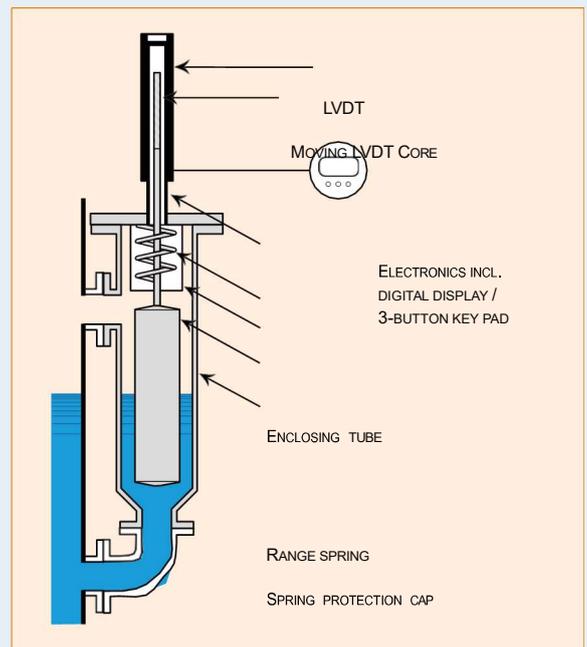


DISPLACER TRANSMITTER



The buoyancy force works on the displacer which will vertically move in (increasing liquid level) and out (decreasing liquid level) the linear differential transformer (LVDT). Due to this movement voltages are induced in the secondary windings of the LVDT. These signals are then processed in the electronic circuitry and used to control the output signal.



E3 MODULEVEL[®] Displacer operated level transmitter



DESCRIPTION

E3 Modulevel[®] is a 2-wire, loop-powered level transmitters utilising the buoyancy principle to detect and convert liquid level changes into a stable output signal.

The linkage between the level sensing element and output electronics greatly simplifies mechanical design and construction. The in-line vertical design of the transmitter reduces instrument weight and the effects of process vibration on electronic circuitry components while simplifying installation.

FEATURES

Operation functions include:

- interface measurement and detection
- continuous level measurement
- density measurement.

2-line x 8 characters display LCD and 3-button keypad.

Easy bench configuration. No need for level simulation.

2-wire loop powered intrinsically safe level transmitter.

360° rotatable housing can be dismantled without depressurising the vessel.

Special options, materials and custom engineered features.

SIL 2 / SIL 3 capable certified.

Several cage designs are available, consult factory for more details.

APPLICATION

MEDIA: Liquids with a S.G. as low as 0,23 and up to 2,2 kg/dm³ and interfaces with a minimum density difference of 0,10 kg/dm³.

VESSELS: Most process vessels up to +450 °C (+850 °F) for non-condensing and +425 °C (+800 °F) for condensing process temperature and pressures up to 355 bar (5150 psi) or storage vessels e.g:

- feedwater heaters
- condensate drip pots
- scrubbers
- separators
- receivers
- flash tanks
- knock-out drums
- boilers.

AGENCY APPROVALS

	Ex d	Ex ia	Ex n	Ex t	XP	IS	NI	Other
ATEX	•	•						
CCOE	•							
CSA					•	•	•	
FM					•	•	•	
EAC (GOST)	•	•						Metrology
IEC	•	•						
Inmetro	•	•						
Korea		•						
NEPSI								CPA

Marine Lloyd's Register of Shipping (LRS)

SIL SIL 2 (1001)

Other approvals are available, consult factory for more details

PNEUMATIC MODULELEVEL[®]

Liquid level control



DESCRIPTION

Pneumatic Modulelevel[®] controls are displacement actuated level sensors. They provide output signals in direct proportion to changes in liquid level.

Simple, modular design and proven magnetic coupling make MODULELEVEL controls versatile,

FEATURES

Standard models handle service temperatures from -100 °C to +370 °C (-150 °F to +700 °F) and pressure to 294 bar (4265 psi).

Stable output signal is unaffected by surface turbulence. Prevents control valve "hunting" and extends valve life.

Controller head may be removed and bench calibrated without dismantling or even depressurizing the tank.

Accurate output signal provided over a wide specific gravity range.

316 SS displacer and trim.

Easy field calibration without moving tank liquid level, reducing installation time and cost.

Controller head rotates 360°, simplifies pneumatic piping hookup.

Pilot relay provides a 4 to 1 amplification of pilot pressure signal to speed valve response.

Built-in visual level indicator is independent of air supply.

Optional pneumatic to current interface transducer for use in electronic control applications.

Optional proportional plus integral control.

Optional differential gap (on-off) control.

Optional Hi-Lo electronic alarm signal provides inexpensive backup alarm.

APPLICATION

Pneumatic MODULELEVEL liquid level controls are widely used in utility power generation, chemical and petroleum processing operations, such as:

- steam generator feedwater heater regulation
- fractionating column level transmitter
- ethanolamine level transmitter
- vent gas scrubber level control
- drip pot condensate level control
- flash tank level transmitter.

EXTERNAL CAGES

for electronic devices



Several devices such as Eclipse[®], Modulevel[®],... are mounted in (custom designed) external cages. Depending on process connection, process condition, customer specification,... several possibilities are possible. Below are some typical examples. Many other designs are possible, consult the factory for more details.