

DIGITAL FIXED UNIT



ACTEON 5000

Multiparameters digital transmitter in the field

- Technology of digital communication
- 2 inputs sensor
- 2 analog input, 2 relay input
- Digital output Modbus, Ethernet
- Large graphics screen: visualization until 4 measures,
- Outputs 4-20 mA, Programmable relays (visible state main screen)
- Fast and simple intuitive programming
- Wide range of digital sensors

Scope :

- Waste water treatment plant (aeration basins to control / regulation processes Nitrification / Denitrification)
- Drinking water (raw water control)
- Industrial effluent treatment (waste controls, regulation...)
- Monitoring of surface water
- Fish farming...

The new digital transmitter ACTEON 5000 allows connection from 2 digital sensors of the range PONSEL MESURE for monitoring parameters pH, ORP, temperature, dissolved oxygen (optically), conductivity, salinity, turbidity (NTU, mg / L), UV254, TOC, COD, BOD, Suspended Solid (g/L), Sludge Blanket detection (%)

The measured values are displayed and transmitted by analog or digital way. The functions of preconfigured regulations also optimize process control.

ACTEON 5000 is associated with a wide range of digital sensors resistant to disturbances: pre-amplifying is integrated to the sensor and digital signal processing. All data regarding calibration, history, users and measures are handled directly in the sensor to enable traceability and extreme reliability of the measurements.

Transmitter ACTEON 5000

| Software and features | |
|-----------------------------|--|
| Digital sensor | 2 inputs digital sensor RS485 |
| 2 analog input | In mode 0/4-20 mA or 0-10 V |
| 2 relay input | Function of transfer on exit (release) TOR Information of external cleaning system : swing in maintenance mode |
| 2 analog outputs | Choice of 2 parameters programmable according to the connected sensor Programming PID |
| 2 digital outputs /relay | NO/NF customizable Instruction point: setting of the measuring range (Hysteresis / activation way) and time of activation, Command for external cleaning system Output alarm for defect material sensor |
| Digital output | Modbus RTU Ethernet TCP IP |
| Data recording | Internal flash memory Frequency recording: 1-120 mn Recording journal of events, measure sensors. |
| Atmospheric pressure sensor | To compensate oxygen pressure |

| Characteristics | |
|-------------------------------|--|
| Display | Backlit graphic LCD touch Screen – Size 95x54 mm |
| Analog outputs | 0/4.00 – 20.00 mA with galvanic isolation Charge max 250 Ω |
| Relay outputs | 6 A /250 V |
| Operating conditions | Temperature : -15°C to + 50 °C Temperature of storage/transport : -15°C to + 50°C |
| USB port | Unloading of the recorded data |
| Power/ Electrical protections | 100-240 V AC/DC 50-60 Hz - Option 9-28 V DC/DC - Electrical protection: consistent EN61010-1 :2010 |

| Housing | |
|--------------------|--------------------------|
| Dimensions (LxHxP) | 213 x 185 x 84 mm |
| Material | Grey ABS |
| Protection rating | IP 65 |
| Front | Antireflective polyester |

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 | PRECISION | MATERIAL | |
|------------------|--|--|---|--|---|--|
| OPTIC | Oxygen | Optical fluorescence | 0,00-20,00 mg/L 0 – 200 % | ± 0,1 mg/L ± 1 % | PVC special membrane, 316L stainless steel or titanium, herazil | Temperature Compensation via CTN, of pression and salinity |
| | Turbidity | IR Nephelometry (diffusion 90°) | 0,0-50,0 NTU 0,0-200,0 NTU 0-1000 NTU 0-4000 NTU Automatical NTU 0 – 4500 mg/L | < 5% of reading | PVC, POM-C, PMMA, Inox | Temperature compensation via CTN |
| | Suspended Solid sensor | Optical IR (870 nm) based on IR absorption | Sludge blanket : 0-100 % SS : 0-50 g/L Turbidity : 0-4000 FAU | SS< 10 % Turbidity : +/- 5% (range 200-4000 FAU) Sludge blanket : +/- 2% | DELRIN, Nickel-plated brass, EPDM | Temperature regulation of optics via CTN. |
| | VB5 Sludge Blanket Detection sensor | Optical IR (870 nm) based on IR absorption | Sludge blanket : 0-100 % | +/- 2% | DELRIN, Nickel-plated brass, EPDM | Temperature regulation of optics via CTN. |
| 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 to peak of platinum | - 1000,0 to + 1000,0 mV | ± 2 mV | Delrin, PVC, glass, platinum | Reference Ag/AgCl to gelled electrolyte |
| | Redox Annular | combined Electrode to ring of platinum | - 1000,0 to + 1000,0 mV | ± 10 mV | Delrin, glass, platinum | Reference Ag/AgCl to gelled 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 | ± 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 |

ACTEON 5000

StacSense probe- UV Optical Technology for optimal measurements

■ **Sonde UV254 multiparamètre**

- UV 254 spectral absorption without any reagents or consumables.
- Multi-parameter measurement: SAC254, CODEq, TOCeQ and & BODEq, Turbidity eq
- 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 and to establish the Turbidity parameter



| Op.T | Parameters | Measurement range * | Units | Detection limit | Quantification limit | Accuracy ** | Application |
|-------|--------------------|---------------------|-------|-----------------|----------------------|--------------|----------------|
| 2 mm | SEC ₂₅₄ | 0-750 | Abs/m | 1.7 | 5 | 1 or +/-3% | Wastewater |
| | CODEq | 0-1300 | mg/L | 3 | 9 | 2 or +/-3% | |
| | BODEq | 0-350 | mg/L | 1 | 3 | 1 or +/-3% | |
| | TOCeQ | 0-500 | mg/L | 1.5 | 4 | 1 or +/-3% | |
| | Turbidity eq | 0-500 | FAU | 1.5 | 5 | 5 or +/-5% | |
| 50 mm | SEC 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% | |
| | Turbidity eq | 0-40 | FAU | 0.40 | 1.2 | 1.0 or +/-7% | |