

MultiLine[®]

INTELLIGENT **I**
DIGITAL **D**
SENSORS **S**

Redefining Multi-parameter
Measurements

Multi-
parameter

Intelligent

Digital

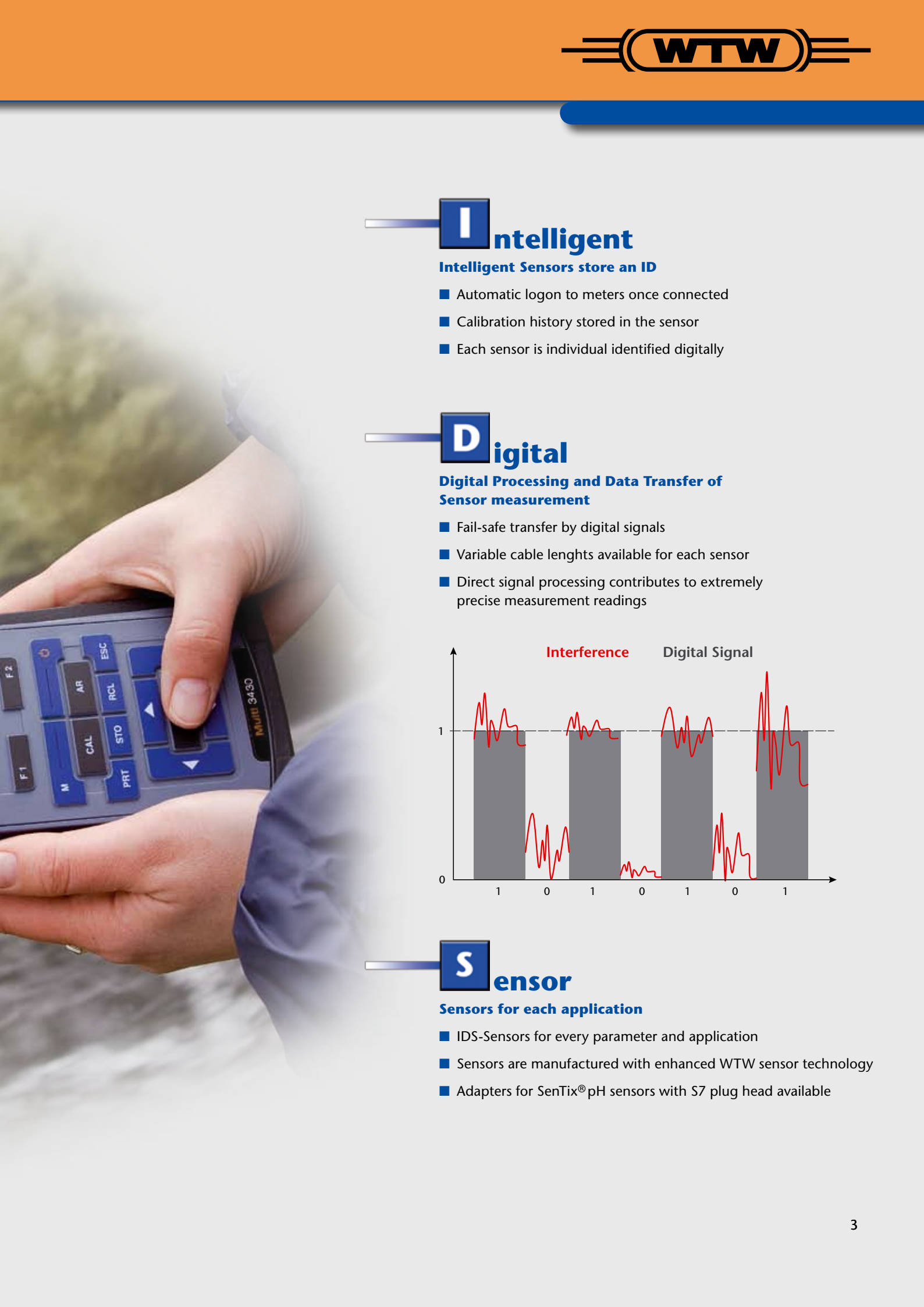
**NEW: FDO[®] 925 Field optical
D.O. sensor**

MultiLine[®] INTELLIGENT DIGITAL SENSORS

Multi 3410, 3420, 3430: The New Multi-parameter Standard

- Rugged multi-parameter meters for pH, D.O. and conductivity (available as 1-, 2- or 3-channel instrument)
- Various measurement parameter configurations available for use
- High resolution color display
- Convenient data transfer via USB-Stick





I ntelligent

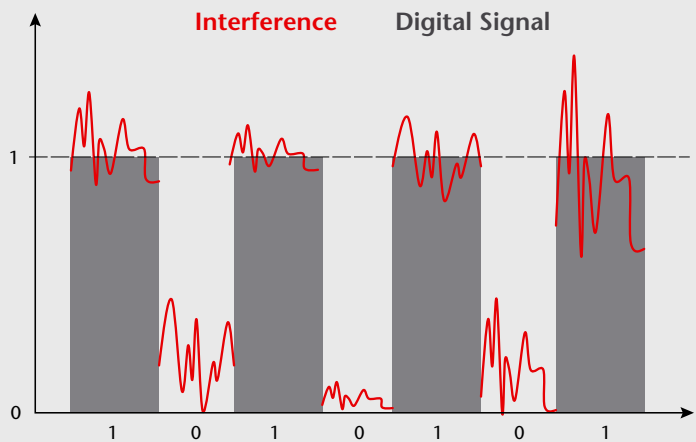
Intelligent Sensors store an ID

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

D igital

Digital Processing and Data Transfer of Sensor measurement

- Fail-safe transfer by digital signals
- Variable cable lengths 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 channel: It's your choice!

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



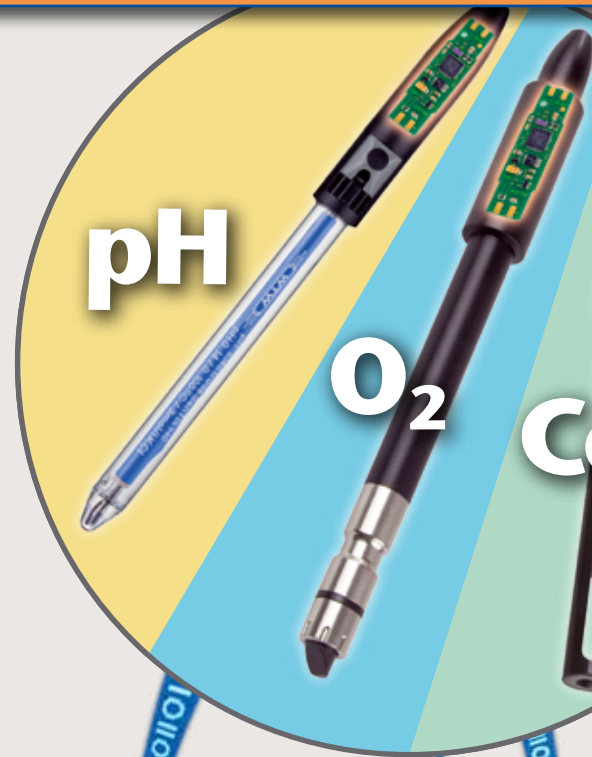
CMC (Continuous Measurement Control):
Measure in the optimum pH range

- 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



Single – Multi 3410

- 1 Channel
- 3 Parameters

Dual – Multi 3410

- 2 Channels
- 3 Parameters

ond

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. Filter functions for output of user defined data
- USB interface: Data transfer directly to USB stick or selected printers
- Mini USB interface: Data transfer to PC or for firmware update

Multi 3420

els
eters in any combination

Triple – Multi 3430

- 3 Channels
- 3 Parameters in any combination

Uniquely Distinctive: IDS-Sensors

The new IDS sensors combine proven technology with new advantages

- High quality, enhanced sensor technology combined with most modern measurement electronics
- IDS sensors contain their serial number and their calibration records
- Measurement integrity benchmarking of IDS pH sensor by QSC (Quality Sensor Control).
- IDS-Conductivity measurement: Two sensors for coverage of all applications from pure water to highly conducting solutions

pH electrodes		
IDS-Sensor	Conventional sensors	Cable length
SenTix® 940	SenTix® 41/42	1.5 m
SenTix® 940-3	SenTix® 41/42 -3	3 m
SensoLyt® 900-6	–	6 m (IP 68)
SensoLyt® 900-25	–	25 m (IP 68)
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 (IP 68)		
IDS-Sensor	Conventional sensors	Cable length
TetraCon® 925	TetraCon® 325	1.5 m
TetraCon® 925-3	TetraCon® 325-3	3 m
TetraCon® 925-6	TetraCon® 325-6	6 m
TetraCon® 925-25	–	25 m
LR 925/01	LR 325/01	1.5 m

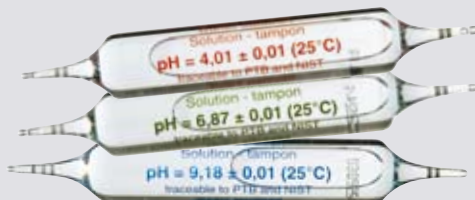


Useful accessories

Universal protective armoring for depth measurement.



The QSC-Kit with precision buffers for IDS pH-sensors allows clear benchmarking of their condition.



Adapter allows the connection of SenTix® Plus special sensors with plug head to work like conventional sensor without IDS functionality.



The new FDO® 925: The optical D.O. probe for field and laboratory

- Extremely fast ($T_{99} < 60s$) and precise optical D.O. probe – outstanding for field and lab applications
- Factory calibrated sensor cap with built-in data chip
- Proven green light technology for long operation life of sensor
- Slender design – suitable for Winkler bottles
- Immune to H_2S fouling
- Bevelled membrane repels interference that can be caused by air bubbles



FDO₂

Optical D.O. sensors (IP 68)	
IDS-Sensor	Cable length
FDO 925	1.5 m
FDO 925-3	3 m
FDO 925-6	6 m
FDO 925-25	25 m



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

MultiLine® – D.O. measurement (optical)	
Concentration	0.00 ... 20.00 mg/l
Saturation	0.0 ... 200.0%
Partial pressure	0 ... 400.0 hPa
Temperature	0.0 ... 50.0 °C
AutoRead	automatic/manual
Calibration memory	up to 10 calibrations
Built-in barometric sensor	

MultiLine® – pH measurement	
pH	-2.0 ... 20.0 pH -2.00 ... 20.00 pH -2.000 ... 20.000 pH
mV	±2000; ±1250.0
Temperature	-5.0 ... 105.0 °C
AutoRead	automatic/manual
CMC	yes
QSC	yes
Calibration	1-, 2-, 3-, 4-, 5-point; WTW Technical, DIN/NIST, additionally 20 buffer sets
Calibration memory	up to 10 calibrations

MultiLine® – Conductivity measurement	
Conductivity	0.0 ... 2000 mS/cm
Additionally	0.00 ... 19.99 µS/cm, K=0.1 cm ⁻¹
Spec. resistivity	0.00 ... 20 MΩ cm
Cell constants	automatic
Salinity	0.0 ... 70.0 (acc. IOT)
TDS	0 ... 1999 mg/l, 0 ... 199.9 g/l
Temperature	-5.0 ... 105.0 °C
AutoRead	automatic/manual
T _{ref}	20 °C/25 °C
Temperature compensation	none, nIF, 0.000 ... 10.000 %/K
Calibration memory	up to 10 calibrations

IDS pH sensors	SenTix® 940	SenTix® 940-3	SensoLyt® 900-6	SensoLyt® 900-25	SenTix® 950	SenTix® 980	SenTix® ORP 900
	Ord. no. 103740	Ord. no.103741	Ord. no. 103742	Ord. no. 103745	Ord. no.103750	Ord. no. 103780	Ord. no. 103790
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 ... 60 °C	0 ... 80 °C	0 ... 100 °C	0 ... 100 °C
Ref. electrolyte	gel	gel	polymer	polymer	3 mol/l KCl	3 mol/l KCl	3 mol/l KCl
Membrane type	cylindrical	cylindrical	cylindrical	cylindrical	cylindrical	cone	-
Junction	fiber	fiber	hole	hole	ceramic	platinum wire	ceramic
Shaft material	plastic	plastic	glass	glass	plastic	glass	glass
Shaft dimensions	length 120 mm ± 2 mm, Ø 12 mm ± 0.5 mm						
Temp. accuracy	± 0.2 °C						
Cable length	1.5 m	3 m	6 m (IP68)	25 m (IP68)	1.5 m	1.5 m	1.5 m

IDS Conductivity Cells (IP 68)	TetraCon® 925	TetraCon® 925-3	TetraCon® 925-6	TetraCon® 925-25	LR 925/01
	Order no. 301710	Order no. 301711	Order no. 301712	Order no. 301715	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	6 m	25 m	1.5 m

IDS D.O. Sensors (IP 68)	FDO® 925	FDO® 925-3	FDO® 925-6	FDO® 925-25
	Order no. 201300	Order no. 201301	Order no. 201302	Order no. 201305
Concentration	0.00...20.00 mg/l ± 0.5 % of value			
Saturation	0.0 ... 200.0 % ± 0.5 % of value			
Partial pressure	0.0 ... 200 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	6 m	25 m