



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEX SEV 19.0024X

Issue No: 0

Certificate history:

Issue No. 0 (2019-09-19)

Status: **Current**

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Date of Issue: **2019-09-19**

Applicant: **STS Sensor Technik Simach AG**
Rüthhofstrasse 8
8370 Simach
Switzerland

Equipment: **Pressure Transmitter Type Typ PTM/Ex, PTM/N/Ex**

Optional accessory:

Type of Protection: **ia**

Marking:
See Annexe

Approved for issue on behalf of the IECEx
Certification Body:

Martin Plüss

Position:

Manager Product Certification

Signature:
(for printed version)

Date:

2019-09-19

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Eurofins Electric & Electronic Product Testing AG
Luppenstrasse 3
CH-8320 FEHRALTORF
Switzerland



E&E



IECEX Certificate of Conformity

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Manufacturer: **STS Sensor Technik Sirmach AG**
Rütihofstrasse 8
8370 Sirmach
Switzerland

Additional Manufacturing location(s):

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 apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
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"
IEC 60079-26 : 2014-10 Edition:3.0	Explosive atmospheres -- Part 26: Equipment with Equipment Protection Level (EPL) Ga

*This Certificate **does not** indicate compliance with electrical 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:

[CH/SEV/ExTR19.0025/00](#)

Quality Assessment Report:

[CH/SEV/QAR10.0001/04](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Pressure Transmitter

Type: PTM/Ex, PTM/N/Ex

The pressure transmitter type PTM.../Ex amplifies the signal of a piezo resistive pressure measuring bridge to a standard 4-20 mA signal. Supply and signal transmission takes place by an intrinsically safe two-wire current loop. The superposition of digital signals enables the communication of further parameters.

For more information see Annexe

SPECIFIC CONDITIONS OF USE: YES as shown below:

Protect pressure transmitters with titanium housing against impact and friction.

The metallic enclosure of the pressure transmitter must be earthed and connected to the equipotential of the plant.

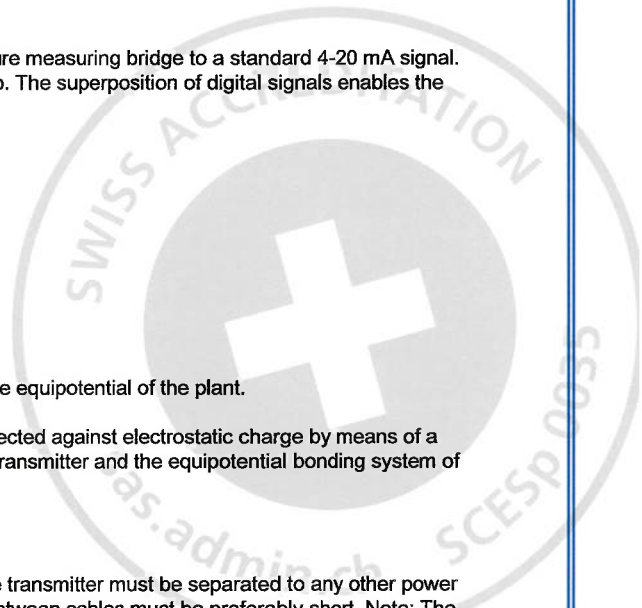
Application for zone 0: Only with direct cable outlet and the cable sheath has to be protected against electrostatic charge by means of a metal braid, metal hose or metal pipe which is conductively connected to the pressure transmitter and the equipotential bonding system of the plant

or
metallic connectors.

It must be used only cables with isolation at least > 500 VAC. The cable of the pressure transmitter must be separated to any other power cables. The distance between the cables must be preferably far. The common length between cables must be preferably short. Note: The breakdown voltage of the devices is not fulfilled (500VAC). The pressure transmitter have transzorbs (limiters) between metallic enclosure (earthed) and lines.

Annex:

[IECEX SEV 19.0024X Annexe Issue 0.pdf](#)






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Applicant Name: STS Sensor Technik Sirmach AG
Electrical Apparatus: Pressure Transmitter
General product information:

The pressure transmitter type PTM.../Ex amplifies the signal of a piezo resistive pressure measuring bridge to a standard 4-20mA signal. Supply and signal transmission takes place by an intrinsically safe two-wire current loop. The superposition of digital signals enables the communication of further parameters.

Markings:

Code (e.g. Ex _ II_ T_)..... :	PTM/Ex and PTM/N/Ex (Standard version) (variants with ISO 4400 connector)  II 2 G Ex ia IIB T6 ... T3 Gb II 1 D Ex ia IIIC T ₂₀₀ 125 °C Da
	PTM/Ex and PTM/N/Ex for use in Group IIC and IIIC: Only with direct cable output or metallic plug.  II 2 G Ex ia IIC T6 ... T3 Gb II 1 D Ex ia IIIC T ₂₀₀ 125 °C Da
	PTM/Ex and PTM/N/Ex for use in zone 0 and 20: Only with direct cable outlet and the cable sheath is to be protected against electrostatic charge by means of a metal braid, metal hose or metal pipe which is conductively connected to the pressure transmitter and the equipotential bonding system of the system or with metallic connectors.  II 1 G Ex ia IIC T6 ... T3 Ga II 1 D Ex ia IIIC T ₂₀₀ 125 °C Da (or PTM/Ex and PTM/N/Ex in titan with "X")

Eurofins Electric & Electronic Product Testing AG
Swiss Certification Body


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Ratings:

Parameter for all types :

 $U_i = 30 \text{ V}$, $I_i = 140 \text{ mA}$, $P_i = 0.9 \text{ W}$
 $C_{\text{internal}} = 14 \text{ nF}$
 $C_k = 0.12 \text{ nF/m}$

 Effective capacitance = internal capacitance + cable length * C_k

 Example at 50 m cable : $C_i = 14 \text{ nF} + 50 * 0.12 \text{ nF/m} = 20 \text{ nF}$
 $L_{\text{internal}} = 1.3 \text{ mH}$
 $L_k = 0.001 \text{ mH/m}$

 Effective inductance = internal inductance + cable length * L_k

 Example at 50 m cable : $L_i = 1.3 \text{ mH} + 50 * 0.001 \text{ mH/m} = 1.35 \text{ mH}$
Temperature dependencies:

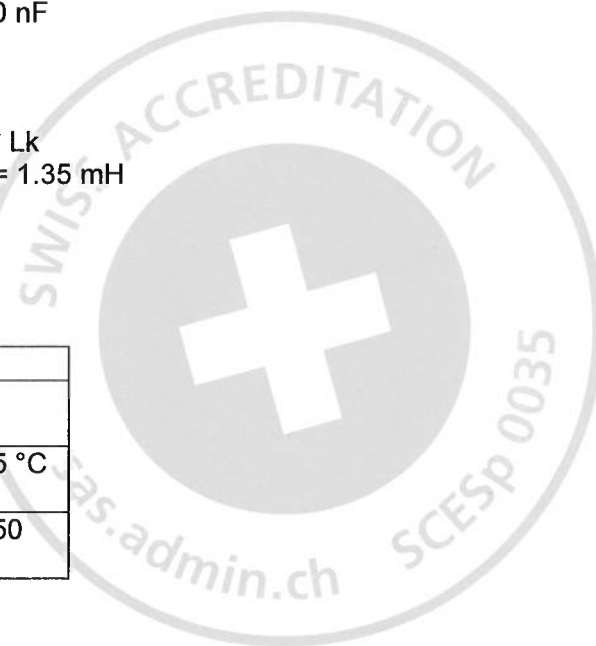
Temperature for gas applications:

PTM/Ex			
Temperature class	T6	T4	T3
Ambient temperature	-25 ... +55 °C	-25 ... +85 °C	-25 ... +85 °C
Medium temperature	-25 ... +55 °C	-25 ... +100 °C	-25 ... +150 °C

PTM/N/Ex		
Temperature class	T6	T4
Ambient temperature	-5 ... +50 °C	-5 ... +80 °C
Medium temperature	-5 ... +50 °C	-5 ... +80 °C




Temperature for dust applications:




PTM/Ex and PTM/N/Ex	
	Temperature
Ambient temperature	+85 °C
Maximum surface temperature	+125 °C



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Type key description

Type	PTM-Ex		
Material enclosure	Stainless steel or titanium		
Connection	Cable	Metallic connector***	Non-metallic connector****
Output signal	4-20 mA without or with OVP (Over Voltage Protection)		
Protection cap	No		
Options	Not Ex-protection relevant		
Ex-marking Gas	 II 1 G Ex ia IIC T* Ga	 II 1 G Ex ia IIB T* Gb	
Ex-marking Dust	 II 1D Ex ia IIIC T200 125°C Da		

Type	PTM/N/Ex		
Material enclosure	Stainless steel or titanium		
Connection	Cable	Metallic connector***	Non-metallic connector****
Output signal	4-20 mA without or with OVP (Over Voltage Protection)		
Protection cap	Yes or no		
Options	Not Ex-protection relevant		
Ex-marking Gas	 II 1 G Ex ia IIC T** Ga	 II 1 G Ex ia IIB T* Gb	
Ex-marking Dust	 II 1D Ex ia IIIC T200 125°C Da		

Legend:

T* =	temperature class for PTM/Ex could be T3, T4 or T6. Dependencies see separate table.
T** =	temperature class for PTM/N/Ex could be T4 or T6. Dependencies see separate table.
Metallic connector*** =	e.g. M12 connector, M16 connector or Mil C26482 connector
Non-metallic connector**** =	ISO 4400 connector also named DIN 43650 connector or rectangle connector
Note:	Not relevant for Ex-marking are following options: pressure range, sort of pressure, pressure connection, accuracy.

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Remark

The pressure transmitters are not allowed to be installed for mounting in the wall between zones 0 and a less hazardous area

