

# ELECTRONIC METER



## ELECTROCHEMICAL MEASUREMENT

**PH, CONDUCTIVITY (EC), SALINITY (TDS), TEMPERATURE, ORP (REDOX), SALT, DO (DISSOLVED OXYGEN)**

**ATC (AUTOMATIC TEMPERATURE COMPENSATION) DEPENDING ON THE MODEL**

**FT7200**  
 -2.00 – 16.00 pH  
 -1000 to +1000 mV  
 0 – 2000 µS/cm  
 2.00 – 20.00 mS/cm  
 0 – 1300 mg/l (TDS)  
 0 – 1300 mg/l (TDS)  
 1.3 – 13.00 g/l (TDS)  
 0 – 1000 mg/l (Salt)  
 1.00 – 12.00 g/l (Salt)  
 0 – 90°C

**FT7021**  
 0 – 2000 µS/cm  
 2.00 – 20.00 mS/cm  
 0 – 1300 mg/l (TDS)  
 1.3 – 13.00 g/l (TDS)  
 0 – 1000 mg/l (Salt)  
 1.00 – 12.00 g/l (Salt)  
 0 – 90°C

**FT7011**  
 -2.00 – 16.00 pH  
 -1000 to +1000 mV  
 0 – 90°C

**FT7031**  
 0.00 – 20.00 mg/l (DO)  
 0 – 200% (O<sub>2</sub>)  
 0.0 – 90.0°C

**FT11**  
 pH 0.0 – 14.0

**FT34 | FT36**  
 TDS 0 – 2000 | 0 – 10000 mg/l

**FT33 | FT35**  
 0 – 1999 µS/cm | 0.00 – 19.99 mS/cm

**FT6012**  
 pH 0.0 – 14.00

**FT6011**  
 pH 0.0 – 14.0

## FEATURES

Without requiring additional reagents (tablets, drops, etc.) Water-i.d.® Electronic Meters offer a professional way to measure various water parameters, such as conductivity, salinity (total dissolved solids), pH, Temperature and ORP (Redox). The test result is displayed on the device within seconds after dipping it in the water sample.

The sensitive pH and ORP electrodes should always be kept moist\* and all Electronic Meter models should be calibrated regularly – at best before each measurement – with Water-i.d.® standard solutions. Depending on the model used, the measured values are automatically temperature compensated.



## CONTENT

ITEM NO.	PRODUCT DESCRIPTION	MEASUREMENT RANGE	RESOLUTION	PRECISION	CALIBRATION	AUT. TEMP. COMPENS.
FT11	Electronic pH Meter	pH (0.0 – 14.0)	0.1 pH	+/- 0.1 pH	1 point, manual	---
FT34	Electronic TDS Meter (Total Dissolved Solids)	TDS (0 – 1999 mg/l) (0.0 – 1.999 g/l)	1 mg/l	+/- 2% FS	1 point, manual	automatic 0 – 50°C with β = 2%/°C
FT36	Electronic TDS Meter (Total Dissolved Solids)	TDS (0 – 10000 mg/l) (0.00 – 10.00 g/l)	0.01 g/l	+/- 2% FS	1 point, manual	automatic 0 – 50°C with β = 2%/°C
FT33	Electronic EC Meter (Electronic Conductivity)	EC (0 – 1999 µS/cm) (0.0 – 1.999 mS/cm)	1 µS/cm	+/- 2% FS	1 point, manual	automatic 0 – 50°C with β = 2%/°C
FT35	Electronic EC Meter (Electronic Conductivity)	EC (0 – 19990 µS/cm) (0.00 – 19.99 mS/cm)	0.01 mS/cm	+/- 2% FS	1 point, manual	automatic 0 – 50°C with β = 2%/°C
FT6011**	Electronic pH Meter	pH (0.0 – 14.0)	0.1 pH	+/- 0.1 pH	1 point, manual	---
FT6012**	Electronic pH Meter	pH (0.00 – 14.00)	0.02 pH	+/- 0.01 pH	1 point, manual	automatic 0 – 90°C with β = 2%/°C
FT7011**	Electronic Meter for pH-, ORP-(Redox) and Temperature	pH (-2.00 – 16.00) ORP (+/- 1000mV) Temp. (0 – 90 °C)	0.02 pH 1 mV 0.1°C	+/- 0.01 pH +/- 2 mV +/- 0.2 °C	2 point, automatic	automatic 0 – 90°C with β = 2%/°C
FT7021**	Electronic Meter EC, TDS, Salt Temperature	EC (0 – 2000 µS/cm)   (2.00 – 20.00 mS) TDS (0 – 1300 mg/l)   (1.30 – 13.00 g/l) Salt (0 – 1000 mg/l)   (1.00 – 12.00 g/l) Temp. (0 – 90 °C)	(1 µS/cm)   (0.01 mS) (1 mg/l)   (0.01 g/l) (1 mg/l)   (0.01 g/l) 0.1°C	+/- 2 % EC +/- 2 % TDS +/- 2 % Salt +/- 0.2 °C	2 point, automatic	automatic 0 – 50°C with β = 2%/°C
FT7031**	Electronic Meter DO, O <sub>2</sub> Temperature	DO (0.00 – 20.00 mg/l) O <sub>2</sub> (0 – 200%) Temp. (0 – 90 °C)	0.01 mg/l 0.1 % 0.1°C	+/- 0.1 mg/l +/- 2 % O <sub>2</sub> +/- 0.2 °C	2 point, automatic	automatic 0 – 50°C with β = 2%/°C
FT7200**	Electronic Meter pH, ORP, EC, TDS, Salt Temperature	pH (-2.00 – 16.00) ORP (+/- 1000mV) EC (0 – 2000 µS/cm)   (2.00 – 20.00 mS) TDS (0 – 1300 mg/l)   (1.30 – 13.00 g/l) Salt (0 – 1000 mg/l)   (1.00 – 12.00 g/l) Temp. (0 – 90 °C)	0.02 pH 1 mV (1 µS/cm)   (0.01 mS) (1 mg/l)   (0.01 g/l) (1 mg/l)   (0.01 g/l) 0.1 °C	+/- 0.01 pH +/- 2 mV +/- 2 % EC +/- 2 % TDS +/- 2 % Salt +/- 2 °C	2 point, automatic	automatic 0 – 90°C pH/mV 0 – 50°C EC TDS Salt β = 2%/°C

\*Ideally, the electrode is stored in a 3-5 molar potassium chloride solution so that the concentration gradient and thus the ion migration out of the electrode is as low as possible \*\*With 21x18 mm display, IP57 waterproof, exchangeable electrode



Code	Product Description	Measurement-Range	Resolution	Precision	Calibration	Aut. Temp.-Compens.	Batteries	Conditions	Dimensions (Weight)	Reference Solut.
FT11	Electronic pH Meter	pH (0.0 - 14.0)	0.1 pH	+/- 0.1 pH	1 point manual	---	4 x 1.5 V	0 - 50°C RH 100%	153 x 24 mm 45g	7.00 pH
FT34	Electronic TDS Meter (Total dissolved solids)	TDS 0 - 1999 mg/l) (0.0 - 1,999 g/l)	1 mg/l	+/- 2% FS	1 point manual	automatic 0 - 50°C with $\beta = 2\%/^{\circ}\text{C}$	4 x 1.5 V	0 - 50°C RH 100%	153 x 24 mm 45g	1382 ppm
FT36	Electronic TDS Meter (Total dissolved solids)	TDS (0 - 10000 mg/l) (0.00 - 10.00 g/l)	0.01 g/l	+/- 2% FS	1 point manual	automatic 0 - 50°C with $\beta = 2\%/^{\circ}\text{C}$	4 x 1.5 V	0 - 50°C RH 100%	153 x 24 mm 45g	6.44 ppt
FT33	Electronic EC Meter (Electronic Conductivity)	EC (0 - 1999 $\mu\text{S}/\text{cm}$ ) (0.0 - 1,999 mS/cm)	1 $\mu\text{S}/\text{cm}$	+/- 2% FS	1 point manual	automatic 0 - 50°C with $\beta = 2\%/^{\circ}\text{C}$	4 x 1.5 V	0 - 50°C RH 100%	153 x 24 mm 45g	1413 $\mu\text{S}/\text{cm}$
FT35	Electronic EC Meter (Electronic Conductivity)	EC (00.00 - 19.99 mS/cm) (0 - 19990 $\mu\text{S}/\text{cm}$ )	0.01 mS/cm	+/- 2%FS	1 point manual	automatic 0 - 50°C with $\beta = 2\%/^{\circ}\text{C}$	4 x 1.5 V	0 - 50°C RH 100%	153 x 24 mm 45g	12.88 mS/cm
FT5031	Elektronic TDS Meter (Todal Dissolved Solids)	TDS 0 - 19990 ppm (mg/l)	10 ppm (mg/l)	+/- 1% FS	1 point manual	Yes	9V	0 - 50°C RH 100%	158 x 40 mm 85g	1382 ppm

Kits on this page do NOT contain calibration solution.  
If required, calibration solution must be ordered separately!

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Code	Product Description	Measurement-Range	Resolution	Precision	Calibration	Aut. Temp.-Compens.	Batteries	Conditions	Dimensions (Weight)	Reference Solution
FT6011*	Electronic pH Meter	pH (0.0 - 14.0)	0.1 pH	+/- 0.1 pH	1 point, manual	---	2 x 3V	0 - 50 °C RH 100%	33.5x170 mm 85 g	pH 7.00
FT6012*	Electronic pH Meter	pH (0.00 - 14.00)	0.01 pH	+/- 0.02 pH	1 point, manual	automatic 0 - 90°C with $\beta=2\%/^{\circ}\text{C}$	2 x 3V	0 - 50 °C RH 100%	33.5x170 mm 85 g	pH 7.00
FT7011**	Electronic Meter for pH-, ORP-(Redox) and Temperature	pH (-2.00 - 16.00) ORP (+/- 1000mV) Temp. (0 - 90 °C)	0.01 pH 1 mV 0.1°C	+/- 0.02 pH +/- 2 mV +/- 0.2 °C	2 point, automatic	automatic 0 - 90°C with $\beta=2\%/^{\circ}\text{C}$	4 x 1.5V	0 - 50 °C RH 100%	195x40x36 mm 135g	pH 4.00/7.00/10.01 +468mV
FT7021**	Electronic Meter EC, TDS, Salt Temperature	EC (0-2000 $\mu\text{S}/\text{cm}$ )   (2.00 - 20.00 mS) TDS (0 - 1300 mg/l)   (1.30 - 13.00 g/l) Salt (0 - 1000 mg/l)   (1.00 - 12.00 g/l) Temp. (0 - 90 °C)	(1 $\mu\text{S}/\text{cm}$ )   (0.01 mS/cm) (1 mg/l)   (0.01 g/l) (1 mg/l)   (0.01 g/l) 0.1°C	+/- 2 % EC +/- 2 % TDS +/- 2 % Salt +/- 0.2 °C	2 point, automatic	automatic 0 - 50°C with $\beta=2\%/^{\circ}\text{C}$	4 x 1.5V	0 - 50 °C RH 100%	195x40x36 mm 135g	1413 $\mu\text{S}/\text{cm}$ 12.88 mS/cm
FT7031**	Electronic Meter DO, O <sub>2</sub> Temperature	DO (0.00 - 20.00 mg/l) O <sub>2</sub> (0 - 200%) Temp. (0 - 90 °C)	0.01 mg/l 0.1 % 0.1°C	+/- 0.2 mg/l +/- 2 % O <sub>2</sub> +/- 0.2 °C	2 point, automatic	automatic 0 - 50°C with $\beta=2\%/^{\circ}\text{C}$	4 x 1.5V	0 - 50 °C RH 100%	195x40x36 mm 135g	NONE (100% in air)
FT7200**	Electronic Meter pH, ORP, EC, TDS, Salt Temperature	pH (-2.00 - 16.00) ORP (+/- 1000mV) EC (0-2000 $\mu\text{S}/\text{cm}$ )   (2.00 - 20.00 mS) TDS (0 - 1300 mg/l)   (1.30 - 13.00 g/l) Salt (0 - 1000 mg/l)   (1.00 - 12.00 g/l) Temp. (0 - 90 °C)	0.01 pH 1 mV (1 $\mu\text{S}/\text{cm}$ )   (0.01 mS/cm) (1 mg/l)   (0.01 g/l) (1 mg/l)   (0.01 g/l) 0.1°C	+/- 0.02 pH +/- 2 mV +/- 2 % EC +/- 2 % TDS +/- 2 % Salt +/- 0.2 °C	2 point, automatic	automatic 0 - 90°C (pH/mV) 0 - 50°C (EC/TDS/Salt) $\beta=2\%/^{\circ}\text{C}$	4 x 1.5V	0 - 50 °C RH 100%	195x40x36 mm 135g	pH 4.00/7.00/10.01 1413 $\mu\text{S}/\text{cm}$ 12.88 mS/cm +468mV

\* In a sales box  
inclusive: batteries, KCl refill bottle, English manual, calibration certificate, calibration solution pH 7.00

\*\* In a grey plastic case  
inclusive: batteries, KCl refill bottle, English manual, rope to hang the meter around the neck,  
calibration solutions (see table)

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# CALIBRATION SOLUTIONS



Code	Product Description	FT6011	FT6012	FT7011	FT7021	FT7200	FT11	FT33	FT34	FT35	FT36	20ml*	100ml	250ml	500ml	1000ml	10 l
EMpHbuf100	„pH 1.00" calibration solution												•		•	•	•
EMpHbuf200	„pH 2.00" calibration solution												•		•	•	•
EMpHbuf300	„pH 3.00" calibration												•		•	•	•
EMpHbuf400	„pH 4.00" calibration solution	•	•	•		•						•	•		•	•	•
EMpHbuf600	„pH 6.00" calibration solution												•		•	•	•
EMpHbuf700	„pH 7.00" calibration solution	•	•	•		•	•					•	•		•	•	•
EMpHbuf800	„pH 8.00" calibration solution												•		•	•	•
EMpHbuf900	„pH 9.00" calibration solution												•		•	•	•
EMpHbuf1000	„pH 10.00" calibration solution	•	•	•		•						•	•		•	•	•
EMpHbuf1100	„pH 11.00" calibration solution												•		•	•	•
EMpHbuf1200	„pH 12.00" calibration solution												•		•	•	•
EMpHbuf1300	„pH 13.00" calibration solution												•		•	•	•
EMtdsbuf1382	„TDS 1382 ppm" calibration solution											•	•		•	•	•
EMtdsbuf644	„TDS 6.44 ppt" calibration solution											•	•		•	•	•
EMecbuf1413	„EC 1413 µS/cm" calibration solution				•	•		•				•	•		•	•	•
EMecbuf1288	„EC 12.88 mS/cm" (KCl 0.1 mol/l) cal. sol.				•	•						•	•		•	•	•
EMorpbu468	„ORP +468mV" calibration solution			•	•							•	•		•	•	•
EMorpbu220	„ORP +220mV" calibration solution													•			

250ml / 500ml / 1 litre bottles are also available in  
\*20ml are provided in return bottles

All calibration solutions are Made in Germany  
and NIST traceable!

The following calibration solutions  
are available on request:

- KCl / N-Propanol 15 µS/cm
- KCl 0.001 mol/l 147 µS/cm
- KCl 700 µS/cm
- KCl 1 mS/cm
- KCl 0.01 mol/l 1.413 mS/cm
- KCl 0.02 mol/l 2.76 mS/cm
- KCl 25 mS/cm
- KCl 50 mS/cm
- KCl 1 mol/l 118.8 mS/cm
- KCl 2 mol/l 212 mS/cm
- KCl 3 mol/l
- KCl 3 mol/l Gel for Chlorine electrodes
- KCl 3 mol/l with AgCl
- KCl saturated
- NaCl 3 mol/l

The following cleaning solutions  
are available on request:

- Pepsin/Hydrochloric Acid (protein precipitation)
- Diaphragma cleaner
- Nitrification inhibitors
- Regeneration solution

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## CALIBRATION SOLUTIONS

Code	Product Description	FT6011	FT6012	FT7011	FT7021	FT7200	FT11	FT33	FT34	FT35	FT36
EMECbuf1288-20-25GEN	25 Pack: 20ml sachet EC-calibration-solution 12.88 mS/cm				•	•					
EMECbuf1288-20-25WID	25 Pack (Water-i.d.® display): EC-calibration-solution 12.88 mS/cm, sachet with 20 ml				•	•					
EMORPbuf468-20-25WID	25 Pack (Water-i.d.® display): ORP (Redox)-calibration-solution +468mV. Sachet with 20 ml						•		•		
EMpHbuf1000-20-25WID	25 Pack (Water-i.d.® display): pH-calibration-solution "10.01 pH" (+/- 0.03 pH). Sachet with 20 ml	•	•	•		•					
EMpHbuf400-20-25WID	25 Pack (Water-i.d.® display): pH-calibration-solution 4.00 pH (+/- 0.02 pH). Sachet with 20 ml	•	•	•		•					
EMpHbuf700-20-25WID	25 Pack (Water-i.d.® display): pH-calibration-solution 7.00 pH (+/- 0.02 pH). Sachet with 20 ml	•	•	•		•	•				
EMtdsbuf1382-20-25WID	25 Pack (Water-i.d.® display): TDS-calibration-solution 1382 ppm. Sachet with 20 ml								•		
EMtdsbuf644-20-25WID	25 Pack (Water-i.d.® display): TDS-calibration-solution 6.44 ppt. Sachet with 20 ml										•
EMecbuf1413-20-25WID	25-Pack (Water-i.d.® display): 20ml sachet EC calibration-solution 1413 µS/cm				•	•	•				



## SPARE PARTS

Item No.	Product description	Quantity
FTGD-7000EP4	pH Electrode for FT7011 & FT7200	1
FTGD-7000EO	ORP Electrode for FT7011 & FT7200	1
FTGD-7000EC	EC cell for 7000 series	1
FTGD-6000EP2	pH Electrode for FT6011	1
FTGD-6000EP4	pH Electrode for FT6012	1
FTGD-7000EDO	DO Electrode for FT7031	1
FTGD-DO70m	DO membrane cap	1
FTGD-DO70E	DO Electrode solution (50ml)	1
EMECneutr30	30ml dropper bottle "Electronic Conductivity Neutralizer"	1
EMKCL3Mbuf-500	Electrolyte-Solution "KCl 3 mol/l", 500 ml bottle	1
EMKCL3Mbuf-1000	Electrolyte-Solution "KCl 3 mol/l", 1000 ml bottle	1
EMKCL3Mbuf-10000	Electrolyte-Solution "KCl 3 mol/l", 10 liter cubitainer	1

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