



ELS NANO

Single point level detection system



Levelstate

Solution at all levels

FIT AND FORGET SYSTEM

Reliable detection of water level is essential for the safe operation of any water containing device. Very high level may lead to an overflow whereas very low level may cause overheating resulting in damage to collateral equipments as well.

Levelstate Electronic Level Switch (ELS) NANO provides a reliable and cost effective means of sensing water level in high pressure applications. ELS NANO is based on the conductivity probe principle where resistivity discrimination between water and steam is used to provide the required indication.

Levelstate ELS NANO is an effective and economical replacement to the float type level switch.

The system consists of an Electronic Unit, a conductivity Probe, a Probe Insert/Water Column and a length of Probe Cable. The conductivity Probe can be mounted directly on the vessel through a Probe Insert or a side-arm Water Column.



Features

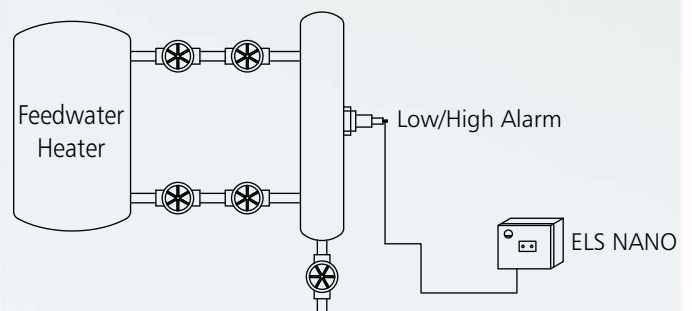
- Single point steam/water level detection
- Available for pressure ratings upto 207 bar (3000 psi)
- Ideal for economic replacement of float type level switches
- Visual indication (LED)
- Universal power input supply
- Adjustable on/off time delay output
- Explosion proof (optional)

Applications

- Equipment drains (Control valves, Soot blower)
- Receiver tanks (Condenser, Water tank, Deaerator)
- Flash tanks, Feedwater heaters
- Steam line drain pots
- Mainstream header drains
- Hot and cold reheat drains
- Turbine water intrusion protection (TWIP)
- High pressure systems, where float type level switches are not feasible

ELS NANO advantages over Float Type Level Switch

- No moving parts
- No calibration required
- Direct reading
- Avoid any nuisance alarm/trip
- Easier installation
- Fit and forget
- Reliable service for much longer period
- Much more user friendly



ELS NANO Installation at Feedwater Heater

SPECIFICATIONS

Electronic Unit

Type	NANO
Enclosure	Wall mounted FRP enclosure with IP65/NEMA 4X protection; Size (mm): 200H x 154W x 76D
Rating	-10°C to 70°C; Relative humidity: upto 100%
No. of channel	1
Power supply	Single power supply - 85-264V AC @ 47-63 Hz, 120-370V DC
Level display	Green LED for water and Red LED for steam
Diagnostic feature	System can discriminate water and steam level through relay output
Process fault relay	Dual pole change-over contact (DPCO)
Relay contact rating	8A @ 250V AC, 10A @ 30V DC; Response time: 0.5 seconds
On time delay of relay	0,2,4 & 6 seconds
Off time delay of relay	0 to 63 seconds
Sensitivity setting	0.5, 1.0 & 2.0 μ S/cm

Water Column

Type	501	502
Rated pressure/temperature	150 bar at 341°C (2175 psi at 645°F)	207 bar at 370°C (3000 psi at 698°F)
Material	Carbon steel - ASTM A106/A105	Carbon steel - ASTM A106
Design code	ASME B31.1 Power Piping Code	ASME B31.1 Power Piping Code
Steam/water connection*	25NB x Sch.160	25NB x Sch.160
Drain connection*	15NB x Sch.80	15NB x Sch.80

*Custom size available on request

Conductivity Probe

Type	801 (for Water Column Type 501)	802 (for Water Column Type 502)
Rated pressure/temperature	150 bar at 341°C (2175 psi at 645°F)	207 bar at 370°C (3000 psi at 698°F)
Material	SS with zirconia/alumina insulator	SS with zirconia/alumina insulator
Connection type	Screwed type with M16 x 1.5mm thread and metaflex gasket seal	Swagelok type compression fitting with metal to metal seal
Optional	Probe Type 811 with non-wetting PTFE insulator available for pressure upto 23 bar at 220°C (334 psi at 428°F)	

Probe Insert

Type	701 (for Probe Type 801/811)
Material	Stainless steel

Probe Cable

Type	NANO28
Cable specification	4 core, special PTFE insulated, high temperature cable, pre fabricated with nickel-plated crimped end fittings
Length	10 meters (available upto 30 meters)

STEAM GENERATING PLANT LEVEL MONITORING SOLUTION

Levelstate provides SOLUTION AT ALL LEVELS for steam generating plants. Products manufactured are Colour Port Type Direct Water Level Gauge (DWLG), Electronic Drum Level Indicator (EDLI) and Electronic Level Switch (ELS).

The guiding philosophy of reliability and user friendly design has made Levelstate a successful business entity. The user base includes power, petrochemicals, refinery, fertiliser, sugar, paper, cement, metallurgical and chemical industries throughout the world.

Various international agencies have approved Levelstate products. The quality system has been accredited ISO 9001. All Levelstate products are also available with the CE mark.

With professional marketing efficiency and on-time service delivery, Levelstate assures its customers value for money. Factory trained engineers are available on call to provide diagnostic assistance, pre-engineering support, installation and commissioning services.



Direct Level Gauge, Drum Level Indicator and Level Switch



HP Direct Water Level Gauge



MP Direct Water Level Gauge



Electronic Drum Level Indicator



Electronic Level Switch

Levelstate pursues a policy of continuous technical innovation and product development.
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