Hire’.
The taximeter may be equipped with one or more of the following secured interfaces, either by mechanical or software sealing:
- Magstripe;
- GPS/3D;
- Camera;
- USB Host BCT;
- USB host external;
- Microphone;
- Speaker;
- GPRS/GSM;
- Ethernet;
- RS232.

1.6 Non-essential parts

The taximeter may be connected to non-essential devices, for example but not limited to mobile data terminal, card readers, seat sensors and roof lights, provided that:
- They do not present primary data not presented by the taximeter;
- They do not lead to an instrument having other essential characteristics than those fixed by this type-examination document.

2 Seals

To secure components that may not be dismantled or adjusted by the user, the taximeter has to be secured in a suitable manner on the locations indicated in the drawing:

Number	Pages	Description	Remarks
10528/0-04	2	Sealing	-

Sealing and separate securing of parameters:
- ISO7816 smartcard system with pincode gives secure access to selected modus / service. No mechanical seal needs to be broken.
- General settings (including settings depending on national regulations) are protected by an identifier and a checksum;
- Tariffs are proteced by an identifier (date) and a checksum and can only be changed by using a service card;
- Adjustment is protected by using the smartcard “keuringskaart” by authorized staff. Changes are logged in the audit-trail and the non-resettable event counter increments on every single change-event.
- Depending on national regulations the identifiers and/or checksums and/or event counter value(s) are marked on the prescribed provision.

3 Conditions for conformity assessment

The marks, facilities for the marks and the inscriptions on the taximeter fulfil the requirements of Directive 2014/32/EU.