OSNET Water Level Data Logger

NetLG-001NE

Measuring and, then, Warning!

~A Data Logger with not only a water level measurement function, but also a strengthened alarm function~

Versatile alarm function

This instrument can be set up to four water level alarm limits, each of which is either upper or lower limit with hysteresis. Thus, it is possible to develop a four-step alarm system. It is also equipped with one alarm output contact.

A wide variety of monitoring functions

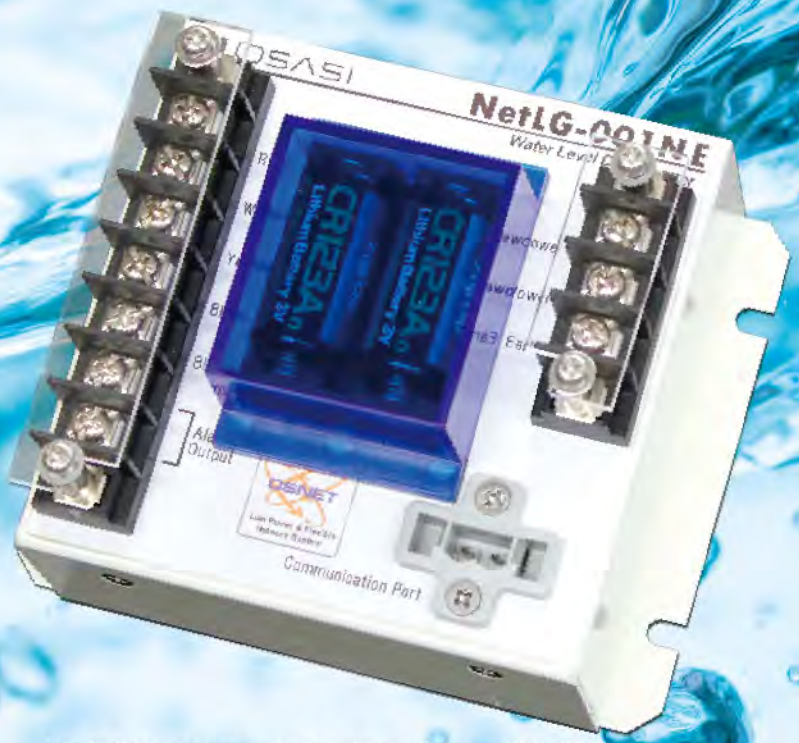
This instrument has a function to display three types of water level, namely, actual water level, groundwater level and water level elevation. And it also has functions to monitor power supply voltage, to diagnose breakage and short-circuit of sensor cables and to measure input resistance of sensor. Thus user can detect malfunction of the instrument and the sensor early and has responses quickly.

Low-power-consumption design

Our original low-power-consumption design enables operation of the instrument for one year with a single main lithium battery in the case of the one-hour recording interval. Moreover, with the use of the auxiliary battery, the instrument can be operated for 2 years without replacing batteries.

OSNET compatibility

A user can upgrade the system easily from a simple measurement system with only a data logger and a sensor to an alarm with an additional alarm function and, then, to an automatic remote monitoring system at sites in different conditions and with different amounts of budget.



Used with one pressure-type water level sensor (OSASI Technos)

Examples of the use of this instrument

Rivers and levees

River management facilities including dams and levees are designed using a rainfall with a recurrence interval of 100 to 200 years as a basic design condition. However, the risk of flooding increases in recent years because of the occurrence of abnormal meteorological phenomena, such as localized torrential rain and super-typhoons. The water level of the rivers where the water level is expected to rise faster than previously expected is monitored. Meanwhile, in order to evaluate the performance of river levees, water level data are collected.

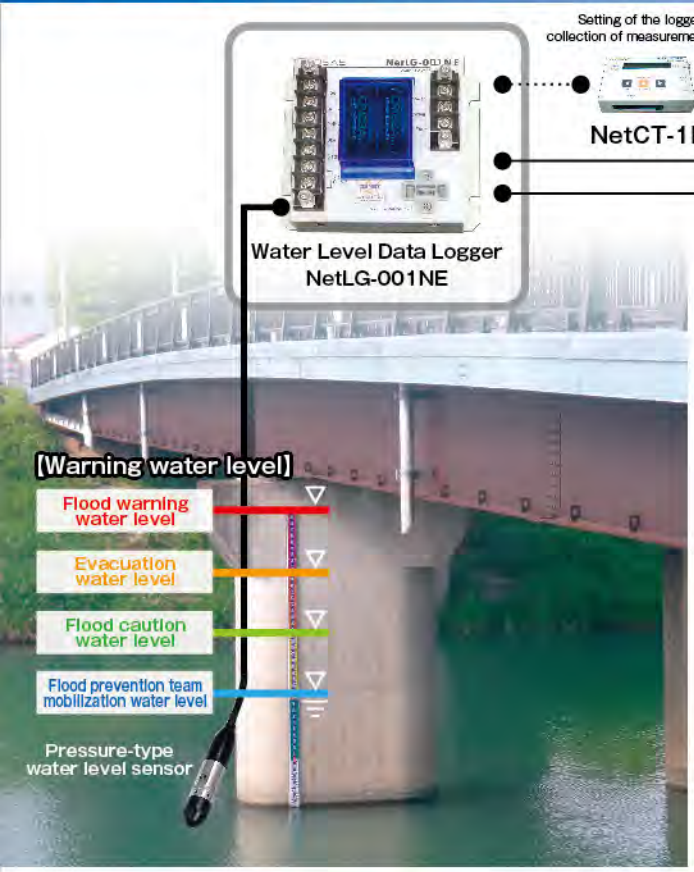
Water for agricultural use and reservoirs

On-site measurement of water usage and water discharge is required for the management and projection of the water usage for agriculture. The alarm functions are used for the monitoring and management of the water in reservoirs, as their deterioration has become a serious problem.

Landslide and debris flow control

This instrument is installed inside and outside of landslide for hydrological studies. Data measured is used for the analysis of the mechanism of landslide and for designing and evaluation of the countermeasures. This instrument with a wire sensor is installed in the upper reaches of mountain streams along which debris flow could occur and used for the issuance of alarms. In addition, the flow rate measured is used to detect the occurrence of debris flow, i.e. the process from a slope collapse to a natural dam.

An example of the configuration of a step-wise (water level) alarm system



①Local alarm system (step-wise alarm system)

Alarm output device
(contact output terminals x 6 sets).
* At a maximum, a six-step alarm system can be developed.

Example of display on a display device for step-wise alarm system

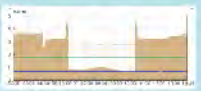
- Electronic bulletin board
- Revolving light
- Electronic horn

②Automatic remote monitoring/alarm system

communication device

- Automatic remote observation (monitoring the site conditions at a management office)

River information base station



Example of area disaster management information

- Step-wise alarm mails

Mobile information terminal device

Example of alarm mail messages

We are developing an available remote observation system out of Japan.

■NetLG-001NE Specifications

Name		OSNET Water Level Data Logger
Model		NetLG-001NE
Compatible sensors		pressure-type water level sensor (OSASI Technos)
Water level sensor	Power supply to sensor	Constant voltage: DC 3.75 V ± 1%
	Measurement range	Same as the water level sensor connected to the data logger
	Resolution	Select 1 cm or 1 mm
	Measurement Accuracy	± 0.1% F.S. (in the entire operating temperature range)
Recording interval		Between 1 second and 1 day (a total of 18 intervals) and none
Recording capacity		60,480 measurements
Power supply	Lithium battery	Two CR123 A lithium batteries (one main and one auxiliary)
	External power supply	DC 5 V – 15 V
Current consumption	During standby	0.1 mA or less (on average)
	During water level measurement	20 mA or less
	During communication with OSNET	35 mA or less
Operating temperature range		-20°C to +55°C (no condensation)
External dimensions		100H×120W×60.9D(mm)
Weight		500g

Alarm	Measurements for alarm setting	Actual water level
	Type of alarm	Upper or lower limit alarm * A hysteresis setting can be used to set all the types of alarm limits
	Number of limits that can be set for the issuance of alarm	4
	Alarm output form	Output of alarm packet to OSNET network, Alarm contact output: one contact * The alarm contact is for logical OR output of all the alarms that have been set.
	Alarm contact type	Non-voltage A contact or B contact output
	Alarm contact capacity	DC 30 V, 500 mA (max.)

OSNET
Low Power & Flexible Network System

OSNET is the generic name for a network in accordance with the specification of OSASI Technos. An OSNET network can be configured with a maximum of 64 instruments. A maximum distance between each instrument is 1km (twisted pair of single cable 0.9mm or larger). The major feature is its operation on lithium batteries in mountainous areas where there is no power supply. Also, it is possible to collect the data remotely, to output alarms, etc. by adding communication devices to the network.

We pass on voices of the earth

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