

[1]

EU-TYPE EXAMINATION CERTIFICATE


 [2] **Equipment and protective system intended for use in potentially explosive atmospheres
Directive 2014/34/EU-Annex III**

 [3] Certificate Number: **EPT 16 ATEX 2489 X**

 [4] Equipment: **Apparatus for gas measurement and valves control**

 Series: **FIO 2.2**

 [5] Manufacturer: **PIETRO FIORENTINI S.P.A.**

 [6] Address: **Via E. Fermi, 8/10 – 36057 Arcugnano (VI) – Italy**

[7] This equipment and its accepted variations are specified in the annex to this Certificate.

[8] Eurofins Product Testing Italy S.r.l., Notified Body n. 0477 in accordance with Article 21 of the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in the confidential Report N° EPT.16.REL.01/54250


[9] Compliance with the essential health and safety requirements is assured through the verification of them and by compliance with the standards:

EN 60079-0:2012+A11:2013, EN 60079-11:2012

[10] If the sign "X" is placed after the Certificate number, it indicates that the equipment is subject to the special conditions for safe use specified in the annex to this Certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, the exam and the tests of the specified equipment.

Further requirements of the Directive 2014/34/EU apply to the manufacture and supply of this equipment. These requirements are not object of this Certificate.

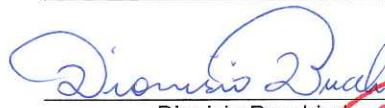
 [12] The equipment shall include the sign  and the following string:

- **II 2G Ex ib IIA T3 Gb**

-20°C ≤ Ta ≤ +60°C

Place and date of issue:

Torino, 2016-07-27

Dionisio Bucchieri
Directive Responsible



Paolo Trisoglio
Managing Director



SGQ N° 133A
PRD N° 119B

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This Certificate has 5 pages and it is reproducible only in its entirety. Conditions of validity are reported below.

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EU-TYPE EXAMINATION CERTIFICATE N. EPT 16 ATEX 2489 X
[15] Equipment description

FIO 2.2 is an intrinsically safe apparatus suitable to interface electronic Ex-i apparatus placed in hazardous area.

The apparatus mainly performs measurement of gas parameters and controls of actuation valves for regulation of Gas pressure and flow rate.

The apparatus is composed by functional modules as follows:

Analog measurements up to 4 pressure sensors, one temperature sensor and up two displacement sensors

Acquisitions up to 6 Digital status Input

Acquisitions of BF pulses and Namur HF pulses

One pulses repetition output

Individually ON /OFF controls up to four actuations valves

GSM/GPRS remote communication

Bluetooth interface

Optional RF 868MHz interface

Two RS485 serial interface

LCD and keyboard user interface

The apparatus can actuate a valve or an electric motor

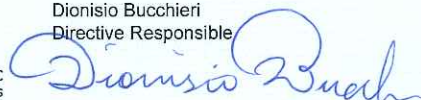
Parameters related to the safety
1. Input channels 1,2,3

	Uo[V]	Io[mA]	Po[mW]	Co[uF]	Lo[mH]	Ui[V]	li[V]	Pi[mW]	Ci[uF]	Li[mH]
Power Supply	-	-	-	-	-	16	170	2720	≈0	≈0
Dout						15	15	56	≈0	≈0
DOUTs Power	4,94	845	1044	1000	0,398					
Din _s /BF Cn _s	7,14	1,34	2,39	1000	1000					
HF Counter	8,61	15,5	33,4	1000	1000					
Serial ports	5,36	28,2	37,8	1000	357,7	6,5	65	105,6	≈0	≈0


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Routine tests

Not required.

Warning label

- Potential electrostatic charging hazard – See User Manual

[16] Assessment Report n° EPT.16.REL.01/54250

This EC-Type Examination Certificate is released after the positive result of the conformity assessment of the Council Directive 2014/34/EU and to harmonized technical standards EN 60079-0:2012+A11:2013;EN 60079-11:2012 performed by the Notified Body Eurofins Product Testing Italy S.r.l., and reported in the Assessment Report above cited.

[17] Special condition for a safe use

Potential electrostatic charging hazard: use only dump cloths for cleaning:

[18] Essential Health and Safety Requirements

Assured by compliance with harmonized standards.

Descriptive documents

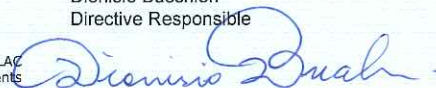
[19] The equipment objects of this Certificate is described by the following documents. Scheduled documents are indicated with the symbol "✓". They cannot be modified without the explicit authorization of the Notified Body.

Document	Name	Rev.	Date	Scheduled
Technical descriptive document	Technical notes: Fio 2.2 Device	0.3	06/07/2016	✓
Mechanical drawings				
Safety instruction for FIO 2.2 Devices	FIO 2.2-SICR02E	0.2	06/07/2016	✓
FIO 2.2 Main Board Ass.	CS0672T01M00R01-DSMR01I	0.1	04/07/2016	✓
FIO 2.2 Display Board Ass.	CS0672T02M00R01-DSMR01I	0.1	04/07/2016	✓
FIO 2.2 Modem Board Ass.	CS0672T07M00R00 DSMR01I	0.1	04/07/2016	✓
FIO 2.2 Bluetooth Ass.	CS0672T04M01R01-DSMR01I	0.1	04/07/2016	✓
FIO 2.2 Apparatus Ass.	AP0672T01M01R00-DSMR01I	0.1	04/07/2016	✓
FIO 2.2 Rech. Battery Ass.	AS0672T02M01R00-DSMR01I	0.1	04/07/2016	✓
FIO 2.2 Primary Battery Ass.	AS0672T06M01R00-DSMR01I	0.1	04/07/2016	✓
FIO 2.2 Label	ET0672T01M01R00-DSMR02E	0.2	06/07/2016	✓


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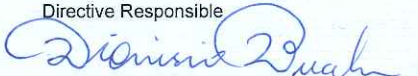
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Electrical schematics				
FIO 2.2 Main board	SK0672T01M01R00-SCER01E	0.1	04/07/2016	✓
LCD / Keyboard interface	SK0672T02M01R00-SCER01E	0.1	04/07/2016	✓
Modem Interface (Gemalto)	SK0672T03M01R01- SCER01E	0.1	04/07/2016	✓
Bluetooth Interface	SK0672T04M01R00- SCER01E	0.1	04/07/2016	✓
Cell Protection	SK0672T06M01R00-SCER01E	0.1	04/07/2016	✓
Modem Interface (u-blox)	SK0672T07M01R00-SCER01E	0.1	04/07/2016	✓
Component part list				
FIO 2.2 CPU board	SK0672T01M01R00-BOMR01E	0.1	04/07/2016	✓
LCD / Keyboard interface	SK0672T02M01R00-BOMR01E	0.1	04/07/2016	✓
Modem Interface (Gemalto)	SK0672T03M01R01-BOMR01E	0.1	04/07/2016	✓
Modem Interface (u-blox)	SK0672T07M01R00-BOMR01E	0.1	04/07/2016	✓
Bluetooth Interface	SK0672T04M01R00-BOMR01E	0.1	04/07/2016	✓
Cell Protection board	SK0672T06M01R00-BOMR01E	0.1	04/07/2016	✓
PCB layout				
Main board	CS0670T01M00R02-GBRR00	0.2	28/09/2014	✓
LCD / Keyboard Interface	CS0670T02M00R01-GBRR00	0.1	16/09/2014	✓
Modem Interface (Gemalto)	CS0670T03M00R01-GBRR00	0.1	18/09/2014	✓
Modem Interface (u-blox)	CS0670T07M00R00-GBRR00	0.0	11/10/2014	✓
Bluetooth Interface	CS0670T04M00R01-GBRR00	0.1	16/09/2014	✓
Cell protection board	CS0670T06M00R01-GBRR00	0.1	09/09/2014	✓
Actuators				
Block diagram, wiring diagram	TT1582	A	06/07/2016	✓
Regulating Unit, Pilot 201/E/FIO, Mechanical Drawing and Part List	7025880	A	06/07/2016	✓
Pilot Motor Unit 201/E/FIO, Mechanical Drawing and Part List	7999300	A	06/07/2016	✓
Motor Control board: Electrical diagram	MOT-SCH	A	07/06/2016	✓
Motor Control board: Part List	MOT- BOM	A	07/06/2016	✓
Motor Control board: PCB Gerber	MOT - GBR	A	07/06/2016	✓
FIO2 – Pilot 201/E/FIO wiring specification	XPD0021-90	A	07/06/2016	✓
Motor control board wiring specification	XPD0021-94	A	07/06/2016	✓
Valve assembly Drawing	DTP.217.07		27/10/2006	✓
3V Coil for Solenoid valve	3140621	B	6/7/2016	✓
4V Coil for Solenoid valve	3140622	B	6/7/2016	✓



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[20] **Terms and conditions**

The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

The following conditions may render this certificate invalid:

- changes in the design or construction of the product;
- changes or amendments to the Directive;
- changes or amendments in the standards which form the basis for documenting compliance with the essential requirements of the 2014/34/EU Directive.



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End of Certificate

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