



Physical Technical Testing Institute
Ostrava – Radvanice



EC-Type Examination Certificate

(1)

(2)

Equipment or Protective Systems Intended for Use
in Potentially Explosive Atmospheres
(Directive 94/9/EC)

(3) EC-Type Examination Certificate Number:

FTZÚ 15 ATEX 0018

(4) Equipment or protective system: **Flowswitch type FS xy Exia**

(5) Manufacturer: **COMAC CAL s.r.o.**

(6) Address: **Třanovice 239, 739 53 Třanovice, Czech Republic**

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

(8) The Physical Technical Testing Institute, notified body number 1026 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 Report N°:

15/0018 dated 05.10.2015

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

EN 60079-0:2012, EN 60079-11:2012, EN 50303:2000

(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 EC-Type Examination Certificate relates only to the design, examination and testing of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

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

 **I M1 Ex ia I Ma**
II 1G Ex ia IIC T4 Ga
II 1D Ex ia IIIC T135°C Da

This EC-Type Examination Certificate is valid till: **07.10.2020**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 07.10.2015

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This certificate is granted subject to the general conditions of the FTZÚ, s.p.
This certificate may only be reproduced in its entirety and without any change, schedule included.

FTZÚ, s.p., Pikartská 1337/7, 716 07 Ostrava-Radvanice, Czech Republic,
tel +420 595 223 111, fax +420 596 232 672, ftzu@ftzu.cz, www.ftzu.cz



**Physical Technical Testing Institute
Ostrava – Radvanice**

(13)

Schedule

(14) **EC-Type Examination Certificate N° FTZÚ 15 ATEX 0018**

(15) Description of Equipment or Protective System:

The apparatus Flowswitch type FS xx Exia is designed to monitor the flow of liquid media by calorimetric principle. The apparatus is designed for fixed installation into pipeline system.

Electronics of apparatus is placed on PCB, which is placed into stainless steel enclosure with degree of protection IP66/IP67. All electronics parts are casted with compound.

The apparatus is supplied by intrinsically safe power supply and contains galvanically separated passive output type "open collector" or active impulse output and active current loop 4-20mA. Connecting to external apparatuses is done by connector.

Intrinsically safe parameters:

Power Supply: pin 1, 3

$U_i = 28.5 \text{ V}$, $I_i = 115 \text{ mA}$ (Group IIC), $C_i = 0$, $L_i = 0$

Output impulse, passive: pin 2, 4:

$U_i = 28.5 \text{ V}$, $I_i = 115 \text{ mA}$, $P_i = 0.330 \text{ W}$, $C_i = 0$, $L_i = 0$

Output impulse, passive: pin 2, 4:

$U_o = 28.5 \text{ V}$, $I_o = 115 \text{ mA}$, $P_o = 0.330 \text{ W}$, $C_i = C_{\text{power supply}}$, $L_i = L_{\text{power supply}}$.

Current loop 4-20mA, active: pin 2, 4

Group I

$U_o = 10.8 \text{ V}$, $I_o = 196 \text{ mA}$, $P_o = 0.529 \text{ W}$, $C_o = 10 \text{ }\mu\text{F}$, $L_o = 0.2 \text{ mH}$.

Group IIC

$U_o = 10.8 \text{ V}$, $I_o = 196 \text{ mA}$, $P_o = 0.529 \text{ W}$, $C_o = 1 \text{ }\mu\text{F}$, $L_o = 15 \text{ }\mu\text{H}$.

Ambient temperature: -20°C to $+80^\circ\text{C}$ temperature class T4
 -20°C to $+40^\circ\text{C}$ temperature class T6

Degree of protection by enclosure > IP66/IP67

(16) Report No.: 15/0018

(17) Special conditions for safe use: none

(18) Essential Health and Safety Requirements:

Essential health and safety requirement of Directive 94/9/EC are covered by the standard mentioned in (9), according which the product was verified and in the manufacturer's instruction for use.

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(19) List of Documentation

<i>Document / Drawings</i>	<i>Date:</i>	<i>Nr. of Pages:</i>
FS Exia VPFS	16.06.2015	3
FS Exia SM	18.06.2015	1
FS Exia RJB	18.06.2015	4
FS Exia DM	18.06.2015	3
FS Exia DB	18.06.2015	3
FS Exia SS	18.06.2015	3
FS Exia VPFS Návod	24.06.2015	9
FS Exia ZKP	19.06.2015	2
FS Exia ZAP	19.06.2015	2
FS Exia SES	16.06.2015	1
FS Exia POS	15.06.2015	1
FS Exia VZS	24.06.2015	3

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