



## Groundwater Monitoring for the dB25.

The Ground Water Conservation Centre (BKAT) has the task of carrying out groundwater condition monitoring and countermeasures of the impact of groundwater extraction in the Jakarta Groundwater Basin, as well as utilizing technology to develop groundwater conservation throughout Indonesia.

The Jakarta Groundwater Basin is an area defined by hydrogeological boundaries where all hydrogeological events such as the process of affixing, draining, and releasing groundwater take place.

### Basin Level Measurement

Before installing the dB25 Transducer with the Ultra 4 controller from Pulsar Measurement, the end-user was using a pressure sensor to monitor the water level in the basin, which meant that they needed to do maintenance

on the sensor every 3-6 months. This is a time-consuming task and meant that the basin was not being monitored effectively while the pressure sensors were undergoing routine maintenance. Maintenance was only made harder due to the length and narrowness of the pipe. The pipe length to get to the basin is more than 20 meters long. This meant it was a lot of effort for the conservation team to pull the pressure sensor out with its cable, clean the sensor, and then put it back inside the pipe.

To alleviate the time-consuming efforts required of pressure level measurement, the Ground Water Conservation Centre reached out to Pulsar Measurement's partner in Indonesia for help. After listening to the requirements of the application, it was suggested that the team use a dB25 ultrasonic level sensor combined with an Ultra 4 controller.

### Ultra 4 and dB25

The Ultra 4 is a fully functional advanced controller for level, flow, volume, and pump control. The multifunctional display offers the ability to view trend graphs on-screen and get a glance at how levels have changed over time.



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The Ultra 4 can be programmed either by the built-in keypad (comes as standard on all wall and fascia units), via the SD card slot, or by PC via the RJ11 Serial Interface. All parameters are retained in the event of a power interruption. A second backup copy of all parameters can also be retained in the Ultra 4 memory, in case an alternative set of parameters needs to be stored.

The dB transducer series from Pulsar Measurement are a range of non-contacting ultrasonic level sensors for wastewater and industrial environments. Ranging from 3 m (9.8 ft) to 40 m (131.2 ft) measurement ranges, all of the dB ultrasonic level sensors provide reliable level, volume, open channel flow, pump control, and differential level measurement for both liquids and solids.

All the dB Ultrasonic Transducers from Pulsar Measurement feature unique DATEM Technology found only in Pulsar Measurement level sensors. Digital Adaptive Tracking of Echo Movement (DATEM) is an echo discrimination system that works on the basis that it identifies the true moving echo from the background noise or stationary obstructions within the space, then it follows the true echo while ignoring all these competing echoes.

The high power of the dB Ultrasonic Transducer range makes sure that all the echoes from an application can be easily monitored. The end result is highly accurate and repeatable level measurement in applications that previously could not be considered, like long narrow pipes such as this application.

Thanks to DATEM technology, the effective beam angle of our dB transducer range is typically as small as 3 degrees.



## Successful Installation

After a successful installation, the performance of the dB25 proved to be excellent, and the end users can read the water level without the need to maintain their submersible pressure sensors. The Ultra 4 controller helps the end-user by displaying and transmitting the measurement in distance mode, showing them exactly how much water is remaining in the basin. This combination of products for basin monitoring has been so successful that there are 3 more systems set to be deployed in the coming months.

## More Information

**Ultra 4:** <https://pulsarmeasurement.com/en/ultra-4>

**dB Transducer Range:** <https://pulsarmeasurement.com/en/db-transducer>

**Partner Locator:** <https://pulsarmeasurement.com/en/partnerlocator>



[www.pulsarmeasurement.com](http://www.pulsarmeasurement.com)

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