

EU-Type Examination Certificate



1. **EU-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU**
3. **EU-Type Examination Certificate Number: ITS12ATEX27615X Issue 1**
4. **Product:** 4 and 5 Digit Field Mounting Indicators and Rate Totaliser
5. **Manufacturer:** REGULATEURS GEORGIN
6. **Address:** 14-16 Rue Pierre Semard
92320 Chatillon
FRANCE
7. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
8. Intertek Testing and Certification Limited, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the 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.

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificate referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

The examination and test results are recorded in confidential Intertek Reports Ref G100802154A dated August 2012 and G103416968 dated March 2018.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012+A11:2013 and EN 60079-11:2012 except in respect of those requirements referred to at item 16 of the Schedule.
10. If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of 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 1 G Ex ia IIC T5 Ga,
II 1 D Ex ia IIIC T80°C Da IP66

-40°C ≤ Ta ≤ +70°C

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A M Smart
Certification Officer
24th April 2018



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13. Description of Equipment or Protective System

The 4 and 5 Digit Field Mounting Indicators are field mounted loop powered equipment designed to display a measured variable in meaningful engineering units within the hazardous area. The zero and span of the display are independently adjustable allowing the indicator to be calibrated to display any linear variable represented by the 4/20 mA signal. A root extractor and an adjustable sixteen segment lineariser enables the indicator to display flow and non-linear variables such as tank level in engineering units.

The models are GeXi04 & GeXi03 4 Digit Indicator, GeXi24 & GeXi23 5 Digit Indicator and GeXi54 and GeXi53 Rate Totaliser.

The 4 and 5 Digit Field Mounting Indicators and Rate Totaliser may additionally be fitted with an optional Back Light Board.

The 4 and 5 Digit Field Mounting indicators GeXi04 & GeXi24, GeXi24 and Rate Totaliser GeXi54 comprise a Field Terminal Board Main Display Board with optional Alarm circuits, Display LCD101 and optional Back Light Board all housed within an IP66 stainless steel or a glass reinforced polyester (GRP) enclosure.

The models GeXi03 4 Digit Indicator, GeXi23 5 Digit Indicator and GeXi53 Rate Totaliser are identical to the GeXi04/GeXi24/GeXi54 models but are housed within a pre-certified enclosure with IP rating of at least IP66.

The boards in all models of the equipment contain fixed resistors, keypads, liquid crystal display (LCD), transformers, capacitors, inductors, semiconductor devices, connectors for printed circuit board (PCB) interconnections, terminal blocks for external connections and plastic spacers for PCB mounting.

The maximum intrinsically safe input and output parameters at the external connections are as follows:

TB1 Terminal 1 and 3 (Loop Input); TB2 Terminal 12 and TB1 Terminal 3 (TB2 - 13 and TB1 -1 connected in series)

$U_i = 30 \text{ V}$	$U_o = 1.1 \text{ V}$
$I_i = 200 \text{ mA}$	$I_o = 3 \text{ mA}$
$P_i = 0.84 \text{ W}$	$P_o = 4.5 \text{ mW}$
$C_i = 13 \text{ nF}$ (for GeXi04/GeXi24/GeXi54)	
$C_i = 5.4 \text{ nF}$ (for GeXi03/GeXi23/GeXi53)	
$L_i = 0.016 \text{ mH}$ (0.02 mH)	
$C_o = 53 \text{ nF}$ (for GeXi04/GeXi24/GeXi54)	
$C_o = 60.6 \text{ nF}$ (for GeXi03/GeXi23/GeXi53)	
$L_o = 0.78 \text{ mH}$	

TB2 Terminals 12, 13 and 14 (Backlight Input)

$U_i = 30 \text{ V}$
$I_i = 200 \text{ mA}$
$P_i = 0.84 \text{ W}$
$C_i = 13 \text{ nF}$ (for GeXi04/GeXi24/GeXi54)
$C_i = 3.3 \text{ nF}$ (for GeXi03/GeXi23/GeXi53)
$L_i = 0.008 \text{ mH}$ (0.01 mH)
$C_o = 53 \text{ nF}$ (for GeXi04/GeXi24/GeXi54)
$C_o = 63 \text{ nF}$ (for GeXi03/GeXi23/GeXi53)
$L_o = 0.79 \text{ mH}$



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TB3 Terminals RS1 and RS2

$U_i = 30\text{ V}$ $U_o = 6\text{ V}$
 $I_i = 200\text{ mA}$ $I_o = 2.5\text{ mA}$
 $P_i = 0.84\text{ W}$ $P_o = 3.75\text{ mW}$
 $C_i = 13\text{ nF}$ (for GeXi04/GeXi24/GeXi54)
 $C_i = 0$ (for GeXi03/GeXi23/GeXi53)
 $L_i = 0.008\text{ mH}$ (0.01 mH)
 $C_o = 53\text{ nF}$ (for GeXi04/GeXi24/GeXi54)
 $C_o = 66\text{ nF}$ (for GeXi03/GeXi23/GeXi53)
 $L_o = 0.79\text{ mH}$

TB4 Terminal 8 and 9; Terminals 10 and 11 (Alarm 1 and Alarm2)

$U_i = 30\text{ V}$ $U_o = 1.47\text{ V}$
 $I_i = 200\text{ mA}$ $I_o = 1\text{ }\mu\text{A}$
 $P_i = 0.84\text{ W}$ $P_o = 2.2\text{ }\mu\text{W}$
 $C_i = 24\text{ nF}$ (for GeXi04/GeXi24/GeXi54)
 $C_i = 0$ (for GeXi03/GeXi23/GeXi53)
 $L_i = 0.008\text{ mH}$ (0.01 mH)
 $C_o = 42\text{ nF}$ (for GeXi04/GeXi24/GeXi54)
 $C_o = 66\text{ nF}$ (for GeXi03/GeXi23/GeXi53)
 $L_o = 0.79\text{ mH}$

For intrinsic safety considerations, under fault conditions, the voltage, current and power at the output terminals TB1 - 1 & 3, terminals TB2 - 12 & TB1 - 3 and terminals TB4 - 8 & 9 and 10 & 11 do not exceed those specified in clause 5.7 of EN60079-11. The equivalent capacitance and inductance are the result of R.F. suppression components directly connected across the apparatus input terminals.

14. Report Number

Intertek Reports Ref G100802154A dated August 2012 and G103416968 dated March 2018.

15. Special Conditions of Certification

(a). Specific Conditions of Safe Use

- When installed in a Zone 0 potentially explosive atmosphere requiring EPL Ga apparatus, the instrument shall be installed such that even in the event of rare incidents, an ignition source due to impact or friction between the aluminium label and iron/steel is excluded.

(b). Conditions of Manufacture

- Routine tests for infallible transformers, 500 V between primary and secondary windings (both windings are supplied from intrinsically safe circuits).

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16. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report Ref: G103416968 Issue: 1 Dated: March 2018

17. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
ATEX Certification & Labelling Information	CI300-65, Sheets 1 & 2	2	13.02.2018

Note: Drawings marked * are common to Certificate No. ITS12ATEX27616X

18. Details of Certificate changes Issue 1

- Re-assessments of the 4 and 5 Digit Field Mounting Indicators to the requirements of the latest standards EN 60079-0: 2012+A11:2013 and EN 60079-11:2012.
- The models GeXi03 4 Digit Indicator, GeXi23 5 Digit Indicator and GeXi53 Rate Totaliser added as part of this certification.
- Inclusion of the X to the certificate number and Specific Condition of Safe Use in Section 15.
- Changes to appropriate documents to reflect the above changes.

This Certificate is the property of Intertek Testing and Certification Ltd and is subject to Intertek Testing and Certification's Conditions for Granting Certification

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.