

# PHIX

## DIGITAL PH/ORP CONVERTER

### CHARACTERISTICS

The digital converter PHIX is used for the potentiometric measurement of the pH or ORP value of a combined electrode. For this purpose, the transmitter is screwed onto a VarioPin or S7/S8 standard connection head, eliminating the need for complex special cables.

The Modbus RTU protocol on RS485 is used for communication. This enables integration into existing networks as well as use with the multichannel controller MULTICON.

The logging function can be used to evaluate the timing, slope and zero point of the last 5 calibrations. The integrated operating hours counter records the operating time as well as temperature and pH-related operating times. These are indicators of sensor stress and allow conclusions to be drawn about the intended use of the measurement chain.

Calibration can be carried out via a guided 1- or 2-point calibration as well as by manual input of zero point and steepness.

In addition to the main measured value, PHIX records the process temperature (measuring chains with integrated Pt1000), the glass impedance, as well as internal temperature and system power.

The glass impedance is an indicator of contamination, short circuit, breakage or the presence of the sensor chain itself. Internal temperature and supply voltage allow additional conclusions to be drawn about the intended use of the measuring point.

Parameterization and calibration can be carried out via the configuration tool SENSware as well as via the multi-channel controller MULTICON.

SENSware enables the calibration of PHIX and a single-rod measurement chain in the laboratory. In combination with automatic addressing, maintenance can be carried out "Plug & Measure".



www.senseca.com



#### SMART TECHNOLOGY

- Provides process values, identification data, diagnostic data
- RS485 Interface with MODBUS RTU-protocol



#### EASY TO SET UP & QUICK TO INSTALL

- For pH and Redox combined electrodes measurement chains with VarioPin or S7/S8 connection head



#### ACCURATE & RELIABLE

- Insensitive signal transmission



#### GREAT FLEXIBILITY

- Stores up to 5 calibration results with timestamps
- Records total operating time as well as temperature and pH-related operating times

## Technical Data

### Power supply

Supply voltage	4.7..28 V DC, max. 60 mA
Conformity	CE

### Input

#### pH/ORP

Measuring range	-1...+15 pH / -1500...+1500mV
Accuracy	±0,5% of measure
Temperature coefficient	< 100 ppm/°C
Zero point	pH = 7.00 ( $\Delta\text{pH} = \pm 3.0$ )
Slope	30 ... 80 mV/pH
ORP adjustment	+/- 200 mV

### Temperature

Measuring range	-50..+200°C
Accuracy	±0.5% of measure

### Glass impedance

Measuring range	0...1G $\Omega$ (temperature compensated)
Standard error	+/- 20 %
Ambient/storage temperature	-10...+60°C

Condensation not permitted

Electrode connector S8 or VP (VarioPin)

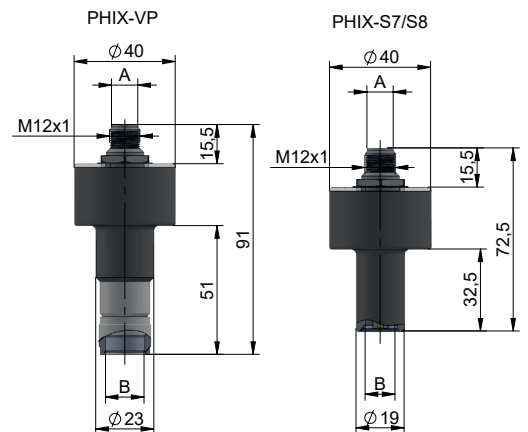
### Materials

Housing	PVC-U
Window	Acryl glas (PMMA)

### Electrical connection

Design	8 pole round plug IP67
Materials	brass nickel-plated
Interface	RS485, Half-Duplex
Protokoll	MODBUS RTU
Baud rates	1200, 2400, 4800, 9600, 19200
Total weight	ca. 160 g
Protection class	IP67

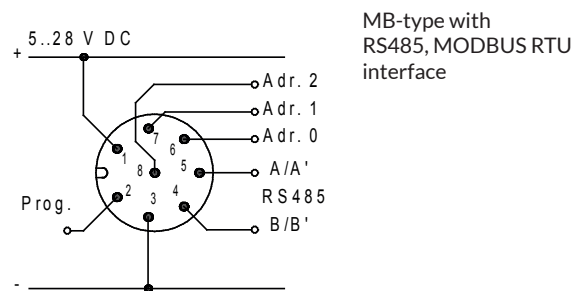
## Dimensions



VP-Type

S8-Type

## Connection diagram



PIN	Signal	Cable color AC1113
1	+ Supply voltage	White
2	Programming PIN (normally not connected)	Brown
3	- Supply voltage, Ground (C / C')	Green
4	B / B' Bus	Yellow
5	A / A' Bus	Grey
6	Adr. 0	Pink
7	Adr. 1	Blue
8	Adr. 2	Red (shield)

The addressing of the PHIX can be realized with a field attachable female connector (see accessories) or in a junction box.

## Ordering code

PHIX  -  -  -

1.      2.      3.      4.

1.	Model (port B)	
	S8	For pH electrode with S7/8 plug
	VP	For pH electrode with VP plug
2.	Interface (port A)	
	MB	RS485 interface (ModBus RTU)
3.	Options	
	00	Without options
4.	Documentation	
	00	Without
	DE	Deutsch
	EN	Englisch

## Compatible evaluation electronics

Order No.	Type	Description
486459	MULTICON-H-RS-00-24DI-PN-DE	6-channel sensor controller with ProfiNet interface

## Accessories

Order No.	Type	Description
-	SENSware	Download: <a href="http://www.senseca.com">www.senseca.com</a>
475291	EYY220	Programming adapter

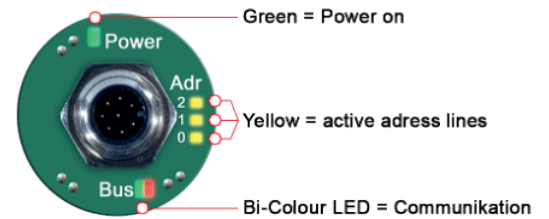
### Sensor plug, for customization, 8-pole

476332	ACI113-00	Belden RKC8/9, brass nickel-plated
476331	ACI113-VA	Binder 713, stainless steel

### Sensor cable shielded, 8 pole, plug/pig tail

476533	ACI113-002-1-00	2 m
476116	ACI113-005-1-00	5 m
476117	ACI113-010-1-00	10 m
476118	ACI113-025-1-00	25 m

## Optical signaling



Top view PHIX: Optical signaling for supply voltage, bus communication and addressing.

