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BlueFlow
Fluid Flow Solutions

TÜV SÜD
Product Service

(1) # EU-Type Examination Certificate

(2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres – **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

TPS 18 ATEX 04516 001 X

(4) Equipment or Protective System: Mass Flow Meter - Type: F23 series transmitter and CNG or CG series sensor

(5) Manufacturer: Zhejiang Sealand Technology Co., Ltd.

(6) Address: No.460, Jinhai 1st Road, Binhai ETDZ, Wenzhou, Zhejiang, PR China

(7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV SÜD Product Service GmbH, notified body no. 0123, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports with no. 88.500.17.139.01.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11: 2013 EN 60079-1: 2014 EN 60079-11: 2012

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

II 2G Ex db [ib] IIC T6…T1 Gb (Transmitter)

Ex ib IIC T6…T1 Gb (Sensor)

Certification Office Of Explosion Proof Products

München, 24.05.2018

713222

Ing. Kristof De Gersem, MSc.

(13) **Schedule**

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(15) Model designation:

F23 * - * - * - ***

1 2 3 4 5

1: F23 series transmitter

2: Display

0: without display

1: with display

3: Voltage input

A: AC

D: DC

4. Communication mode

N: Routine

I: 4~20mA

H: Hart

5. Sensor caliber (DN: 006~200)

CNG - **

1 2

1. Specially designed for CNG application
2. Nominal diameter (15, 20)

CG - ***

1 2

1. For all application
2. Nominal diameter (06, 15, 25, 32, 40, 50, 80,100, 150, 200)

(16) Description of equipment:

The Mass Flow Meter includes a F23 series transmitter in type of protection Ex db and a CG or CNG series sensor in type of protection Ex ib, which is used to measure mass flow rates of the fluid flowing through a tube according to the Coriolis technology. It also has a degree of protection of IP67. The maximum allowable length of the interconnecting cable is 150 m.

The enclosure of the transmitter is made of ADC12 aluminium alloy and safety barriers are installed in it for safe isolation of intrinsically safe and non-intrinsically safe circuits.

The Intrinsically safe sensor includes right and left pickoff coils, one drive coil and one PT100, all of them are installed on the wall of tube and sealed in an enclosure.

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The CG series sensors include an intrinsically safe junction box, which is installed on the sensor enclosure and used for intrinsically safe intermediate connection. The enclosure of sensor is made 304 stainless steel and junction box is made of ADC12 aluminium alloy.

Technical data:

Power supply: AC 85V~250V 50/60Hz

DC 12V~24V 5W

Degree of protection by enclosure: IP67 (tested according to EN 60079-0)

Temperature class:

Temperature class	Process temperature	Transmitter ambient temperature
T6	-200°C ~ 60°C	-30°C≤Ta≤45°C
T5	-200°C ~ 80°C	-30°C≤Ta≤45°C
T4	-200°C ~ 105°C	-30°C≤Ta≤45°C
T3	-200°C ~ 138C	-30°C≤Ta≤45°C
T2	-200°C ~ 238°C	-30°C≤Ta≤80°C
T1	-200°C ~ 388°C	-30°C≤Ta≤80°C

Warning label

WARNING – DO NOT OPEN TRANSMITTER WHEN ENERGIZED.

Installation instruction:

See (18) Special conditions for safe use.

(17) Test report: 88.500.17.139.01

Document List:

File no.	Description:	Pages:	Rev:	Date:
SLM-1	Mass Flow Meter	1	1	2018.03.17
SLM-2	Mass Flow Meter	1	1	2018.03.17
SLM-3	Mass Flow Meter	1	1	2018.03.17
SLM-JX	Wiring Diagram	1	1	2018.01.19
F23X.0	Mass Flow Transmitter	1	1	2018.03.19
F23X-1	Front Cover	1	1	2018.03.19
F23X-6	Axis	1	1	2018.03.19
F23X-7	Transmitter Nameplate	1	1	2018.03.17
F23X-8	Back Cover	1	1	2018.03.19
CG15.0	Mass Flow Sensor CG-15	1	1	2018.03.19

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File no.	Description:	Pages:	Rev:	Date:
CG50.0	Mass Flow Sensor CG-50	1	1	2018.03.19
CNG15.0	Mass Flow Sensor CNG-15	1	1	2018.03.19
CG15-YL	Sensor Schematic Diagram	1	1	2018.01.09
CG15-1	CG Sensor Nameplate	1	1	2018.03.17
CG15.2	CG-15 Case Subassembly	2	1	2018.03.19
CG15.1	CG-15 Debug Subassembly	3	1	2018.03.19
CG50.2	CG-50 Case Subassembly	1	1	2018.03.19
CG50.1	CG-50 Debug Subassembly	1	1	2018.03.19
CG15.1.2-3	CNG Sensor Nameplate	1	1	2018.03.17
CNG15.2	CNG-15 Case Subassembly	1	1	2018.03.19
CNG15.1	CNG-15 Debug Subassembly	1	1	2018.03.19
CG06.4	Wiring Board Module	1	1	2018.03.17
F23X.3-YL	Safety Barrier Schematic Diagram	1	1	2018.01.09
F23X.3-1a-SY	Safety Barrier PCB Board Diagram a (Silk-screen)	1	1	2018.01.09
F23X.3-1a-SY	Safety Barrier PCB Board Diagram a (Top)	1	1	2018.01.09
F23X.3-1a-SY	Safety Barrier PCB Board Diagram a (Bottom)	1	1	2018.01.09
F23X.3-1b-SY	Safety Barrier PCB Board Diagram b (Silk-screen)	1	1	2018.01.09
F23X.3-1b-SY	Safety Barrier PCB Board Diagram b (Top)	1	1	2018.01.09
F23X.3-1b-SY	Safety Barrier PCB Board Diagram b (Bottom)	1	1	2018.01.09
/	Safety Barrier BOM	1	/	2018.04.20
XLKJ/ZY-7.1-01	Conformal Coating Processing Instruction of PCB Board	2	A/0	2017.07.07
XLKJ/ZY-7.1-02	Glue Instruction between Round Glass and Cavity	1	A/0	2017.07.07
XLKJ/ZY-7.1-04	Glue Instruction of Ex-proof Cavity	1	A/0	2017.07.07
XLKJ/ZY-7.1-03	Spray Paint Instruction for Ex-proof Case	1	A/0	2017.07.07

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File no.	Description:	Pages:	Rev:	Date:
/	Use Manual	29	V 1.01	2018.04.20
/	ADC12 Material Report	1	/	2017.12.19
/	DPL050-1 Coil Specification	1	/	2018.04.08
/	DPL083-1 Coil Specification	1	/	2018.04.08
/	DPL110-1 Coil Specification	1	/	2018.04.08
/	DPL178-1 Coil Specification	1	/	2018.04.08
/	DPL205-1 Coil Specification	1	/	2018.04.08
/	DPL288-1 Coil Specification	1	/	2018.04.08
/	Cable Specification	1	/	2016.10.30
/	Datasheet of O-ring	1	/	2017.02.20
MSC0302A	Datasheet of Zener Diode	3	/	1997.06.26
XLKJ-ATEX-01	EU DECLARATION CONFORMITY(draft version)	2	1.0	2018.01.25
XLKJ-ATEX-02	Product description	5	1.0	2017.10.15

The full documentation is kept at TÜV SÜD files.

(18) Special conditions for safe use:

1. When the equipment is installed, precautions shall be taken to ensure the ambient temperature of the transmitter meets the marked temperature range, taking into account process fluid effects.

2. The cable entry holes of transmitter must be connected by means of suitable cable entry devices and which are covered by a separate conformity ATEX/IECEx certificate with the Ex d explosion protection property as the certification and in minimum IP67.

3. The unused entry holes of transmitter must be blanked by means of suitable blanking elements and which are covered by a separate conformity ATEX/IECEx certificate with the Ex d explosion protection property as the certification and in minimum IP67.

4. The external earth connection facility of the transmitter housing shall be connected to the equipotential bonding installation according the installation requirements of EN/IEC 60079-14: latest version.

5. For temperature class T2 and T1, the connected cables and cable gland shall be suitable for temperatures up to 100°C.

(19) Essential health and safety requirements:

Assured by compliance with standards set out in (9).