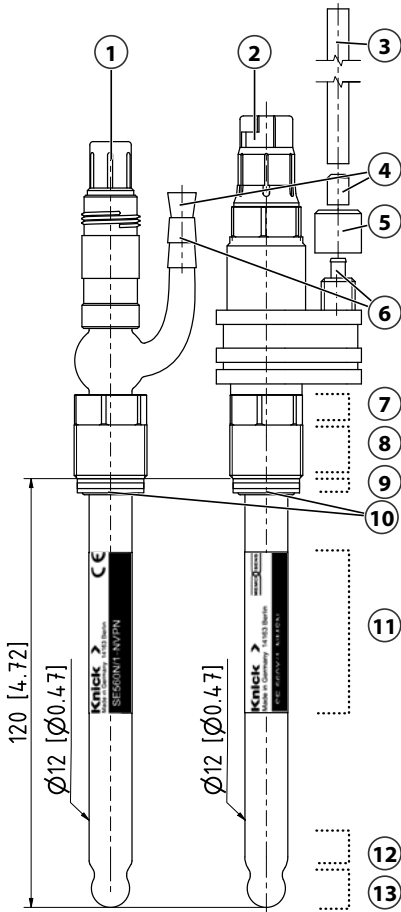
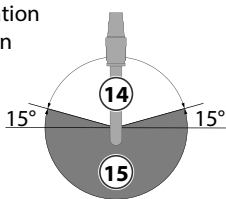


SE560 pH Sensor



All dimensions in millimeters [inches].

Installation position



- | | |
|----|-------------------------------------|
| 1 | Memosens connector |
| 2 | VarioPin connector |
| 3 | Hose DN 6 |
| 4 | Plug |
| 5 | Coupling nut |
| 6 | Electrolyte refilling connection |
| 7 | A/F 19 with printed serial number |
| 8 | PG 13.5 thread |
| 9 | PVDF compression ring |
| 10 | O-ring 11.9 x 2.6 mm EPDM FDA |
| 11 | Nameplate |
| 12 | Junction |
| 13 | Sensor tip |
| 14 | Permissible installation position |
| 15 | Impermissible installation position |

1 Safety

This document contains important instructions for the use of the product. Always follow all instructions and operate the product with caution. If you have any questions, please contact Knick Elektronische Messgeräte GmbH & Co. KG (hereinafter sometimes referred to as "Knick") using the information provided on the back page of this document.

Intended Use

The sensor SE560 (the "product") is used for continuous pH measurement in aqueous process media.

SE560X/*-NMSN-** digital pH measurement

SE560N/*-NVPN analog pH measurement

Hazards due to pressure, temperature, aggressive media, or explosive atmospheres are possible, depending on the location of use.

Use of the product is only permitted in compliance with the operating conditions stated in the Specifications.

Personnel Requirements

The operating company shall ensure that any personnel using or otherwise interacting with the product is adequately trained and has been properly instructed.

The operating company shall comply and cause its personnel to comply with all applicable laws, regulations, codes, ordinances and relevant industry qualification standards related to product.

Hazardous Substances

IN THE EVENT OF ANY CONTACT WITH HAZARDOUS SUBSTANCES OR OTHER INJURY HEREUNDER, SEEK IMMEDIATE MEDICAL ATTENTION OR FOLLOW APPLICABLE PROCEDURES TO ADDRESS HEALTH AND SAFETY OF PERSONNEL. FAILURE TO SEEK IMMEDIATE MEDICAL ATTENTION MAY RESULT IN SERIOUS INJURY OR DEATH.

In certain situations, e.g., sensor replacement or cleaning, personnel may come into contact with the following hazardous substances:

- Process medium
- Cleaning medium

The operating company is responsible for conducting a risk assessment.

See the relevant manufacturers' safety datasheets for hazard and safety instructions on handling hazardous substances.

Operation in Hazardous Locations

The SE560X/*-NMSN-** sensor is certified for operation in hazardous locations.

The Ex sensors are marked by an orange-red ring on the Memosens connector.

Observe all applicable local and national codes and standards for the installation of equipment in explosive atmospheres. For further guidance, consult the following:

- IEC 60079-14
- EU directives 2014/34/EU and 1999/92/EC (ATEX)
- NFPA 70 (NEC)
- ANSI/ISA-RP12.06.01

Certificate Number Marking

BVS 16 ATEX E 037 X  II 1G Ex ia IIC T3/T4/T6 Ga
IECEX BVS 16.0030X Ex ia IIC T3/T4/T6 Ga

Thermal Parameters

Temperature Class	Ambient Temperature Range Ta	Max. Permissible Process Temperature
T6	-20 °C < Ta < 70 °C (-4 °F < Ta < 158 °F)	70 °C (158 °F)
T4	-20 °C < Ta < 100 °C (-4 °F < Ta < 212 °F)	100 °C (212 °F)
T3	-20 °C < Ta < 100 °C (-4 °F < Ta < 212 °F)	100 °C (212 °F)

Special Conditions

- The measuring cable and sensor may only be used within the ambient temperature range specified for the temperature class.
- The Memosens sensors may not be operated in electrostatically critical process conditions. Intense vapor or dust flows directly impacting on the connection system must be avoided.

2 Product

Package Contents

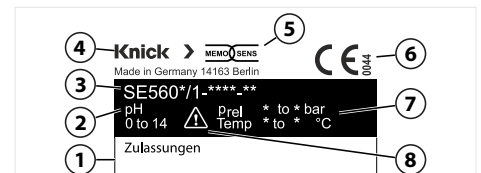
- SE560
- User Manual
- Quality Certificate
- EU Declaration of Conformity

Product Identification

SE560X/1 - NMSN - B1	Model designation
	Internal designation
	Glass material
	N: Alpha glass
	Connector
	MS: Memosens connector
	VP: VarioPin connector
	Pt electrode
	N: without
	Length
	1: 120 mm (4.72")
	Ex approval
	X: yes
	N: no


Nameplate


The SE560 sensor is identified by a nameplate on its body. More information on approvals and disposal can be found on the packaging of the SE560 sensor. Illustrative example:





- | | | | |
|---|--------------------------|---|---------------------------------------|
| 1 | Information on approvals | 5 | Memosens logo |
| 2 | Measuring range | 6 | CE marking with identification number |
| 3 | Product name | 7 | Perm. pressure and temperature range |
| 4 | Manufacturer and address | 8 | Special conditions and danger points |

Symbols and Markings

 Special conditions and danger points! Observe the safety information and instructions on safe use of the product as outlined in the product documentation.

 European Union ATEX marking for operation of the product in hazardous locations.

 CE marking with identification number of the notified body involved in the production control.

 The symbol on Knick products means that the waste devices must be disposed of separately from unsorted municipal waste.



Product characteristics

- Alpha glass, medium impedance, fluoride resistant sensor tip
- Platinum junction
- 3 mol/l KCl solution with glycerol
- Integrated temperature detector

Note: The temperature detector measures the temperature as secondary measured value. This measurement is primarily intended for automatic compensation of the measured value and not for regulating and controlling the process temperature.

The sensor's identification and calibration data is stored in the Memosens connector. The data communication of the Memosens sensors takes place exclusively via a compatible meter.

3 Installation

⚠ CAUTION! Risk of cutting injuries from broken sensor glass. Handle the sensor with care.

01. Check the SE560 sensor for damage.
Note: Do not use damaged sensors.
02. Remove the watering cap.
03. Briefly rinse and dab-dry the SE560 sensor.
Note: Strong dry rubbing of the pH sensitive glass increases the response time of the sensor.
04. Remove air bubbles in the sensor tip by spinning the sensor SE560 upwards appropriately.
Note: Air bubbles in the sensor tip distort the measurement result.
05. Install the sensor at the installation location.
Note: Do not install the sensor SE560 overhead. Permissible installation position see graphic.
06. Align the junction in the process flow direction.
07. Connect the sensor to the sensor cable and connect the sensor cable to a measuring device¹⁾.

4 Operation

Observe the thermal parameters when operating in hazardous locations.

01. Clean the sensor after each operating cycle.
Note: Adjust the cleaning intervals to the operating conditions.
02. During breaks in work or interruptions in measurement, store the SE560 sensor in the watering cap filled with electrolyte (3 mol/l KCl).

Note: Do not allow process media to dry on the sensor tip and junction.

Refill Electrolyte SE560N/*-NVPN :

01. Remove the plug **(4)** and attach the electrolyte tube to the connector **(6)**.

Refill Electrolyte SE560X/*-NMSN-** :

01. Remove the coupling nut **(5)** with plug **(4)**.
02. Remove the plug **(4)** from the coupling nut **(5)**.
03. Insert the hose **(3)** through the coupling nut **(5)** and attach to connection **(6)**.
04. Tighten the coupling nut **(5)**.

5 Calibration

If necessary, remove the sensor SE560 before calibration. A 2-point calibration is recommended, which is performed on the measuring device¹⁾.

6 Cleaning

⚠ CAUTION! Injury due to the use of aggressive cleaning agents. Handle aggressive cleaning agents with care; wear protective equipment if necessary. Observe safety instructions.

Clean the sensor SE560 if it is dirty or has deviations from slope, zero point and/or response time.

01. Remove dirt with appropriate cleaning agent.
02. Rinse the sensor in demineralized water and dry it.

Recommended Cleaning Agents

Contamination	Cleaning medium
Water-soluble substances	Water
Greases and oils	Warm water and household dishwashing liquid
Lime and hydroxide deposits	Acetic acid (5 %) or hydrochloric acid (1 %)
Protein	Pepsin/HCl solution
Silver sulfide	Thiourea/HCl solution

7 Removal

⚠ WARNING! For process media containing hazardous substances: The SE560 sensor is in direct contact with the process medium. Rinse and clean the SE560 after removing it from the process medium. Adhere to the safety instructions.

01. Depressurize the process and drain if necessary.
02. Disconnect the sensor SE560 from the sensor cable.
03. Remove sensor from fitting.
04. Clean and store the sensor.

8 Storage

Immerse and store the sensor with the sensor tip and junction in a container with electrolyte (3 mol/l KCl). If the sensor is accidentally stored dry, soak it in electrolyte (3 mol/l KCl) for several hours.

9 Disposal

Local codes and regulations must be observed when disposing of the product.

Information on return and recycling can be found in the manufacturer's declaration on our website.

10 Specifications

Measuring range	
pH	0...14
Temperature	-20...100 °C (-4...212 °F)
Pressure, relative	-1...0.5 bar (-14.5...7.25 psi)
Material	
Body	Glass
Junction	Platinum
Electrolyte	3 mol/l KCl solution with glycerol
Sensor tip	Alpha glass
Reference system	Ag/AgCl/Cl ⁻
Temperature detector	
SE560N/*-NVPN	Pt1000
SE560X/*-NMSN-**	NTC 30 kΩ
Process connection	PG 13.5
Tightening torque	1...3 Nm
Electrical connection	
SE560N/*-NVPN	VarioPin connector
SE560X/*-NMSN-**	Memosens connector
Dimensions	See image



¹⁾ Observe the instructions for use relating to the measuring device.