

(1) **EU-Type-Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**



(3) **Certificate Number** TÜV CY 20 ATEX 0206337 X Issue 01

(4) for the equipment: Magnetic Level Switch
Type: LSR

(5) of the manufacturer: **Officine Orobiche S.r.l.**

(6) Address: Via G. Paglia 22 – 24050 Zanica (BG) - Italy

Order number: 0206337

Date of issue: 2023-02-02

(7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EU-Type-Examination Certificate and the documents therein referred to.

(8) TÜV CYPRUS Ltd, notified body No. 2261 in accordance with Article 17 of the Council Directive of 2014/34/EU of February 26, 2014, 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 the confidential report No. 23 0206337.

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


EN IEC 60079-0:2018 EN 60079-1: 2014 EN 60079-11: 2012 EN 60079-31: 2014

(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 EU-Type-Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment which are not covered by this certificate.

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

II 2G Ex ia IIC T6 Gb or

 **II 2G Ex db IIC T6 Gb and/or**

II 2D Ex tb IIIC T85 °C Db

TÜV CYPRUS Ltd (TUV NORD Group),

The head of the notified body,



Accredited by CYS-CYSAB
Certificate No. C 004-2

TÜV CYPRUS (TUV NORD) Ltd,
2 Papaflessa Str., 2235 Latsia, Nicosia - P.O.Box: 20732, 1663 Nicosia, Cyprus
Tel: +357 22 44 28 40 Fax: +357 22 44 28 50 email: info@tuvcyprus.com.cy
www.tuv-nord.com/cy

This certificate may only be reproduced without any change, schedule included.
Excerpts or changes shall be allowed by the TÜV CYPRUS Ltd

(13) **SCHEDULE**

(14) **EU-Type-Examination Certificate No. TÜV CY 20 ATEX 0206337 X
Issue 01**

(15) Description of equipment

LSR are "ON-OFF" Magnetic Level Switches for detection of liquid thresholds in tanks.

The working principle of the device is based on magnetic interaction between a hermetically sealed reed switch contained in a stainless steel guide pipe and a float, with a permanent magnet inside, that floats inside a bypass pipe connected to the tank.

When the float itself moves in the bypass camera with the fluid level, it actuates the reed switch.

The measure is performed by commutation of the reed switch.

The reed switches are the only electrical components of the Level Switch and are considered "Simple Apparatus".

The equipment can mount from 1 to 6 switches. The electrical contacts can be simple type "SPST", or changeover contact "SPDT".

Terminals for electrical connections are in an Ex db enclosure covered by the certificate FTZU 03 ATEX 074U.

Current Issue 01 includes the update of the manufacturer address and the update of the harmonized standard.

Type key:

LSR . nn. L . N . XX . Gx. Y . Z . W . K

- LSR = LSR series
- nn = Number of action points (From 01 to 06)
- L = Rod length (From 100 to 6000 mm)
- N = Rod Material
 - J: AISI 316,
 - A: Other (Not for Ex execution)
- XX = Process connection (Not relevant for certification)
- Gx = Float type (Not relevant for certification)
- Y = Reed Contact type
 - 1: SPST
 - 2: SPDT
- Z = Execution
 - S: Standard - not Ex
 - E: Flameproof
- W = Enclosure Closed / Window (C: Closed, W: Window)
- K = Electrical connection
 - M: ISO M20
 - N: 1/2" NPT F

Technical data:

Contact Ratings for Ex db Gb mode of protection:

Reed type SPST (key Y=1)

Maximum Rated Voltage 350Vac
Maximum Rated Current 2.5A
Maximum Rated Power 50W

Reed type SPDT (key Y=2)

Maximum Rated Voltage 175Vac
Maximum Rated Current 1A
Maximum Rated Power 10W

When mode of protection is Ex ia Gb the equipment shall be protected with suitably certified Ex ia barriers.

Electrical parameter at contact terminals:

$U_i \leq 30V_{dc}$ $I_i \leq 100mA$ $P_i \leq 750mW$ $C_i = \text{negligible}$ $L_i = \text{negligible}$	or	$U_i \leq 15V_{dc}$ $I_i \leq 875 mA$ $P_i \leq 1W$ $C_i = \text{negligible}$ $L_i = \text{negligible}$	or	$U_i \leq 12V_{dc}$ $I_i \leq 3A$ $P_i \leq 1W$ $C_i = \text{negligible}$ $L_i = \text{negligible}$
---	----	---	----	---

The degree of ingress protection is IP 66.

Allowable ambient temperature range: $-40^{\circ}C \div +60^{\circ}C$

Warning Markings:

Warning: "See Installation Instruction Manual"

(16) Test documents are listed in the test report No. 23 0206337

(17) Special conditions for safe use

The equipment shall be installed to avoid a risk from propagating brush discharges for application in explosive dust atmosphere.

(18) Essential Health and Safety Requirements

This certificate covers the Essential Health and Safety Requirements related to the Directive 2014/34/EU.