IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx TUR 19.0074X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2020-10-19)
Date of Issue:	2021-09-17		
Applicant:	**TrueDyne Sensors AG** Christoph-Merian-Ring 20 Reinach CH-4153 **Switzerland**		
Equipment:	**Sensor DML02_ex, Types DLO-M2_ex (density) and VLO-M2_ex (viscosity)**		
Optional accessory:			
Type of Protection:	**Ex ia**		
Marking:	Ex ia IIC T4 Ga		

Approved for issue on behalf of the IECEx Certification Body: **Christian Mehrhoff**

Position: **Assigned certifier**

Signature: (for printed version)

Date: 2021-09-17

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

TUV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany

TÜVRheinland

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Certificate No.: **IECEx TUR 19.0074X**

Issue No: 1

Date of issue: 2021-09-17

Manufacturer: **TrueDyne Sensors AG**
Christoph-Merian-Ring 20
Reinach CH-4153
Switzerland

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Edition:7.0 — Explosive atmospheres - Part 0: Equipment - General requirements

IEC 60079-11:2011 Edition:6.0 — Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/TUR/ExTR19.0074/01

Quality Assessment Report:

DE/TUR/QAR20.0012/00

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

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.

Types:

DLO-M2_ex (density)

VLO-M2_ex (viscosity)

Electrical data

Power Supply:

$U_i \leq 15$ V

$I_i \leq 150$ mA

$P_i \leq 550$mW

$C_i \leq 10$ nF

$L_i \leq 40$ µH

RS485 Communication Interface:

$U_i \leq 15$ V

$I_i \leq 100$ mA

$P_i \leq 190$mW

$C_i \leq 75$ nF

$L_i \leq 40$ µH

Environmental data

T4: T A = -40...60°C

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. **The ambient and medium temperature range is -40°C ≤ Ta ≤ +60°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.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Details of Change:

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