### **OPERATIONS MANUAL**

ba76144e01 02/2013

# 4010-2/3 pH Adapter DIN / BNC

PH ADAPTER FOR MULTILAB 4010-2 AND MULTILAB 4010-3



a xylem brand



For the most recent version of the manual, please visit <u>www.ysi.com</u>.

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## **General information**

The 4010-2/3 pH Adapter enables the connection of an analog pH electrode (with or without temperature sensor) to the digital meters MultiLab 4010-2 and 4010-3.

Two models of the adapter are available:

regardless of the mounted electrode.

Connection of the analog electrode	Adapter
DIN	4010-2/3 pH Adapter DIN
BNC	4010-2/3 pH Adapter BNC

# Automatic adapter recognition

The measuring electronics with the stored adapter data is in the 4010-2/3 pH Adapter. The data include, among other things, the adapter type and series number. With each calibration, the calibration data is written in the adapter and the calibration history is recorded. The data are called up by the meter and used for measurement and documentation of measured values.

If the adapter firmware is enhanced by YSI, it can be updated via the meter.



#### Note

More detailed information on the automatic adapter recognition or sensor recognition is given in the operating manual of the meter.

The meter uses for measurement the calibration data stored in the adapter,

Calibration data and calibration history



#### Note

Therefore, you always have to recalibrate after exchanging the pH electrode. Otherwise, the IDS pH sensor will work with the calibration data of the previously calibrated electrode. This could lead to incorrect measured values. When evaluating the calibration history, please note that in between calibrations, the electrode may have been exchanged.

## Commissioning, measuring, calibration



1

3 Temperature sensor (NTC 30)

1 pH electrode

2 Reference electrode

2 3



#### Note

The further commissioning steps are given in the operating manual of the pH electrode.

- 4 Connect the electrode to the socket of the adapter.
- 5 Calibrate the electrode according to the operating manual of the meter.

All further details are given in the operating manuals of the pH electrode and meter.

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## **Technical data**

General data	Electrodes that can be connected	All pH electrodes with DIN or BNC plug head connector
Application	pH measuring range	Depending on the electrode used

Application	pH measuring range	Depending on the electrode used
characteristics	Allowed temperature range	0 80 °C (32 176 °F)
	Typical application	Applications with special pH elec- trodes

Measuring characteristics of	Measured pa- rameter	Measuring range	Resolution	Accuracy (± 1 digit)
the IDS measuring electronics in the	рН	-2.000 20.000	0.001	± 0.004
4010-2/3 pH	U [mV]	-1000.0 +1000.0	0.1	± 0.2
Adapter	T [°C]		0.1	± 0.2

Material, electrical	Material of the plug enclosure	ABS
connection	Electrode connection	DIN or BNC
	Meter connection	Mounting slot with contacts

Electrical data of	Input resistance	> 5 * 10 <sup>12</sup> ohm
the electrode connection	Input current	< 1 * 10 <sup>-12</sup> A



#### Note

The latest version of the present operating manual can be found on the Internet under <u>www.YSI.com.</u>

## **Contact Information**

#### **Ordering & Technical Support**

<u>Telephone</u> :	(800) 897-4151 (937) 767-7241 Monday through Friday, 8:00 AM to 5:00 PM ET
<u>Fax</u> :	(937) 767-1058
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<u>Mail</u> :	YSI Incorporated 1725 Brannum Lane Yellow Springs, OH 45387 USA
Internet:	www.ysi.com

When placing an order please have the following information available:

YSI account number (if available)	Name and Phone Number
Model number or brief description	Billing and shipping address
Quantity	Purchase Order or Credit Card

#### Service Information

YSI has authorized service centers throughout the United States and Internationally. For the nearest service center information, please visit <u>www.ysi.com</u> and click 'Support' or contact YSI Technical Support directly at 800-897-4151.

When returning a product for service, include the Product Return form with cleaning certification. The form must be completely filled out for an YSI Service Center to accept the instrument for service. The Product Return form may be downloaded at <u>www.ysi.com</u> and clicking on the 'Support' tab.

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