AQUALABO

Smart water solutions

ACTEON 6000

DIGITAL FIXED UNIT
MULTI-CHANNEL DIGITAL FIELD TRANSMITTER



APPLICATIONS

- Wastewater treatment (aeration tanks for control/regulation of nitrification/denitrification processes)
- Drinking water (raw water control)
- Industrial effluent treatment (discharge control, regulation, etc.)
- Surface water monitoring
- Fish farming, etc.

ADVANTAGES

- Digital communication technology
- 2 Modbus RTU networks: Bus-A: 4 DIGISENS digital sensor inputs / Bus-B: 1 configurable input
- 2 analogue inputs, 2 digital inputs
- Large graphic touchscreen: display of up to 12 parameters
- 4 x 4-20 mA outputs, 4 x programmable relays (status visible on main screen)
- Modbus RTU outputs, Ethernet TCP/IP
- Quick and easy intuitive programming
- Wide range of digital sensors

The new ACTEON 6000 digital transmitter allows you to directly connect up to 4 digital sensors from the PONSEL range to monitor pH, redox, temperature, dissolved oxygen (optical), CAS254, TOC, COD, BOD, conductivity, salinity, turbidity (NTU, mg/L), MES (g/L), and sludge veil (%).

PONSEL BY AQUALABO

The measured values are displayed and transmitted via analogue or digital channels. Preconfigured control functions also enable optimised process control.

The ACTEON 6000 is combined with a wide range of digital sensors that are resistant to interference: pre-amplification integrated into the sensor and digital signal processing. All data concerning calibration, history, users and measurements are processed directly in the sensor, ensuring extreme traceability and reliability of measurements.

TRANSMITTER ACTEON 6000

SOFTWARE AND FEATURES	
2 Modbus networks inputs	Modbus RTU (A = DIGISENS sensors ; B = configurable)
Digital sensor inputs	4 (Modbus RTU A network) + 1 Modbus RTU B network configurable
2 analog inputs	Configurable in 0/10 V – 0/4 -20 mA. 12 VDC sensor power supply
2 digital inputs	External cleaning information taken into account: switches to maintenance mode
4 analogue outputs	0/4-20 mA • Choice of programmable source parameters depending on connected sensors
4 relay outputs	NO/NC configurable via software Setpoint: configuration of the working range (hysteresis/direction) and activation time Timed control for external cleaning system Hardware sensor fault alarm output
3 digital outputs	NO/NC configurable via software Configurable supply voltage 5 or 12VDC
Modbus outputs	Modbus RTU • Ethernet TCP/IP
Data logging	Data logging and export in CSV format (via USB key)
Atmospheric pressure sensor	To compensate oxygen pression
CHARACTERISTICS	
Display	Backlit graphic LCD touchscreen – Size: 7 inches, 1024x600
Analog outputs	0/4.00 – 25.00 mA with galvanic isolation • Max load 400 W
Relay outputs	6 A /250 V
Operating conditions	Temperature : -15°C to + 50 °C • Temperature of storage/transport : -30°C to +70°C
USB port	Unloading of the recorded data
Power/ Electrical protections	10-28 VDC (absolute max. = 30 VDC) • Power limitation = 100 W Electrical protection: compliant with IEC 61010-1
HOUSING	
Dimensions (WxHxD)	257x247x134 mm
Material	Enclosure: Polycarbonate Seal: Polyurethane Cable glands: Polyamide
Protection rating	IP 65

DIGITAL SENSORS

Digital "smart" sensors

- All calibration data (factory coefficients, offset, slope) are stored in the probe,
- Digital technology for extreme reliability measurements without interference.

Robust probe in field and laboratory

- Probes from more than 50 years of experience PONSEL
- Applications waters, drinking water, wastewater, sewage...



		Principle	Range	Accuracy	Material	
OPTIC	**Oxygen**	Optical fluorescence	0,00-20,00 mg/L 0-200 %	± 0.1 mg/L ± 1	Special membrane, 316L stainless steel or titanium, herazil	Temperature compensation via CTN, pressure and salinity
	Turbidity	IR nephelometry (90° scattering)	0.0-50.0 NTU 0.0-200.0 NTU 0-1000 NTU 0-4000 NTU Automatic 0-4500 mg/L	< 5% of reading	Delrin, PVC, PMMA, stainless steel	Temperature compensation via CTN
	MES	IR absorptiometry (870 nm)	VB: 0-100% MES: 0-50 g/L Turbidity: 0-4000 FAU	VB ± 2% MES < 10% Turbidity: ± 5% FAU	Delrin, Nickel-plated brass	Optical temperature control
	VB	IR absorptiometry (870 nm)	0-100%	VB ± 2%	Delrin, Nickel-plated brass	Optical temperature control
	CAS254	UV absorption 254 nm	0-30 Abs/m 0-750 Abs/m	0.1 or +/- 3% 1.0 or +/- 3%	316 stainless steel (1.4401) Fused silica (Corning 7980)	Turbidity compensation 530 nm Optical temperature control
	CODeq **COTeq** **BODeq**	UV absorption 254 nm	CODeq: 0-50 mg/l; 0-1300 mg/l TOCeq: 0-20 mg/l; 0-500 mg/l BODeq: 0-15 mg/l; 0-350 mg/l	CODeq: 0.2 or +/- 3%; 2.0 or +/- 3% TOCeq: 0.1 or +/- 3%; 1.0 or +/- 3% BODeq: 0.1 or +/- 3%; 1.0 or +/- 3%		Turbidity compensation 530 nm Optical temperature control
ELECTROCHEMISTRY	**pH/T°C**	Combined electrode (pH/ Reference)	0,00-14,00 pH 0,00 to +50,00 °C	± 0,1 pH	Special glass pH Reference Ag/ AgCl to gelled electrolyte Temperature: CTN	Temperature Compensation via CTN
	Redox	Combined electrode with platinum tip	- 1000,0 to + 1000,0 mV	± 2 mV	Delrin, PVC, glass, platinum	Ag/AgCl reference with gel electrolyte
	Ring redox	Combined electrode with platinum ring	- 1000,0 to + 1000,0 mV	± 10 mV	Delrin, glass, platinum	Ag/AgCl reference with gel electrolyte
	Conductivity	4-electrode amperometric	0-200,0 µS/cm 0-2000 µS/cm 0,00-20,00 mS/cm 0,0-200,0 mS/cm Automatical range	± 1 % of full scale	2 graphite electrodes, 2 platinum electrodes DELRIN	Temperature Compensation via CTN
	Salinity	4-electrode amperometric	5,00-60,00 g/Kg	< 5 % of full scale	2 graphite electrodes, 2 platinum electrodes DELRIN	Temperature Compensation via CTN
	Inductive Conductivity	Inductive method	0-100 mS/cm	< 5 % of full scale	EPDM, PVC, Inox	Temperature Compensation via CTN
	Inductive Salinity	Inductive method	5,00-60,00 g/Kg	< 5 % of full scale	EPDM, PVC, Inox	Temperature Compensation via CTN

STACSENSE PROBE
UV OPTICAL TECHNOLOGY FOR OPTIMAL MEASUREMENTS

SUV254 PONSEL

UV254 multiparameter probe

- UV 254 spectral absorption without any reagents or consumables
- Multi-parameter measurement: SAC254, CODeq, TOCeq and & BODeq
- Modbus RS-485 digital communication
- Automatic Turbidity compensation.



The StacSense probe uses UV absorption at 254 nm to measure organic compounds dissolved in water. This absorbance is correlated with the concentration of TOC, COD and BOD to provide a high-performance probe requiring no consumables.

A reference measurement at 530 nm is used to compensate for the presence of particles in the sample that also absorb UV light.

Op.T	Parameters	Measurement range *	Units	Detection limit	Quantification limit	Accuracy **	Application
2 mm	SAC_{254}	0-750	Abs/m	1.7	5.0	1 or +/-3%	Wastewater
	CODeq	0-1300	mg/L	3.0	9.0	2 or +/-3%	
	BODeq	0-350	mg/L	1.0	3.0	1 or +/-3%	
	TOCeq	0-500	mg/L	1.5	4.0	1 or +/-3%	
50 mm	SAC_{254}	0-30	Abs/m	0.20	0.3	0.1 or +/-3%	Drinking Water
	CODeq	0-50	mg/L	0.15	0.6	0.2 or +/-3%	
	BODeq	0-15	mg/L	0.10	0.2	0.1 or +/-3%	
	TOCeq	0-20	mg/L	0.10	0.2	0.1 or +/-3%	

Performance levels obtained under laboratory conditions (controlled temperature and stirring, aqueous solutions of KHP)
* Optical path 2 and 50mm, Linearity: > 0.99 on the given range.
** Highest value

LOWTUS DIGITAL TURBIDIMETER FOR DRINKING WATER MEASUREMENTS

- Nephelometric Light Scattering Method 90 degrees – ISO 7027
- Ranges 0-10 NTU; 0-100 NTU; Automatic Range
- Modbus RS-485 digital communication
- Optical measuring cell self-cleaning
- Quick check with Tare Solid



The measurement principle is based on the 90° infrared light scattering measurement (ISO 7027) and allows continuous monitoring of turbidity measurement over low ranges.
The new low turbidity sensor incorporates a new mechanical system for automatic cleaning of the measuring cell. This system prevents the accumulation of contamination in the measuring cell and on optical scattering and IR radiation cells.
An automatic debubbling system prevents bubbles from sticking to optical windows so as not to introduce measurement errors.

Measurements	
Measurement principle	Diffusion IR at 90° - ISO 7027
Measuring Range	0-10; 0-100 NTU & Automatic Range
Resolution	0,0001 NTU for [0,0002 to 9,9999 NTU] 0,001 NTU for [10,000 to 100,00 NTU]
Accuracy	Low range: +/-2% of reading or 0,1 NTU* High range: +/-5% or 0,3 NTU* *Highest value
Temperature	NTC
Temperature Accuracy	+/- 0.5°C
Type of detector	Si photodiode
Light sources	IR LED 850 nm
Measurement frequency min	0.75s (measure only), 6s (measure + cleaning)

AQUALABO
Tel : +33 (0)1 55 09 10 10 - Fax : +33 (0)1 55 09 10 39 - info@aqualabo.fr - www.aqualabo.fr