



Italia

CERTIFICATE

[1] TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 2014/34/EU**

[3] Type Examination Certificate number:

TÜV IT 21 ATEX 015 X Rev.1

[4] Equipment or Protective System: STG – Sensore Trafilamento Gas
(Gas leakage sensor)

[5] Manufacturer: CO-REF s.r.l.

[6] Address: Via Don Carlo Gnocchi, 24
I-20042 Pessano con Bornago (MI) - ITALY

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

[8] TÜV Italia 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 no. R 21 EX 008 Rev.1.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0 : 2018 ; EN 60079-11 : 2012 ; EN 60079-18 : 2015 + A1:2017

[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 TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. 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 the following:



II 3G Ex ic mc IIA T4 Gc

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Issue date: 01st March 2022



TÜV Italia S.r.l.

Alberto Carelli

**Industry Service - Real Estate & Infrastructure
Managing Director**

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres. This document is not valid without official signature and logo. The internal reference code is 722282399.

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SCHEDULE

[14]

TYPE EXAMINATION CERTIFICATE
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Certificate History

Revision:	Description:	Report no:	Issue Date:
-	First issue	-	19/04/2021
1	Technical changes	1	01/03/2022

[15] Description of equipment

The STG sensor has the function of detecting the possible leakage or opening of the safety valve in industrial refrigeration systems. Through 1" threaded attachment of which it is equipped, the STG sensor is installed on a pipe coming out of one or more safety valves present in the system. It may be used in stand-alone applications or connected through analog, digital, or RS485 Modbus serial connection, to a control system (Electronic Controllers, PLC or third-party devices) able to perform any alarm procedures.

The apparatus consisting of a non-metallic case enclosing a completely resin-coated electronic control board protected according to the "Ex mc" protection mode. The electronic card manages an optical gas sensor (reading head) that is not resin-coated which is inserted into the metal fitting for the coupling on the gas-pipe to be monitored. The head sensor and the circuit that powers it has been evaluated according to the intrinsic safety requirements protection method "Ex ic".

Rated characteristics

Operative ambient temperature range	-20°C ...+50°C
Enclosure IP degree	IP 65
Max pressure	25 bar
Models	STG-B • Optical sensor • Relays two contacts (C-NO) • Alarm signal LED • Bus RS-485 Modbus protocol STG-F • Optical sensor • Relays two contacts (C-NO) • Alarm signal LED • Bus RS-485 Modbus protocol • Analog output 0-10V and 4-20mA
Connections	Permanently connection cable or M12 round screw connector.
Power supply	Non-intrinsically safe Un = 18...24 Vdc (max 30Vdc), max 100 mA Safety-related maximum voltage: Um= 30Vrms / 42Vdc Prospective short-circuit current: PSCC = 400mA

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Sensor	Intrinsically-safe Ex ic Optical gas sensor with intrinsically-safe circuit having voltage, current and power limited.
Relays output	Non-intrinsically safe Un= up to 30Vac / 30Vdc Imax = up to 5A (for permissible max. values refer to instruction manual) Safety-related maximum voltage: Um= 250Vrms
0-10V Analog output	Non-intrinsically safe Vout=0-10V Safety-related maximum voltage: Um= 33Vpeak Prospective short-circuit current: PSCC = 150mA
4-20mA Analog output	Non-intrinsically safe Iout = 4-20mA Safety-related maximum voltage: Um= 33Vpeak Prospective short-circuit current: PSCC = 150mA
RS-485 bus	Non-intrinsically safe Un= -7...+12 Vdc (signal A,B) Safety-related maximum voltage: Um= -7.5...13.3 Vdc Prospective short-circuit current: PSCC = 400mA

Warning label

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

WARNING – DO NOT SEPARATE WHEN ENERGIZED

[16] Report no. R 21 EX 008 Rev.1

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Routine tests

- Visual inspection of compound as per EN 60079-18:2018 §9.1.
- Dielectric strength test as per EN 60079-18:2018 §9.2 with test voltage 500Vrms.

[17] Special conditions for safe use

- Installation, maintenance and use must be carried out in such a way to prevent the accumulation of electrostatic charges on the equipment because the surface resistance of the material which the enclosure is made is greater than 10⁹ Ohm.
- The device shall be powered by SELV/PELV source (Um = 30Vrms / 42Vdc).

[18] Essential Health and Safety Requirements

Assured by compliance with the standards set out in the [9].

[19] Drawings and Documents

Listed documents (prot. 722247312 + 722282399)

Title:	Description:	Pages:	Rev:	Date:
FASCICOLO TECNICO STG	Technical file	24	1.1	10/02/2022
Istruzioni di Sicurezza STG	Safety instructions	08	1.1	10/02/2022
EU Declaration of Conformity STG	Template EU declaration of conformity	01	-	03/01/2022

One copy of all documents is kept in TÜV Italia files.

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