EU-type examination certificate

Number **T10203** revision 23
Project number 3469548

Issued by

NMi Certin B.V.
designated and notified by the Netherlands to perform tasks with respect to conformity assessment procedures 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

ABB B.V.
Achtseweg Zuid 151A
5651 GW Eindhoven
The Netherlands

Measuring Instrument

An **electronic gas-volume conversion device (EVCD),** intended to be used for gas volume conversion as a sub-assembly (according to article 4 of the MID) of a gas meter.

Type	: Flow-X/M, Flow-X/P, Flow-X/S, Flow-X/R, and Flow X/K
Manufacturer's name	: ABB B.V.
Conversion principle	: PTZ
Ambient temperature range	: see § 1.1 of the description
Designed for	: non-condensing humidity
Mechanical environment class	: M2
Electromagnetic environment class	: E2

The intended location for the instrument is a closed one.

Further properties are described in the annexes:

- Description number T10203 revision 23;
- Documentation folder number T10203-12.

Valid until

11 February 2030

Initially issued

11 February 2010

Remark

– This revision replaces the previous revisions.
– The documentation folder is not changed.

Issuing Authority

NMi Certin B.V., Notified Body number 0122
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Certification Board

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1 General information about the electronic gas-volume conversion device

All properties of the EVCD, whether mentioned or not, shall not be in conflict with the legislation.

The Flow-X series of flow computers is based on a modular concept where Flow-X/M module is used for connecting one or two meters per stream. These modules can be installed in a number of different enclosures. Each module has its own LCD display.

Flow-X/M

The Flow-X/P is a Panel mounted flow computer that can contain up to four Flow-X/M flow modules, an additional station module with a 7" multi -lingual colour touchscreen and additional serial (3x) and Ethernet interfaces (2x). This flow computer can be used in both horizontal and vertical position. Field connections are available in standard 37 -pin and 9 -pin D -Sub type connectors at the rear. Optionally an i -button is available for convenient and controlled operator login.

Flow-X/P

The Flow-X/S is a DIN rail mountable enclosure with direct screw terminals for field connections. Interfaces include dual Ethernet with built -in web server via RJ45 connectors. Graphical LCD display with 4 lines for local display of measured & calculated data. The Flow-X/S may be mounted in 3 ways: Horizontally on Din -rail, vertically on Din –rail and Wall mounted.

Flow-X/S

The Flow-X/R is a 19" rack mountable enclosure that can accommodate up to eight Flow-X/M modules. For each module it provides a 24 Vdc power supply connector and two 37-pin D-Sub type connectors at the top and 2 Ethernet ports at the bottom.

Flow-X/R

The Flow-X/K is a compact DIN rail mountable enclosure that can contain one Flow-X/M flow module.
The enclosure has a 24 VDC power supply connection and 2 Ethernet ports at the bottom and two 37-pin D-sub type connectors at the top. The measured and calculated data of the Flow-X/M module is available on its graphical LCD display.

Flow-X/K

1.1 Essential parts

1.1.1 Flow-X/M

Part	Part number	Documentation	Ambient temperature range
Analog board	6557-0700-1305	10203/1-01	+5 °C / +55 °C
	6557-0700-1308	10203/1-02	
	6557-0700-1309	10203/1-03	
	6557-0700-1310	10203/3-01	
	xx-212-003 xx-212-004	10203/9-03; 10203/13-02	
	xx-212-005	10203/15-01; 10203/15-02	-25 °C / +55 °C
	xx-212-006	10203/18-01; 10203/18-02, 10203/21-01	
Digital board	6557-0700-1206	10203/1-04	+5 °C / +55 °C
	6557-0700-1207	10203/1-05	
	6557-0700-1208	10203/1-06	
	6557-0700-1209	10203/1-06	
	6557-0700-1210	10203/3-02	
	6557-0700-1211	10203/3-02	
	xx-211-006	10203/9-01; 10203/16-01	
	xx-211-007	10203/15-03; 10203/15-04	-25 °C / +55 °C
	xx-211-008	10203/18-03; 10203/18-04	
Display board	6557-0800-6504	10203/1-07	+5 °C / +55 °C
	xx-214-003	10203/9-05; 10203/13-03	
	6557-0700-6505	10203/12-02; 10203/13-08	
	xx-214-004	10203/15-05; 10203/15-06	-25 °C / +55 °C

Part	Part number	Documentation	Ambient temperature range
Power board	6557-0800-8202	10203/1-08	+5 °C / +55 °C
	6557-0800-8203	10203/1-09	
	6557-0800-8204	10203/3-03	
	xx-213-003	10203/9-07; 10203/13-04	
	xx-213-004	10203/15-07; 10203/15-08	-25 °C / +55 °C
SD Card Adapter board (optional)	6557-1500-0000	10203/8-01	+5 °C / +55 °C
	6557-1500-0001	10203/9-15	

Remark: In the part number x can represent any character.
The Flow X/M with Part Number starting with '6557-' may contain a normal SD card or the SD Card Adapter board with micro-SD card.

1.1.2 Flow-X/P

Part	Part number	Documentation	Ambient temperature range
Flow-X/P type 1: GUI module Touchscreen controller *)	6557-0700-1402	10203/1-10	+5 °C / +55 °C
	6557-0700-1407	10203/1-11	
	6557-0700-1408	10203/1-12	
	6557-0700-1409	10203/1-12	
	6557-0700-1410	10203/3-04	
Backplane PCB	6557-0800-2904	10203/1-13	+5 °C / +55 °C
	6557-0800-2905	10203/1-14	
	xx-215-003	10203/9-09; 10203/13-05	-25 °C / +55 °C
Connector panel	6557-0800-2803	10203/1-15	+5 °C / +55 °C
	6557-0800-2804	10203/1-16	
	xx-217-004	10203/9-11; 10203-13-06	
	xx-217-005	10203/15-09; 10203/15-10	-25 °C / +55 °C
Flow-X/P type 2: display interconnection board	xx-219-004	10203/9-13; 10203/13-07	+5 °C / +55 °C
	xx-219-005	10203/15-11; 10203/15-12	-25 °C / +55 °C
Flow-X Type 2: GUI module Touch screen controller	xx-221-006	10203/15-13; 10203/15-14 10203/15-15	+5 °C / +55 °C
'Digital Board' (instead of 'Flow X/P type 2: GUI board')	xx-211-006	10203/9-01; 10203/16-01	+5 °C / +55 °C
	xx-211-007	10203/15-03; 10203/15-04	-25 °C / +55 °C
	xx-211-008	10203/18-03; 10203/18-04	
7" touch screen display	ST070WSBE	10203/15-16; 10203/17-01	-25 °C / +55 °C
Power board	6557-0800-8202	10203/1-08	+5 °C / +55 °C
	6557-0800-8203	10203/1-09	
	6557-0800-8204	10203/3-03	
	xx-213-003	10203/9-07; 10203/13-04	
	xx-213-004	10203/15-07; 10203/15-08	-25 °C / +55 °C
SD Card Adapter board (optional)	6557-1500-0000	10203/8-01	+5 °C / +55 °C
	6557-1500-0001	10203/9-15	

In the part number x can represent any character.
The Flow-X/P enclosure may contain up to four Flow-X/M flow modules. The Flow X/P with Part Number starting with '6557-' may contain a normal SD card or the SD Card Adapter board with micro SD card.
*) Flow-X/P may contain a GUI board or a digital board.

1.1.3 Flow-X/S

Part	Part number	Documentation	Ambient temperature range
Back plane	6557-0800-4901	10203/1-17	+5 °C / +55 °C
	6557-0800-4902	10203/1-18	
	xx-225-001	10203/18-05; 10203/18-06	-25 °C / +55 °C

The Flow-X/S enclosure contains one Flow-X/M module.

1.1.4 Flow-X/R

Part	Part number	Documentation	Ambient temperature range
Back plane	6557-0800-8401	10203/1-19	+5 °C / +55 °C

The Flow-X/R enclosure may contain up to eight Flow-X/M modules.

1.1.5 Flow-X/K

Part	Part number	Documentation	Ambient temperature range
Back plane	xx-226-000	10203/18-07; 10203/18-08	+5 °C / +55 °C
	xx-226-001	10203/18-09; 10203/18-10	-25 °C / +55 °C

The Flow-X/K enclosure contains one Flow-X/M module.

1.2 Essential characteristics

1.2.1 Calculation of volumetric and / or mass flow totals from volume impulses and / or mass impulses and / or serial data (RS232, RS485 or Ethernet).
The calculation and indication of cumulative gross volume, base volume and / or mass, for station and each run, and for both forward and reverse streams, are under legal control.

1.2.2 The validity of serial communication is always checked by determining and comparing the CRC of received messages and in some cases additionally by checking if the received value is between valid limits.

The validity of Modbus messages is checked by comparing the received checksum with the calculated checksum of received bytes.

Modbus ASCII mode and RTU mode use different methods to determine the checksum.
Modbus ASCII uses LRC (Longitudinal Redundancy Check) to generate the checksum.
Modbus RTU uses CRC (Cyclic Redundancy Check) to generate the checksum.
The checksum of HART messages is the result of the XOR function of all bytes in the message.

1.2.3 Software specification (see WELMEC 7.2):

- Software type P;
- Risk Class C;
- Extensions L, T, S, I;
  Extension D is not applicable because software download is disabled when the tamper switch is enabled and sealed.

Software part	Software version	Software checksum	Remarks
Firmware	Software checksum acts as software version identification.	B4A0633E	Core calculation, reporting and communication engine
		7E40F17AE	
		5B6AEFE1	
		63CBC842	
		A58377C1	
		4581A774	
		651B2653	
		A3DDC66F	
		5ADFEAA2	
		C587C032	
		2F494636	
		11143FE8	
		1AAD4807	
	2.1.1.9285	712C1E6B	
	2.1.2.10217	0B29E8A2	
	2.1.3.10452	0B29E8A2	
	2.1.4.12541	0B29E8A2	
	3.0.0.10988	A9B2B7D9	
	3.1.1.12149	13D0B0C5	
	3.1.3.12952	13D0B0C5	
	3.2.0.13638	2555BE9D	
	3.2.1.13738	2555BE9D	
	3.2.3.14630	2555BE9D	
	3.2.4.14771	2555BE9D	
	3.2.6.16452	37B727D5	
	3.2.8.17090	37B727D5	

Software part	Software version	Software checksum	Remarks
Add-on Programs	1.0.0.3		Boot loader and other auxiliary programs
	1.0.0.1107		
	1.0.0.1108		
	1.0.0.1127		
	1.0.0.1151		
	1.0.0.1157		
	1.0.0.1166		
	1.0.0.1167		
	1.0.0.1169		
	1.0.0.1170		
	1.1.2.7027		
	2.0.0.8200		
	2.3.0.11844 Label: Oct 07 2019 16:24:57		
	2.4.0.12900 Label: Apr 14 2020 13:03:41		
FPGA	1357-22-1-2009		Field-Programmable Gate Array for X/M
	1422-21-2-2012		
	1350-29-10-2009		
	0879.914A.E820.BBF1	20D4.7372.2349.0DFB	
	0879.914A.E820.BBF1	6B1A.43BD.C7C8.F1D5	
	0000.0000.9367.6641	0000.0000.707E.0117	
	0000.0000.4486.EE18	0000.0000.5AF4.9B91	
	0000.0000.4486.EE18	0000.0000.354A.32F1	
	0000.0000.2244.331C	0000.0000.00E4.231B	
	0000.0000.2244.331C	0000.0000.8F26.C78C	
	0000.0000.2244.331C	0000.0000.BE45.0762	
	0000.0000.2244.331C	0000.0000.38D2.DDE6	
Operating system	1.55		
	2.57		
	4.60		
	6.62		
	9.66		
	9.68		
	10.70		
	16.53		
	14.74		
	19.81		
	20.82		
	21.83		
	1.1 (release 20180327)		
	1.1 (release 20190425)		
	1.1 (release 20190625)		
	2.0 3175		
	2.0 3186		
	2.0 3423		
	2.0 3753		

Software part	Software version	Software checksum	Remarks
	2.0 4121		
	2.0 4616		
Gas Application	1.0.4	9D263BD87	
	1.0.5	AB6CD0813	
	1.0.6	B8105CA80	
	1.2.2	72F8463D2	
	1.2.3	93D121AC0	
	1.2.3a	9413483E1	
	1.2.3b	959D32A00	
	1.3.0	93D121AC0	
	1.3.2	CE1F76217	
	1.3.2a	CFEB87157	
	1.4.0	D1723F20B	
	1.4.1	DFD489449	
	1.4.3	ECDD94451	
	2.1.0.x	10B99759D0	
	2.2.0.x	FDCF1662D	
	2.3.0.x	E33FB1F61 D2850CA21 215D6456A8	
	3.0.0.x	139A69A4FE 181F09C1D7 210A06EE73	

Remark: The version number and identification can be inspected on the local display by selecting display 'Metrological', 'Software version' or 'Metrological/version'.
The x in software version can be any number.

1.2.4 Conversion

The conversion is performed according to the following formula as stated below:

$$V_b = V \times \frac{p_{abs}}{p_b} \times \frac{273{,}15 + t_b}{273{,}15 + t} \times \frac{Z_b}{Z}$$

Symbol	Represented quantity	Unity
V_b	volume at base conditions	m^3
V	volume at measurement conditions	m^3
p_{abs}	absolute pressure at measurement conditions	bar
p_b	absolute pressure at base conditions	bar
t	gas temperature at measurement conditions	°C
t_b	temperature at base conditions	°C
Z_b	compression factor at base conditions	-
Z	compression factor at measurement conditions	-

1.2.5 Compression

The compression factor Z_b/Z can be programmed in the EVCD by the following options:

- as a fixed value;
- calculated on the basis of a gas composition;
- read from an optional gas chromatograph or Calorific Value Determining Device (CVDD).

Calculation by the EVCD is performed with one of the following the algorithms:
- SGERG91 (ISO12213-3) (known parameters are mol%N2, mol%H2, Hs and d), with correction factors for Hs and d for combustion temperatures other than 25 °C and reference temperatures other than 0 °C;
- AGA8 (ISO12213-2) (complete gas analyses).

In case the communication to the gas chromatograph or CVDD fails, the last good value before failure or a configurable fallback value is used.
Composition setup is described in document no. 10203/9-16 and can be configured on display Configuration -> Run / Station -> Gas properties -> Gas composition.

1.2.6 Gas composition

A gas composition can be read from an optional gas chromatograph or Calorific Value Determining Device (CVDD) or can be manually input.
In case the communication to the gas chromatograph or CVDD fails, the last good composition before failure or a manually input override composition is used. The electronic gas-volume conversion device can be connected to 2 gas chromatographs or CVDD's. In case of a failure in one chromatograph or CVDD, the composition and the values issued from the other chromatograph or CVDD are used.

Composition setup is described in document no. 10203/9-16 and can be configured on display Configuration -> Run / Station -> Gas properties -> Gas composition.

1.2.7 Pressure transducer

Any pressure transducer may be used provided the following conditions are met:
- For the pressure transducer a Parts certificate has been issued by a Notified Body responsible for type examination.
- The output signal must be according to a standard 4-20 mA signal or HART protocol.
- The pressure range is according to the appertaining Parts certificate; apart from that the following restrictions are valid.
- Maximum pressure does not exceed 120 bar.
- The pressure range must be within the working range of the algorithm used for correcting the deviation from the ideal gas law. On top of that the Flow-X optionally also raises an accountable alarm if the pressure drops below a configurable minimum accountable pressure P_{min}.
  Note: if a gauge pressure transducer is used the constant value for the atmospheric pressure is stated on the main menu – MID page.

A gauge pressure transducer may be used if its minimum operating absolute pressure is equal to or greater than 21 bar. The electronic gas-volume conversion device may be equipped with an application that allows connection of two pressure transmitters, for calculating and presenting the average value of the two measured pressure values (versions 1.2.3a, 1.2.3b and 1.3.2a).
In case one of the pressure transmitters fails, the calculated average pressure value is replaced by the measured pressure value of the good pressure transmitter.
One of the transmitters can be manually taken out of service for calibration purposes. In that case the measured pressure of the other transmitter is used.
The maximum allowed deviation between the two measured pressure values is preset.
If the deviation is larger than the preset value, in version 1.2.3a the keypad pressure value is used, whereas in versions 1.2.3b and 1.3.2a the measured value of transmitter 1 is used. Of course, the checks on that pressure transmitter value (not out of service, not defective, etc.)

apply.
The constant for atmospheric pressure can be found in the menu Configuration -> Overall set up -> Constants.

1.2.8 Gas temperature range
The temperature range is: -30°C ≤ t ≤ +80 °C; apart from that the temperature range has to be within the working range of the algorithm used for correcting the deviation from the ideal gas law.

1.2.9 Temperature transducer
Any temperature transducer may be used provided the following conditions are met:
- For the temperature transducer a Parts certificate has been issued by a Notified Body responsible for type examination.
- The output signal is according to the HART-protocol, it uses a standard 4-20 mA signal or the sensor is a Pt100.
- The temperature range is according to the appertaining Parts certificate; however, the temperature t must not exceed: -30 °C ≤ t ≤ +80 °C.
- The temperature range must be within the working range of the algorithm used for correcting the deviation from the ideal gas law.

The electronic gas-volume conversion device may be equipped with an application that allows connection of two temperature transmitters, for calculating and presenting the average value of the two measured temperature values (software versions 1.2.3a, 1.2.3b and 1.3.2a).
In case one of the temperature transmitters fails, the calculated average temperature value is replaced by the measured temperature value of the good temperature transmitter.
One of the transmitters can be manually taken out of service for calibration purposes. In that case the measured temperature of the other transmitter is used.
The maximum allowed deviation between the two measured temperature values is preset.
If the deviation is larger than the preset value, in version 1.2.3a the keypad temperature value is used, whereas in versions 1.2.3b and 1.3.2a the measured value of transmitter 1 is used. Of course, the checks on that temperature transmitter value (not out of service, not defective, etc.) apply.

1.2.10 Presentation of legal data on the Flow-X/M calculating and indicating device
The legal data is presented via a special menu by pressing the arrows keys on the front panel.
The legal data is presented via a special menu 'Metrological' accessible on the touch screen (Flow-X/P) and the LCD display (Flow-X/S, Flow-X/R and Flow-X/K).
The menu structure, keyboard, display and (alarm) indicators are described in chapter 'User interface' of the document no. 10203/9-16.

1.2.11 Presentation of legal data on the front panel display of the Flow-X/P calculating and indicating device.

1.2.12 The legal data is presented via a special menu 'Metrological' accessible on the touch screen (Flow-X/P) and the LCD display (Flow-X/S, Flow-X/R and Flow-X/K).
The menu structure, keyboard, display and (alarm) indicators are described in document no. 10203/9-16.

1.2.13 Accountable alarms
The EVCD has to be programmed such that accountable alarms will be generated if extreme values are measured by the EVCD or if a defect is detected. Accountable alarms cause the registration of the volume at base conditions to be stopped.

Additionally to the registration in the main totalizer, if there's no accountable alarm the volume at measurement conditions will be registered in the accountable totalizer, while during the alarm the volume at measurement conditions will be registered in the non-accountable totalizer.

An accountable alarm is raised if a remote transmitter is forced or frozen.

The alarm indication can be acknowledged using the "Acknowledge" button on the alarms display. However, it is not possible to clear an alarm as long as the cause of the alarm is still present."

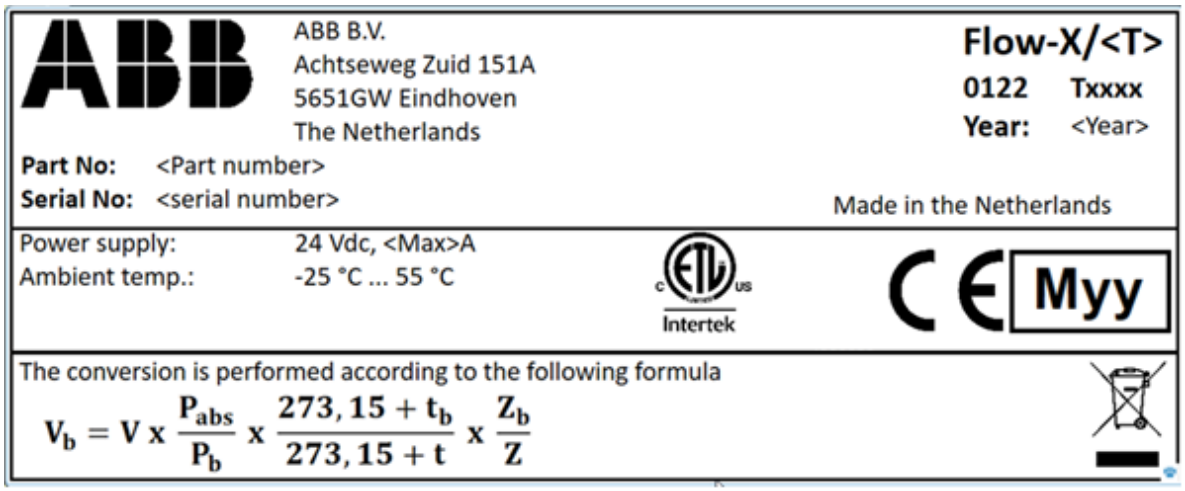
1.3 Essential shapes

1.3.1 Markings

The nameplate is bearing at least, good legible, the following information:
- CE marking including the supplementary metrological marking (M + last 2 digits of the year in which the instrument has been put into use);
- Notified Body identification number, following the supplementary metrological marking;
- EU-type examination certificate no. T10203;
- manufacturer's name, registered trade name or registered trade mark;
  - manufacturer's postal address;
  - serial number of the meter and year of manufacture;
  - ambient temperature range.

The following information is mentioned on the nameplate or on the display:
- the gas temperature range;
- the gas pressure range;
- the base pressure; (if applicable)
- the base temperature;
- the compression algorithm; (if applicable)
- the gas properties; (if applicable)
- the parameters for gas meter error correction curve. (if applicable)

The following information is mentioned on the nameplate or in the manual:
- mechanical environment class;
- electromagnetic environment class.



Example of the nameplate.

This measuring instrument was previously placed on the market under the name “Spirit IT”.

1.3.2 Seals: see chapter 2.

1.4 Conditional parts

1.4.1 Housings
See the General Information in this EU-type-examination certificate.
Metrological important parts only are accessible after breaking the tampering switch seal.

1.4.2 Use of a gas chromatograph or Calorific Value Determining Device (optionally)
Any gas chromatograph or CVDD may be used provided the following conditions are met:
- For the gas chromatograph or CVDD a part certificate has been issued by a Notified Body responsible for type examination;
- the communication between the EVCD and the gas chromatograph or CVDD takes place through an RS232, RS485 or Ethernet interface;
- when the connection between the EVCD and gas chromatograph or CVDD is broken or when the gas chromatograph or CVDD is defective an accountable alarm is raised.

1.5 Conditional characteristics

1.5.1 Maximum impulse input frequency: dual impulse train: 5 kHz; single impulse train: 10 kHz.

1.5.2 Ethernet interfaces, the ethernet cable length if connected to the device should be less than 10 meters long.

1.5.3 Programming
Change of metrological parameters is protected by a programming switch (tamper switch). See paragraph 'Software and data protection' of the document no. 10203/9-16 for a full description of the programming, the parameters and the data protection.
All metrological parameters are at security level 1000 or higher. All parameters on security level 1000 or higher are locked by the tamper switch. The definition of the security levels is under the metrological checksum.

1.6 Non-essential characteristics

For station and each run, and for both forward and reverse streams the calculation and indication device support the following totalizers.

Cumulative totalizers
- Cumulative number of impulses (does not apply to station totalizers)
- Cumulative number of error impulses (does not apply to station totalizers)
- Cumulative energy
- Cumulative accountable energy
- Cumulative non-accountable indicated (volume or mass, does not apply to station totalizers)
- Cumulative non-accountable gross volume
- Cumulative non- accountable base volume
- Cumulative non-accountable mass
- Cumulative non-accountable energy

Period totalizers
- Current [xxx] indicated (volume or mass, does not apply to station totalizers)
- Current [xxx] number of impulses (does not apply to station totalizers)
- Current [xxx] number of error impulses (does not apply to station totalizers)
- Current [xxx] gross volume
- Current [xxx] base volume
- Current [xxx] mass
- Current [xxx] energy
- Current [xxx] accountable indicated (volume or mass, does not apply to station totalizers)
- Current [xxx] accountable gross volume
- Current [xxx] accountable base volume
- Current [xxx] accountable mass
- Current [xxx] accountable energy
- Current [xxx] non-accountable indicated (volume or mass, does not apply to station totalizers)
- Current [xxx] non-accountable gross volume
- Current [xxx] non-accountable base volume
- Current [xxx] non-accountable mass

- Current [xxx] non-accountable energy
- Previous [xxx] indicated (volume or mass, does not apply to station totalizers)
- Previous [xxx] number of impulses (does not apply to station totalizers)
- Previous [xxx] number of error impulses (does not apply to station totalizers)
- Previous [xxx] gross volume
- Previous [xxx] base volume
- Previous [xxx] mass
- Previous [xxx] energy
- Previous [xxx] accountable indicated (volume or mass, does not apply to station totalizers)
- Previous [xxx] accountable gross volume
- Previous [xxx] accountable base volume
- Previous [xxx] accountable mass
- Previous [xxx] accountable energy
- Previous [xxx] non-accountable indicated (volume or mass, does not apply to station totalizers)
- Previous [xxx] non-accountable gross volume
- Previous [xxx] non-accountable base volume
- Previous [xxx] non-accountable mass
- Previous [xxx] non-accountable energy

With [xxx] either ‘hour’, ‘hour open’, ‘day’, ‘day open’, ‘period A’, ‘period A open’, ‘period B’, or ‘period B open’.

“Current” totalizers register during the applicable time period. At the start of the applicable time period the respective “current” totalizers are reset to zero. “Previous” totalizers show the previous applicable time period. Totalizers indicated with the word “open” show the value of the cumulative totalizers at the start of the applicable time period.

2 Seals

The following items are sealed:

- Each Flow-X/M flow module must be locked by operating the tampering switch (push button) and the tampering switch must be sealed if the access to the tamper switch is not protected by a sealed bar;

- All enclosures have the option of locking the flow computer with a seal by an authorized body, to prevent access to the tamper switch of the individual modules (see above). In a Flow-X/P (Panel) and a Flow-X/R, one bar is used to seal all installed modules with one seal;

- Removal without destroying the nameplate shall not be possible; otherwise, the nameplate shall be sealed to the housing.

Remark: If the tamper switch is unlocked while MID compliance is enabled an alarm is raised.