Blancett®
Turbine Flow Meters

Flow Monitor

B3100 Series

Badger Meter

DSY-DS-02373-EN-02 (June 2021)

Certificate Binder

Disclaimer

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Trademarks

All trademarks used in this publication are the property of their respective owners.

Document control

This Certificate binder is part of the documentation set that came with the E-Series. It is the responsibility of the copy holder to keep the Certificate binder and the related appendices up-to-date.

We reserve the right to make changes of any kind without prior written notice. Please visit our internet site for the latest information and (product) updates.

Certification

The CE marking is a mandatory conformity marking that allows the manufacturers to circulate (industrial) products freely within the internal market of the European Economic Area (EEA). The CE mark self-certifies that the products have met the minimum EEA health, safety and environmental requirements for the consumer and workplace safety.

The CE marking is also found on products sold outside the EEA that are manufactured in, or designed to be sold in, the EEA.

The ATEX Directive uses a special logo in addition to the CE logo to show that the product is suitable for use in an Explosive Atmosphere. The rating for the Explosive Atmosphere is given on the related certificate and the product label.

The IEC System for Certification to Standards relating to Equipment for use in Explosive Atmospheres uses a special logo to show that the product is suitable for use in an Explosive Atmosphere. The rating for the Explosive Atmosphere is given on the related certificate and the product label.

The Canadian Standards Association (CSA) is a nonprofit Nationally Recognized Testing Laboratory that serves the business, the industry, the government and the consumers in Canada and the global marketplace. The CSA-US Mark qualifies as an alternative to the UL Mark.

The rating for the use of the product is given on the related certificate and the product label.

The Factory Mutual Insurance Company (FM) is an international property insurance and loss prevention engineering company, specilized in loss prevention services primarily to large corporations throughout the world in the Highly Protected Risk (HPR) property insurance market sector.

The FM APPROVED mark shows that that the product conforms to the highest national and international standards. The rating for the use of the product is given on the related certificate and the product label.

Version a1
Checked in 2016-02-23

Table of content

1 CE certification

Declaration of Conformity

Fluidwell E-series indicators

Veghel, February 2016

We, Fluidwell BV, declare under our sole responsibility that the E-series indicators are designed and will operate conform the following applicable European Directives and Harmonised Standards, when installed and operated according to the related manual:

EMC Directive		EN61000-6-2:2005; EN61000-6-3:2007; EN61326-1:2013
RoHS Directive		EN 50581:2012
Low Voltage Directive	For options –PM or –OR:	EN61010-1:2010
ATEX Directive	For option –XD, flame proof:	EN60079-0:2012; EN60079-1:2007; EN60079-31:2009
	Protective system:	⟨Ex⟩ II 2 G Ex d IIC T6/T5 Gb
	(for power consumption up till 4.5 W / 9.2 W respectively)	⟨Ex⟩ II 2 D Ex tb IIIC T85 °C/T100 °C Db
Certification	Certificates:	KEMA 14ATEX0006 X, Issue 4
	Notified body 0344:	DEKRA Certification BV, Meander 1051, 6825 MJ, Arnhem, the Netherlands.

Last two digits of the year in which the CE marking was affixed: 13.
Remark: compliance is not affected by standards EN60079-1:2014 and EN60079-31:2014.

The object of the declaration above is in conformity with the relevant Union harmonisation legislation:

	until April 19th, 2016	from April 20th, 2016
EMC Directive	2004/108/EC	2014/30/EU
RoHS Directive	2011/65/EU	2011/65/EU
Low Voltage Directive	2006/95/EC	2014/35/EU
ATEX Directive	94/9/EC	2014/34/EU

Fluidwell BV

I. Meij, Manager Technology

Fluidwell BV are ISO9001 certified by DEKRA Certification BV, Meander 1051, 6825 MJ, Arnhem, The Netherlands.

Fluidwell bv
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Bank: ING-Bank
SWIFT Nr / BIC: INGBNL2A

EUR account no: 66.63.96.078
IBAN: NL73 INGB 0666 3960 78
USD account no: 02.20.81.771
IBAN: NL22 INGB 0022 0817 71

2 ATEX certification

CERTIFICATE

EC-Type Examination

(1)

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **DEKRA 14ATEX0006 X** Issue Number: **1**

(4) Equipment: **Indicator Model E-series**

(5) Manufacturer: **Fluidwell B.V.**

(6) Address: **Voltaweg 23, 5466 AZ Veghel, The Netherlands**

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

(8) DEKRA Certification B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential test report number NL/DEK/ExTR14.0001/**.

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

EN 60079-0 : 2012 **EN 60079-1 : 2007** **EN 60079-31 : 2009**

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

II 2 G Ex d IIC T6/T5 Gb
II 2 D Ex tb IIIC T85°C/T100°C Db

This certificate is issued on 4 March 2014 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.

R. Schuller
Certification Manager

Page 1/2

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Registered Arnhem 09085396

(13) # SCHEDULE

(14) **to EC-Type Examination Certificate DEKRA 14ATEX0006 X** Issue No. **1**

(15) **Description**

The indicator Model E-series is an indicator for flow, level, pressure and temperature measurement. The indicator consists of an electronic insert in a flameproof enclosure made of aluminium or stainless steel.

The range of indicators are all indicated with a capital E prefix, 3 digits and several suffixes as per the manufacturers order code.
One suffix always included is "-XD" to indicate hazardous area usage: Model E... – XD.

The indicators are supplied by an internal battery and/or by an external supply or by the circuit supply. Optionally, the indicators can be equipped with a pulse output, a sensor supply output and an input for backlight supply.

Ambient temperature range -40 °C to +70 °C.

The enclosure of the indicator provides a degree of protection of at least IP65 in accordance with EN 60529.

Electrical data

Power supply: Lithium battery or 8-30 Vdc or 65-250 Vac, 50/60 Hz,
4.5 W maximum for T6 or 9.2 W maximum for T5.

Installation instructions

The instructions provided with the equipment shall be followed in detail to assure safe operation.

(16) **Test Report**

No. NL/DEK/ExTR14.0001/**.

(17) **Special conditions for safe use**

- The property class of the hexagon socket head screws of process connection A (cylindrical joint) is A2-70 or better;
- The details of the flameproof joints are specified in the manufacturers instructions;
- The painted aluminium enclosure shall be installed in such a way that danger of ignition due to electrostatic discharge is avoided.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. NL/DEK/ExTR14.0001/**.

3 IECEx certification

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx DEK 14.0001X	Issue No: 0	Certificate history: Issue No. 0 (2014-03-04)
Status:	**Current**	Page 1 of 3	
Date of Issue:	**2014-03-04**		
Applicant:	**Fluidwell B.V.** Voltaweg 23 5466 AZ Veghel **The Netherlands**		
Electrical Apparatus:	**Indicator Model E-series**		
Optional accessory:			
Type of Protection:	**Ex d, Ex tb**		
Marking:	Ex d IIC T6/T5 Gb Ex tb IIIC T85 °C/T100 °C Db		

Approved for issue on behalf of the IECEx Certification Body: R. Schuller

Position: Certification Manager

Signature:
(for printed version)

Date: 2014-03-04

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA Certification B.V.
Meander 1051,
6825 MJ Arnhem
The Netherlands

DEKRA

IECEx Certificate of Conformity

Certificate No:	IECEx DEK 14.0001X	Issue No: 0
Date of Issue:	**2014-03-04**	Page 2 of 3
Manufacturer:	**Fluidwell B.V.** Voltaweg 23 5466 AZ Veghel **The Netherlands**	
Additional Manufacturing location(s):		

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

NL/DEK/ExTR14.0001/00

Quality Assessment Report:

NL/DEK/QAR12.0019/01

IECEx Certificate of Conformity

Certificate No: IECEx DEK 14.0001X Issue No: 0

Date of Issue: **2014-03-04** Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The indicator Model E-series is an indicator for flow, level, pressure and temperature measurement. The indicator consists of an electronic insert in a flameproof enclosure made of aluminium or stainless steel.

The range of indicators are all indicated with a capital E prefix, 3 digits and several suffixes as per the manufacturers order code. One suffix always included is "-XD" to indicate hazardous area usage: Model E... – XD.
The indicators are supplied by an internal battery and/or by an external supply or by the circuit supply. Optionally, the indicators can be equipped with a pulse output, a sensor supply output and an input for backlight supply.

Ambient temperature range -40 °C to +70 °C.

The enclosure of the indicator provides a degree of protection of at least IP65 in accordance with IEC 60529.

Electrical data

Power supply: Lithium battery or 8-30 Vdc or 65-250 Vac, 50/60 Hz,
4.5 W maximum for T6 or 9.2 W maximum for T5.

CONDITIONS OF CERTIFICATION: YES as shown below:

- The property class of the hexagon socket head screws of process connection A (cylindrical joint) is A2-70 or better;
- The details of the flameproof joints are specified in the manufacturers instructions;
- The painted aluminium enclosure shall be installed in such a way that danger of ignition due to electrostatic discharge is avoided.

4 c-CSA-us certification

Certificate of Compliance

Certificate: 70010647 **Master Contract:** 208772

Project: 70010647 **Date Issued:** August 27, 2015

Issued to: **Fluidwell B.V.**
Voltaweg 23
5466 AZ Veghel
NETHERLANDS

Attention: **R.Amiot**

The products listed below are eligible to bear the CSA Mark shown

Issued by: ***E.Giusti***
E.Giusti

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Grps A, B, C, D (except model codes **Exxx - z - x- x** - HC_ and **Exxx - z - x_ - x_** - HU_). Which are for groups B, C, D only)
Class II/III, Division 1, Grps E, F, G
Class I, Zone 1, AEx d IIC T6/T5 Gb
Zone 21, AEx tb IIIC T85°C/T100°C Db

Flowrate indicator/totalizer model Exxx-z with Analog and Pulse Signal Inputs, Alarm and/or pulse Outputs, Linearization and communication options.
Electrical ratings: 8-30 Vdc or 65-250 Vac (incl. 10% tolerance), 50/60Hz, 4.5W for T6 and 9.2W for T5. Battery powered and/or supplied externally, the indicators can be equipped with a pulse/relay output and a sensor supply output.
Ambient operating temperature range is -40°C to +70°C.
The indicator enclosure ensures a degree of protection of at least IP66/IP67 in accordance with CAN/CSA 60529 and ANSI/IEC 60529 and Type 4X as well.

DQD 507 Rev. 2012-05-22 Page 1

Certificate: 70010647 **Master Contract:** 208772
Project: 70010647 **Date Issued:** August 27, 2015

Model code is as follows:
Exxx - z - A_ - C_ - H_ _ - I_ - O_ - P_ - X_ - Z_

xxx = model number representing firmware in range 000 – 999 which does not affect approval
z = Primary sensor input
A_ = Analog output
C_ = Communication output
H_ _ = Enclosure
I_ = Additional input
O_ = Digital outputs
P_ = Power requirements
X_ = Hazardous area
Z_ = Options

For only the safety relevant options, the model code reduces to:
Exxx-z-xx-xx-H_ _-xx- O_-P_-xx-xx.

Symbol “z” and “x” represent a letter denoting different non-safety relevant options related to LV/LC signaling and software functionality.

Digital output
OR mechanical relay(s) and passive transistor outputs
OT passive transistor outputs
OX No digital outputs

Power requirements
PB Lithium battery powered
PD 9 - 27V DC + sensor supply.
PX basic power input 9 - 27V DC

Note: following specifications appear in the manufacturer’s instructions:
-The property class of the hexagon socket head screw of process connection A (cylindrical joint) is A2-70 or better;
-The details of the flameproof joints are specified in the manufacturer’s instructions;
-The painted aluminum enclosure shall be installed in such a way that danger of ignition due to electrostatic charges is avoided.
-Guidance are given in the manufacturer’s instructions since the temperature at the entry point is above 70°C.

Certificate: 70010647 **Master Contract:** 208772
Project: 70010647 **Date Issued:** August 27, 2015

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 0-10	General Requirements - Canadian Electrical Code, Part II
CAN/CSA C22.2 No. 61010-1-12	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
CAN/CSA C22.2 No. 60079-0:11	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
CAN/CSA C22.2 No. 60079-1:11	Electrical Apparatus for Explosive Gas Atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
CAN/CSA-C22.2 No. 60079-31:12	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
CAN/CSA-C22.2 No. 30-M1986	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CAN/CSA-C22.2 No. 25-1966	Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
CAN/CSA C22.2 No. 60529:05(R2010)	Degrees of protection provided by enclosures (IP Code)
ANSI/ISA 61010-1 (82.02.01)	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
ANSI/ISA 60079-0 (12.00.01): 2013	Explosive atmospheres – Part 0: Equipment – General Requirements
ANSI/ISA 60079-1 (12.22.01): R2013	Explosive Atmospheres – Part 1: Equipment protection by flameproof enclosures "d"
FM3600: 2011	Electrical Equipment for Use in Hazardous (Classified) Locations – General Requirements
FM3615 :2006	Explosionproof Electrical Equipment
ANSI/IEC 60529:2004	Degrees of protection provided by enclosures (IP Code)

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The permanent markings appear on a self-adhesive label manufactured by 3M (CUL MH18072) and is mounted on the surface of the apparatus.

(1) Submittor's name, trademark
(2) Catalogue / Model designation.
(3) Date code / Serial number traceable to month and year of manufacture.

Certificate: 70010647 **Master Contract:** 208772
Project: 70010647 **Date Issued:** August 27, 2015

(4) The cCSAus Monogram
(5) Maximum ambient temperature
(6) Certificate number CSA.15.70010647
(7) Hazardous location ratings
(8) Warning: 'Do not open when an explosive gas atmosphere is present'
Avertissement:'Ne pas ouvrir si une atmosphère explosive est présente'
'Seal all conduit entries within 18 inches. For Group A seal at enclosure wall'
'Scellez toutes les entrées de conduits à 18" max. Pour le grpe A, scellez les entrées au droit de l'enveloppe'

Nameplate is as per drawing Exxx_Exd_XP_DIP_v0.9.1.

Note - Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities.

Nameplate adhesive label material approval information:

The permanent markings appear on a self-adhesive label manufactured by 3M (CUL MH18072) and are mounted on the surface of the apparatus.

Supplement to Certificate of Compliance

Certificate: 70010647 **Master Contract:** 208772

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
70010647	August 27, 2015	Original Certification.

5 FM certification

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: **781 762 4300** F: 781-762-9375 www.fmapprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

Exxx – z, a, c, h, l, o, p, x, z. General Purpose Flowrate Indicator
XP/ I/ 1/ ABCD/ T6/ T5 Ta = -40˚C to +70˚C, Type 4X, IP66/67.
DIP/ II, III/ 1/EFG /T6 /T5 Ta = -40˚C to +70˚C.
I/ 1/ AEx d IIC /T6 /T5 Gb Ta = -40˚C to +70˚C.
21/ AEx tb IIIC/ T85˚C/ T100˚C Db Ta = -40˚C to +70˚C.
xxx = Model number representing firmware range: 000 – 999 (Does not affect FM Approval)
z = Primary Sensor Input: A, P or X.
a = Analog Output: AH or AX
c = Communication Output: CB, CH, CR, CU, CT or CX.
h = Enclosure: HA_, HS_, H_A, H_B, H_C, H_D, H_E, H_F, H_G, H_H, HB_, HC_HD_, HT_, HU_, HV_, H_A, H_C or H_E.
i = Additional Input: IB, IR or IX.
o = Digital Outputs: OR, OT and OX.
p = Power Requirements: PB, PD or PX.
x = Hazardous Area: XD.
z = Options: ZA, ZB, ZF, ZG, ZL or ZX.

Specific Conditions of Use:
1. *The property class of the hexagon socket head screws of process connection A (cylindrical joint) is A2-70 or better.*
2. *The details of the flameproof joints are specified in the manufacturer's instructions.*
3. *The painted aluminum enclosure shall be installed in such a way that danger of ignition due to electrostatic discharge is avoided. Possible electrostatic hazard – clean only with a moist cloth. Use only in fixed installations and do not place in areas with rapid airflow.*

To verify the availability of the Approved product, please refer to www.approvalguide.com

Equipment Ratings:

Explosionproof for use in Class I, Division 1, Groups A, B, C and D; Dust-ignitionproof for Class II/III, Division 1, Groups E, F and G; Class I, Flameproof for Class I, Zone 1, AEx d IIC T6/ T5 Gb; and Zone 21, AEx tb IIIC T85˚C/ T100°C Db Ta = -40°C + 70°C hazardous (classified) locations, indoor/ outdoor use Type 4X, IP66/67.

FM Approved for:

Fluidwell bv
Veghel, Netherlands

To verify the availability of the Approved product, please refer to www.approvalguide.com

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	2011
Class 3615	2006
Class 3616	2011
Class 3810	2005
ANSI/ISA 60079-0	2013
ANSI/ISA 60079-1	2013
ANSI/ISA 60079-31	2013
ANSI/ISA 60529	2004
ANSI/NEMA 250	2008

Original Project ID: 3054369 Approval Granted: January 22, 2016

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date

FM Approvals LLC

J.E. Marquedant
Manager of Electrical Systems

22 January 2016
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

Control. Manage. Optimize.

www.badgermeter.com