

SIGNUX PHA01

Water quality — RS485



SX-PHA01



DESCRIPTION

Integrated pH transmitter for water and aqueous solutions, with automatic or manual temperature compensation and RS485 Modbus RTU output.

The SX-PHA01 measures pH and temperature in the same body. Electrode, reference and electronics are one piece, so there is no separate transmitter and no junction box: four wires go straight onto an RS485 bus speaking Modbus RTU.

The pH reading arrives temperature-compensated. The probe compensates automatically from its own temperature sensor, or against a fixed temperature if manual compensation is switched on, which is what you want when the process sits at a known temperature and the reading should not chase it. Both the switch and the fixed value are registers, so it is decided over the bus.

The reference uses a double salt bridge, which is what lets it keep working in dirty water — sewage, aquaculture, process effluent — where a single junction clogs and the reading drifts. The electrode is a consumable: it ages, loses sensitivity and is replaced, and it must never be stored dry.

FEATURES

- Compensates either way: Automatically, from its own temperature reading, or against a fixed temperature written over the bus. Both are registers: no jumper, nothing to open.
- Double salt bridge: The reference is built to last in dirty water — sewage, aquaculture, process effluent — where a single junction clogs and the reading drifts away.
- Calibrated over the bus, two points: No buttons and no screwdriver: two standard buffers written to a register pair. For general use, 4.01 and 9.18.
- One-piece housing: NPT 3/4 thread at both ends and the electronics inside the same body: it mounts submerged from a rigid tube or through the side of a pipe, with no separate enclosure and no wiring in between.

AT A GLANCE

Measures	pH · Temperature
Output	RS485
Protection	IP68
Operating	0 to +60 °C

PART NUMBERS

PART NUMBER	CONNECTOR / OUTPUT
SX-PHA01-M10	M10 connector
SX-PHA01-PT	Pigtail

GENERAL

Measured parameters	pH · Temperature	
Output	RS485	Modbus RTU
Process connection	NPT 3/4 in	At both ends
Reference	Double salt bridge	

PH

Range	0 to 14.00 pH	
Resolution	.01 pH	
Accuracy	±0.15 pH	
Repeatability	±0.02 pH	
Temperature compensation	Automatic or manual	Manual compensation uses a fixed temperature, 25 °C by default

TEMPERATURE

Range	0 to +60 °C	
Resolution	.1 °C	
Accuracy	±0.5 °C	

OUTPUT AND POWER

Output interface	RS485	Modbus RTU, baud rate configurable from 1200 to 115200 baud
Default communication	4800 baud · address 1	8 data bits, no parity, 1 stop bit
Power supply	7-30 V DC	
Power consumption	.3 W	
Configuration	Over RS485	Address, baud rate, offsets, compensation and calibration

CONSTRUCTION

Protection rating	IP68	
Operating temperature	0 to +60 °C	
Maximum pressure	6 bar	0.6 MPa
Cable length	5 m	Other lengths on request
Electrode life	1 year	A consumable: it is replaced as it ages
Overall length	266 mm	Body 212 mm
Diameter	30 mm	