

pH

SensoLyt[®] SE(A)
SensoLyt[®] SEA EX
SensoLyt[®] SEA-HP
SensoLyt[®] SEA-HP EX
SensoLyt[®] TFA
SensoLyt[®] EC(A)
SensoLyt[®] ECA EX
SensoLyt[®] DW(A)
SensoLyt[®] DWA EX

ORP

SensoLyt[®] Pt(A)
SensoLyt[®] PtA EX
SensoLyt[®] PtFA

OPERATING MANUAL

ba15308e06 02/2021

SensoLyt[®] (EX)

COMBINATION ELECTRODES



a xylem brand



DE Deutsch	SensoLyt® ... EX: Beachten Sie beim Betrieb in explosionsgefährdeten Bereichen die Sicherheitsanforderungen gemäß Dokument ba77057y.
EN English	SensoLyt® ... EX: For operation in a potentially explosive atmosphere, heed the safety requirements according to document ba77057y.
BG български	SensoLyt® ... EX: При работа във взривоопасна среда спазвайте изискванията за безопасност съгласно Документ 77057y.
CS Česky	SensoLyt® ... EX: Při provozu v oblastech ohrožených výbuchem prosím dodržujte bezpečnostní požadavky dle dokumentu ba77057y.
DA Dansk	SensoLyt® ... EX: Overhold sikkerhedskravene i henhold til dokument ba77057y ved drift i eksplosionsfarlige områder.
EL Ελληνικά	SensoLyt® ... EX: Κατά τη λειτουργία σε εκρήξιμες ατμόσφαιρες λάβετε υπόψη τις απαιτήσεις ασφάλειας σύμφωνα με το έγγραφο ba77057y.
ES Español	SensoLyt® ... EX: Al trabajar en zonas expuestas a explosiones observe las prescripciones de seguridad conforme al documento ba77057y.
ET Eesti keel	SensoLyt® ... EX: Plahvatusohtlikus keskkonnas käitamisel arvestage dokumendis ba77057y sätestatud ohutusnõuetega.
FI Suomi	SensoLyt® ... EX: Jos käytät laitetta räjähdysalttiilla alueilla, noudata asiakirjan 77057y mukaisia turvallisuusvaatimuksia.
FR Français	SensoLyt® ... EX: En cas d'utilisation dans les zones à risques d'explosion, respecter les exigences de sécurité selon le document ba77057y.
HR Hrvatski	SensoLyt® ... EX: Pri radu u područjima u kojima postoji opasnost od eksplozije pridržavajte se sigurnosnih zahtjeva u skladu s dokumentom ba77057y.
HU Magyar	SensoLyt® ... EX: Robbanásveszélyes területen történő üzemeltetés esetén vegye figyelembe a ba77057y jelű dokumentumban előírt biztonsági követelményeket.
IT Italiano	SensoLyt® ... EX: In caso di utilizzo in atmosfere potenzialmente esplosive osservare le disposizioni di sicurezza riportate nel documento ba77057y.
LT Lietuviškai	SensoLyt® ... EX: Dirbdami zonose su sprogia aplinka laikykitės ba77057y dokumento saugumo technikos nurodymų.
LV Latviešu	SensoLyt® ... EX: Eksploatācijas laikā, sprādzienbīstamajās zonās ievērojiet drošības prasības saskaņā ar dokumentu ba77057y.
NL Nederlands	SensoLyt® ... EX: Neem bij het gebruik in explosie-gevaarlijke omgevingen de veiligheidsvoorschriften volgens document ba77057y in acht.
NO Norsk	SensoLyt® ... EX: Ved bruk i eksplosjonsfarlige omgivelser skal du følge sikkerhetskravene i henhold til dokument ba77057y.
PL Polski	SensoLyt® ... EX: Przy eksploatacji w obszarach zagrożonych wybuchem należy przestrzegać wymogów bezpieczeństwa zgodnie z dokumentem ba77057y.
PT Português	SensoLyt® ... EX: Durante a operação nas áreas com risco de explosão, observar os requisitos de segurança de acordo com o documento ba77057y.
RO Română	SensoLyt® ... EX: În cazul utilizării în zone cu potențial exploziv, vă rugăm să respectați cerințele de siguranță conform documentului ba77057y.
RU Русский	SensoLyt® ... EX: При работе во взрывоопасных зонах соблюдайте инструкции по технике безопасности, приведенные в документе ba77057y.
SK Slovensky	SensoLyt® ... EX: Pri prevádzke v priestoroch s nebezpečenstvom výbuchu dodržiavajte bezpečnostné požiadavky uvedené v dokumente ba77057y.
SL Slovenščina	SensoLyt® ... EX: Ob obratovanju v eksplozijsko ogroženih območjih morate upoštevati varnostne zahteve v skladu z dokumentom ba77057y.
SV Svenska	Vid drift i områden med explosionsrisk ska säkerhetskraven enligt dokument ba77057y beaktas.
TR Türkçe	Lütfen patlama tehlikesi bulunan alanlarda kullanırken ba77057y numaralı belge doğrultusundaki güvenlik talimatlarını dikkate alınız.

Product variants for use in potentially explosive atmospheres

All products with the designation Sensolyt ...**EX** (article numbers 1091##**EX**) are approved for use in potentially explosive atmospheres according to the manufacturer's declaration on the following page.

The characteristics concerning explosion protection as well as the safety instructions and other details are given in the enclosed documentation on explosion protection ba77057y.

The documentation on explosion protection is available in numerous languages.

	 DANGER
	<p>Danger of explosion. Noncompliance with the safety requirements according to the explosion protection documentation ba77057y can cause a potentially explosive atmosphere to detonate. Explosion protection is completely ensured only when all safety requirements are met. Products without EX approval must not be used in potentially explosive atmospheres.</p>

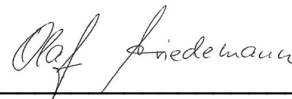
Manufacturer's declaration on explosion protection

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Document no.	028709/ a
Product designations	SensoLyt SEA EX; article no. 109115EX SensoLyt SEA-HP EX; article no. 109118EX SensoLyt ECA EX; article no. 109117EX SensoLyt DWA EX; article no. 109119EX SensoLyt PtA EX; article no. 109125EX
Classification of the products	<p><i>These sensors may only be operated in zone 1 or 2 with the SensoLyt 650 EX by Xylem Analytics Germany GmbH. Together with the SensoLyt 650 EX, they have been classified by the notified body (TÜV SÜD) as intrinsically safe "Simple Apparatuses / Einfache elektrische Betriebsmittel" according to EN 60079-11. As such, they are exempt from the implementation of the European directive 2014/34/EC ("explosion protection directive") according to guideline ENTR/G/3/DE D(2003). Therefore, they do not have to be certified or labeled concerning explosion protection.</i></p> <p><i>We have additionally subjected these devices to our own risk assessment according to DIN EN 15198: 2007 and assessed them according to the following standards:</i></p> <p><i>DIN EN 1127-1 : 2011 DIN EN 80079-36 : 2016 DIN EN 60079-11 : 2012</i></p> <p><i>The classification agrees with the explosion protection characteristics.</i></p>
Explosion protection characteristics	Ex IIC T6 Gb
Highest allowed ambient temperature	40 °C

Weilheim 08.05.2019



Explosionsschutzbeauftragter (Brand WTW)
Xylem Analytics Germany GmbH

Fields of application

Electrode	Application area
SensoLyt® SE* SensoLyt® SEA SensoLyt® SEA EX	Measurements in moderately or heavily loaded waste water and in emulsions, suspensions and media that contain protein and sulfide.
SensoLyt® SEA-HP SensoLyt® SEA-HP EX	Measurements in moderately or heavily loaded waste water and in emulsions, suspensions and media that contain protein and sulfide. To be used under increased pressure and temperature conditions.
SensoLyt® TFA	Measurements in industrial and not typically municipal waste water, robust against aggressive media.
SensoLyt® EC* SensoLyt® ECA SensoLyt® ECA EX	Measurements in municipal and normally charged waste water.
SensoLyt® DW* SensoLyt® DWA SensoLyt® DWA EX	Measurements in drinking water.
SensoLyt® Pt* SensoLyt® PtA SensoLyt® PtA EX	Measurements in waste water, emulsions, suspensions and media that contain protein and sulphide.
SensoLyt® PtFA	Measurements in industrial wastewater

* without armoring

Assembly

Prior to installing the electrode with the armoring in a SensoLyt armature, lubricate the two O rings of the armature with the grease provided.

Calibrating, measuring

See operating manual of the meter.



Take off the watering cap when you want to calibrate or measure.

Cleaning

Contamination	Cleaning
Gross contamination at the junction	Carefully brush off contamination under running water using a soft toothbrush
Membrane contamination	Splash the electrode with water, then blot it dry using a moist paper towel (do not rub).
Fat, oil, protein-containing coatings and similar substances	Remove with household washing-up liquid

Conversion to standard hydrogen electrode (Sensolyt® Pt/Pt(F)A and Pt/PtA EX only)

$$U_H = U_{\text{Meas}} + U_{\text{Ref}}$$

with: U_H = ORP, referring to the standard hydrogen electrode

U_{Meas} = Measured ORP

U_{Ref} = Voltage of the reference system compared to the standard hydrogen electrode

U_{Ref} depends on the reference system and temperature and is given in the following table (see also DIN 38404-6 for the system, Ag/AgCl/saturated KCl):

T (°C)	U_{Ref} [mV] Sensolyt® (EX)	T (°C)	U_{Ref} [mV] Sensolyt® (EX)
0	+221	35	+187
5	+216	40	+181
10	+212	45	+176
15	+207	50	+171
20	+202	55	+165
25	+197	60	+160
30	+192		

Accessories

General purpose accessories

Description	Model	Order no.
Reference electrolyte solution 250 ml to fill the watering cap (KCl 3 mol/L, Ag ⁺ free)	KCI-250	109705

Technical buffer solutions for Sensolyt® (EX) pH electrodes

Description	Model	Order no.
pH 4.01 (1 liter)	TEP 4	108700
pH 7.00 (1 liter)	TEP 7	108702
pH 10.00 (1 liter)	TEP 10*	108704
pH 10.01 (1 liter)	TEP 10 Trace*	108703

* See operating manual of the meter

Accessories for Sensolyt® Pt/PtA (EX) PtFA

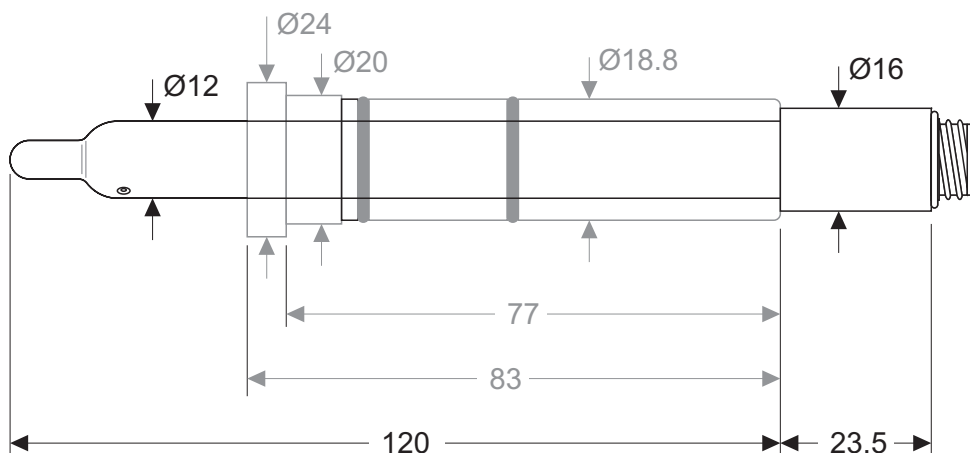
Description	Model	Order no.
ORP buffer solution (250 ml)	RH 28	109740

Technical data

pH measuring range	SensoLyt® SE/SEA (EX) SensoLyt® TFA SensoLyt® EC/ECA (EX)	pH 2 ... 12		
	SensoLyt® SEA-HP (EX)	pH 4 ... 12		
	SensoLyt® DW/DWA (EX)	pH 0 ... 14		
ORP measuring range	SensoLyt® Pt/PtA (EX) SensoLyt® PtFA	-2000 ... 2000 mV (pH application range pH 4 ... 12)		
Pressure range at temperature (armored electrodes only)	SensoLyt® SEA (EX)	<u>Temperature</u>	<u>Allowed overpressure</u>	
	SensoLyt® TFA	0 °C (32 °F)	1000 kPa (10 bar)	
	SensoLyt® ECA (EX)	20 °C (68 °F)	1000 kPa (10 bar)	
	SensoLyt® DWA (EX)	30 °C (86 °F)	500 kPa (5 bar)	
	SensoLyt® Pt/PtA (EX)	40 °C (104 °F)	300 kPa (3 bar)	
	SensoLyt® PtFA	60 °C (140 °F)	100 kPa (1 bar) *	
		* Note: Products that are used in potentially explosive atmospheres (...EX variants) may only be operated at an ambient temperature of max. 40 °C (104 °F - see manufacturer's declaration).		
	SensoLyt® SEA-HP	0-60 °C (32-140 °F) 1000 kPa (10 bar)		
All SensoLyt® (EX) combination electrodes meet the requirements of article 3 (3) of the directive 97/23/EC ("Pressure equipment directive").				
Measuring electrode	SensoLyt® Pt/PtA (EX) SensoLyt® PtFA	Platinum ring		
	All except for SensoLyt® Pt/PtA (EX)	Glass		
Reference electrolyte, junction	SensoLyt® SE/SEA (EX) SensoLyt® SEA-HP (EX) SensoLyt® Pt/PtA (EX)	Gel polymer solid electrolyte; 2-hole junction		
	SensoLyt® TFA	Gel polymer solid electrolyte; PTFE ring junction		
	SensoLyt® PtFA	Gel electrolyte PTFE ring junction		
	SensoLyt® EC/ECA (EX)	Gel electrolyte; 1-hole junction		
	SensoLyt® DW/DWA (EX)	Modified gel electrolyte; ceramic junction		
	Shunt conduction element	Ag/AgCl		
	Connection	Plug-in system (S7)		

Minimum immersion depth 25 mm

Dimensions



Weight Unarmored: approx. 44 g
 Armored: approx. 65 g

Materials	Shaft	Glass
	Armoring	SensoLyt® SEA-HP (EX): POM All other types: PVC-U
	Closing head	PPS-GF40
	O-rings	FPM (Viton)
	Watering cap	PE

Storage With watering cap, filled with KCl 3 mol/L, Ag⁺ free

Disposal Residual waste

What can Xylem do for you?

We're a global team unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to www.xylem.com.



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