

InPro 4850i

Dual-membrane pH electrode with ISM technology for measuring pH in brine solutions

Technical Data



InPro 4850 i

Short description

InPro® 4850i is a combination pH electrode featuring a sodium membrane glass that uses the sodium concentration in the process (brine) as a reference. The difference in electrical potential between the pH glass and the sodium reference glass is calculated into the pH value. The sodium reference system is highly resistant to chlorine and other oxidizing agents. This makes the sensor very well suited for the demanding process conditions in chlor-alkali production. Solution ground and shielding eliminate interference, and enable redox measurement. Digital signal conversion ensures 100% signal integrity and stability. Intelligent Sensor Management (ISM®) technology simplifies sensor handling and reduces sensor lifecycle costs.

The InPro 4850i dual-membrane pH electrode provides the following advantages:

- Hermetically sealed reference system resistant to any effects from poisoning substances such as chlorine
- Very high resistance to oxidizing media, solvents and acid or alkali solutions
- Reliable operation in processes with particularly high pressures and high temperatures
- Platinum “Solution Ground” (SG) electrode enables redox (ORP) measurement and advanced sensor diagnostics, as well as preventing measurement errors due to ground potentials

ISM technology provides the following advantages:

- Swift exchange of pre-calibrated sensors at the measuring point with the “Plug and Measure” function
- Advanced sensor self-diagnostics
- Predictive maintenance functions
- Monitors the ageing of the sensor in real-time with the Dynamic Lifetime Indicator
- Adaptive Calibration Timer determines when the next calibration is due
- Allow digital documentation of every measurement system with the Electronic Data Sheet

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METTLER TOLEDO

Specifications

Measuring range	pH 0...14
Temperature	-10...120 °C (14...248 °F)
Pressure resistance	0...13 bar at 120 °C (0...188 psi at 248 °F)
Reference system	Sodium sensitive glass membrane
Min. Na ⁺ concentration	10 mg/l when pH > 7; 100 mg/l when 7 > pH > 2; 1 g/l when pH < 2
Glass membrane	High alkali resistant glass
Glass shaft	∅ 12 mm (0.47")
Storage solution	Buffer pH = 4.01/Na 3.9M (P/N 52 004 103)
Plug head	K8S (IP 68), Pg 13.5 thread
Ex certification	Ex ia IIC T6/T5/T4/T3 Ga/Gb, SEV 14 ATEX 0168 X, IECEx SEV 14.0025X
FM certification	IS/I, II, III / 1/ABCDEFG/T6

InPro 4850i requires a near stable brine concentration for the best measurement result.
A 10 % difference in brine concentration leads to 0.05 pH error.

Ordering information

pH electrodes

	Electrode length [a]	Order no.
InPro 4850i/120	120 mm	30 536 625
InPro 4850i/225	225 mm	30 536 627

AK9 coax cables (-25 °C...70 °C/-13 °F...158 °F)

Designation	Connector	Cable length	Order no.
AK9	open	1 m (3.3 ft)	10 000 0102
AK9	open	3 m (9.8 ft)	10 000 0302
AK9	open	5 m (16.4 ft)	10 000 0502
AK9	open	10 m (32.8 ft)	10 000 1002
AK9	open	20 m (65.6 ft)	52 300 204

Buffer solutions

	Order no.	Order no.
pH buffer solutions	1 × 250 ml	6 × 250 ml
Buffer pH = 2.00/3.9M NaCl	52 004 100	52 004 101
Buffer pH = 4.01/3.9M NaCl	52 004 103	52 004 104
Buffer pH = 7.00/3.9M NaCl	52 004 106	52 004 107
Buffer pH = 9.21/3.9M NaCl	52 004 109	52 004 110


InPro is a registered trademark of the METTLER TOLEDO Group in Switzerland, USA and a further eleven countries.
ISM is a registered trademark of the METTLER TOLEDO Group in Switzerland, USA, the European Union and a further five countries.

Transmitters

A wide range of transmitters can be offered to complete the METTLER TOLEDO Ingold measurement system, including a 4-wire version for universal AC/DC power supply, or alternatively in 2-wire versions, with or without HART® or PROFIBUS® communication, of standard or explosion-proof (Ex) design.

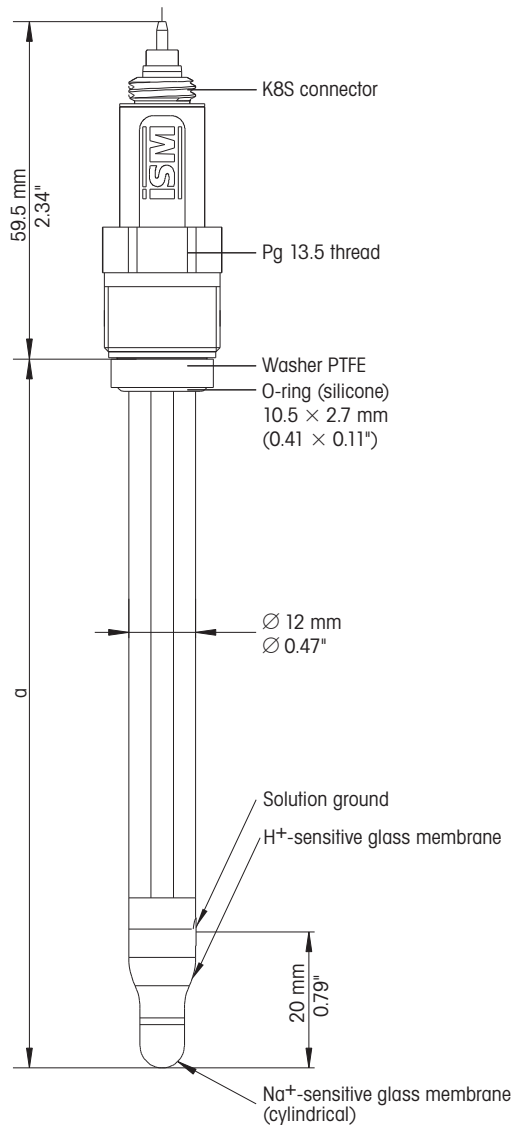
Transmitters

M400
M300 ISM
M800

 M420
 M400 (2-wire)

Drawings

InPro 4850i



For addresses of METTLER TOLEDO
Market Organizations please go to:
www.mt.com/pro-MOs



Management System
certified according to
ISO 9001/ISO 14001



Subject to technical changes.
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