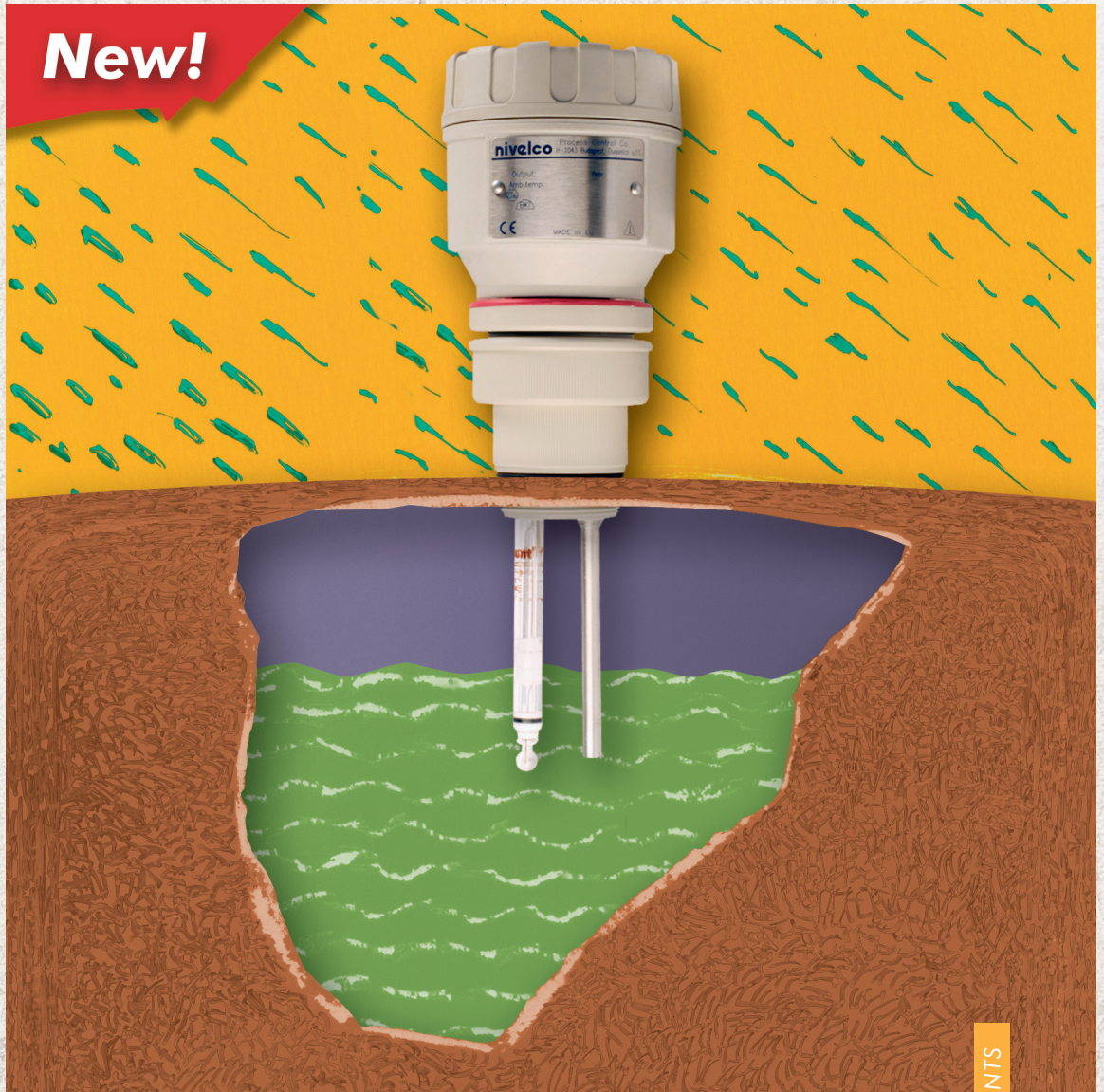


AnaCONT

COMPACT pH / ORP TRANSMITTERS

New!



ANALYTICAL INSTRUMENTS

OUR PROFESSION IS YOUR LEVEL



AnaCONT COMPACT pH AND ORP TRANSMITTERS

MAIN FEATURES

- Compact and integrated versions
- Separated versions (up to 10m)
- Measuring range: pH: 0-14; ORP: ±2000 mV
- Wide range of probes
- Graphic display
- 4-20 mA, HART, relay output
- DataLogger function
- IP68 protection
- Ex version
- Wide range of accessories

INDUSTRIES

- Water
- Wastewater
- Pharmaceutical
- Chemical
- Food and beverage
- Power



OPERATION

The instruments are designed to measure pH and redox potential values of liquids and aqueous solutions.

pH measurement:

Continuous measurement of acidity (pH < 7) and alkaline (pH > 7) of liquids can be performed with the compact transmitter, feeding of chemicals and other process functions can be controlled by the processed measured values. The potential difference between the submerged measuring probe and reference probe is proportional to the concentration of the hydrogen ions in the measured fluid. This voltage is processed by the signal processing electronic module of the instrument. The smart signal processing electronic module calculates the pH value normalized to 25°C from the output values of the submerged probe and the temperature sensor and generates a proportional output signal. The long term stability and accuracy of the measurement requires periodic calibration of the sensors with standard buffer solutions.

Redox potential measurement:

Similarly to pH the measurement of redox potential is based on the potential difference between the measuring and reference probes. Oxidation and reduction occurs on the platinum surface of the measuring probe. Redox potential is a parameter that indicates the sum of oxidants and reducers in the measured medium. The output signal of the probe is processed by the electronic module and a proportional output signal is generated. Feeding of oxidants or reduction of the fluid to obtain the desired medium parameters can be controlled by the processed measured values.

PROBE SELECTION

In analytics the primary requirement for accurate measurement is the right selection of probes. The table below helps in choosing the correct probe.

pH probes					
Medium	Max. temperature (°C)	Max. press. (bar)	pH	Probe type	Application
Clear	60	0,5	1-12	PHE	drinking water, pool
	60	3	1-12	PHES	drinking water, pool
	80	-	0-12	PHEN-3D	small conductivity > 50 µs/cm
	80	6	1-12	PHEP	process water, galvanic
	80	8	1-12	PHED	process water
With solid particles	100	6	3-14	PHEP-H	chemical
	80	6	1-12	PHER	wastewater
	100	6 / 100°C 16 / 25°C	1-12	PHEX	sludge, emulsion

ORP probes				
Medium	Max. temperature (°C)	Max. press. (bar)	Probe type	Application
Clear	60	0,5	RHE	drinking water, pool
	60	3	RHES	drinking water, pool
	80	6	RHEP-Pt-SE	process water
	80	-	RHEN	high accuracy, long working life
With solid particles	80	6	RHER	sludge, emulsion
	100	6 / 100°C 16 / 25°C	RHEX	sludge, emulsion

TECHNICAL DATA

General data	LQP , pH transmitter	LQR , ORP transmitter
Measuring values	Range: 0...14 pH reserve: ±2pH Resolution: 0.01pH (internal: 0.004 pH) Linearity: ±0.004 pH	Range: ±2000 mV Resolution: 1 mV (internal: 0.8mV) Linearity: ±0.4mV
Temp. measurement (electronic sensor)	Accuracy*: 0.1% of the measured value +/-1digit +/-0.01%/°C, Measuring cycle: 300 msec (on display: 1sec)	
Temp. measurement (electronic sensor)	Range: -50...130°C, Accuracy: ±0.5°C, Resolution: 0.1°C	
Reference electrode	The metal socket of the temperature sensor (SS316Ti) or separate electrode	
Probe input	Combined electrode, galvanic isolation, input impedance: >10 ¹² ohm, connection: SN6	
Power supply	12...36 V DC / 48 mW...720 mW, galvanic isolation; protection against surge transients	
Output	Analogue: 4...20 mA, (3.9...20.5 mA), R _{lmax} = 600 ohm galvanic isolation; protection against surge transients (only compact versions)	
	Relay: SPDT 30 V DC, 1A DC	
	SAP-300 display: dot matrix, icons and bargraph, (only compact versions)	
Process temperature (pressure dependent)*	Serial communication: HART interface (terminal resistor ≥ 250 ohm)	
Process temperature (pressure dependent)*	With PP probe housing: -10 °C...+90 °C, PVDF and SS316Ti probe housing: -15 °C...+100 °C	
Pressure (absolute)	0.05...1 MPa (0.5...10 bar), SS316Ti probe housing: 0.05...1.6 MPa (0.5...16 bar)	
Ambient temperature	With aluminium housing: -30 °C...+70 °C, with plastic housing: -25 °C...+70 °C, both with display: -20 °C...+70 °C	
Sealing	PP probe: EPDM; for every other probe: FPM (Viton)	
Ingress protection	Probe socket: IP 68, Housing: IP 67, integrated versions: IP68	
Housing material	Plastic: Glass fibre plastic PBT (DuPont®) Aluminium: Powder paint coated	
Probe socket material	Polypropylene, Kynar (PVDF), Teflon (PTFE), stainless steel (SS316Ti)	
Electrical connection	2 x M20x1.5 Metal, Cable Ø7...13 mm or M20x1.5 Plastic, Cable Ø6...12 mm and 2 x 1/2" NPT for cable gland; Wire cross section: 0.5...1.5 mm ²	
Electrical protection	Protection Class III	

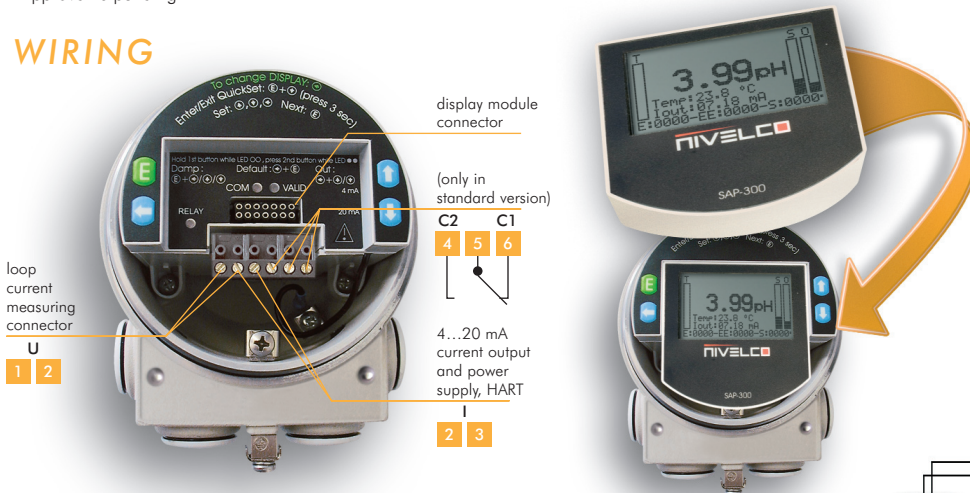
* Depends on the used probe

Special data for Ex certified models*

Ex marking*	ATEX II 1G EEx ia IIB T6 IP67
Intrinsical safety	Ci ≤ 15 nF, Li ≤ 200 µH, Ui ≤ 30 V, li ≤ 140 mA, Pi ≤ 1 W, Use with EEx ia certified power supply only
Ex approved power supply	Uo < 30 V, Io < 140 mA, Po < 1 W, Range of power supply: 12 V ... 30 V, R _{tmax} = (Ut - 12 V) / 0,02 A
Medium temperature	For PP probe socket -20 °C...+70 °C, for PVDF probe socket -20 °C...+80 °C, for St.St probe socket: -30 °C...+100 °C
Ambient temperature	Aluminium housing: -30 °C...+70 °C, Plastic housing: -20 °C...+70 °C, both with display: -20 °C...+70 °C

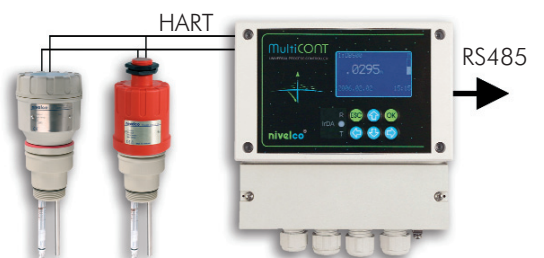
* Approval is pending

WIRING



AnaCONT IN SYSTEM WITH A PC

The instrument with HART output can be connected to a PC using a SAT-304 HART-USB modem. Max. 15 normal (non Ex) instruments can be connected to a HART line. Measured values can be visualised and/or the instruments can be programmed via digital HART communication. Applicable software: **EView** configuration software or **NIVISION** process visualization software.



AnaCONT IN SYSTEM WITH MULTICONT

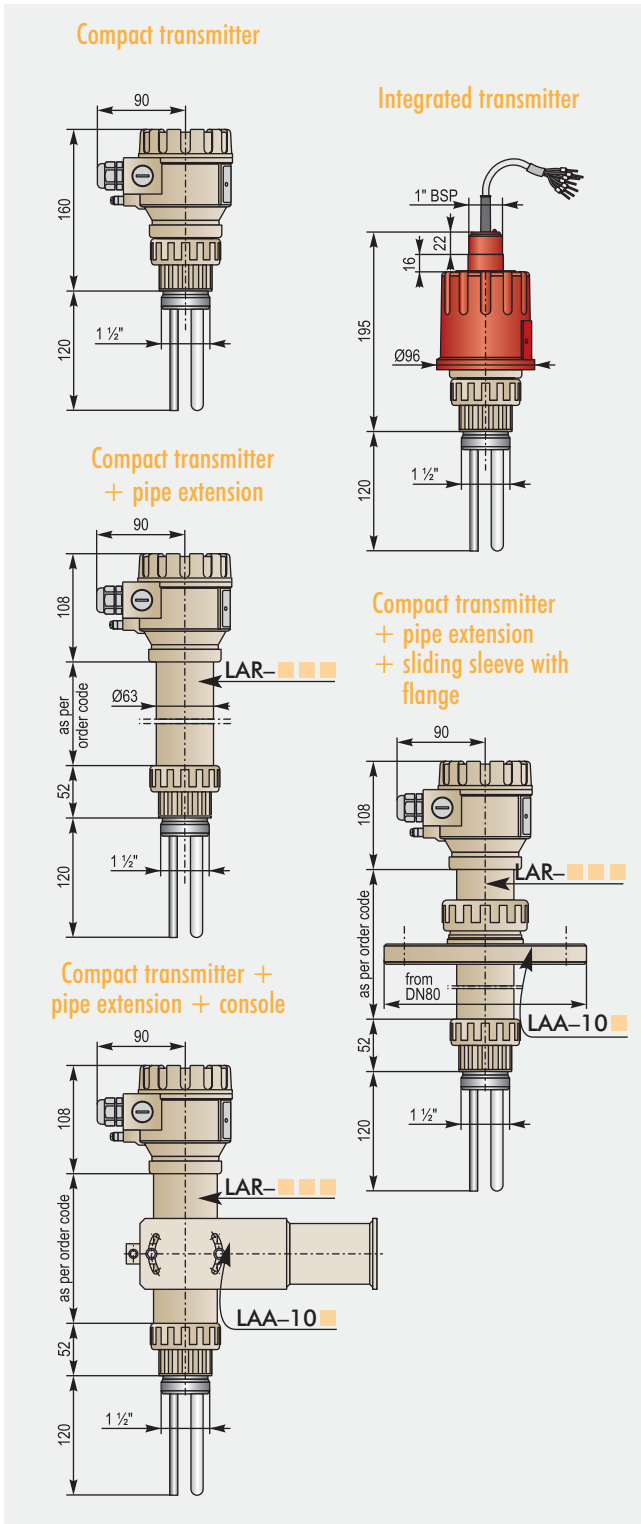
MULTICONT can handle a max. of 15 HART capable transmitters (pH, ORP, temperature, level, pressure). The digital (HART) information is processed, displayed and if needed it can be transmitted via RS485 communication line to a PC. Remote programming of the transmitters is also possible. Visualisation on PC can be accomplished with **NIVISION** process visualization software.

TYPE SELECTION

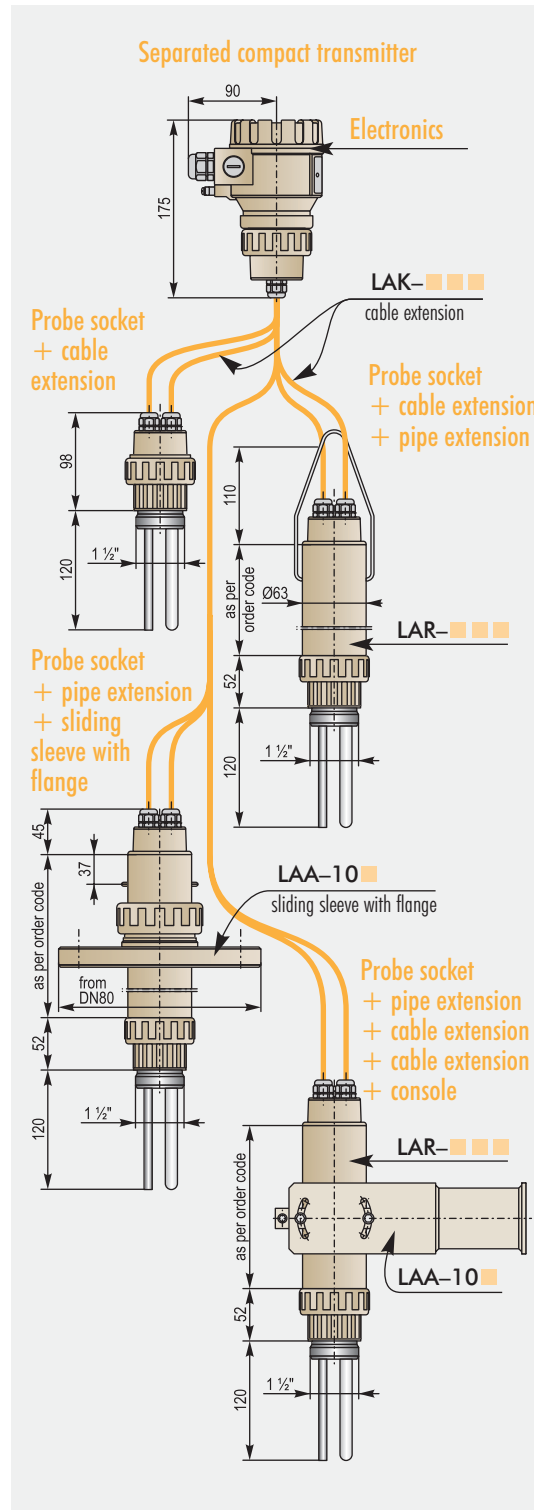
The integrated version of the transmitters ensures an overall IP68 protection. All accessories are applicable for both types of transmitters (compact and integrated).

The different accessories make the easy installation to different technologic processes possible.

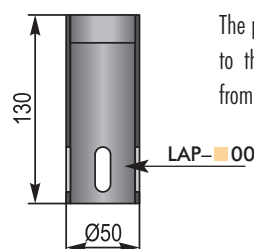
The separated versions allow the mounting of the electronics at distance from the sensor part. The separation is done by extension pipes or extension cables.



TYPE SELECTION



PROBE PROTECTION TUBE



The protection tube which can be screwed to the probe socket protects the probe from mechanical impacts.

ORDER CODES (NOT ALL COMBINATIONS AVAILABLE)

AnaCONT compact transmitters

AnaCONT L ■ ■ ■ - ■ ■ ■ - ■ ■ *

Type	Code
Compact transmitters	E
Compact transm.+ display	G
Integrated trasm.	P

Housing	Code
Plastic	1
Aluminium	2

* The order code of an Ex version should end in 'Ex'
** Selectable probe

Extensions

LA ■ ■ - ■ ■ ■ ■

Type	Code
Pipe	R
Cable	K

Material	Code
PP	1
PVDF	2

	Code	Intension	Code
Cable	0	0 m	0
	1	1 m	0.1 m
	2	2 m	0.2 m
	3	3 m	0.3 m
	4	4 m	0.4 m
	5	5 m	0.5 m
	6	6 m	0.6 m
	7	7 m	0.7 m
	8	8 m	0.8 m
	9	9 m	0.9 m
	A	10 m	

Sliding sleeve

LAA - 10 ■

Proc. conn. / Material	Code
DN80 PN16 / PP	2
DN100 PN16 / PP	3
DN125 PN16 / PP	4
DN150 PN16 / PP	5
DN200 PN16 / PP	6
Console 200 mm	K
Console 500 mm	L
Console 700 mm	M

Probe protection tube

LAP - 10 ■

Material	Code
PP	1
PVDF	2

Type	Code	Probe / temp. sensor material	Code	Type	Code	Probe / temp. sensor material	Code	
pH transmitter	P	PHER112SE / St.st.	1	R	ORP transmitter	RHERPT SE / St.st.	1	
		** / St.st.	2			** / St.st.	2	
		** / St.st.	3			** / St.st.	3	
		** / St.st.	4			** / St.st.	4	
		** / St.st.	5			** / St.st.	5	
		** / St.st.	6			** / St.st.	6	
		** / St.st.	7			** / St.st.	7	
		** / St.st.	8			** / St.st.	8	
	ORP transmitter	R	PHER112SE / glass	A	R	ORP transmitter	RHERPT SE / glass	A
			** / glass	B			** / glass	B
			** / glass	C			** / glass	C
			** / glass	D			** / glass	D
			** / glass	E			** / glass	E
			** / glass	F			** / glass	F
			** / glass	G			** / glass	G
			** / glass	H			** / glass	H

Output / Ex	Code
4...20 mA / LOGGER	1
4...20 mA	2
4...20 mA+HART / LOGGER	3
4...20 mA+HART	4
4...20 mA / LOGGER / Ex	5
4...20 mA / Ex	6
4...20 mA+HART / LOGGER / Ex	7
4...20 mA+HART / Ex	8
4...20 mA / LOGGER / Relay	L
4...20 mA / Relay	R
4...20 mA+HART / LOGGER / Relay	A
4...20 mA+HART / Relay	H

Proc. conn. / Material	Code
BSP 1 1/2 " / PP	1
BSP 1 1/2 " / PVDF	2
NPT 1 1/2 " / PP	4
NPT 1 1/2 " / PVDF	5

