

# Technical Specification

## NautiLog NL-1 Series

### Battery Powered Pressure/Flow logger



Intelligent energy efficient data logger for water industry

#### Application

- Smart logger for water industry
- DMA meter reading and transmission to reduce NRW
- Bulk meter reading and logging
- Quick pressure verification

#### Features

- Ultra low power design with internal battery
- Dual channel pressure/flow data logging
- Water proof design with IP68
- Data requisition rate as high as 40mS to monitor water hammer with high density local data storage
- Support remote parameter configuration and program update
- Support USB interface for onsite maintenance and setup
- Local display of flow rate and pressure

#### Your benefits

- Integrated pressure sensor to save installation complicity
- True Real-Time pressure and flowrate monitor
- Water seal quick connector on meter - no more wiring work on the meter
- IP68 protected device give you confident on all weather condition
- Energy-saving measurement – no more need of huge solar panel
- No power grid required – battery lifetime of up to 5 years
- Reliable data storage

---

## Pressure measurement

---

**Measured variable**                      **Direct measured variables**  
Fluid pressure

---

**Measuring range**

0~16 bar  
0~232 psi  
0~1.6 MPa  
0~163 meter of water

---

**Measuring performance**

0.2% o.R. or 0.1% F.S.

---

## Digital Input

---

**Flow meter interface**                      Pulse input with internal pull up  
RS-485 for digital communication for flow reading

## Output

---

**Communication**                              RS-485 (to communicate with flowmeter)  
USB (for PC software)

## Memory

---

**Capacity**                                      8MB  
**Saving interval**                              10second ~24 hours configurable, typical 5 minutes

## Power supply

---

**Supply voltage**                              **Power from batteries**  
3.6 V DC  
32 Ah nominal capacity at 20 °C

## Environment

---

**Ambient temperature**                      **Operation temperature**  
-20~60 °C

**CE Marking**                                      **Electrical Static Discharge**  
IEC61000-4-2, 6kV direct discharge, 8kV discharge

**Radiated RF fields**  
IEC 61000-4-3, 80MHz~1000MHz 10V/m,1000MHz ~ 2700MHz:3V/m

**Electrical fast transient/burst**  
IEC 61000-4-4 1kV on cable

**Surge**

IEC 61000-4-5, 1kV on cable,1,2/50s wave

**Conducted RF disturbances**

IEC 61000-4-6, 0.15~80MHz 3V

**Electromagnetic compatibility**

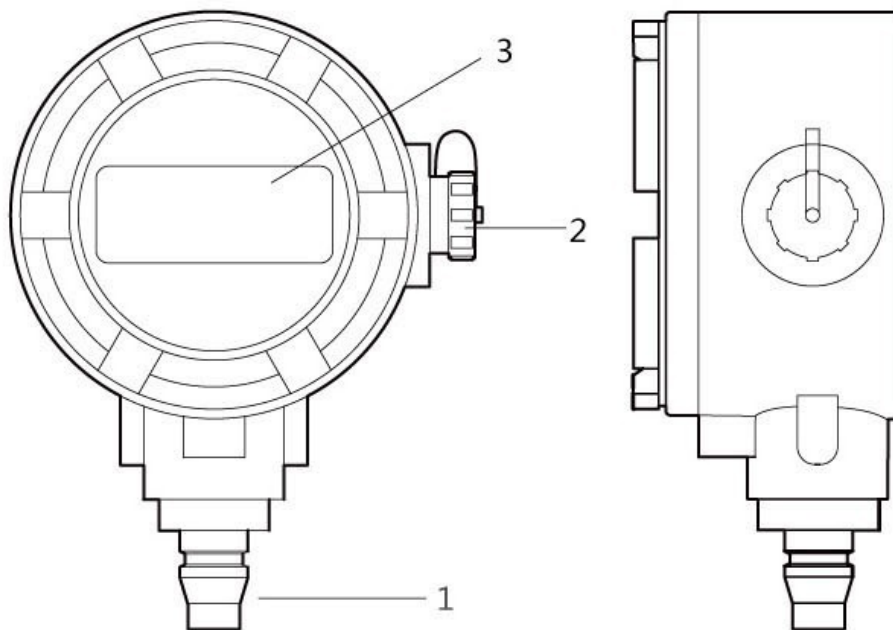
IEC 61000-4-8, 10A/m

**Mechanical Shock**

IEC 68-2-27, half sine wave, 300g, 3 axles

**Protection Level** IP68

**Connection and installation dimensions**



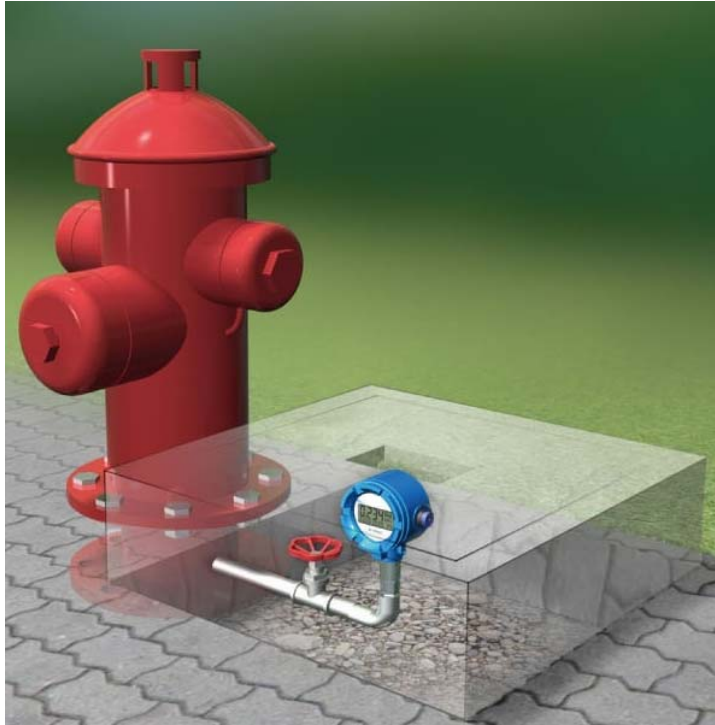
- 1. Pressure sensor or fitting input
- 2. Digital communication interface
- 3. Display

**Dimension** 88mm diameter/ 58 mm height

**Materials**

<b>Sensor material</b>	<b>Pressure tapping fittings</b>
	316 Stainless steel
<b>Electronics Housing</b>	Casted Aluminum
<b>Sealing O-Rings</b>	EPDM
<b>Connector</b>	Lemo K Series water proof

## Typical Installation



DLF is applied next to fire hydrant to ensure right pressure maintained in the pipeline

## Order structure

NL-1	-	AAAAA	B	CC	DDDDD		
------	---	-------	---	----	-------	--	--

### Model

NL1-

#### AAAAA

REC01

REC02

#### Recording channel

Single channel pressure recording

Dual channel pressure and flow recording

#### B

L

R

#### Pressure channel type

Integrated pressure sensor

Remote sensor through 4~20mA

#### CC

1

2

#### Flow channel type

Pulse input

RS-485 input

#### AAAAA

IF

ABBAM

ABBWM

MAG80

MM

#### Flowmeter model

gFlow flowmeters

ABB AquaMaster flowmeter

ABB WaterMaster flowmeter

Siemens MAG8000 flowmeter

Flowmeter with pulse output