

Level measurements

State-of-the-art solutions specifically tailored to customer needs



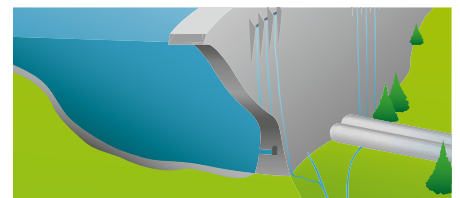


Safe, efficient and reliable

Methods for long-term stable and high-precision level measurements

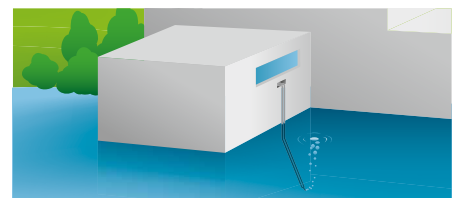
Hydrostatic level measurements

Hydrostatic level measurements are high-precision measurements for small and large volumes and performed by directly applying the water column load to be measured to the pressure transducer. This method is particularly suited for reservoirs/dams and equalizing basins from 0 to 275 m height.



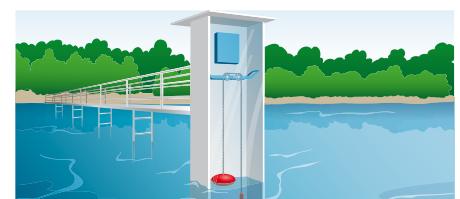
Pneumatic level measurements

For pneumatic level measurements by means of the bubbling method, the sensor – without having direct water contact – measures the counter pressure generated by an air compressor. This high-precision level measurement is also well-suited for reservoirs/dams, rivers and equalizing basins from 0 to 135 m height.



Level measurements with floaters

A precise and extremely robust level measurement can easily be set up by means of a floater connected to the rotary encoder via a chain and gear wheel.



These measurements also allow for a variety of other analyses, calculations, and controls such as:

- Flow measurements by means of rectangle / triangle weir, Venturi channel / tube, Winter-Kennedy and other measurements (e.g. to determine leakage water volumes)
- Volume calculations of tanks or reservoirs
- Trash rack monitoring using differential pressure measurements
- Redundant level transducers for critical level measurements

«**Comprehensive solutions** from one source –**exactly tailored to customers' needs.**»



Flexible and versatile

Durable solutions with added value

Rittmeyer level measurement systems are versatile, durable and very precise. Depending on the individual application and required measuring accuracy, they feature additional properties that provide true, tangible added value such as:

High safety standards

When limit values are exceeded, the controller can autonomously execute a predefined action. This function can also be activated in case of a connection failure with the control room and provides a certain level of on-site intelligence.

Easy migration thanks to backwards compatibility

The backwards compatible system design facilitates an easy migration of existing installations.

High investment protection

The very robust construction, use of high-quality and long-lasting industrial components and a consistent forward compatibility strategy guarantee maximum investment protection and a long service life.

Low-power design

All measurement system components are designed for lowest possible power consumption.

Interference-free communication, numerous interfaces

Rittmeyer solutions include comprehensive communication interfaces and protocols:

- Modbus RTU/TCP
- IEC 60870-5-104
- SMTP alerts, datalog files, etc.
- Data transfer to cloud services e.g. RITUNE; cloud access and SMTP via built-in ethernet or cellular (4G, future 5G)

An integrated web server allows easy configuration as well as diagnostics and (remote) servicing of the entire system, thus making long distance travel unnecessary in most cases.

User-friendly operation

All Rittmeyer systems are designed around a uniform operating concept facilitated by a simple, easy-to-use web user interface which does not require special PC software. Any web browser (on a PC/laptop, tablet or even smartphone) will be sufficient to configure and operate the system.

Customized complete solutions



High-precision level measurements - with RIPRESS premium
RIPRESS premium is a drift-free and maintenance-free system based on a quartz crystal resonator that delivers high-precision hydrostatic and pneumatic measurements, e.g. for exact storage volume calculations of large reservoirs and dams.

- Possible areas of application: reservoirs/dams, equalizing basins, rivers
- Accuracy: < 0.01% FS
- Hydrostatic measuring range: 0 ... 275 m H₂O / 0 ... 400 psi
- Pneumatic measuring range: 0 ... 135 m H₂O / 0 ... 200 psi



Versatile solution - with RIPRESS smart
RIPRESS smart is a versatile, low-maintenance and cost-effective complete solution, which, due to predefined applications and process rules, is easy to install and configure. Flexible process rules facilitate a variety of calculations and further processing.

- Possible areas of application: basins, reservoirs, rivers, water tanks, lakes
- Accuracy: < 0.05% FS
- Immersion probes up to 25 bar / IP68
- Transmitters up to 160 bar / IP65



Floater solution - with RIPOS
RIPOS and RIPOS smart are intelligent absolute encoders for position, distance and (in combination with a floater) level measurements. This robust solution is durable and well-suited for use in harsh environmental conditions. Redundant and versatile measurements are also possible by means of connected pressure sensors (RIPOS smart).

- Possible areas of application: rivers, canals, locks (e.g. for further weir control processing)
- Accuracy: up to 1 mm FS
- Measuring range: 0 ... 100 m
- Extremely robust and low maintenance



Instrumentation controller - RICTRL controller unit
The controller unit accepts a variety of data capturing sensors, such as ultrasonic sensors and radar.

- Interface supports numerous sensors to measure pressure, temperature etc. (e.g. by Modbus, 4 ... 20 mA, etc.)
- A variety of calculations can be performed based on predefined mathematical functions
- Numerous communication options (Modbus RTU/TCP, IEC 60870-5-104, SMTP emailing etc.) allow for a flexible data concentration and transfer to PLC or SCADA systems
- Data transfer to cloud services e.g. RITUNE; cloud access and SMTP via built-in ethernet or cellular (4G, future 5G)

