

HANDHELD pH METER

Models: HM-20P/21P

These instruments form part of the P20 series family of hand-held, waterproof meters.

FEATURES

• **Waterproof construction (IP67)**

Can be used outside in all weather conditions, no need to worry if the meter is dropped into rivers, lakes or seas. Sensor can be immersed to a depth of 10m (excluding certain special sensors).

• **Full validation supporting functions**

Supports ISO-14000/9001.

• **Built-in clock function**

Time and measured value are constantly displayed allowing real-time observation. Data storage enables recalling of measurement times. Easy confirmation of previous calibration time.



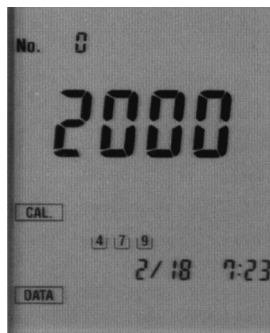
Time is always displayed.

• **Data storage function built into sensor itself (HM-21P)**

The sensor itself can store information including type, lot no. and calibration data. This information can be printed out when connected to an optional printer.

• **Calibration data display**

The latest calibration data and results can be displayed. In addition, data from previous calibration history is available from the built-in memory sensor "Calibration Memo". These features provide smooth operation and instrument management.

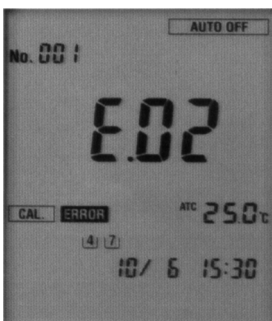


Latest calibrated update.

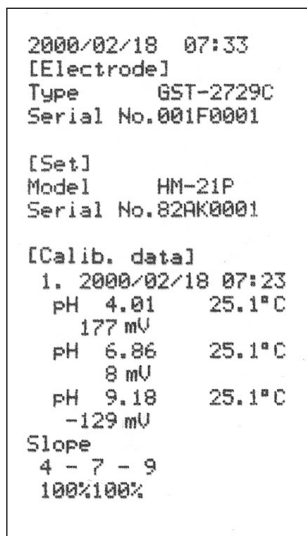
• **Calibration error display**

The sensor condition is automatically determined during calibration and an error code is displayed if a problem is detected.

Maintenance and sensor replacement can be carried out exactly when required optimising instrument management.



Error No. display.



Example of printing on pH calibration record.



• **Wide range of standard optional features.**

- Auto power off function on/off setting.
- JIS/International standards for pH solution selectable (pH meter).
- Keypad lock function.
- Temperature Calibration function (single point).
- Auto-hold function for automatic stability judgement of measured value.
- Optional external printer (uses plain paper).
- Optional data acquisition software (G-LOG2) allows data to be transferred to PC (CSV format). Once transferred to PC, the data can be manipulated and presented using third party software such as spreadsheets etc.

EXPANDABLE FUNCTIONS

Function (HM-21P only)	Specifications
AC adapter	: Uses an exclusive adapter
Printer output *	: Printer output
RS-232C interface*	
Communication method	: start/stop transmission.
Baud rate	: 9,600 bps Character.
Length	: 8 bit
Parity	: None
Stop bit	: 2
Analog output pH	: pH0~14→ ± 700mV.
ORP	: 1999mV→ ± 1V
Temp.	: 0~99.9°C→ 0~1V.
	: Specified analog output cable

* Can not be used simultaneously.

OPTIONS

For smooth field measurement, indoor measurement and/or data processing needs.

- **External printer EPS-G ****
Uses normal paper suitable for long-term storage. 60mm effective chart.
- **Data acquisition software G-LOG2 ****
This enables the data to be downloaded in CSV format into a PC, enabling data management using third party software such as spreadsheets, databases etc..
- **RS-232C cable 2m long ****
D-sub9P type connector at PC side.
- **AC adapter OAA00001 ****
- **Electrode stand OIF00001**
- **Electrode holder OIB00001**
- **Electrode attachment tip OIB00007**
- **Stick holder OIB00009**
Sensor with 5m or more lead wire is required.
- **Twin stick holder OIB00010**
Enables use of two electrodes.
- **Anchor OIC00001**
For waterproof type pH, ORP sensor
- **Carrying case ODA00001**
Meter, sensor etc... are encased in this case.
- **Soft case SC-10P**
The meter with sensor connected is encased.
- **Analog output cable ****
For connecting to recorder.
- **pH checker PC-1G**
- **Temp. check plug TC-1G**

** Disconnectable to HM-20P/RM-20P.

SPECIFICATIONS

Measuring Method	: glass electrode (pH)
Measuring Range	
HM-20P	: pH0.00~14.00
HM-21P	: pH0.00~14.00, ORP 0~±1999mV
Repeatability	
HM-20P	: pH: ±0.02pH,
HM-21P	: pH: ±0.02pH, ORP: ±2mV

Temperature

Measurement range	: 0~99.9°C
Repeatability	: ±0.2°C

Temperature Compensation

HM-20P	: pH: auto/manual
HM-21P	: pH: auto/manual, ORP: Nil

Calibration

	: pH: up to 3 points.
--	-----------------------

Data Storage

	: 300 data points
--	-------------------

Auto Hold Function

	: provided
--	------------

Interval Function

	: provided (5 secs~99mins, 59secs.)
--	-------------------------------------

Clock Function

	: provided
--	------------

Power Source

HM-20P	: AA size dry battery x 2pcs.
HM-21P	: AA size dry battery x 2pcs (or optional AC adapter)

RS-232C Output

HM-20P	: Not available
HM-21P	: Provided

Analogue Output

HM-20P	: Not available
HM-21P	: Provided

Water proof

	: IP67
--	--------

Ambient Temperature

	: 0~40°C
--	----------

Dimensions

	: Approx. 187.5(w) x 37.5(h) x 75(w) mm
--	---

Weight

	: Approx. 300~310g
--	--------------------

STANDARD ACCESSORIES

pH electrode GST-2729C (lead length 1m) (21p)	1 ea.
pH electrode GST-2739C (lead length 1m) (20p)	1 ea.
pH standard solution, 100ml, pH4.01	1 ea.
pH standard solution, 100ml, pH6.86	1 ea.
3.3mol/L KCL solution, 50ml	1 ea.
Beaker, 50ml	3 ea.
AA size dry battery	2 ea.

OPTIONS

- pH electrode GST-2729C/2739C (lead length 5 or 11m)
- ORP electrode PST-2729C/2739C (lead length 1,5 or 11m)
- External printer
- AC adapter
- Analogue output cable
- Stick holder
- Twin stick holder
- Carrying case

DKK-TOA CORPORATION

International Operations:
DKK-TOA Corporation
29-10, 1-Chome, Takadanobaba, Shinjuku-ku, Tokyo 169-8648 Japan
Tel: +81-3-3202-0225 Fax: +81-3-3202-5685

Representative Office (Europe):
DKK-TOA European Representative
St. Johns Innovation Centre, Cowley Rd., Cambridge CB4 0WS UK.
Tel: +44 (0)1223-526471 Fax: +44 (0)1223-709239



CAUTION

Do not operate products before consulting instruction manual.