



The Concept

With the modules of the series **PHPO** you can parallelly record pH, pO₂ and T measurement readings of up to 16 channels in high precision. The compact modular design guarantees smallest possible space requirements.

■ Parallel, Highly Precise and Compact

Standard pH and pO₂ sensors can be connected. Additionally, all modules provide two connections for Pt100 temperature sensors and two universal 4-20mA connections. The temperature compensation can be calculated either via the Pt100 sensors or via the integrated temperature measurement of the pO₂ sensors.

■ One of Two Point Calibration

All sensors can be calibrated individually with a one or two point calibration. The calibration values are retained even when the device is switched off.

■ Simple Powerful PC-Software

Every PHPO module has its own microprocessor. PHPO modules can be operated free standing or using an optional PC with the **DASGIP-EasyAccess** software, which is included in the delivery. PHPO Modules are tried and tested components of the DASGIP Cultivation Systems.

The Applications

The modules of the PHPO series have been developed especially for laboratory applications in microbiology and cell culture.

■ Microbiology and Cell Culture

Parallel and compact design plus the high precision make the PHPO Modules perfect for all applications where several pH, pO₂ and/or temperature values of fluids have to be monitored and logged.

■ Chemistry, Foods, Cosmetics, ...

Additional areas of chemical applications are the food industry and cosmetics industry as well as water monitoring.

■ Laboratory, Production, Quality Assurance

Whether the PHPO Modules are used in the laboratory, production or as part of quality assurance - they easily meet the set demands.

4..16-fold pH-, pO₂- und T-Monitoring.

Drescher Arnold & Schneider
Aktiengesellschaft für Infor-
mations- und Prozeßtechnologie

The Advantages

The parallel, modular design requires only a minimum of space at the installation site. Furthermore, up to three modules can be stacked.

■ Minimal Space Requirements

The inbuilt microprocessor and the serial interface facilitate a straightforward PC support.

■ Graphical Display of Measurement Data*

Using the software **DASGIP-EasyAccess**, all sensors can be individually calibrated and all measurement values can be displayed graphically and numerically. DASGIP-EasyAccess is the uniform operation interface for all DASGIP Modules.

*PC necessary, but not included in delivery

Based on the web pages of the Microsoft Internet Explorer®, the software can be operated intuitively and no special training is needed - as effortless as surfing on the internet.

■ Logging All Measurement Data*

In addition to the graphical display, all measurement values can be continually logged on the PC. The saved data are immediately accessible for evaluation using e.g. Microsoft Excel®.

■ Software Integration

The included ActiveX/COM and .Net programming libraries support all established programming languages. Furthermore, Labview®, the leading product of the lab automation, is supported.

Technical Specifications	Common Features	PH4PO4	PH8PO8	PH16	PO16
Module					
Dimensions (BxTxH)	300 x 320 x 190 mm				
Permissible ambient conditions	5 .. 40 °C max. 80% humidity				
Electrical supply	110 .. 230 VAC, 50/60Hz				
Connectors	RS232 / RS485				
pH Measurement					
Channels	0 .. 16	4	8	16	-
Measurement range	pH 0 .. pH 14 (+/- 0.01 pH) -472 mV .. +472 mV				
Calibration	One point or two point				
Temperature compensation	Manual, Pt100, NTC (pO ₂)				
pO₂ Measurement					
Channels	0 .. 16	4	8	-	16
pO ₂ measurement range	0 .. 250% DO (+/- 1% DO) 0 .. 400nA				
T measurement range	100kOhm .. 1684 Ohm (NTC) -105°C .. 104°C (+/- 0.2°C)				
Calibration	One point or two point				
Temperature Compensation	Manual, Pt100, NTC (pO ₂)				
T Measurement (s. pO₂)					
Channels	2	2	2	2	
Measurement range	-25°C .. 116°C (+/- 0.1°C) 91 Ohm .. 144 Ohm (Pt100)				
Calibration	One point or two point				
Aux					
Channels	2	2	2	2	
Measurement range	0 .. 20mA or 0 .. 10V				