OSNET Full-bridge-circuit Strain and Water Level Data Logger

NetLG-401NE

Data Logger for the Era of Multipoint Observation

– Expandable data logger with utility in various fields –

Correspondence with expansion unit

The 10-channel expansion unit (401N+) allows easy addition of measurement channels.

Applicable to thermocouple measurement

This instrument allows easy multipoint temperature measurement as all the measurement channels are compatible with type-K,N,J and T thermocouples.

Versatile alarm function

The setting of four alarm limits on each channel allows a wide variety of alarm settings including stepwise alarm issuance.

Powered by a commercially-available battery

This instrument can be operated for measuring at one-hour intervals for approx. seven months with a commercially-available lithium battery (CR123A).

Compatible with SD cards

It is possible to collect the recorded data onto an SD card.

OSNET compatibility

[Basic unit]
Full-bridge-circuit strain transducer/thermocouple: 10 channels
Water level gauge: 1 channel

Examples of adaptable sensors


Pressure-type water level sensor


Thermocouple


Load cell


Embedded-type inclinometer


Inclinometer


Temperature gauge


Pore water pressure gauge

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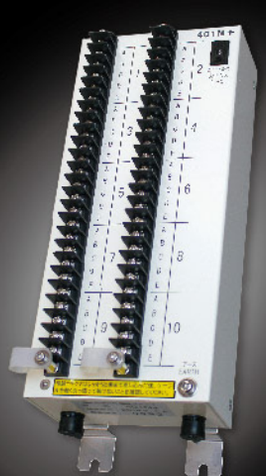


[Expansion unit]
Full-bridge-circuit strain transducer/thermocouple: 10 channels

Expansion unit for NetLG-401NE

401N+

Max. of 50 additional measurement channels

Up to five expansion units with 10 measurement channels can be connected to the base unit. The measurement of 60 channels is possible in total.

No need for power supply

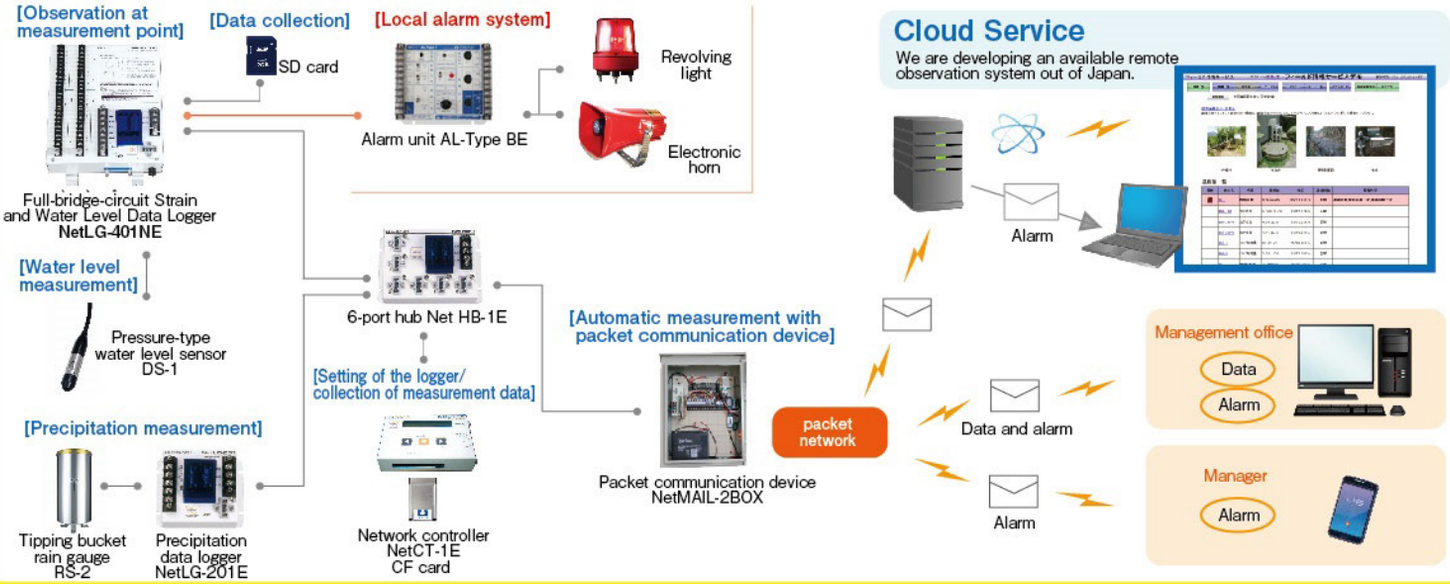
As power is supplied from the basic unit, the expansion unit does not need a battery or other power source.

Applicable to thermocouple measurement

All the measurement channels are compatible with thermocouples in the same way as those on the basic unit.

*A specialized cable supplied with the expansion unit is used to connect it to the basic unit or to another expansion unit.

Example of system configuration



NetLG-401NE Specifications

[Basic unit]

Power supply		External power supply: DC 5 V – 15 V, or Two CR123 A lithium batteries (one main and one auxiliary)
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, During strain measurement: 50 mA or less
External dimensions / Weight		261H×189W×90.5D (mm) / 1.6kg
Usable temperature range		-20°C to +55°C (no condensation)
Number of input channels		Water level sensor: one channel (To be used exclusively with OSASI Technos water level sensors)Full-bridge-circuit 350 Ω strain gauge transducer or thermocouple: 10 channels
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
	Accuracy of water level measurement	± 0.1% F.S. (in the entire operating temperature range)
Strain sensor	Power supply to sensor	Constant current DC 5.00 mA ± 0.4%
	Input resistance	Standard 350 Ω (with an allowable range of 100 Ω to 450 Ω)
	Measurement range	± 20,000 μ strain
	Resolution	1 μ strain
	Strain measurement accuracy	Within ± 10 μ strain (including linearity, reproducibility and temperature drift in the entire operating temperature range)
Thermocouple	Thermocouple types	Types-K, -N, -J and -T
	Measurement range	Types-K and -N: -250°C to +1250°C Type-J: -200°C to +1150°C, Type-T: -250°C to +350°C
	Resolution	0.1°C
	Temperature measurement accuracy	Within ± 4°C (when internal reference contact compensation is used)
Recording interval		Select from 1 min, 2 min, 5 min, 10 min, 20 min, 30 min, 1 hr, 2 hr, 3 hr, 6 hr, 12 hr, daily and none. * Different recording intervals may be set for water level sensor recording and strain sensor/thermocouple recording.
Recording capacity		Water level sensor: 30,240 measurements, Strain sensor: 12,600 measurements/ch., Thermocouple: 12,600 measurements/ch.

401N+ Specifications

Power supply		Supplied from NetLG-401NE
External dimensions / Weight		261H×95W×81D (mm) / 1.0kg
Usable temperature range		-20°C to +55°C (no condensation)
Number of input channels		Full-bridge-circuit 350 Ω strain gauge transducer or thermocouple: 10 channels
Strain sensor	Power supply to sensor	Constant current DC 5.00 mA ± 0.4%
	Input resistance	Standard 350 Ω (with an allowable range of 100 Ω to 450 Ω)
	Measurement range	± 20,000 μ strain
	Resolution	1 μ strain
	Strain measurement accuracy	Within ± 10 μ strain (including linearity, reproducibility and temperature drift in the entire operating temperature range)
Thermocouple	Thermocouple types	Types-K, -N, -J and -T
	Measurement range	Types-K and -N: -250°C to +1250°C Type-J: -200°C to +1150°C Type-T: -250°C to +350°C
	Resolution	0.1°C
	Temperature measurement accuracy	Within ± 4°C (when internal reference contact compensation is used)

[Expansion units]

[Connection cable]
Standard cable (60cm long)

Optional cable (3m long)

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.

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We pass on voices of the earth
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