

**OIML Member State**  
The Netherlands

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Project number 3787035  
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Issuing authority  
Person responsible: NMi Certin B.V.  
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Applicant and  
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Identification of the  
certified type A **measurement sensor** (Coriolis sensor)  
Type: HPC015 and HPC020

Characteristics See page 2 and further

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 139-1 (2018)** "Compressed gaseous fuel measuring systems for vehicles"

Accuracy class 2 or 4

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.

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Issuing Authority

**NMi Certin B.V., OIML Issuing Authority NL1**  
20 February 2025

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

Report number	Issue date	Number of pages
<b>Measurement sensor</b>		
NMi-2433143-01	3 June 2021	56
NMi-2655441-01	24 September 2021	15
NMi-3787035-01	20 February 2025	11
<b>MVD series electronics</b>		
CVN-201269	10 July 2002	80
CPC-307228-1	21 February 2005	35
CPC-610406-2	29 January 2008	142
CPC-710466-1	19 November 2008	64
NMi-11200214-01	17 May 2011	13
NMi-11200345-2	20 October 2011	10
NMi-1901208-1	5 July 2018	114
<b>5700 electronics</b>		
NMi-14200115-01	4 December 2015	68
NMi-14200115-02	4 December 2015	52
NMi-14200115-06	22 April 2016	21
NMi-15200770-01	4 February 2016	9
NMi-2571596-01	30 September 2021	38

### Characteristics of the measurement sensor

In Table 1 to 2, the general characteristics of the measurement sensor are presented. The construction of the measurement sensor is recorded in the Documentation folder number TC11942-3, and TC7057-17 for the MVD series electronics or in TC8519-4 for the 5700 electronics.

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**Measurement Sensor HPC0xx**  
**Table 1 General characteristics**

Minimum – maximum flow rate	See Table 2; uni-directional
Accuracy class	2 or 4 (Depending on measuring system accuracy class)
Environmental classes	M1 / E2
Ambient temperature range	-40 – +55 °C; condensing humidity
Product temperature range	-40 – +40 °C
Intended for the measurement of	Compressed gases including Hydrogen
Power supply voltage	230 V AC; 50/60 Hz or 24 V DC

**Table 2 General characteristics of the family of instruments**

Sensor type	HPC015	HPC020
Minimum flow rate [kg/min]	0,1	0,2
Maximum flow rate [kg/min]	4,0	8,0
MMQ [kg]	0,2	0,5
Maximum pressure [bar(g)]	1060	1131
Diameter in/outlet [mm]	15	20

**MVD series electronics**

**Table 3 General characteristics of the MVD series electronics**

Approved models	800 (Enhanced Core Processor/ECP), 820 (Remote Dual Core Processor), 1700, 2700, 2500, 3500 and 3700	
Environmental classes	M2 / E2	
Ambient temperature range	-40...+55 °C;	
Power supply voltage	2500	24V DC
	800 and 820	18... 30 VDC
	1700 and 2700: 3500 and 3700	18...100 VDC and 85...265 VAC, 50...60 Hz

**Table 4 Software versions of the MVD series electronics**

Version	Checksum	Version	Checksum	Version	Checksum
<b>800 Enhanced Core Processor</b>					
3.11	891378AB	3.94	47EB3E10	4.80	F1583A44
3.21	9893B999	3.96	756C1BFD	4.9	6083BF9B
3.30	A73D25DA	4.00	C582F843	5.08	4D368E71
3.42	7FA82CE8	4.02	8D61C368	5.10	82C541D9
3.50	D9343F05	4.14	40860C63	5.20	BD69FDD6
3.52	132CCB63	4.20	2983A9BE	5.22	F4A8D922
3.6	A9CA4E81	4.21– ETO21931	D6349259	5.23 – ETO45214	B1D70450
3.61 – ETO17170	9AA358FF	4.40	B280233F	5.30	65828884
3.7	BE73CD62	4.42	D7BA0841	5.33	BF3164F6
3.71 – ETO18982	580D32B6	4.50	6B48C624	5.40	0218C30B
3.8	8CA8E7D1	4.51– ETO32353	BC1660E8	5.50	761BF30F
3.81 – ETO20775	7931CE3D	4.51-ETO33244	D7B81135	5.60	5BE64A27
3.9	58CB3E0C	4.60	DDB76E3C		
3.91 – ETO21156	65F98DD7	4.70	AEB92E3F		
<b>820 Remote Dual Core Processor</b>					
1.00	52FB 1CF0	1.30	AC56C460	1.50	F42A4B2C
1.10	787951AA	1.40	8B64EF94	1.51	3BABCE86
1.20	3B7249F6	1.41	073C45F2		
<b>1700 / 2700 / 2500</b>					
3.2, 3.3, 3.4, 3.4.1, 3.5.3*)		3.6, 3.7, 4.1, 4.2*)		4.0, 4.1, 4.2**)	
5.0/1.0	7A7F0B39	6.4/1.3	B77B25C9	7.1/1.3	88FB1B5C
5.1/1.0	95F0BC47	6.5/1.3	88FB1B5C	7.2/1.3	9ECE81F1
5.12/1.0	A14FBFB9	6.6/1.3	9ECE81F1	7.3/1.3	4A5365D4
5.2/1.0	746CBE79	6.7/1.3	4A5365D4	8.0/1.3	1E1467F9
6.0/1.1	BB615B55	6.8/1.3	1E1467F9	8.02/1.3	201465F9
6.1/1.2	13176BE6	6.82/1.3	201465F9		
6.11 – ETO19266	9B13F21A	7.0/1.3	B77B25C9		

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Version	Checksum	Version	Checksum	Version	Checksum
<b>3500 / 3700</b>					
7.0/1.1	A1C34F1C	8.1/1.3	4279A001	8.41 – ETO26097	31D36D05
7.1/1.1	D5783FCF	8.14/1.3	62F125F2	8.43 – ETO31478	E35DF3C0
7.2/1.1	20609FD3	8.2/1.4	368139C5	8.50/1.5	1C146AF7
8.0/1.2	158A12BD	8.21 – ETO23686	D507F464	8.51 – ETO22243	B18A0CB3
8.02 – ETO18947	1CC007C4	8.3/1.4	8F65A9E9		
8.03 – ETO19299	2D6104C2	8.4/1.4	227B10D2		

**Notes:**

- \*) Software versions for the 1700 / 2700 which do not have a checksum.
- \*\*) Software versions for the 2500 which do not have a checksum.

**5700 electronics**

**Table 5 General characteristics of the 5700 electronics**

Environmental classes	M2 / E2
Ambient temperature range	-25...+55 °C(if the display is the primary indication) -40...+55 °C(if an approved external display is used as primary indication)
Power supply voltage	21... 90 VDC AND 100...240 VAC, 50...60 Hz

**Table 6 Software versions of the 5700 electronics**

Version	Checksum	Version	Checksum	Version	Checksum
<b>Transmitter Software (Weights &amp; Measures)<sup>*)</sup></b>					
1.20 (1.0)	2DF0D8E9	3.1 (3.0)	2DE64BB2	4.3 (4.0)	AC509A54
1.30 (1.1)	ADE631BB	3.2 (3.0)	8CB1FE4B	4.31 (4.0) ETO48452	71B90839
1.85 (2.0) ETO28130	0EA71B41	4.0 (3.0)	0E4997D5	4.32 (4.0) ETO48452	8EE78201
2.00 (2.0)	2F52132D	4.07 (4.0)	44477758	4.40 (4.0)	171C5EDA
2.10 (2.0)	23DD3385	4.1 (4.0)	AFE0673B	4.50 (4.0)	A630F399
3.0 (3.0)	06108400	4.2 (4.0)	627B3E99		
<b>Internal Core Processor</b>					
4.02	8D61C368	4.80	F1583A44	5.40	0218C30B
4.14	40860C63	4.90	6083BF9B	5.50	761BF30F
4.20	2983A9BE	5.08	4D368E71	5.60	5BE64A27
4.40	B280233F	5.10	82C541D9		
4.42	D7BA0841	5.20	BD69FDD6		
4.50	6B48C624	5.22	F4A8D922		
4.60	DDB76E3C	5.30	65828884		
4.70	AEB92E3F	5.33	BF3164F6		
<b>PIC Firmware</b>					
8.0	0000DE9C				
<b>LCD PIC Firmware<sup>**)</sup></b>					
3.0	000081D5 (1.20)	3.0	00007442 (1.30 and later)		

**Notes:**

- <sup>\*)</sup> The transmitter software and the Weights & Measures (W&M) software form a matched set. Please note that the W&M software does not have a checksum and means W&M is licensed.
- <sup>\*\*)</sup> The number between brackets, is the transmitter software which belongs to the stated checksum.

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## Certificate history:

This revision replaces the previous versions.

Revision	Date	Description of the modification
Initial	18 June 2021	Initial approval
1	5 October 2021	Additional report NMI-2655441-01
2	8 February 2022	Addition of new PCB's
3	28 October 2022	Addition of type HPC020 Addition of description MVD Series and 5700 flow transmitters.
4	20 February 2025	Addition of type evaluation report Removal of 700 core process Update of software versions Correction of maximum pressure of HPC020