

Submersible Level Transmitter LT100

Case Story

Cia Minera Cerro Verde is a mining company located in the southern mountains of Peru. They operate an open pit, extracting copper and molybdenum. During the last years the company has been increasing their operations and, while digging deeply inside the pit, they reach the phreatic level. This situation opened the opportunity to offer level sensors made for deep well applications with high accuracy so they can dig in a dry and safe ground.

It becomes especially important to control the water level in a deep well application because it is not constant during time as it depends on rain conditions and weather in general. Sometimes, when it rains, the water level increase rapidly and this must be known with accurate and reliable reading from sensors to throttle up the pumps. Sometimes, pumps fail and then there are not only problem with the pump, but also with the level sensors if the sensor are not able to withstand very high overpressure from the high-water level.

Most pressure sensors have an average Over Pressure rating of about 3x pressure range, but this is not enough in these applications. LT100 unique compensation technology for the raw sensor signal make it possible to use sensors designed for much higher-pressure range. In this application the LT100 sensor is designed to withstand more than 10-time higher overpressure.

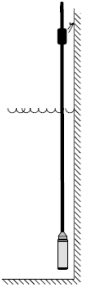
Long cable length up to 500 meter is necessary, LT100 cable is designed to withstand 800 N tensile strength In other words, the cable can be free hanging in one point.

Other manufactures.

The client has tested almost every sensor on the market including other technologies (Laser) with poor result. After that LT100 have been tested no more problem exist, from now the measurement work day after day without any problem

Key factors to meet this challenge:

- High accuracy 0,1% or better.
- Small diameter to fit the small space.
- High over pressure rating.
- Digital electronic 4-20 mA, Hart for range down scaling and maintenance.
- Diaphragm material designed tight for Hydrogen ions.
- Kevlar reinforced PUR cable up to 1000 meter



Result:

Cia. Minera Cerro Verde keeps their operation uptime running in dry and safe ground. No unplanned stops and this experience can be shared to other Mines for successful solutions.