OIML Certificate

OIML Member State
The Netherlands

Number R139/2018-A-NL1-23.02 revision 0
Project number 2502536

Issuing authority	NMi Certin B.V. Person responsible: M.Ph.D. Schmidt
Applicant and Manufacturer	CZAR Metric System Private Limited Plot No. A-451 MIDC Industrial Area, Mahape, Navi Mumbai 400710, Maharashtra, India
Identification of the certified type	A **CNG Dispenser** Manufacturers mark: Czar Type: CZC-******[1]
Characteristics	See following pages

This OIML Certificate is issued under scheme A.

This Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 139: 2018 "Compressed gaseous fuel measuring systems for vehicles"

Accuracy class 1,5

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation identified above. This Certificate does not bestow any form of legal international approval.

This certificate and supporting reports comply with the requirements of OIML-CS-PD-07 clause 6.2.

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate was issued, partial quotation of the Certificate and of the associated OIML Type Evaluation Report(s) is not permitted, although either may be reproduced in full.

[1] Where "*" can be a number or a letter for representing different configurations of the dispenser.

Issuing Authority **NMi Certin B.V., OIML Issuing Authority NL1**
4 May 2023

Certification Board

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The conformity was established by the results of tests and examinations provided in the associated report:

- No. NMi-2502536-04 dated 4 May 2023 that includes 27 pages.

CNG Dispenser CZC-**** series**

Characteristics of the CNG Dispenser
In Table 1 the general characteristics of the CNG dispenser are presented.
The construction of the CNG dispenser is recorded in the Documentation folder no. CF2502536-1.

Table 1 General characteristics of the CNG dispenser

Minimum – maximum flow rate	Within the flow ranges of the applicable measurement sensor see table 5 and/or 6
Minimum measured quantity	1 kg
Maximum filling pressure of the gas	Within the maximum pressure of the applicable measurement sensor see table 5 and/or 6
Maximum storage pressure	500 Bar
Accuracy class	1.5
Environmental classes	E1/M2
Ambient temperature range	-25 – +55 °C; condensing humidity
Product temperature range	Within the product temperature ranges of the applicable measurement sensor see table 5 and/or 6
Intended for the measurement of	Compressed Natural Gas (CNG)
Power supply voltage	185 – 245 V AC; 50 Hz

Each CZC-****** dispenser consists at least of:
- One measurement transducer (Coriolis mass meter CNGmass (E+H) or Coriolis mass meter CNG 050 (Emerson)).
- One electronic calculating/indicating device (CZ series calculator).
- Optionally, a printer may be connected to the dispenser as follows:
  - Printer mounted on the dispenser door, powered and communication through the dispenser;
  - Printer mounted on the side of the dispenser, powered and communication through the dispenser;
  - Remote printer connected via the POS communication cable.

The calculating/indicating device can have a maximum of 4 main displays, allowing it to configure and control 4 nozzles (meters), out of which 4 nozzles (meters) can be simultaneously operated.

A maximum of one nozzle (meter) can be connected to each calculating/indicating device's main display.

Approved input – Mass meter communication cable via RS-485
Approved output – POS communication cable via RS-485
All communication cables (POS and Mass meter communication) should be shielded cables.
The characteristics of the mentioned parts of the dispenser are presented at table 2 and higher.

Essential parts of the CZC-**** series CNG dispensers**

The conformity of the following parts was established by the results of tests and examinations provided in the associated reports:

Part:	Calculating/indicating device
Producer:	CZAR Metric System Private Limited
Type:	CZ Series
Documentation folder:	DF2502536-2
Reports:	No. NMi-2502536-01 dated 27 October 2021 that includes 119 pages; No. NMi-2502536-03 dated 4 May 2023 that includes 34 pages.

Table 2 General characteristics of the calculating/indicating device type CZ series

Maximum volume indication	6 digits (4 integers and 2 decimals)
Maximum unit price	5 digits (3 integers and 2 decimals)
Maximum price to pay	7 digits (5 integers and 2 decimals)
Environmental classes	E1 / M2 / H3 (condensing humidity)
Ambient temperature range	-25 °C / +55 °C
Power supply	230 VAC 50 Hz
Maximum number of nozzles	4
Maximum number of main indicating device	4
Maximum number of nozzles connected to each indicating device	1
Approved input	Mass meter communication cable via RS-485 (shielded)
Approved output	POS communication cable via RS-485 (shielded)
Mass Meter communication	RS-485 communication protocol

Table 3 Software identification of the calculating/indicating device type CZ series

Board	Firmware version	Hash code
CPU Board	CNG CZ-CPU_V2.2	ad345a06221995f83b3faf6289c16a9996cea 16ee7f5e05816943a17daf23473
Main Display cum CPU Board	CNG CZ-DIS_V2.2	23c41eaa883465355ab629e56facc82cec186d 7f6ae10ebbd8aada746cb52d99

Software version verification of the calculating/indicating device type CZ series
The software versions and checksums can be displayed on the LCD display by following the below procedure:

On the alphanumeric keypad on the dispenser press **SETUP → P2 →** enter unique password by a user with sufficient rights **→ ENTER** this puts the dispenser in maintenance mode.
Then press **5→ 1→ 1→ 1** for CPU board
or **5→ 1→ 1→ 2** for Main Display board.

Table 4 Legally relevant parameter list of the calculating/indicating device type CZ series

Process code	Process code name	Value / range
122	Unit Rate	5 digits (XXX.XX)
212	Product Grade	3 Characters (XXX)
243	No flow No Fuel	30 (sec)
51	Log	Transaction, Calibration Change, Unit Rate Change, Density Change, Error
311	View Last Cal	View K Factor
214	Date & Time	dd:mm:yy , hh:mm:ss
511	PCBA Soft Detail	View board details
52	Model Info	View model details
521	Serial Number	View serial number of Dispenser

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Part:	Measurement transducer
Producer:	Endress+Hauser Flowtec AG.
Type:	CNGmass
Documentation folder:	TC10997-1
Reports:	No. CPC-607296-1a dated 7 February 2007; No. CPC-10200012-02a dated 8 February 2010; No. NMi-16200831-01 dated 13 July 2017; No. NMi-16200831-02 dated 19 July 2017; No. NMi-2665464-01 dated 5 April 2022.

Table 5 General characteristics of the measurement transducer type CNGmass

Minimum – maximum flow rate	0,3 – 30 kg/min (size DN08) 0,8 – 80 kg/min (size DN15) 1,5 – 150 kg/min (size DN25)
MMQ	1 kg
Maximum pressure	350 bar(g)
Intended for the measurement of	Compressed Natural Gas (CNG)
Environment classes	M2/E2
Ambient temperature range	-40 °C / +55 °C; condensing humidity
Fluid temperature range	-50 °C / +125 °C
Power supply Voltage	20…28 VAC; 50/60 Hz; 10…30 VDC
Software identification	SW Version number: 1.01.00 Checksum: 0x13BD2D46

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Part:	Measurement transducer
Producer:	Emerson Process Management Flow B.V.
Type:	CNG 050
Documentation folder:	TC11012-1
Reports:	No. CPC/9200574-2 dated 26 January 2010. No. NMi-1900487-01 dated 14 July 2017.

Table 6 General characteristics of the measurement transducer type CNG050

Minimum – maximum flow rate	1,3 – 77 kg/min
MMQ	1 kg
Maximum pressure	317 or 345 bar(g) (depending on flange type)
Intended for the measurement of	Compressed Natural Gas (CNG)
Environment classes	M2/E2
Ambient temperature range	-40 °C / +55 °C; condensing humidity
Fluid temperature range	-25 °C / +55 °C
Power supply voltage	24 VDC ± 20% (with MVD Direct Connect I.S) 15-26 VDC
Software identification	SW Version number: 3.52 Checksum: 3C4A

Production location

The CNG dispenser is produced at one of the following production locations:

- CZAR Metric System Private Limited, Plot No. A-451, Central Road, MIDC Industrial Area, Mahape Pin code 400710, Maharashtra India.
- CZAR Metric System Private Limited, Plot No.C-541, MIDC Industrial Area, Pawne, Navi Mumbai 400705, Maharashtra, India.

Certificate history:
This revision replaces the previous version.

Revision	Date	Description of the modification
0	4 May 2023	Initial issue