



## Technical Specification of Verification and Inspection for Taximeters

S/N

CNMV 21

Rev.

6

1. This Technical Specification is developed pursuant to Paragraph 2, Articles 14 and 16 of the Weights and Measures Act.  
2. The date of promulgation, document number, date of enforcement and content of amendment are listed as follows:

Rev.	Date of Promulgation	Document No. (Ching-Piao-Szu-Tsu )	Date of Enforcement	Content of Amendment
1	2003-05-29	No.09240005120	2003-07-01	
2	2006-11-22	No.09540004830	2006-11-22	
3	2010-06-04	No.09940002680	2010-07-01	<ol style="list-style-type: none"> <li>1.In compliance with eco-friendly seal action, the term of lead seal is replaced by seal.</li> <li>2.In consideration of practicality and convenience, seal regulation on taximeter constant k verification is cancelled henceforth.</li> <li>3.In compliance with taximeter constant k verification seal cancellation, seal must be affixed on both side of the taximeter upon installation completion by the repairer.</li> <li>4.Section 4 regulations on verification and inspection equipment titles are added for clarification.</li> </ol>
4	2013-03-14	No. 10240011150	2013-07-01	<ol style="list-style-type: none"> <li>1.Extends the definition of the initial verification conducting on a taximeter after the fare chip has been changed due to switching to different fare area.</li> <li>2.Sets the responsibility on the repairer by putting a seal after repairing.</li> <li>3.Modifies the definition of error and sets the formula of the calculation of error.</li> <li>4.Prolong the validity of verification from one to two years.</li> </ol>
5	2015-05-20	NO. 10440004564	2015-05-20	<ol style="list-style-type: none"> <li>1. Specifying the scope of this specification.</li> <li>2.Corresponding to new feature, revising the requirements of appearance, construction, keys, function seal, adding, the requirements of testing.</li> <li>3.Corresponding to the initiation of new type of taximeters, time duration for re-verification might be postponed as required.</li> <li>4.Corresponding to the reversion of the technical specification for type approval of taximeters, taximeters that applied to the second edition of the technical specification for type approval of taximeters might be applied to the fourth edition of the technical specification for verification and inspection.</li> </ol>
6	2015-09-08	NO. 10440012540	2015-09-08	<p>Corresponding to the initiation of new type of taximeters, time duration for re-verification might be varied timely so that the number of daily verified taxi might evenly.</p>

3. This technical specification is formulated with reference to the following international specifications:  
OIML R21 Taximeter (2007)

Date of Promulgation  
2015-09-08

Bureau of Standards, Metrology and Inspection  
Ministry of Economic Affairs

Date of Enforcement  
2015-09-08

### NO GUARANTEE ON THE TRANSLATION

In case of discrepancies between the English translation and Chinese text, the Chinese text shall govern.

1. Scope: this technical specification applies to the verification and inspection of the electronic taximeter (hereinafter referred to as "taximeters"), i.e., a pricing meter that equipped installed in a taxi to calculate and display the amount of fare to the passenger.

## 2. Definition of Terms

- 2.1 Taximeter constant k verification: verification on the new taximeters prior to install to car related metrology performance.
- 2.2 Wheels verification (running verification): the re-verification of a taximeter, which is conducted after a taximeter is installed in the car.
- 2.3 Set number of signals (revolutions): the number of pulse waves received by a taximeter, a numeric value representing a distance travelled of 1 km.
- 2.4 Initial charge: a minimum fixed sum to be paid by the passenger.
- 2.5 Distance count: the pricing mode based on distance travelled.
- 2.6 Time count: the pricing mode based on the time duration that the car speed under a specified car speed.
- 2.7 Distance and time count: the pricing mode that calculating the fare based on the sum of distance counted and time counted that both counted independently but the total fare shall be the sum of fare based on distance and time.
- 2.8 Fare: the sum calculated by the taximeter based on the distance counted and time counted that passenger travelled.
- 2.9 Range setting: related parameters for setting tariffs, including metrology parameter and fare rate parameter.  
Metrology Parameter: the parameter including the set numbers of signals (revolutions) and time.  
Fare Rate Parameter: according to the requirements of the traffic administrations.

## 3. Construction and function

- 3.1 The following items shall be marked or indicated correctly on the front panel of a taximeter:
  - (1) Serial number and type;
  - (2) Fare (NTD), distance (kilometer), time (hour, minute, second);
  - (3) Trademark;
  - (4) Type approval number; and
  - (5) The position for verification compliance tag.The set number of signals (revolutions) of the taximeter shall be able to be searched in the database of the taximeter and displayed.  
The taximeter shall equip a display of real-time clock with 24-hour format and the display shall at least include hours, minutes and seconds.
- 3.2 When any function key or button is pressed, a beep shall be promptly given and the status of the taximeter being used shall be clearly displayed or indicated.  
Taxi meters embeded with multi rates in same business area shall clearly display or indicate the county and rate in Chinese when a county and rate selected in a specified business area.
- 3.3 The Metrology Parameter seal and Fare rate parameter seal of the taxi meter shall be completed and unbroken.
- 3.4 The taximeter shall be installed in a conspicuous place inside the car facing to the customers' seats.
- 3.5 The adjust switch of set number of signals (revolutions) of the taximeter shall be covered with a hole on the cover for seal. Before the seal of cover of the set number of signals (revolutions) adjustment switch is opened, the signal transmission socket shall not be disconnected with the taximeter.
- 3.6 After a taxi meter is installed by licensed repairers, the repairers shall adjust the Set number of signals (revolutions) and seal it. The inscription of the seal shall include the name of the repairers and the year and month of installation. After passing wheel verification, another seal shall be sealed by the verification agency immediately next to the seal by repairers. All seals shall not be hidden.

The installation year specified in the preceding paragraph shall be uniformly marked in Chinese year from July 1, 2018.

3.7 After the seals are removed for repair, the repairers shall check and adjust, if needed, the Set number of signals (revolutions) and seal it, and tear off the original wheel verification tag. The taxi driver or owner shall apply for re-verification. Taximeters that passed verification shall be re-attached new seals onto its original places as the requirements of Section 3.6.

#### 4. Verification, Inspection and Maximum Permissible Errors

4.1 Verification and inspection equipment: all the equipments shall be traceable.

4.1.1 Taximeter constant k verification equipments:

- (1) Taximeter constant k verification device,
- (2) Time measurement device.

4.1.2 Wheel verification device.

4.1.3 Distance verification device.

4.2 The test items for taximeter constant k verification are as follows:

4.2.1 Taximeters are checked in compliance with the provisions set in Sections 3.1 and 3.2 of this Specification.

4.2.2 The errors of distance count, time count of a taximeter shall be within the maximum permissible errors.

Taxi meters embeded with multi rates in same business area may be distributed according to the number of applied evenly among different counties in the area, and the errors of distance count, time count of a taximeter shall be within the maximum permissible errors as every county required.

4.2.3 Taximeters shall work properly when the power voltage varies between 9V and 16V. Original indications shall be displayed when the voltage drops to 6V and lasts for 10 seconds then returns to 12V. The displayed fare shall not be changed after the power has been switched 5 times continuously under average working voltage.

4.2.4 Speed measuring shall not exceed the specified maximum permissible errors when a taximeter converts to time-based pricing.

4.3 Items of wheel verification (including distance verification) are as follows:

4.3.1 Taximeters are checked in compliance with the provisions set forth in Sections 3.1 to 3.7 of this Specification.

4.3.2 The errors of distance count of a taximeter shall be within the specified maximum permissible errors.

Taxi meters embeded with multi rates in same business area shall be conducted the test on the distance count as a specified county required that pointed by the dri or the owner os the taxi. Extra tests on the distance count on different counties in that business area might be choosen.

4.4 Maximum permissible errors of verification are prescribed as follows:

4.4.1 Error shall be expressed by percentage of the indicated value subtracts the standard value and the standard value. The formula shall be as followed :

$$\frac{\text{indicated value} - \text{standard value}}{\text{standard value}} \times 100\%$$

4.4.2 The error shall be rounded off to two decimal.

4.4.3 Taximeter constant k verification:

- (1) The maximum permissible errors of speed for converting time-based pricing of a taximeter are  $\pm 10\%$ .
- (2) The maximum permissible errors of time for taximeter constant k verification of a taximeter are  $\pm 2\%$ .
- (3) The maximum permissible error of distance for taximeter constant k verification of a taximeter is  $-2\%$ , with no positive maximum permissible errors.

4.4.4 Wheels verification (including running verification):

The maximum permissible error of distance for wheels or distance verification of a taximeter is  $-4\%$ , with no positive maximum permissible errors.

4.5 The maximum permissible errors of inspection for taximeters are 1.5 times the maximum permissible errors of wheels verification.

4.6 The period of validity of verification is two year, from the day that the verification compliance mark is attached to the taximeter to the first day of the following month of the next two years. Only when the municipality or county (city) announce traffic reconstruction and the taximeter are needed to be recertification, allow expanding the expiration of the inspection as the following provisions:

- (1) Before recertification, the verification expires two month before the announcement of the traffic reconstruction, the expiration date of the verification shall postpone through the date according to the announcement.
- (2) Before recertification of the certify inspection expiration, metrology authority shall manage to postpone the order of the inspection. The limit of the postponement shall be within eighteen months.

#### 5. Verification Compliance Marks

5.1 After passing taximeter constant k verification, a verification compliance marks shall be attached to a conspicuous position of the body of the taximeter.

5.2 After passing wheels verification, the joint between the taximeter cover and the car body shall be sealed and a wheel verification compliance mark shall be attached to the front of the taximeter.

6. Taximeters that applied to the second edition of the Technical Specification for Type Approval of Taximeters (CNPA 21) might be applied to the fourth edition of the technical specification for verification and inspection.