



Battery-operated magnetic flowmeters provide perfect solution for oceanic studies

Challenge

A consulting company in the Western United States provides unique technical solutions and management services. They were contracted by a large aquarium and a major university to help them find equipment and services for a scientific study of oceanic current flows, thousands of feet under water. They wanted to measure water flow at various ocean depths. They were also interested in knowing what happens to the water current flow as they go deeper into the ocean. Temperature measurements were also studied to measure the effects on current flow, because they were interested in knowing the consequences of global warming on the current flow in the ocean.

Solution

The consulting company purchased two four-inch SITRANS MAG8000 battery-operated flowmeters, used along with other instruments, to record the water flow in the ocean.

The customer was able to record the information using the instrument's Modbus card and data was collected on their own PLC.

Each MAG8000 flowmeter was mounted to the bottom of a pipe and both assemblies were lowered into the ocean using robotic machines to adjust the assemblies to different ocean depths.

After several months of data recording, they brought the instruments back up from the ocean to look at the flow data. During that time, flow measurements had been taken at several different ocean depths. The data collected is being studied by several different universities and scientific communities.

More ocean flow studies are being prepared using two more new MAG8000 flowmeters. This time, they plan to have the meters prepared to handle the high water pressure on the electrodes and better protect them from being damaged as they lower the meters into the Pacific Ocean.

Process Instrumentation & Analytics

www.usa.siemens.com/pi

SIEMENS

Results

- The Siemens MAG8000 flowmeter was the perfect solution because it did not require AC power and is battery operated.
- The customer was able to collect data using Modbus option
- Unique design elements allowed the customer to mount the electronics inside of a small enclosure
- Service, support, and technical knowledge was provided by the local Siemens representative.
- Reliable accuracy: $0.2\% \pm 2\text{mm/s}$ and $0.4\% \pm 2\text{mm/s}$
- Customer could not find any other instruments suitable for this application.
- Siemens was able to provide the customer with a solution that no one else could offer, including local support and quick product delivery.

About the MAG8000 Flowmeter

The battery-operated SITRANS F M MAG 8000 flowmeter gives you the flexibility to install a reliable water flowmeter virtually anywhere without sacrificing accuracy or performance. No line power is required. The battery water flowmeter complies with the custody transfer approvals MID and OIML R49 water meter standards and is specially engineered for stand-alone water applications such as abstraction, distribution network, revenue metering, and irrigation.



Siemens Industry, Inc.
Industry Automation
3333 Old Milton Parkway
Alpharetta, GA 30005

1-800-241-4453
info.us@siemens.com

www.usa.siemens.com/pi

Subject to change without prior notice
Order No.: PICS-00060-1110
All rights reserved
Printed in USA
©2010 Siemens Industry, Inc.

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.