ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

(1) EU-Type Examination Certificate

Product Service

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres – **Directive 2014/34/EU**

(3) EU Certificate Number:

TPS 18 ATEX 18013 014 X

(4) Equipment: Sound Velocity Sensor
Type: L-Sonic Series 5100 / 6100

(5) Manufacturer: Anton Paar GmbH

(6) Address: Anton-Paar-Straße 20
8054 Graz
Österreich

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV SÜD Product Service as notified body No. 0123 according to article 17 of the guideline 2014/34/EU of the European Parliament and the Council of the European Union certifies that this equipment 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 of the Directive.
The examination and test results are recorded in the confidential report 713106549_T.

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

IEC 60079-0:2017 **IEC 60079-1:2014**

EN 60079-0:2012 **EN 60079-0:2012/A1:2013**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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 and the construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture and supply of this equipment.

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

Ex II 2G Ex db IIB T4/T5 Gb

Office of certification of explosion protection

München, 16.05.2018

Dipl.-Ing. Ulrich Jacobs

642381

TÜV SÜD Product Service GmbH · Zertifizierstelle · Ridlerstraße 65 · 80339 München · Germany

Product Service

(13) **Schedule**

(14) **EU-Type Examination Certificate TPS 18 ATEX 18013 014 X**

(15) Description of equipment:

The Sound Velocity Sensors series L-Sonic 5100/6100 are process measuring instruments that are used to measure the sound velocity in liquids. The sensor consists of the encapsulated sensing element and a process instrument controller, which is connected to the sensing element with a feedthrough. The process instrument controller includes an HMI Variant, Pico 3000 HMI and a non HMI version Pico 3000. As an option, the process instrument controller can be a separate unit, Pico 3000 RC, connected to the L-Sonic sensor with a cable.

Sensor models with the HMI are differentiated from non-HMI models by ambient temperature rating, whereby the HMI version = T_a= -20°C to +55°C and the non-HMI version = T_a= -25°C to +65°C.

Note: Pico 3000 is already certified by TPS 18 ATEX 18013 013 X (Technical Report Bericht: 713099564).

Type Classification / Marking

Model	Marking and Values
L-Sonic 5100 VN SST L3 Ex d L-Sonic 5100 VN SST L3 NPT Ex d L-Sonic 5100 DN SST L3 Ex d L-Sonic 5100 DN SST L3 NPT Ex d	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -25°C to +65°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure: 16 bar
L-Sonic 5100 EN SST Ex d L-Sonic 5100 EN SST NPT Ex d L-Sonic 5100 AN SST Ex d L-Sonic 5100 AN SST NPT Ex d L-Sonic 5100 CF CL Ex d L-Sonic 5100 CF CL NPT Ex d	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -25°C to +65°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure acc. to flange specification
L-Sonic 5100 EN ROC Ex d L-Sonic 5100 EN ROC NPT Ex d L-Sonic 5100 AN ROC Ex d L-Sonic 5100 AN ROC NPT Ex d	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -25°C to +65°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure acc. to flange specification
L-Sonic 5100 DN40 GOC Ex d L-Sonic 5100 DN40 GOC NPT Ex d	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -25°C to +65°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Maximum pressure: 16 bar
L-Sonic 5100 EN HAS Ex d L-Sonic 5100 AN HAS Ex d L-Sonic 5100 EN HAS NPT Ex d L-Sonic 5100 AN HAS NPT Ex d	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -25°C to +65°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure acc. to flange specification

Product Service

Model	Marking and Values
L-Sonic 5100 EN MON Ex d L-Sonic 5100 AN MON Ex d L-Sonic 5100 EN MON NPT Ex d L-Sonic 5100 AN MON NPT Ex d	Ex II 2G Ex db IIB T4/T5 Gb T_a= -25°C to +65°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure acc. to flange specification
L-Sonic 6100 D1 SST LS Ex d	Ex II 2G Ex db IIB T4/T5 Gb T_a= -25°C to +65°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure : 100 bar for $T_p \leq$ +50°C 70 bar for Tp ≤ +125°C
L-Sonic 5100 VN SST Ex d with HMI L-Sonic 5100 VN SST NPT Ex d with HMI L-Sonic 5100 DN SST Ex d with HMI L-Sonic 5100 DN SST NPT Ex d with HMI	Ex II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +55°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure: 16 bar
L-Sonic 5100 EN SST Ex d with HMI L-Sonic 5100 EN SST NPT Ex d with HMI L-Sonic 5100 AN SST Ex d with HMI L-Sonic 5100 AN SST NPT Ex d with HMI L-Sonic 5100 CF CL Ex d with HMI L-Sonic 5100 CF CL NPT Ex d with HMI	Ex II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +55°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure acc. to flange specification
L-Sonic 5100 EN ROC Ex d with HMI L-Sonic 5100 EN ROC NPT Ex d with HMI L-Sonic 5100 AN ROC Ex d with HMI L-Sonic 5100 AN ROC NPT Ex d with HMI	Ex II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +55°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure acc. to flange specification
L-Sonic 5100 DN40 GOC Ex d with HMI L-Sonic 5100 DN40 GOC NPT Ex d with HMI	Ex II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +55°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure: 16 bar
L-Sonic 5100 EN HAS Ex d with HMI L-Sonic 5100 EN HAS NPT Ex d with HMI L-Sonic 5100 AN HAS Ex d with HMI L-Sonic 5100 AN HAS NPT Ex d with HMI	Ex II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +55°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure acc. to flange specification
L-Sonic 5100 EN MON Ex d with HMI L-Sonic 5100 EN MON NPT Ex d with HMI L-Sonic 5100 AN MON Ex d with HMI L-Sonic 5100 AN MON NPT Ex d with HMI	Ex II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +55°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure acc. to flange specification

Product Service

L-Sonic 6100 D1 SST LS Ex d with HMI	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +55°C T_p= -25°C to +95°C for T5 and -25°C to +125°C for T4 Max. pressure : 100 bar for $T_p \leq$ +50°C 70 bar for Tp ≤ +125°C

Electrical Data:

Nominal Voltage: 24 Vdc ± 20%
Nominal Power: max. 4 W / max. 7W (Pico 3000)

(16) Test report: 713106549_T

(17) Special conditions for safe use:

The specified ambient temperature range which deviates from the standard temperature range, is -20°C ≤ T_{amb} < +55°C for HMI models and -25°C ≤ T_{amb} < +65°C for non-HMI models.

Routine tests:

IEC 60079-1:2014, cl. 16.1.2 Routine overpressure test – first method:

Each and every L-Sonic sound velocity module 6100 shall be tested either by applying 150 bar overpressure test, or by one of the inspection methods listed in IEC 60079-1, Clause 16.3.

For power cable, use only a cable whose thermal stability of its insulation is minimum 90°C.

For cable entrances use only already certified Ex d or Ex db cable glands suitable for application and rated for a minimum of 80°C.

Unused openings shall be closed by use of already certified Ex d or Ex db stopping plugs suitable for application and rated for a minimum of 80°C.

(18) Essential health and safety requirements:

met by standards

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München, 16.05.2018

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