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 DEK 22.0019X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2023-10-24)
Date of Issue:	2025-01-09		
Applicant:	**Knick Elektronische Messgeräte GmbH & Co.** Beuckestraße 22, 14163 Berlin **Germany**		
Equipment:	**Memosens, types SE5**X/*–*MS*–B1, SE605*-X*MS****… and SE625-X*MS*******…**		
Optional accessory:			
Type of Protection:	**Ex i**		
Marking:	Ex ia IIC T6…T3 Ga Ex ia IIIC T_{200} 135 °C Da		

Approved for issue on behalf of the IECEx Certification Body: **R. Schuller**

Position: **Certification Manager**

Signature: (for printed version)

Date: (for printed version) 2025-01-09

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:

DEKRA Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands

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Manufacturer: **Knick Elektronische Messgeräte**
GmbH & Co. KG
Beuckestraße 22
14163 Berlin
Germany

Manufacturing locations: **Knick Elektronische Messgeräte**
GmbH & Co. KG
Beuckestraße 22
14163 Berlin
Germany

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 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

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

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:

NL/DEK/ExTR22.0017/01

Quality Assessment Report:

DE/TUN/QAR06.0016/12

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

Intrinsically safe Memosens are sensors, used to measure electro-chemical properties and the temperature of liquids. A coil serves as inductive connection to other equipment for both power and communication.

All models with their thermal data, electrical data and other specifications are listed in Annex 1.

SPECIFIC CONDITIONS OF USE: YES as shown below:
The Specific Conditions of Use vary per sensor type, see Annex 1 for all relevant items.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

1. Introduction of Cond sensor types
2. Minor constructional changes

Annex:

228024100-Annex.pdf

Description

Intrinsically safe Memosens are sensors, used to measure electro-chemical properties and the temperature of liquids. Includes the following variations with their associated control drawing, which shall be followed for safe installation and use. Each unit is detailed under the heading further down.

Unit	Type	Control Drawing
SE5**X/*-*MS*-B1	pH, ORP, pH/ORP	213.215-066 page 1b
SE605*-X*MS****…	Cond	213.235-066 page 1a
SE625-X*MS*******…		213.235-066 page 1b

Sensors used for measurements of pH/Redox/temperature parameters in liquids

Type designation

SE5	**	X	**	-*MS*	-**	
					-B1	IONOS (pH, ORP, pH/ORP) part set
					-*	no ex relevance
					MS	Memosens
					*	no ex relevance
					**	no ex relevance, sensor length e.g. /1 = 120 mm, /2 = 225 mm, …
					X	for use in hazardous area
					**	Type – no ex relevance
					SE5	Sensor family 5 = pH, ORP, pH/ORP

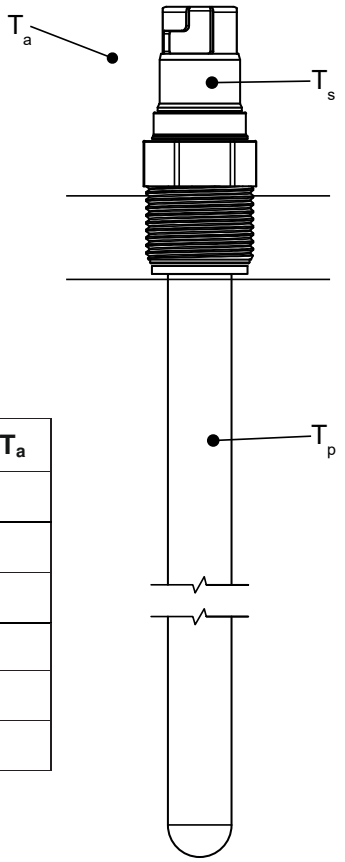
Thermal data

The temperature class depends on the ambient temperature and process temperature as follows.

1. The maximum operating temperature of the sensor head ($T_S \leq 100$ °C) must not be exceeded.

2. Ambient (T_a) and process (T_p) temperature must be within the limits specified under thermal parameters.

3. For immersion fittings or insulated installations close to the process, the ambient temperature must be assumed to be the same as the process temperature.



	EPL	Process Temperature T_p	Ambient Temperature T_a
T3	Ga	−20 °C ≤ T_p ≤ 145 °C	−20 °C ≤ T_a ≤ 70 °C
		−20 °C ≤ T_p ≤ 100 °C	−20 °C ≤ T_a ≤ 100 °C
T4	Ga	−20 °C ≤ T_p ≤ 120 °C	−20 °C ≤ T_a ≤ 70 °C
		−20 °C ≤ T_p ≤ 100 °C	−20 °C ≤ T_a ≤ 100 °C
T6	Ga	−20 °C ≤ T_p ≤ 70 °C	−20 °C ≤ T_a ≤ 70 °C
T_{200} 135 °C	Da	−20 °C ≤ T_p ≤ 70 °C	−20 °C ≤ T_a ≤ 70 °C

Electrical data

P_i = 180 mW

Specific Conditions of Use:

1. The ambient temperature range is not marked, see above for applicable limits.
2. Potential electrostatic charging hazard – see instructions for applicable restrictions.

Sensors used for measurements of conductivity/temperature parameters in liquids

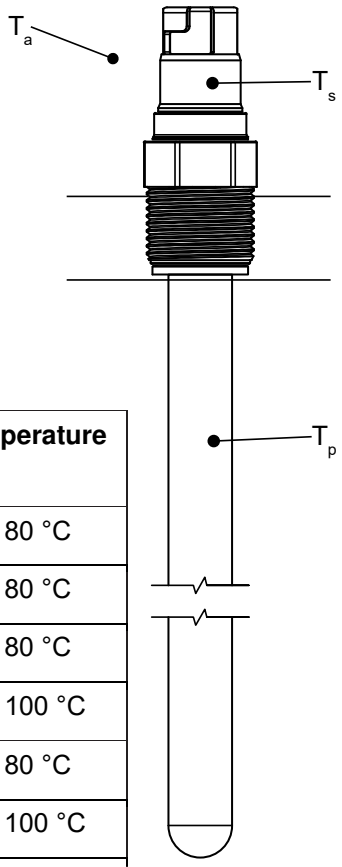
Type designation

SE6	05	*	-	X*	MS	*	*	*	*	…		
											*	Material sensor housing – T: Titanium
											*	Material sensor electrodes – T: Titanium
											0	Without
											*	Process temperature – see Control
											MS	Memosens
											X*	for use in hazardous area
											-	no ex-relevance
											*	no ex-relevance – industry sector
											05	no ex-relevance – sensor type
											SE6	Sensor family 6 = Cond

SE6	25	-	X*	MS	**	*	*	**	*	…		
											0 A	Without CondCheck
											**	no ex-relevance – O-ring material, length
											*	Material sensor electrodes – T: Titanium
											*	Material sensor housing – T: Titanium
											**	no ex-relevance – process connection
											MS	Memosens
											X*	for use in hazardous area
											-	no ex-relevance
											25	no ex-relevance – sensor type
											SE6	Sensor family 6 = Cond

Thermal data

The temperature class depends on the ambient temperature and process temperature as follows.



1. The maximum operating temperature of the sensor head (T_S ≤ 100 °C) must not be exceeded.

2. Ambient (T_a) and process (T_p) temperature must be within the limits specified under thermal parameters.

3. For immersion fittings or insulated installations close to the process, the ambient temperature must be assumed to be the same as the process temperature.

Type SE605…	**Temp. Class**	**EPL**	**Process Temperature T_p**	**Ambient Temperature T_a**
SE605*-X*MS**A***…	T3	Ga	−20 °C ≤ Tp ≤ 120 °C	−20 °C ≤ Ta ≤ 80 °C
SE605*-X*MS**B***…	T3	Ga	−20 °C ≤ Tp ≤ 135 °C	−20 °C ≤ Ta ≤ 80 °C
SE605*-X*MS**C***…	T3	Ga	−20 °C ≤ Tp ≤ 155 °C	−20 °C ≤ Ta ≤ 80 °C
All	T3	Ga	−20 °C ≤ Tp ≤ 100 °C	−20 °C ≤ Ta ≤ 100 °C
All	T4	Ga	−20 °C ≤ Tp ≤ 120 °C	−20 °C ≤ Ta ≤ 80 °C
All	T4	Ga	−20 °C ≤ Tp ≤ 100 °C	−20 °C ≤ Ta ≤ 100 °C
All	T6	Ga	−20 °C ≤ Tp ≤ 65 °C	−20 °C ≤ Ta ≤ 65 °C
All	T_{200} 135°C	Da	−20 °C ≤ Tp ≤ 70 °C	−20 °C ≤ Ta ≤ 70 °C

Type SE625…	**Temp. Class**	**EPL**	**Process Temperature T_p**	**Ambient Temperature T_a**
All	T4…T3	Ga	−20 °C ≤ Tp ≤ 120 °C	−20 °C ≤ Ta ≤ 80 °C
			−20 °C ≤ Tp ≤ 100 °C	−20 °C ≤ Ta ≤ 100 °C
All	T6	Ga	−20 °C ≤ Tp ≤ 65 °C	−20 °C ≤ Ta ≤ 65 °C
All	T_{200} 135°C	Da	−20 °C ≤ Tp ≤ 70 °C	−20 °C ≤ Ta ≤ 70 °C

Electrical data

P_i = 180 mW

Specific Conditions of Use:

1. The ambient temperature range is not marked, see above for applicable limits.
2. Potential electrostatic charging hazard – see instructions for applicable restrictions.
3. The sensors must only be used in liquids with a minimum conductivity of 10 nS/cm.
4. Sensors made from Titanium must be protected from impact.