
Instruction Manual

Model SC24V
Combined 12mm 4-in-1
differential pH sensor



(BG)

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(CZ)

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(D)

Alle Betriebsanleitungen für ATEX Ex bezogene Produkte stehen in den Sprachen Englisch. Sollten Sie die Betriebsanleitungen für Ex-Produkte in Ihrer Landessprache benötigen, setzen Sie sich bitte mit Ihrem örtlichem Yokogawa-Vertreter in Verbindung.

(DK)

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(EST)

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(E)

Todos los manuales de instrucciones para los productos antiexplosivos de ATEX están disponibles en inglés. Si desea solicitar las instrucciones de estos artículos antiexplosivos en

su idioma local, deberá ponerse en contacto con la oficina o el representante de Yokogawa más cercano.

(F)

Tous les manuels d'instruction des produits ATEX Ex sont disponibles en langue anglaise. Si vous nécessitez des instructions relatives aux produits Ex dans votre langue, veuillez bien contacter votre représentant Yokogawa le plus proche.

(GB)

All instruction manuals for ATEX Ex related products are available in English. Should you require Ex related instructions in your local language, you are to contact your nearest Yokogawa office or representative.

(GR)

Όλα τα εγχειρίδια λειτουργίας των προϊόντων με ATEX Ex διατίθενται στα Αγγλικά. Σε περίπτωση που χρειάζεστε οδηγίες σχετικά με Ex στην τοπική γλώσσα παρακαλούμε επικοινωνήστε με το πλησιέστερο γραφείο της Yokogawa ή αντιπροσωπο της.

(H)

Az ATEX Ex műszerek gépkönyveit angol nyelven adjuk ki. Amennyiben helyi nyelven kéri az Ex eszközök leírásait, kérjük keressék fel a legközelebbi Yokogawa irodát, vagy képviselőt.

(I)

Tutti i manuali operativi di prodotti ATEX contrassegnati con Ex sono disponibili in inglese. Se si desidera ricevere i manuali operativi di prodotti Ex in lingua locale, mettersi in contatto con l'ufficio Yokogawa più vicino o con un rappresentante.

(LV)

Visas ATEX Ex kategorijas izstrādājumu Lietošanas instrukcijas tiek piegādātas angļu valodās. Ja vēlaties saņemt Ex ierīšu dokumentāciju citā valodā, Jums ir jāsazinās ar firmas Jokogava (Yokogawa) tuvāko ofisu vai pārstāvi.

(LT)

Visos gaminiø ATEX Ex kategorijos Eksploatavimo instrukcijos teikiami anglø kalbomis. Norëdami gauti prietaisø Ex dokumentacijà kitomis kalbomis susisiekitë su artimiausiu bendrovës Yokogawa biuru arba atstovu.

(M)

Il-manwali kollha ta' l-istruzzjonijiet għal prodotti marbuta ma' ATEX Ex huma disponibbli bl-Ingliż. Jekk tkun tehtieġ struzzjonijiet marbuta ma' Ex fil-lingwa lokali tiegħek, għandek tikkuntattja lill-eqreb rappreżentant jew ufficiċju ta' Yokogawa.

(NL)

Alle handleidingen voor producten die te maken hebben met ATEX explosiebeveiliging (Ex) zijn verkrijgbaar in het Engels. Neem, indien u aanwijzingen op het gebied van explosiebeveiliging nodig hebt in uw eigen taal, contact op met de dichtstbijzijnde vestiging van Yokogawa of met een vertegenwoordiger.

(P)

Todos os manuais de instruções referentes aos produtos Ex da ATEX estão disponíveis em Inglês. Se necessitar de instruções na sua língua relacionadas com produtos Ex, deverá entrar em contacto com a delegação mais próxima ou com um representante da Yokogawa.

(PL)

Wszystkie instrukcje obsługi dla urządzeń w wykonaniu przeciwwybuchowym Ex, zgodnych z wymaganiami ATEX, dostępne są w języku angielskim. Jeżeli wymagana jest instrukcja obsługi w Państwa lokalnym języku, prosimy o kontakt z najbliższym biurem Yokogawy.

(RO)

Toate manualele de instructiuni pentru produsele ATEX Ex sunt in limba engleza. In cazul in care doriti instructiunile in limba locala, trebuie sa contactati cel mai apropiat birou sau reprezentant Yokogawa.

(S)

Alla instruktionsböcker för ATEX Ex (explosionssäkra) produkter är tillgängliga på engelska. Om Ni behöver instruktioner för dessa explosionssäkra produkter på annat språk, skall Ni kontakta närmaste Yokogawakontor eller representant.

(SF)

Kaikkien ATEX Ex-tyyppisten tuotteiden käyttöohjeet ovat saatavilla englannin-. Mikäli tarvitsette Ex-tyyppisten tuotteiden ohjeita omalla paikallisella kielellänne, ottakaa yhteyttä lähimpään Yokogawa-toimistoon tai -edustajaan.

(SK)

Všetky návody na obsluhu pre prístroje s ATEX Ex sú k dispozícii v jazyku anglickom. V prípade potreby návodu pre Ex-prístroje vo Vašom národnom jazyku, skontaktujte prosím miestnu kanceláriu firmy Yokogawa.

(SLO)

Vsi predpisi in navodila za AEX Ex sorodni pridelki so pri roki v angleščini. Če so Ex sorodna navodila potrebna v vašem tukejnem jeziku, kontaktirajte vaš najbliži Yokogawa office ili predstavnika.

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1 PREFACE

1.1 Introduction

The SC24V sensor with Variopin connector is not a conventional pH sensor, but a differential sensor that uses two dissimilar ion sensitive glass membranes to generate the pH signal. The measuring element is the same as a conventional pH electrode, and the reference similar to a Sodium ion electrode. Therefore the SC24V can only be used in combination with pH analyzers that feature:

- Dual high impedance sensor inputs
- Adjustable setting for the Isothermal Point
- Adjustable temperature coefficient

The SC24V differential measuring principle has significant advantages over conventional electrode designs in a variety of difficult applications. The hermetically sealed reference eliminates exposure of the reference fill solution to the process, as there is no reference junction to be affected by aging, plugging or poisoning from the process. This greatly reduces maintenance problems since the reference stability of the differential sensor is then only dependant on the sodium concentration of the process.

The SC24V is ideally suited for difficult applications where conventional electrodes suffer from reference problems, especially when high temperatures and high pressures are involved. 70-80% of industrial users will fully benefit from using the SC24V, as they will have sufficient sodium levels in their processes for a stable measurement. Examples of applications where the sensor has proven to be successful are Chlorine manufacturing by electrolysis of brine and Bio-ethanol fermentation. The only applications where the SC24V cannot be used are those where the salt concentration

is fluctuating more than 30% or is too low, such as in pure and ultrapure water processes.

1.2 Unpacking and Checking

Upon delivery, unpack the sensor carefully and inspect it to ensure that it is not damaged during shipment. If damage is found, retain the original packing material and immediately notify the carrier and the relevant local Yokogawa Sales office. Make sure the Model Code and Serial Number on the sensor are the same as on the packing list.

1.3 Warranty and Service

Yokogawa products are guaranteed free from defects in workmanship and materials under normal use and service for a period of (typically) 12 months from the date of shipment from the manufacturer. Individual sales organizations can deviate from the typical warranty period, and the conditions of sale relating to the original purchase order should be consulted. Damage caused by wear and tear, inadequate maintenance, corrosion, or by the effects of chemical processes is excluded from this warranty coverage. In the event of a warranty claim, the defective goods should be sent (freight paid) to the Service Department of the relevant Yokogawa Sales office for repair or replacement (at Yokogawa's discretion). The following information must be included in the letter accompanying the returned goods:

- Model Code and Serial Number.
- Original Purchase Order and Date.
- Length of time in service and description of the process.
- Description of the fault and circumstances of the failure.
- Process/environmental conditions that may be related to the failure of the sensor.
- Statement as to whether warranty or non-warranty service is requested.

- Complete shipping and billing instructions for return of material, plus the name and phone number of a contact person that can be reached for further information.
- Clean Statement
Returned goods that have been in contact with process fluids must be decontaminated and disinfected prior to shipment. Goods should carry a certificate to this effect, for the health and safety of our employees. Material Safety Data sheets must be included for all components of the process to which the sensor(options) have been exposed.

1.4 Serial Number definition

The Serial Number is defined by nine (9) alphanumeric characters:

X ₁ X ₂	Production Location
X ₃ X ₄	Year/Month code
X ₅ X ₆ X ₇ X ₈ X ₉	Tracking number

Example: N3P600028

Method used for year/month numbering

Table 1: Production Year code

Year	Year code	Year	Year code
2014	P	2026	3
2015	R	2027	4
2016	S	2028	5
2017	T	2029	6
2018	U	2030	7
2019	V	2031	8
2020	W	2032	9
2021	X	2033	A
2022	Y	2034	B
2023	Z	2035	C
2024	1	2036	D
2025	2	2037	E

Table 2: Production Month code

Month	Month code
January	1
February	2
March	3
April	4
May	5
June	6
July	7
August	8
September	9
October	A
November	B
December	C

2 GENERAL SPECIFICATIONS

2.1 Measuring elements

: pH glass electrode
Sodium glass electrode
Solid Platinum electrode
Pt1000 temperature sensor

2.2 Wetted parts

Measuring sensor : Glass
Earth pin : Solid Platinum

2.3 Functional specifications (at 25°C)

Isothermal point : pH 7, pNa 0
Reference system : pNa, salt sensitive reference glass
Glass impedance - pH : 750 MΩ nominal
- pNa : 750 MΩ nominal
Temperature element : Pt1000 to IEC 751
Asymmetry potential (zero): 0 ± 15 mV
Slope : > 90 % (of theoretical value)

Note: The SC24V temperature sensor is designed for cell compensation and for indication.
It is **NOT** designed for process temperature control.

2.4 Dynamic specifications

Response time pH : $t_{90} < 15$ sec. (for 7 to 4 pH step)
Response time temperature : $t_{90} < 1.5$ min. (for 10 °C step)
Stabilization time pH : < 2 min. (for 0.02 pH unit during 10 sec.)

2.5 Operating range




pH : 2 to 14 (refer to Table 3)
ORP : -1500 to 1500 mV
Temperature : 10 °C to 120 °C (50 °F to 248 °F)
Pressure : 0 to 10 bar (0 to 142 PSIG)
Conductivity : > 50 µS/cm

Table 3: pH operating range as function of the ionic strength (pH≥pNa+2)

pNa	Ionic strength [mol ion+ per liter]	pH operating range
0	1	2 to 14
1	0.1	3 to 14
2	0.01	4 to 14
3	0.001	5 to 14
4	0.0001	6 to 14

Note: The pH operating range is given at room temperature, but at high process temperatures the lifetime of the sensor will be seriously shortened. For pH values > 12 the accuracy of the pH measurement will change significantly by the alkali error.

2.6 Regulatory standards

CE	: Decision 768/2008/EC
- ATEX	: Directive 94/9/EC, as amended by Regulation (EC) no. 1882/2003
Certificate no.	: DEKRA 11ATEX0014 X  II 1 G Ex ia IIC T3...T6 Ga
Electrical data	: For sensor input circuits (by connector) connected to a certified intrinsically safe circuit with the following maximum values : $U_i = 18V$; $I_i = 170\text{ mA}$; $P_i = 0.4\text{ W}$; $L_i = 0\text{ mH}$; $C_i = 0\text{ nF}$ (connector) or : Certified intrinsically safe Yokogawa transmitter Model FLXA21 series or Model PH202S series.
Special conditions (X)	: T6 for Tamb. -40 °C to $+40\text{ °C}$ T4 and T5 for Tamb. -40 °C to $+55\text{ °C}$ T3 for Tamb. -40 °C to $+105\text{ °C}$
 WARNING	: Electrostatic charges on the sensor enclosure and cable shall be avoided. : When the sensor has been connected to none intrinsically safe equipment which exceeds the restrictions regarding the sensor input circuit (see electrical data), the sensor is not suitable anymore for intrinsically safe use.
- Pressure	: Directive 97/23/EC, as amended by Regulation (EC) no. 1882/2003
Applying article	: 3.3 (Sound Engineering Practice)
 WARNING	: Damaging the screw thread of the sensor might influence the maximum process pressure.

IECEx

Applying standards	: IEC 60079-0: 2007 : IEC 60079-11: 2006 : IEC 60079-26: 2006
Certificate no.	: IECEx DEK 11.0064X

2.7 Shipping details

	: 120 mm version	225 mm version
Package size (LxWxH):	296 x 87 x 67 mm (11.7 x 3.4 x 2.6 inch)	435x 60 x 60 mm (17.1x 2.4 x 2.4 inch)
Package weight	: app. 0.25 kg (0.55 lbs)	app. 0.25 kg (0.55 lbs)

2.8 Environmental conditions

Storage temperature : -10 °C to 50 °C (14 °F to 122 °F)

3 INSTALLATION OF SC24V

For optimum measurement results, the SC24V should be installed in a location that offers an acceptable representation of the process composition and **DOES NOT** exceed the specifications of the sensor.

The SC24V is designed with PG13.5 threaded connection to allow installation in a wide variety of applications.

3.1 Typical installation

The SC24V sensor is designed for versatile in-line, immersion or off-line installation. For best results the SC24V should be mounted with the process flow coming towards the sensor, and positioned at least 15° above the horizontal plane to eliminate air bubbles in the pH glass bulb (see Figure 1).

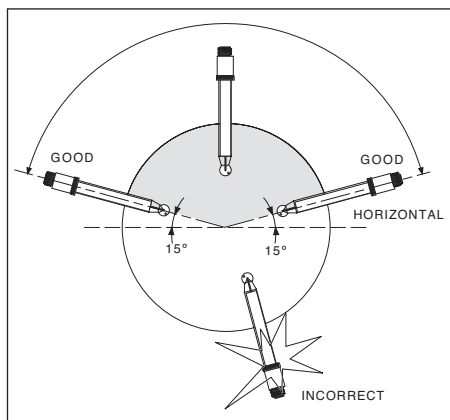


Figure 1: Mounting positions of sensor

3.2 Preparing the sensor for use

Remove the sensor from its shipping box and slide off the so-called 'wet pocket', the tube filled with solution to prevent drying out of the measuring elements during shipment or storage. During shipment, electrolyte in the sensor could be dislocated. To correct this, place the sensor upright for 24 hours. Before installing the sensor in the process it should be calibrated. A general

calibration procedure is described in Section 6 of this Instruction Manual.

3.3 Mounting the sensor

The simplest mounting is to use the PG13.5 threaded connection of the sensor. The sensor is standard with a slide ring (Ryton) and an O-ring (Silicon) for direct mounting in a fitting provided with PG13.5 thread (see Figure 2).

Other O-ring materials are available as a spare part (see Section 8 of this Instruction Manual).

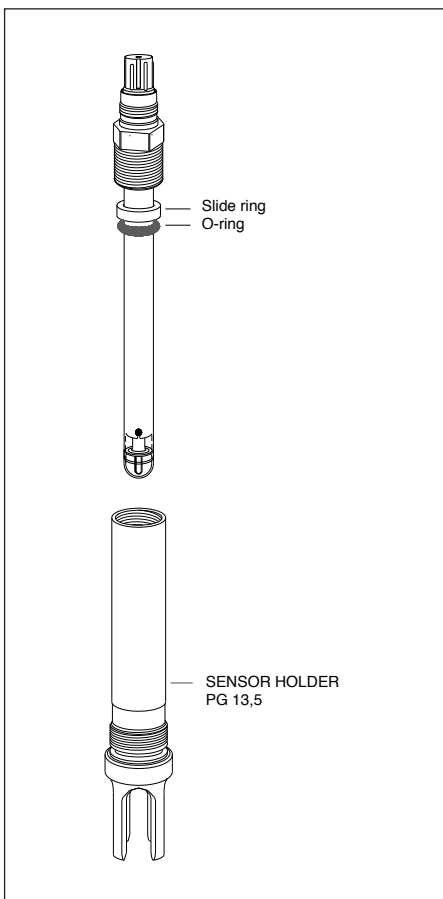


Figure 2: Simple mounting of sensor in PR10 retractable fitting

Note: Mounting the sensor in fittings where the sealing is situated nearby the sensortip, uncorrect placement of the sensor will damage the measuring glass elements. Please handle with care.

Note: First install the sensor in the adapter before it is mounted in the fitting.

The SC24V sensor can also be mounted in other fittings using a quick-removal adapter. These adapters are available as a spare part and ordering information of these parts is given in Section 8 of this Instruction Manual. For a detailed description of these adapters see Section 4.

Examples of mounting the SC24V sensor using an adapter are given in Figures 3, 4, 5 and 6.

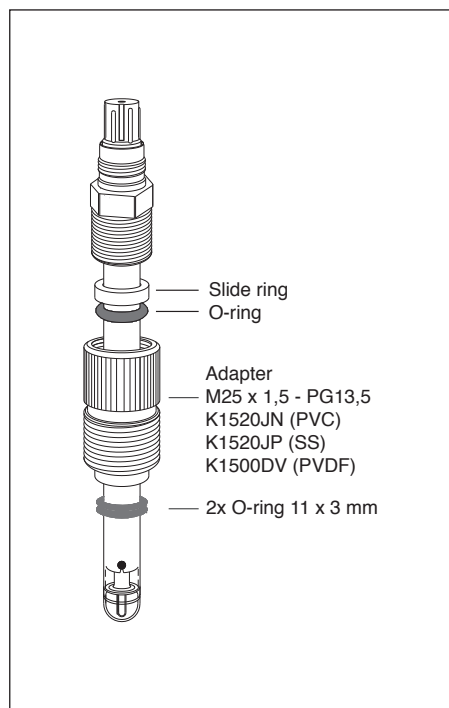


Figure 3: Mounting of sensor in FD20/FF20/FS20 fitting using M25x1.5 adapter
K1500DV/ K1520JN / K1520JP

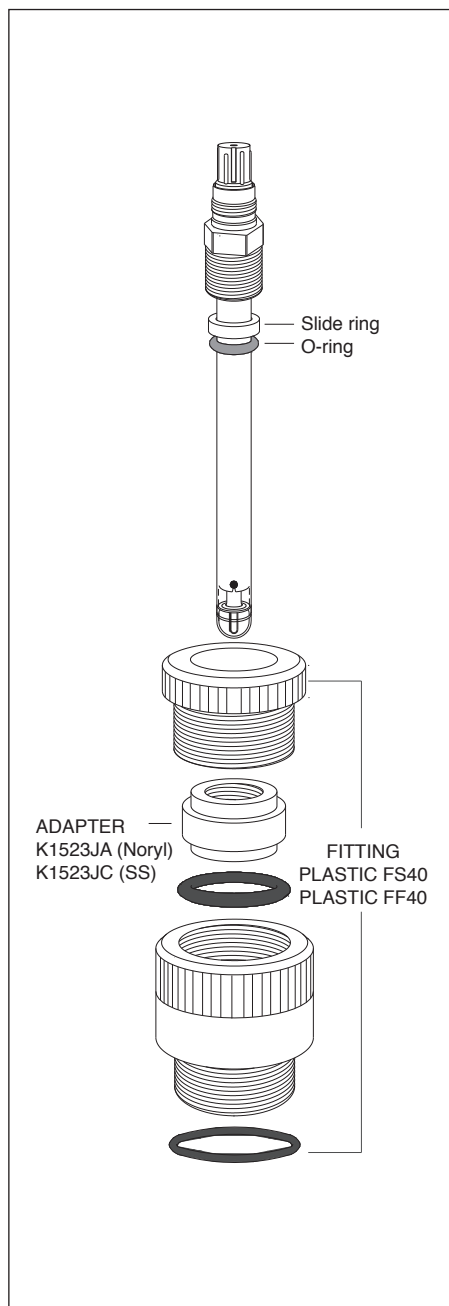


Figure 4: Mounting of sensor in plastic FS40 / FF40 fitting, using adapter K1523JA / K1523JC

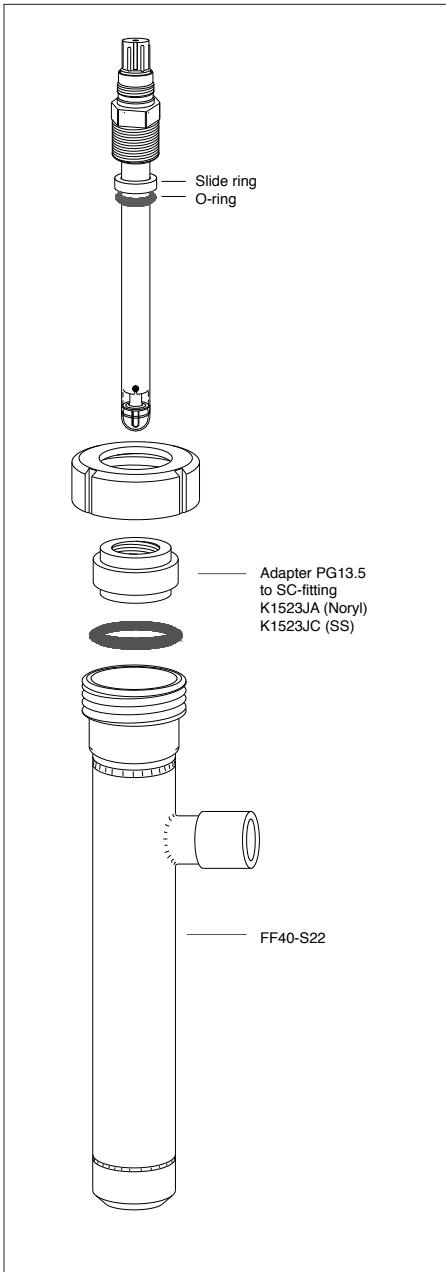


Figure 5: Mounting of sensor in metal FF40 fitting, using adapter K1523JA / K1523JC

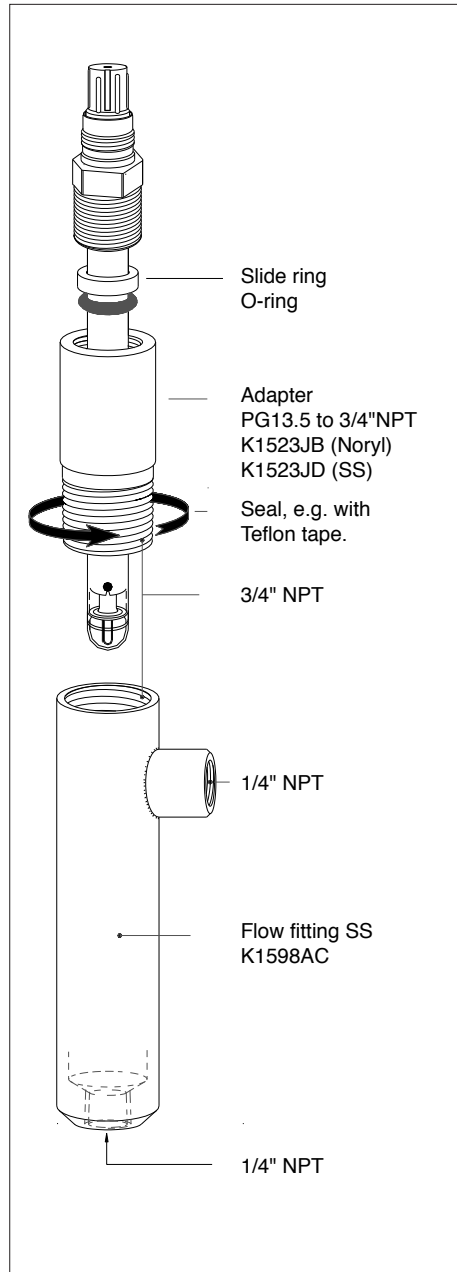


Figure 6: Mounting of sensor in fitting K1598AC, using adapter K1523JB / K1523JD

4 DIMENSIONS

Dimensions in mm

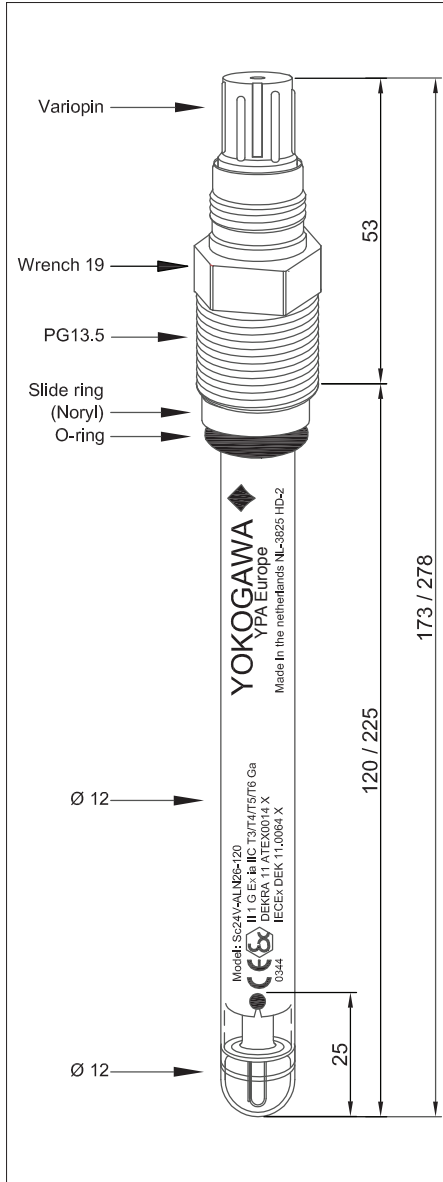


Figure 7: Dimensions SC24V Sensor according to DIN 19263:2007-05

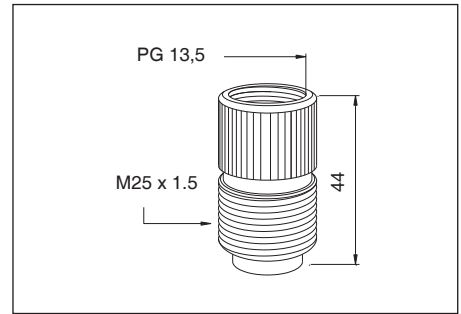


Figure 8: Dimensions adapters K1500DV, K1520JN, K1520JP

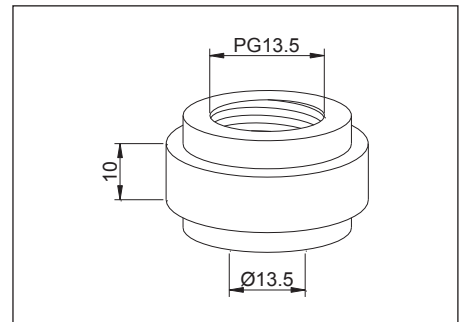


Figure 9: Dimensions adapters K1523JA, K1523JC

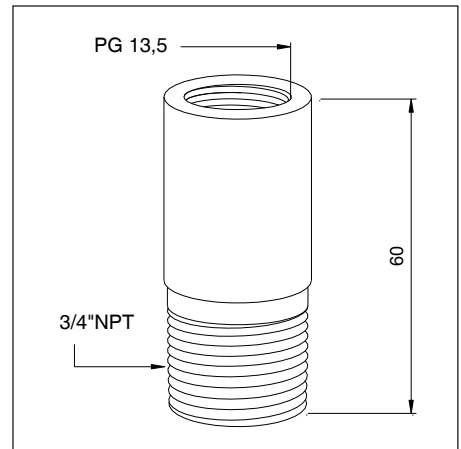


Figure 10: Dimensions adapters K1523JB, K1523JD

5 WIRING

The SC24V is provided with a Variopin connector for connection to the Yokogawa pH analyzers using the WU10 dual coax cable. The connections of this Variopin

connector (see Figure 11), the WU10 dual coax cable (see Figure 12) and the Yokogawa pH analyzer are given in Table 4.

Table 4: Definition Variopin connector to WU10 cable and pH analyzer

Variopin #	WU10 wire color	pH analyzer terminal #	Signal description
A	Brown	15	Core coax pH
B	Brown	16	Shield coax pH
C	White	13	Core coax pNa
D	White	17	Shield coax pNa
E	Red	11	Temperature
F	Blue	12	Temperature
G	Yellow	14	Liquid earth
H	Black	63	WU10 overall shield
	Green		Not used

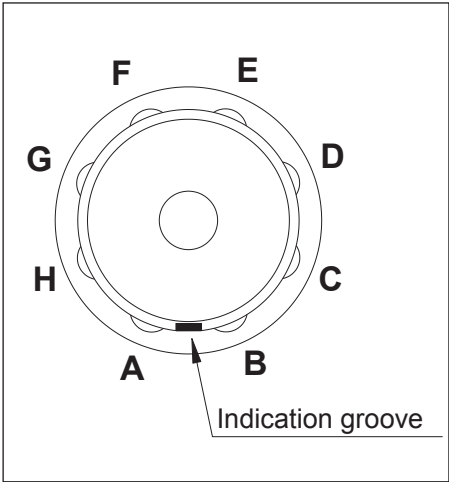


Figure 11: Top view of sensor Variopin connector with gold plated contacts

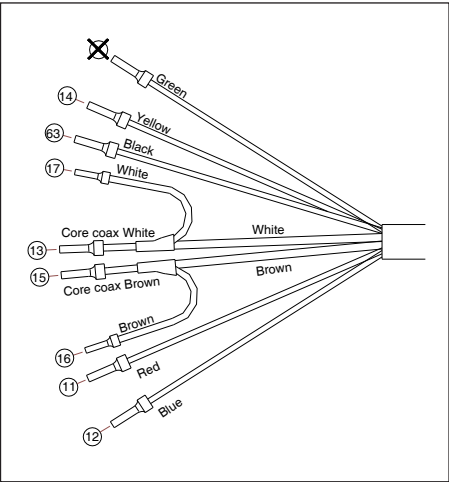


Figure 12: WU10 dual coax cable

6 GENERAL CALIBRATION & MAINTENANCE PROCEDURE

Calibration of the SC24V sensor has to be done with the pH analyzer connected. Normally the pH standards that are preprogrammed in the pH analyzer can be used for calibration with the pH analyzer set to **"AUTOCAL"**. The SC24V however is a differential pH sensor which needs pH buffers that have the same ionic strength because the sodium reference will change as the ionic strength changes. These pH buffers are not preprogrammed in the pH analyzer, which means the calibration has to be done with specific buffer solutions (see Section 6.1) and the pH analyzer set to **"MANUAL"** calibration. Refer to the analyzer Instruction Manual for details. Calibration data of the sensor is stored into the pH analyzer.

6.1 Buffer calibration

To calibrate the SC24V sensor, two buffer solutions with known pH values are required. It is recommended that one buffer solution has a value near to pH 7.00. Depending on the process value to be measured, the second buffer solution should be either acidic (below pH 7.00) or alkaline (above pH 7.00). Buffers which are available are: pH 2.00, pH 4.00, pH 7.00 and pH 9.00. See Section 8 for ordering information.

The following is a very general 2-point manual calibration procedure with buffer solution:

1. Clean the sensor using a 5% solution of HCl;
2. Rinse sensor thoroughly with tap water (**DO NOT** use demineralized water);
3. Immerse the sensor in the first buffer solution (pH 7.00 is recommended);

Set the pH analyzer to **"MANUAL"** calibration. Wait until the pH reading is stable. Adjust the pH reading in the pH analyzer to the value indicated on the bottle (in this

case 7.00). Go to solution 2 to do a 2-point calibration;

4. Rinse sensor thoroughly with tap water;
5. Immerse the sensor in the second buffer (pH 4.00 is recommended);
Wait until the pH reading is stable. Adjust the pH reading in the pH analyzer to the value indicated on the bottle (in this case 4.00).
Quit the manual calibration routine by accepting the new calculated calibration data of zero and slope.

After calibration, re-install the sensor into the process.

Note: It is important to understand it is possible the SC24V differential sensor does not show the correct pH value after buffer calibration. The reason is that the ionic strength of the buffers is 1 mol NaCl, which can deviate from the ionic strength of the process. For an accurate pH reading an extra 1 point process calibration has to be done (see Section 6.2) to compensate for differences in ionic strength.

6.2 Process calibration

The following is a specific 1-point manual calibration procedure for the process to measure:

Set the pH analyzer to **"MANUAL"** calibration. Wait until the pH reading is stable.

Adjust the pH reading in the pH analyzer to the value of the process sample that is analyzed using a laboratory measurement. For the laboratory measurement, we advice to use the Yokogawa PH72 personal pH meter.

Quit the manual calibration routine by accepting the new calculated calibration data of zero.

Slope value will be unchanged.

6.3 Calibration of ORP and rH measurements

For calibration of ORP and rH, the procedure for MANUAL CALIBRATION can be used as described in the Instruction Manual of the analyzer.

The rH value is a function of the reference system and the pH value of the buffer solution. The SC24V sensor has a reference system of 1molal Silver/Silver Chloride (Ag/AgCl). The commonly used standards for ORP and rH calibration are made from Chinhydron (Quinhydrone) powder dissolved in pH buffer solutions (1 g / 200 ml). In Table 5 the measurement values are given as function of the used pH buffer solution with Chinhydron powder. The accuracy of the standards is approximately ± 10 mV.

Table 5: ORP, pH compensated ORP and rH as function of pH buffer solution with Chinhydron powder.

pH buffer	ORP (mV) Na compensated	ORP (mV) pH compensated	rH (mV)
2.00	346	51	23.6
4.00	228	51	23.6
7.00	51	51	23.6
9.00	-67	51	23.6

The accuracy of the standard values is approximately ± 10 mV.

6.4 Maintenance of the SC24V sensor

A pH sensor requires routine maintenance to keep the measuring elements clean and functioning. Because the SC24V sensor does not have an open reference junction and is hermetically sealed from the process, it does not suffer from poisoning, diffusion and fouling. This means the SC24V sensor requires very little maintenance.

In most cases cleaning with water, iso-propanol or methanol is sufficient. In other cases the measuring elements of the sensor have to be cleaned with specific solutions. Examples:

1. Deposits of limes, hydroxides or carbonates can be removed by immersing the bottom part of the sensor in a solution containing dilute hydrochloric acid (5% is recommended). Afterwards rinse the sensor with water.
2. Deposits of oil and fat can be removed with hot water with a detergent. When the results are unsatisfactory, a mild (carbonate based) abrasive can be used.
3. Protein deposits should be removed with a protein enzymatic solution, for instance a solution containing 8.5 ml concentrated hydrochloric acid and 10 grams of pepsin in 1 liter of water.

A soft toothbrush may be used to accelerate the cleaning process.

Note: Avoid cleaning with non-polar solvent like tri-chloro ethylene, toluene or hexane. The non-polar solvents will break up the gel-layer on the measuring glass elements and requires that the sensor has to be soaked in water for at least 12 hours before it will function again.

7 MODEL CODE

Model Code	Suffix Code	Option Code	Description
SC24V			Combined 12mm 4 in 1 differential pH sensor with Variopin connector
Type	- ALN26		Ag/AgCl reference system, pH half cell L-glass, reference cell salt sensitive glass, non-flow
Sensor length		- 120 - 225	120 mm 225 mm

Sensor is standard equipped with a slide ring (Ryton) and an O-ring (Silicon) for mounting in adapters (see Section 3.3). These parts and other O-ring materials are available as a spare part.

8 SPARE PARTS

O-rings	
K1500BV	O-ring set (6 pcs.), 11x3 mm, EPDM
K1500BZ	O-ring set (6 pcs.), 11x3 mm, Viton
K1500GR	O-ring set (8 pcs.), 11x3 mm, Silicon
K1524AA	Set with O-ring (11x3, Silicon) and slide ring (Ryton)
Connection equipment	
BA10	Junction box for longer cable runs
WF11-xxx-F	Extension cable with terminated ends. Specify length in whole meters (e.g. XXX = 005, 010, 025, 050 meter)
WU10-V-D-02	Cable for Variopin, dual coax, 2 meter
WU10-V-D-05	Cable for Variopin, dual coax, 5 meter
WU10-V-D-10	Cable for Variopin, dual coax, 10 meter
WU10-V-D-15	Cable for Variopin, dual coax, 15 meter
WU10-V-D-20	Cable for Variopin, dual coax, 20 meter
Buffer solutions	
K1520BF	Buffer solution pH 4/7/9 + PNa 0 (500 ml each), ionic strength 1 mol NaCl
K1520BG	Buffer solution pH 2 + pNa 0 (3 x 500 ml), ionic strength 1 mol NaCl
K1520BH	Buffer solution pH 4 + pNa 0 (3 x 500 ml), ionic strength 1 mol NaCl
K1520BJ	Buffer solution pH 7 + pNa 0 (3 x 500 ml), ionic strength 1 mol NaCl
K1520BK	Buffer solution pH 9 + pNa 0 (3 x 500 ml), ionic strength 1 mol NaCl
Adapters	
K1500DV	Adapter, PG13.5 to M25x1.5, PVDF
K1520JN	Adapter, PG13.5 to M25x1.5, PVC
K1520JP	Adapter, PG13.5 to M25x1.5, Stainless Steel
K1523JA	Adapter, PG13.5 to FF40/FS40 fitting, Noryl
K1523JB	Adapter, PG13.5 to 3/4"NPT, Noryl
K1523JC	Adapter, PG13.5 to FF40/FS40 fitting, Stainless Steel
K1523JD	Adapter, PG13.5 to 3/4"NPT, Stainless Steel
Fittings	
K1598AC	Flow fitting (incl. 3.1 certificate), Stainless Steel Note: Adapter K1523JB or K1523JD needed to fit the sensor.

9 EU DECLARATION OF CONFORMITY

We: **Yokogawa Process Analyzers Europe B.V.**
Euroweg 2
3825 HD Amersfoort
The Netherlands

herewith declare under our sole responsibility that the product, model: **SC24V**
further specified with model suffix- and option codes: **As listed in Annex-1 in this document**
is manufactured in accordance with the requirements for CE-marking of products as stated in EC Decision:

768/2008/EC on a common framework for the marketing of products

by applying the following standards:

EN-ISO 9001: 2008 Quality management systems - Requirements

Subject product is:

- In compliance with the essential requirements of the specific product legislation:
 - **Pressure Equipment** **Directive 97/23/EC (PED)**
As amended by Regulation (EC) no. 1882/2003, by applying:
Article 3.3: Sound Engineering Practice
 - **RoHS** **Directive 2011/65/EU**
by applying:
Category 9: Industrial monitoring and control instruments, ion selective electrode
 - **Explosive atmospheres** **Directive 94/9/EC (ATEX)**
As amended by Regulation (EC) no. 1882/2003, by applying the following standards:
EN 60079-0: 2009 Explosive atmospheres – Part 0: Equipment – General requirements
EN 60079-11: 2007 Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "I"
EN 60079-26: 2007 Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga

The provisions fulfilled are:  II 1 G Ex ia IIC T3...T6 Ga

Number of the EC-type Examination Certificate: **DEKRA 11 ATEX 0014 X**
Name of the notified body: DEKRA Certification B.V.
Identification number of the notified body: 0344
Address of the notified body: Meander 1051, 6825 MJ Arnhem, The Netherlands

- Produced according to appropriate quality control procedures.

The CE-mark has been affixed on the product in 2012 for the first time.

If applicable, the product is checked against the latest official released revision of the standards mentioned above; differences do not affect the certified product identified on this declaration.



Amersfoort - July 01, 2014

H. Leijten
General Manager
Yokogawa Process Analyzers Europe B.V.

ANNEX-1

Model Code	Suffix Code	Option Code	Description
SC24V			Combined 12mm 4-in-1 differential pH sensor with Variopin connector. (pH/Ref, Temp, ORP)
Type	- ALN26		Measurement Cell's pH-glass (L) and ref-glass (N), non-flow reference, dome shape
Sensor length		- 120	120 mm
		- 225	225 mm

Further specifications can be found in General Specifications Sheet GS 12B6J7-02E-E

10 APPLICATION DATA SHEET SC24V DIFFERENTIAL PH SENSOR

Customer	_____	Please complete a separate form for each process stream to be analyzed and return, marked for the attention of:
Address	_____	
Contact	_____	
Telephone	_____	
Fax	_____	
		Serial no. _____ Date received _____ Date returned _____

Process data

Description _____

Application ☐ Pulp & Paper ☐ Power ☐ Chemical
☐ Pharmaceutical ☐ Other _____

Operation ☐ Batch ☐ Continuous ☐ Monitor ☐ Control

Type of solution _____

pH Value	Nor _____ Min _____ Max _____
Temperature (°C, °F)	Nor _____ Min _____ Max _____
Pressure (psig, bar, kg/cm ²)	Nor _____ Min _____ Max _____
Flow Rate (m/s : ft/s)	Nor _____ Min _____ Max _____
Conductivity (mS/cm)	Nor _____ Min _____ Max _____

Concentration of salts _____ Concentration of organics _____

Type(s) _____ Type(s) _____

Problems with Present ☐ Fouling ☐ Poisoning ☐ Coating
 measuring procedure ☐ Other _____

Description _____

Yokogawa Confidential

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