CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 22ATEX0034X** Issue Number: **1**

(4) Product: **Memosens, types SE5**X/*–*MS*–B1, SE605*-X*MS****… and SE625-X*MS*******…**

(5) Manufacturer: **Knick Elektronische Messgeräte GmbH & Co. KG**

(6) Address: **Beuckestraße 22, 14163 Berlin, Germany**

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

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report mentioned in item (16).

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

EN IEC 60079-0 : 2018 + A11 : 2024 **EN 60079-11 : 2012**

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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

II 1 G Ex ia IIC T6…T3 Ga
II 1 D Ex ia IIIC T_{200} 135°C Da

Date of certification: 9 January 2025

DEKRA Certification B.V.

R. Schuller
Certification Manager

Throughout this document, a point is used as the decimal separator.

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(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 22ATEX0034X** Issue No. **1**

(15) **Description**

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 to Report mentioned in item (16).

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

NL/DEK/ExTR22.0017/01.

(17) **Specific conditions of use**

The Specific Conditions of Use vary per sensor type, see Annex 1 to Report mentioned in item (16) for all relevant items.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in test report mentioned in item (16).

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

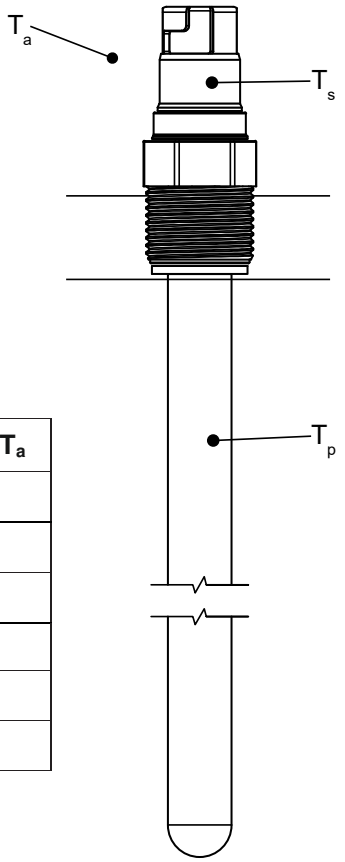
Thermal data

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

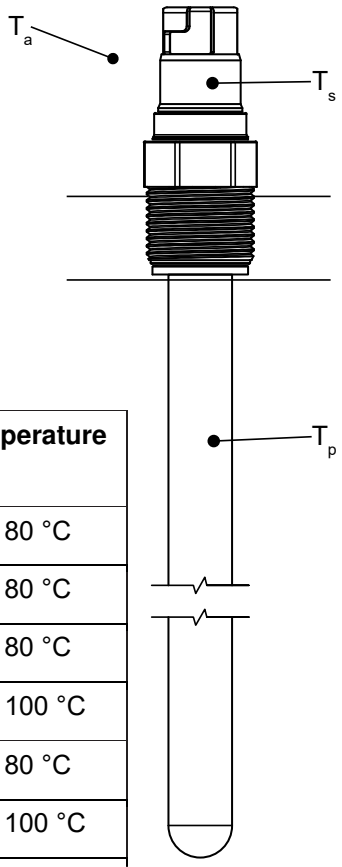
Type designation

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.