IDS Handhelds

Smart Measurement of pH, Conductivity and Dissolved Oxygen

WTW

a **xylem** brand

The IDS System

MultiLine® and MonoLine IDS

The IDS Advantages:

- Two robust and water proof handheld lines for pH, dissolved oxygen and conductivity, available as 1-, 2- or 3- channel meters

- MultiLine® multi-parameter instruments allow any combination of equal or different sensors

- Automatic documentation of important information from sensor and meter

- Depending on instrument convenient data transfer to USB memory drive, external printer or PC

For more detailed information please order free of charge our catalog **"Lab and Field Instrumentation"** or visit our web site : **www.wtw.de/en/ids**
(For convenience use our QR code).
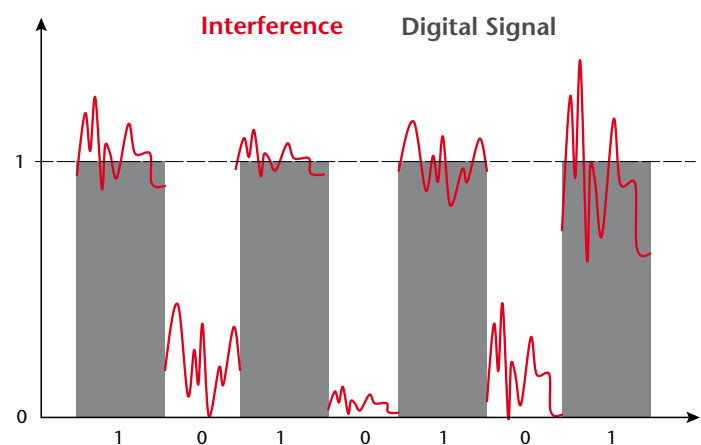
I ntelligent

Intelligent Sensors store an ID

- Automatic logon to meters once connected
- Calibration history stored in the sensor
- Each sensor is clearly identified

D igital

Digital Processing and Data Transfer of Sensor measurement

- Fail-safe transfer by digital signals
- Variable cable lenghts available for each sensor
- Direct signal processing contributes to extremely precise measurement readings

S ensor

Sensors for each application

- IDS-Sensors for every parameter and application
- Sensors are manufactured with enhanced WTW sensor technology
- Adapters for SenTix® pH sensors with S7 plug head available

Single, dual or triple chan

MultiLine® IDS – The instruments
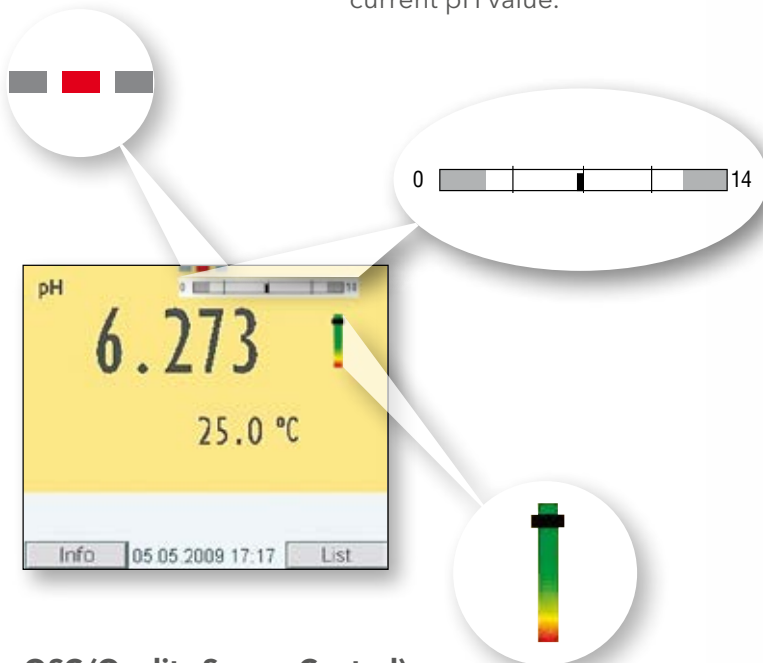
Everything at a glance

- Brilliant high resolution TFT color display
- Simultaneous display of one, two or three parameters (color marked)
- Optical support of important maintenance and measuring function

Display of channel:
The position of the connector is displayed for each sensor.

CMC (Continuous Measurement Control):
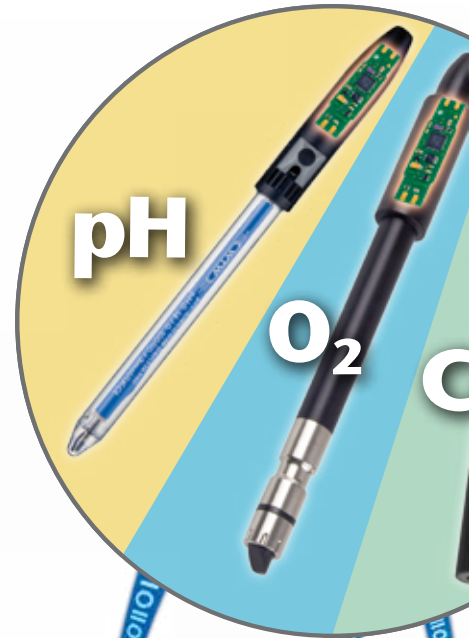Measure in the optimum pH range.

- Plain display of the calibrated range.
- Graphical representation of the current pH value.

QSC (Quality Sensor Control):
Benchmarks the current condition of an IDS pH sensor.

- Validation of starting values of an IDS pH sensor by an initial calibration with precision buffers.
- Compares each following calibration with the initial calibration information stored in the sensor.
- Comprehensive graphical representation of the sensor quality.

pH

O₂

Single – Multi 3410
- 1 Channel
- 3 Parameters

Dual – M
- 2 Chan
- 3 Param in any c

4

Ideal for portable field measurements

- Field proven housing with rubber boot (set), waterproof acc. to IP 67

- Robust and waterproof keypad: Clean easily under running water

- Tactile keypad response: error-free operation even when wearing gloves

- Waterproof quick-lock sensor connection

Easy Data Transfer

- Datalogger for GLP compliant data

- USB interface: Data transfer directly to USB stick or selected printers

- Mini USB interface: Data transfer to PC or for firmware update

ond

ulti 3420
- nels
- meters
- ombination

Triple – Multi 3430
- 3 Channels
- 3 Parameters
  in any combination

IDS Simply Economic

MonoLine IDS – The intruments

Everything at a glance

- Automatic sensor recognition – secure assignment of measurement results

- Saves time and money – Transfer of all important parameter including calibration data

- Easy traceability – Automatic documentation

MonoLine IDS

Robust and waterproof IDS single parameter instruments for pH/ORP, conductivity dissolved oxygen measurement. Menu-controlled via backlit LCD display with a waterproof USB interface for data transfer to a PC or Laptop.

The MonoLine series are handy portables for all applications requiring full documentation of meter and sensor parameters. But more over this they offer important advantages of IDS handhelds:

- Robust and water proof keypad – easy to clean under a water jet

- Key click with tactile feedback: secure operation also with gloves

- Waterproof and lockable sensor plug

Protective armoring for MonoLine IDS

Rubber elastic armoring SM Pro for additional protection

pH 3310 IDS

The pH 3310 IDS has two enhanced functionalities: The CMC Function enables the monitoring of calibration and measurement range. This supports high-quality data collections by representing this visually in the display. The QSC function shows graphically the current sensor condition over its operating time and supports maintenance and on time replacement. All IDS pH and ORP electrodes can be connected and – via adapter – conventional special electrodes with S7 plug head. The IDS system allows cable lengths up to 100 m.

Cond 3310 IDS

The Cond 3310 IDS covers with two cells the whole range of electrolytic conductivity. One cell is designed for the range of ultrapure water to low conducting solutions, the second one covers the whole range up to 2000 mS/cm. Almost any conductivity measurement in aqueous solutions can be made. A mix-up or incorrect adjustment of cell constant is not possible due to automatic transfer. Cable effects when measuring over long distances with conventional cells are completely avoided.

Oxi 3310 IDS

The Oxi 3310 IDS is designed for optical dissolved oxygen measurement with the FDO 925. The meter is suited for environmental applications, but also for industrial process. When measuring concentration below 1 mg the resolution will extended to 3 digits. This is perfect for the recognition of trends in the low range. Additionally the meter has an adjustable t90 for adapting the sensor characteristics for monitoring different dissolved oxygen sensors by emulating their characteristics.

IDS sensors:

Distinctively unique

The IDS sensors – intelligent, digital sensors – combine proven measurement technique with additional advantages. Based on proven electrochemical WTW sensors but equipped with advanced measurement electronics the IDS sensors distinctively store their serial number and calibration records for immediate operation. IDS sensors not only store their data but also process the measurement signal and thus enhance the quality of measured data. This allows the actual rating of electrode quality by the QSC (Quality Sensor Control) function.
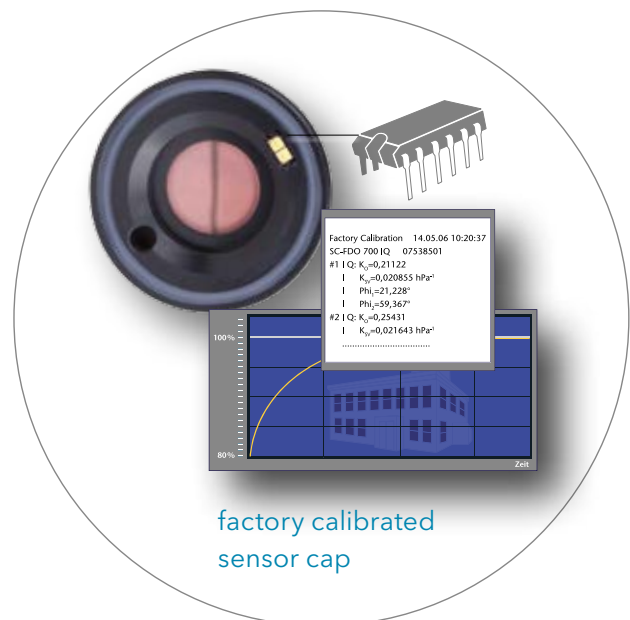
The IDS sensors combine proven technology with new advantages

- Premium, enhanced sensor technology combined with most advanced measurement electronics

- IDS sensors store serial numbers and calibration history – ready for immediate operation

- Current rating of sensor quality with IDS pH electrodes by QSC (Quality Sensor Control)

- IDS conductivity measurement: Two sensors for covering almost all applications

pH   Cond $^F D O_2$

factory calibrated
sensor cap

IDS sensor	conventional sensor	cable length
pH electrodes		
SenTix® 940	SenTix® 41/42	1.5 m
SenTix® 950	SenTix® 51/52	1.5 m
SenTix® 980	SenTix® 81/82	1.5 m
SenTix® ORP 900	SenTix® ORP	1.5 m
Conductivity cells		
TetraCon® 925	TetraCon® 325	1.5 m
LR 925/01	LR 325/01	1.5 m
Optical D.O. sensors		
FDO 925	–	1.5 m

For more detailed information please visit our web site : **www.wtw.de/en/ids-sensors**

Case Sets and Accessories

Case Sets

MultiLine® and MonoLine are available in application specific case sets including sensors and accessories.

- Ready-to-measure
- Small laboratory in a case

Set in small carry case

Set in a field case

Accessories

Armor with protection made of stainless steel for FDO 925 andTetraCon® 925 with fixed cable.

Model	Order No.
A 925/S	903 837

QSC-Kit for initial calibration of IDS pH electrodes.

Model	Order No.
QSC-Kit	109 830

An adapter for connecting SenTix® Plus special electrodes **with S7-plug head**, e.g. penetration and surface electrodes. (no IDS functionality)

Model	Order No.
ADA S7/IDS	108 130

SM Pro rubber elastic armor for WTW handhelds (Included in MultiLine® sets as well as with Multi 3430 (meter only)).

Model	Order No.
SM Pro	902 780

Technical Data

(all measurement values ±1 digit)

MultiLine® – Model	Multi 3410	Multi 3420	Multi 3430
Order no.	2FD450	2FD460	2FD470
Measurement channels	1	2	3

MultiLine® – General specification	
Memory	automatic, 10000 data sets
Data logger	manual/time controlled
Interface	USB host and Mini-USB
Power supply	Battery charger or 4 x 1.2 V NiMH rechargeable batteries
Continuous	100 h
Protection class	IP 67

MonoLine – General specification	
Memory	automatic, 5000 data sets
Data logger	manual/time controlled
Interface	Mini-USB
Power supply	4 x 1,5 V AA batteries
Continuous	max 200 h
Protection class	IP 67

MultiLine®/MonoLine – pH measurement	
CMC	yes
QSC	yes
Calibration	1-, 2-, 3-, 4-, 5-point; WTW Technical, DIN/NIST, additionally 22 buffer sets
Calibration memory	up to 10 calibrations

MultiLine®/MonoLine – Conductivity measurement	
AutoRead	automatic/manual
T_{ref}	20 °C/25 °C
Temperature compensation	none, nlF, 0.000 … 10.000%/K
Calibration memory	up to 10 calibrations

MultiLine®/MonoLine – D.O. measurement (optical)	
AutoRead	automatic/manual
Calibration memory	up to 10 calibrations
Built-in barometric sensor	

IDS pH sensors	SenTix® 940	SenTix® 940-3	SensoLyt® 900-P	SenTix® 950	SenTix® 980	SenTix® ORP 900	SensoLyt® ORP 900-P
	Ord. no. 103740	Ord. no. 103741	Ord. no. 103748	Ord. no. 103750	Ord. no. 103780	Ord. no. 103790	Ord. no. 103749
Meas. range pH	0.000 … 14.000 ±0.004		2.000 ... 12.000 ±0.004	0.000 … 14.000 ±0.004		mV: ± 1200.0 ± 0.2	
Temp. range	0 … 80 °C	0 … 80 °C	0 … 60 °C	0 … 80 °C	0 … 100 °C	0 … 100 °C	0 … 60 °C
Ref. electrolyte	gel	gel	polymer	3 mol/l KCl	3 mol/l KCl	3 mol/l KCl	polymer
Membrane type	cylindrical	cylindrical	cylindrical	cylindrical	cone	-	cylindrical
Junction	fiber	fiber	hole	ceramic	platinum wire	ceramic	hole
Shaft material	plastic	plastic	glass	plastic	glass	glass	glass
Shaft dimensions	Length 120 mm ± 2 mm, Ø 12 mm ± 0.5 mm						
Temp. accuracy	± 0.2 °C					-	± 0.2 °C
Cable length	1.5 m	3 m	Plug head	1.5 m	1.5 m	1.5 m	Plug head

IDS Conductivity Cells (IP 68)	TetraCon® 925	TetraCon® 925-3	TetraCon® 925-P	LR 925/01
	Order no. 301710	Order no. 301711	Order no. 301716	Order no. 301720
Type	4-electrodes, graphite			2-electrodes, stainless steel
Conductivity	10 µS/cm … 2000 mS/cm ± 0.5% of value			0.01 … 200 µS/cm ± 0.5% o.v.
Spec. resistivity	0.5 Ohm cm …100 kOhm cm ± 0.5% of value			5 kΩ … 100 MΩ ± 0.5% o.v.
Salinity	0.0 … 70.0 ± 0.5% of value			-
TDS	0 … 1999 mg/l, 0.0 … 199.9 g/l ± 0.5% of value			-
Temperature	0 … 100.0 °C ± 0.2 °C			
Shaft material	epoxy			stainless steel
Shaft dimensions	Length 120 mm ± 1 mm, Ø 15.3 mm ± 0.2 mm			120 ± 1 mm, Ø 12 ± 0.2 mm
Cable length	1.5 m	3 m	Plug head	1.5 m

IDS D.O. Sensors (IP 68)	FDO 925	FDO 925-3	FDO 925-P
	Order no. 201300	Order no. 201301	Order no. 201306
Concentration	0.00…20.00 mg/l ± 0.5% of value		
Saturation	0.0 … 200.0% ± 0.5% of value		
Partial pressure	0.0 ... 400 hPa ± 0.5% of value		
Temperature	0 … 50.0 °C ± 0.2 °C		
Membrane type	bevelled		
Shaft material	POM, stainless steel		
Shaft dimensions	Length 140 mm ± 1 mm, Ø 15.3 mm ± 0.2 mm		
Cable length	1.5 m	3 m	Plug head

Given accuracy coresponds with accuracy of sensor electronics

Ordering Information

Model	Description	Order No.
pH 3310 IDS	Professional, field proven IDS pH/mV-meter with backlit graphic display, for mobile application with data logger and USB interface. Single instrument including short instruction manual.	2AD350
pH 3310 IDS Set 1	Professional, field proven IDS pH/mV-meter with backlit graphic display, for mobile application with data logger and USB interface. Meter in carry case with IDS pH electrode SenTix® 940, buffer solution STP 4 and STP 7, stand, beaker, stand, beaker, CD-ROM, driver software for USB, batteries, cable.	2AD351
pH 3310 IDS Set 4	Professional, field proven IDS pH/mV-meter with backlit graphic display, for mobile application with data logger, and USB interface. Meter in carry case with pH-sensor SenTix® 980,buffer solution STP 4 and STP 7, stand, beaker, stand, beaker, CD-ROM, driver software for USB, batteries, cable.	2AD354
Cond 3310 IDS	Professional, field proven conductivity meter for IDS conductivity cells, including data logger, USB-interface. Single instrument including short instruction manual, CD-ROM and batteries.	2CD350
Cond 3310 IDS Set 1	Professional, field proven conductivity meter for IDS conductivity cells, including data logger, USB-interface. Meter with carry case, 4-electrode IDS conductivity cell TetraCon® 925, standard solution 1413 µS/cm at 25 °C, stand, beaker, short instruction manual, CD-ROM and batteries, driver software for USB, cable.	2CD351
Cond 3310 IDS Set 3	Professional, field proven conductivity meter for IDS conductivity cells, including data logger, USB-interface. Meter with carry case, 2-electrode IDS conductivity cell LR 925/01 including flow-through vessel, stand, beaker, short instruction manual, CD-ROM and batteries, driver software for USB, cable.	2CD353
Oxi 3310 IDS	Professional, field proven D.O. meter for digital optical IDS D.O. sensors with backlit graphic display for portable application including data logger and USB interface. Single instrument including short instruction manual, CD-ROM and batteries, cable.	2BD350
Oxi 3310 IDS SET 1	Professional, field proven D.O. meter for digital optical IDS D.O. sensors, with backlit graphic display for portable application including data logger and USB interface. Meter with carry case including optical IDS D.O. sensor FDO 925, stand, beaker. Including short instruction manual CD-ROM, batteries, driver software for USB, cable.	2BD351
Multi 3410	Professional digital multi meter for mobile measurement, single channel input, colour graphic display including data logger and USB interfaces Single instrument with short instruction manual, CD-ROM and rechargeable batteries, driver software for USB, cable.	2FD450
Multi 3410 SET 1	Professional digital multi meter for mobile measurement, single channel input, colour graphic display including data logger and USB interfaces carry case set with digital IDS pH sensor SenTix® 940,QSC-Kit, short instruction manual , stand, beaker CD-ROM, driver software for USB, rechargeable batteries, cable.	2FD451
Multi 3410 SET 4	Professional digital multi meter for mobile measurement, single channel input, colour graphic display including data logger and USB interfaces D.O.-carry case set with optical IDS D.O. probe FDO 925, short instruction manual, stand, beaker, driver software for USB, cable, CD-ROM, rechargeable batteries.	2FD454
Multi 3420	Professional digital multi meter for mobile measurement, dual channel input, colour graphic display including datalogger and USB interfaces Single instrument with short instruction manual, CD-ROM and rechargeable batteries, driver software for USB, cable.	2FD460
Multi 3420 SET C	Professional digital multi meter for mobile measurement, dual channel input, colour graphic display including datalogger and USB interfaces Multi case set with IDS sensors: digital Sensor SenTix® 940, digital conductivity 4-electrode cell TetraCon® 925, QSC-Kit, short instruction manual, stand, beaker, CD-ROM, driver software for USB, rechargeable batteries, cable.	2FD46C
Multi 3420 SET G	Professional digital multi meter for mobile measurement, dual channel input, colour graphic display including datalogger and USB interfaces Multi case set with IDS sensors: digital pH sensor SenTix® 940-3, TetraCon® 925-3, optical D.O. probe FDO 925-3, QSC-Kit, short instruction manual, stand, beaker, CD-ROM, driver software for USB, rechargeable batteries, cable.	2FD46G
Multi 3430	Professional digital multi meter for mobile measurement, dual channel input, colour graphic display including datalogger and USB interfaces Single instrument with short instruction manual, CD-ROM and rechargeable batteries, driver software for USB, cable.	2FD470
Multi 3430 SET F	Professional digital multi meter for mobile measurement, triple channel input, colour graphic display including datalogger and USB interfaces Multi case set with IDS sensors: digital pH sensor SenTix® 940, TetraCon® 925, optical D.O. probe FDO 925, QSC-Kit, short instruction manual, stand, beaker, CD-ROM, driver software for USB, rechargeable batteries, cable.	2FD47F

What can Xylem do for you?

We're 12,900 people 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.xyleminc.com

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