

(1) EU-TYPE EXAMINATION CERTIFICATE



- (2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 2014/34/EU**
- (3) EU-Type Examination Certificate Number

TÜV 19 ATEX 8385 X

Issue: 01

- (4) Equipment: Sensor DML02_ex, DLO-M2_ex (density), VLO-M2_ex (viscosity)
- (5) Manufacturer: **TrueDyne Sensors AG**
- (6) Address: **Christoph-Merian-Ring 20
CH-4153 Reinach, Switzerland**
- (7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26th February 2014, certifies this product which 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 atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex8385.01/19
- (9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN IEC 60079-0: 2018 **EN 60079-11: 2012**
- (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 EU-Type Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.
- (12) The marking of the equipment shall include the following:



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TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2021-09-17

Dipl.-Ing. Christian Mehrhoff

This EU-Type Examination Certificate without signature and stamp shall not be valid.
This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln
Tel. +49 (0) 221 806-0 Fax. + 49 (0) 221 806 114

(13) Annex

(14) **EU Type Examination Certificate**
TÜV 19 ATEX 8385 X Issue: 01

(15) Description of equipment

15.1 Equipment and type:

Sensor DML02_ex

Types:

DLO-M2_ex (density)

VLO-M2_ex (viscosity)

15.2 Description / Details of Change

General product information

TrueDyne Sensors AG ("Truedyne") has an instrument for density and viscosity measurement (DML02_ex) based on MEMS technology. The fluid to be measured is connected to the device with M5 threaded tubes. The sensor has one data cable that contains power supply and communication. The cable is connected to the instrument with a cable gland.

The instrument can be installed in zone 0-2. The electronics must be installed in the non-hazardous area and is connected with the instrument over non isolating Zener-barriers.

Technical Data

Electrical Data

Power Supply:

$U_i \leq 15 \text{ V}$

$I_i \leq 150 \text{ mA}$

$P_i \leq 550 \text{ mW}$

$C_i \leq 10 \text{ nF}$

$L_i \leq 40 \text{ }\mu\text{H}$

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RS485 Communication Interface:

$U_i \leq 15 \text{ V}$

$I_i \leq 100 \text{ mA}$

$P_i \leq 190 \text{ mW}$

$C_i \leq 75 \text{ nF}$

$L_i \leq 40 \text{ } \mu\text{H}$

Environmental Data

T4: T A = -40...60°C

Details of Change:

- Change of the sealant.
- Additional material for manifold.
- Some changes to the hardware to improve functionality.

(16) Test-Report No. 557/Ex8385.01/19

(17) Special Conditions for safe use

1. The ambient and medium temperature range is $-40^\circ\text{C} \leq T_a \leq +60^\circ\text{C}$.
2. The sensor enclosure has to be protected against mechanical impact.
3. The associated apparatus for the power supply and communication shall be without galvanic isolation and need to be included into the equipotential bonding system.
4. The metallic enclosure has to be included into the equipotential bonding system.

(18) Basic Safety and Health Requirements Covered by afore mentioned standard

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