



FEATURES

- Simple and compact installation
- Immunity to liquid disturbances
- Easy operation and maintenance
- All-digital processing
- Automatic calibration

ULMS

Ultrasonic Water Level Measuring System

The ultrasonic level measurement channel forms part of the NIMSYS product line. It is used during the nuclear power plant outage to monitor the real level of water in the reactor via the primary pipe.

The main application is to avoid the vortex cavitation of the pump, and to optimize duration time for maintenance of the steam generator for example.

Its design makes it easy to install and limit the installation time in the reactor building.

Its design is based on the round-trip time of an ultrasonic wave which is reflected from the surface of the liquid. It can be easily and quickly installed without any modification of the plant. The high performance of the ultrasonic measurement channel is ensured by the measurement stability and immunity to disturbances of the liquid surface.

APPLICATIONS

- Operational process monitoring

VERSIONS

- 500 kHz for casted pipe
- 1 MHz for forged or extruded pipe

radiation monitoring
systems

A Mirion Technologies Division

Featuring:



PHYSICAL CHARACTERISTICS

- Pipe inside diameter: 0.5 to 1.3 m (1.6 to 4.2 ft)
- Detector: piezoelectric sensor
- Measurement range:
 - Version 500 kHz: 20% to 100% of water level
 - Version 1 MHz: 35% to 100% of water level
- Response time: real time measurement (1 s)
- Accuracy:
 - ± 0.5% at constant temperature
 - ± 2.5% between +10°C and +70°C (+50°F and +158°F), including the variations of the speed of sound versus temperature

PROCESSING CHARACTERISTICS

- Supplied in casing
- **Indications:**
 - Illuminated indicators (LED) on the door
 - Liquid-crystal alphanumeric display
 - Level measurement values displayed:
 - Absolute level with respect to a reference (in meters)
 - Relative level (in % of the full pipe)
 - Round-trip time of the ultrasonic wave (in µs)
- **Outputs:**
 - Analog output (0/4-20 mA)
 - 4 output relays (SPDT):
 - Operate
 - Correct coupling
 - 2 programmable level thresholds (high and low level)
- Operating temperature range: +10°C to +35°C (+50°F to +95°F)

ELECTRICAL CHARACTERISTICS

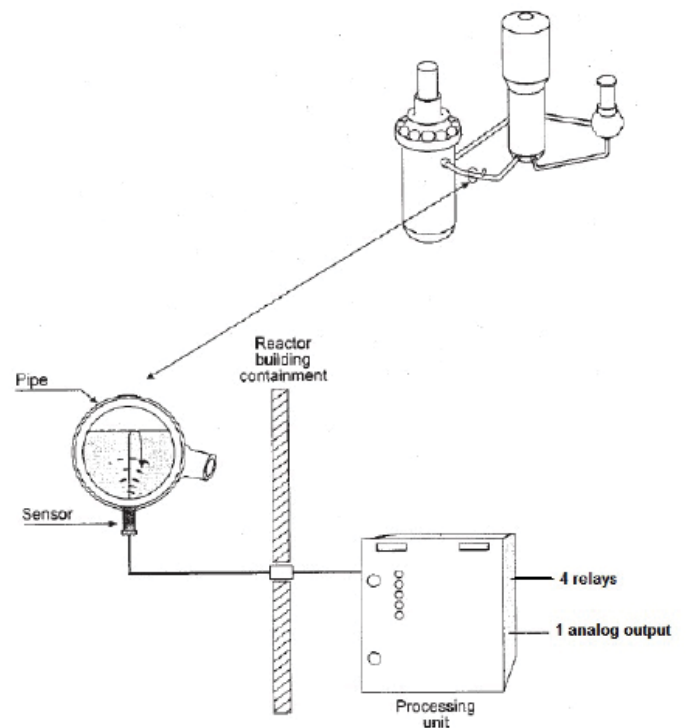
- Power supply: 230 Vac – 50 Hz or 120 Vac – 60 Hz
- Immunity to industrial interference: CE marking

MECHANICAL CHARACTERISTICS

Dimensions	Support	Sensor	Processing Unit	Belt
Height	120 mm (4.72 in)	314 mm (12.36 in)	525 mm (20.66 in)	Adjustable to the pipe
Width	210 mm (8.26 in)	Diameter: 110 mm (4.33 in)	570 mm (22.44 in)	242 mm (9.52 in)
Depth	145 mm (5.70 in)		286 mm (11.26 in)	Thickness: 60 mm (2.36 in)
Weight	8 kg (17.6 lb)	5 kg (11 lb)	20 kg (44 lb)	22 kg (48.5 lb)

OPTIONS

- RS232 link toward computer, and/or printer



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