



HYDRO D1600



NEW LINE SELF CLEANING FLOWMETER BUBBLE TO BUBBLE FOR OPEN CHANNEL AND COLLECTORS

DOMAINS OF APPLICATIONS

Industrials plants, Rivers, Reservoirs,
Wastewater, Treatment plants...

New flowmeter sensor, low power consumption, working on the bubbling principle and designed to measure in remote area together. Several ranges are available :

HYDRO D1601 : 1 meter water depth (full scale)

HYDRO D1605 : 5 meter water depth (full scale)

Thanks to its compact compressed air generator, the HYDRO D1600 flowmeter measures the water level by means of that of the injection pressure of a low air flow at the foot of the water column.

This pressure is applied to a silicium membrane sensor which delivers a signal proportional to the water level upstream of the weir or of the contraction.

The level is then converted into discharge by a level/flow curve defined by a parametric formula or by a set of pairs of points (level/flow). Measured level and calculated flow are available in the form of an analog output, a serial copy, or from the protocols **SDI12, MODBUS : RTU** or **ASCII**.

I. HYDRO D1600 flowmeter has the following basic elements and functions :

- Temperature compensation of the measurements and outputs
- The water depth compensation according to the influence factors
- The user has several possibilities : the water level measurement can be transmitted as an analog signal 4-20 mA or 0-10V or digital message on SDI12 ou RS232, RS485, USB, RTC, GSM,...
- An RS232 type COM1 serial link for communication with a PC in terminal mode (for configuration and local operation), or in exchange with the HYDRO PC software for the use of the history according to a proprietary protocol
- An RS232 or RS485 type COM2 link for digital copying of the measurement in ISP8 message format, in order to maintain upward compatibility with our old equipment (ALPHEE, DPN7)
- A display with an LCD color screen and a sensitive 6 button keypad
- Can drive 2 samplers
- Alarm thresholds on programmable logic outputs

II. HYDRO D1600 can be delivered with the following optional features :

- Modbus protocol on serial port COM2 when the numerical message ISP8 is not activated
- Protocol « HYDROLOGIC current values » on COM2 when the numerical message ISP8 or Modbus protocol are not activated
- A library (curves downloading) : 71 HYDROLOGIC standard curves + 30 user curves by points + 20 user curves by formula
- Associated measurement (pH, temperature, ...)
- Alert system
- HYDRO PC or HYDROEXPRESS software for data processing

MEASURES	
Measuring range	0 - 1 m / 0 - 5 m
Level resolution	1mm
Level accuracy	+/- 0.2 % PE full scale on all of the temperature range for 1 m +/- 0.1 % PE full scale on all of the temperature range for 5 m
Flow accuracy	3 to 5 % depending on the open channel
Temperature range	-40° to +60°C
Temperature drift	+/- 0.1% full scale in the range -40°à+60°C
Sampling interval	5 to 120 sec adjustable set on full hour
Flow measurement filtering	Exponential filtering Adjustable filtering period 1 mn to 20 mn Adjustable threshold filtering from 0 to 100 % full scale flow
Purge	Automatic : at the start of the unit and programmable from 0 to 255 hrs Manual : access from the keypad
Field of no sensor deterioration	At least 2 times sensor full scale
Level/flow conversion curves	Mono curve Q(H) ; Storage more curves optional
MEMORIZING	
Capacity	1.9 Mbytes flash memory
Logging/Autonomy	Logging at a fixed interval or by linearization Autonomy from 1 to 6 months depending on the site
COMMUNICATIONS	
Interfaces	SDI12 , RS232/RS485, USB slave
Protocols	Terminal emulation SDI12 slave ISP8 / CDC9 (for parallel output Gray, BINAIRE, BCD) « PN2 current values » and MODBUS : optional Operating system and remote software update
INPUTS / OUTPUTS	
Logic inputs	3 optional
Analog outputs - 4-20mA / 0-10V	1 in standard + 2 optional - programmable in mini or maxi scale
Logic outputs	6 (to be programmed individually based on a programmable threshold or alarm with min and max scale)
Sampler drive	2
MAINTENANCE	
Operating time and maintenance counter	Available for compressor, tube, battery, solenoid valve and air filter
Autodiagnostic with alarm indication	Monitoring of the measurements with respect to their domain of definition and alarm control
GENERALS FEATURES	
Power supply	12 Vcc External : 24 Vdc ; 48 Vdc ; 220 Vac ; solar pannel
Consumption	=50mA when active <=2mA in sleep mode
EMC Protection	EMC according EMC certifications
Polycarbonate enclosure	Case size : 200 x 200 x 140 mm Weight : 1.94kg
Safety class	IP 44
Relative humidity	< 80% without condensation
Pneumatic connection	Screw connection fitting for 4/6mm tubing
Electrical connection	Removal terminal blocks, keyed
Dust filter	Yes - Easy access
Display and keypad	LCD with 4 lines of 20 characters, alarm and activity indicators with color leds

Features and specifications are not binding unless confirmed by our company.



4 RUE DU TOUR DE L EAU
38400 ST MARTIN D HERES
France - GRENOBLE
Tel : 00 33 (0)4 76 03 74 74
Fax : 00 33 (0)4 76 42 40 70
hydrologic@hydrologic.fr
www.hydrologic.fr