



## Reservoir in the Alps – level measurement with autonomous power supply

### Reliable

Reliable measurement independent of the process conditions

### Cost effective

Optimal plant operation

### User friendly

Simple mounting and setup

Pumped storage hydropower facilities convert energy surpluses in off-Peak periods into valuable energy for times of peak load. For this purpose they pump water back into a reservoir at a higher elevation and use it again at a later time to produce electricity. The pumped storage system thus balances supply and demand in the power network in an environmentally friendly and economical way. In a current project, a natural alpine lake is being expanded and converted into a reservoir. The construction site, located at nearly 2,500 meters above sea level, has to be protected against flooding. To accomplish this, the level of the lake is constantly monitored during filling. The level rises sharply especially in the spring, when the snow melts. But how do you monitor the level of a reservoir in the middle of the Alps, where there is no electricity and no direct road access?



### VEGAWELL 52

Quite simply: with a self-powered, all-in-one solution! At low water level, two VEGAWELL 52 suspension pressure transmitters were introduced into the lake. GSM/GPRS radio modems with SIM cards bridge the distance between the measuring points in the lake and the control centre. The two pressure transmitters are each connected to a radio modem and supplied locally. The water level in the reservoir is reliably detected and sent over the air to a VEGA web portal. The control centre of the utility company accesses the portal via a client-server connection and makes the readings available in its own network. This ensures uninterrupted monitoring around the clock. The entire solution is so energy efficient that it is able to make do with a small solar panel. An accumulator stores the energy captured from the sun. The measuring system is thus independent of an external power supply and, thanks to its integrated power management system, can be operated over long periods of time.

#### User benefits

- Reliable level measurement in the reservoir secures the construction site
- Autonomous measuring system, no additional power supply required
- Current measurement data readily available via radio modem in control centre





## VEGAWELL 52

### Measuring range - Pressure

0 ... 60 bar

### Process temperature

-20 ... 80 °C

### Process pressure

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### Accuracy

0.1 %

### Materials, wetted parts

PVDF

316L

Duplex (1.4462)

FEP

PE

1.4301

Titanium

### Seal material

EPDM

FKM

FFKM

### Protection rating

IP 66/IP 67

IP 68

### Output

4 ... 20 mA

4 ... 20 mA/HART - two-wire

### Ambient temperature

-40 ... 80 °C