



Product Overview

The AX-ANA-L liquid analytical transmitters are designed to measure pH, redox potential, or dissolved oxygen values of liquids and aqueous solutions. Continuous measurement of acidity (pH7) in liquids can be performed by the help of this transmitters. The necessary feeding of chemicals and other technological functions can be controlled by the processed measured values. The potential difference between the submerged measuring and reference probe generates a voltage proportional to the concentration of the hydrogen ion in the measured fluid. This voltage is evaluated by the signal processing electronic module of the instrument. Based on the signals of the submerged probe and the temperature sensor the smart signal processing electronic module calculates a pH value normalized to 25°C and generates a proportional output signal. The long term stability and accuracy of the measurement requires a periodic calibration of the sensors using the standard buffer solutions.

Products Features

- Compact and Integrated Versions.
- Measuring Range 0-14 pH
- Full Temperature Compensation
- Graphic plug-in display module
- IP67 Protection
- Plug-in display unit

Product Specifications

Measuring Range: :	0-14pH, Reserve ± 2 pH
System:	2 Wire
Accuracy:	0.1% of the measured value ± 1 digit $\pm 0.01\%$ / °C
Resolution:	0.01pH (internal resolution 0.004 pH)
Electrode input	Combined electrode, galvanic isolated, input impedance: >1012 Ohm, connection: SN6
Output :	4 – 20 mA, (3.9 – 20.5 mA), $R_{tmax} = 1200$ Ohm galvanic isolated, protection against surge transients
Temperature measuring (semiconductive sensor) :	Range: -50...130 °C, Accuracy: ± 0.5 °C, Resolution: 0.1 °C
Ambient temperature :	-20 °C...+70 °C
Power Supply:	12...36 V DC / 48 mW-720 mW, galvanic isolated, protection against surge transients
Housing:	Plastic, PBT, fiberglass-reinforced 2x M20x1.5 plastic cable glands for $\varnothing 6 - \varnothing 12$ mm (0.25 – 0.45 in) cable,
Electrical Connection:	2x terminal blocks for max. 1.5 mm ² (AWG16) wire cross section, 2x 1/2" NPT internal threads for cable protective pipes
Ingress Protection:	IP67
Weight:	~7 kg (15.4 lb)
Country Of Origin:	Hungary

Product Order Codes

AX-ANA-LEP141-A	Analytical pH Transmitter, 0-14pH, 4-20mA Output, BSP 1-1/2"
AX-ANA-LEP141-AH	Analytical pH Transmitter, 0-14pH, 4-20mA & HART Output, BSP 1-1/2"
AX-ANA-LEP141-AR	Analytical pH Transmitter, 0-14pH, 4-20mA & Relay Output, BSP 1-1/2"
AX-ANA-LEP141-AEX	Analytical pH Transmitter, 0-14pH, 4-20mA Output & Exp Proof, BSP 1-1/2"
AX-ANA-SAP300	LCD Plugin Display and Programming Unit
	*** Sensor Probe Selection - Mandatory (See Chart Below)
	*** Probe Solution Selection (See Chart Below)

Buffer, Storage & Cleaning Solutions

The originally included sensor can be replaced when case its lifespan is over. Sensor replacement can be necessary also if the used technology changes significantly. The offered solutions are recommended for required periodic calibrations, and storing or cleaning of the probes.

Sensor Probe Selection



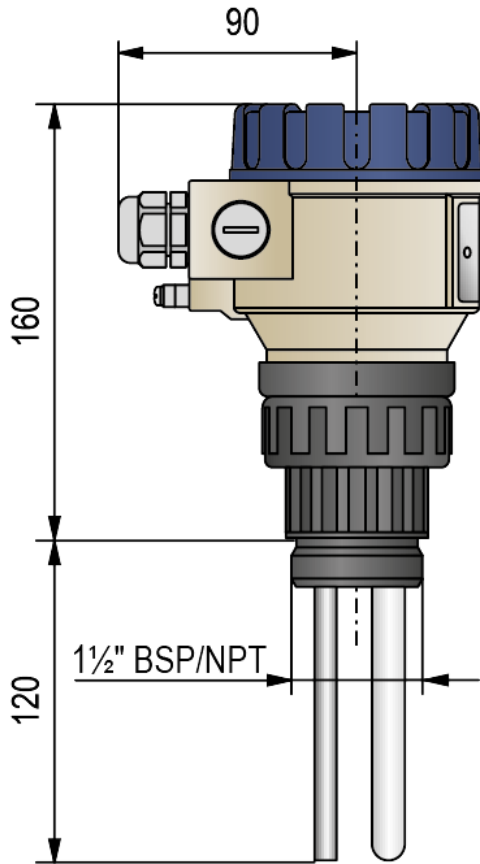
Sensor Probe Selection



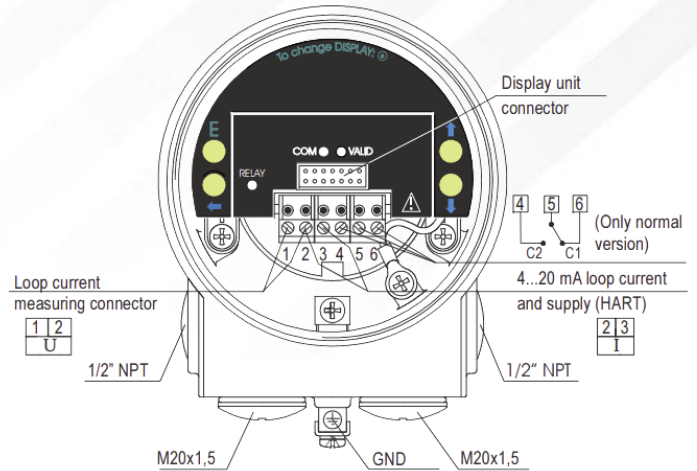
Probe Type	Description
Probe 1	1-12 pH / 6 bar / 80°C
Probe 2	1-12 pH / / 8 bar / 80°C
Probe 3	1-12 pH / 16 bar (25°C); 6 bar (100°C)
Probe 4	3-14 pH / 6 bar / 100°C
Probe 5	1-12 pH / 0.5 bar / 60°C
Probe 6	1-12 pH / 3 bar / 60°C
Probe 7	1-12 pH / 6 bar / 80°C
Probe 8	1-12 pH / 3 bar / 60°C

Solution Type	Description
Buff-1	Buffer solution pH4 / 50 ml
Buff-2	Buffer solution pH4 / 250 ml
Buff-3	Buffer solution pH4 / 1 l
Buff-4	Buffer solution pH7 / 50 ml
Buff-5	Buffer solution pH7 / 250 ml
Buff-6	Buffer solution pH7 / 1 l
Buff-7	Buffer solution pH10 / 50 ml
Buff-8	Buffer solution pH10 / 250 ml
Buff-9	Buffer solution pH10 / 1 l
Stor-1	Storage solution KCl 3 mol / 50 ml
Stor-2	Storage solution KCl 3 mol / 250 ml
Stor-3	Storage solution KCl 3 mol / 1 l
Clean-1	Cleaning solution / 250 ml

Dimensions



Wiring



The instrument should be wired with shielded cable led through the cable gland. The wiring of cables can be done after removing the cover of the instrument and the SAP display unit. Make sure that the power supply is turned off at the source. After removal of the cover of the housing and taking the display module (if any) out, the wiring cables can be connected. (Recommended cable: shielded, two-wire, with 0.5 ... 1.5 mm² cross section. Connect shielding to grounding by the inner or outer grounding screw first. Switch on the unit. After switching of the unit, necessary programming can be done. After the wiring, adjustment and programming, check proper sealing and close the cover carefully.

The housing of the transmitter should be grounded to the EPH network. Resistance of the EPH network should be $R \leq 2$ ohm measured from the neutral. Shielding of the cable should be grounded at the control room side to the EP network. To avoid disturbing noises, keep away of closeness to high-voltage cables. Especially critical can be the inductive couplings of harmonics (which are present at frequency converter control) because even cable shielding does not supply effective protection against these cases.

The instrument may be damaged by electrostatic discharge (ESD) via its terminal, thus apply the precautions commonly used to avoid electrostatic discharge e.g. by touching a properly grounded point before removing the cover of the enclosure.

Datasheet Contents

Every effort has been taken in the production of this data sheet to ensure accuracy. Axio do not accept responsibility for any damage, expense, injury, loss or consequential loss resulting from any errors or omissions. Axio has a policy of continuous improvement and reserves the right to change this specification without notice.