

Process Control Outlet
5517 East Rd.
Baytown, TX 77521
Ph: 281-421-1321
Fax: 281-421-2683
sales@pco2.com
www.pco2.com

Focus On: Delphin TopMessage Modular Data Acquisition System

Keeping You Running

Coker Valve Monitoring in a Refinery



Sales

PCO can provide new, surplus, and refurbished equipment.

Whether you need a single power supply or an entire system, we've got you covered.

Support

PCO has over a decade of experience in the industry. We are able to provide support when you need it most.

Services

With state-of-the-art technology we are able to provide repair and exchange services on most I/A items. PCO repairs and exchanges all come with a standard 1 year warranty.

CAS DataLoggers recently provided the data acquisition and control solution for a large manufacturer of valve systems for use in many different industries. The company produced ball, needle, choke, control, gate, and other types of valve systems of many different diameters. One of its customers was a refinery using a special 3-way switching valve in order to direct oil flow into different coking towers. However, the operation of the valve was periodically unreliable and caused costly shutdowns in the refining process. Therefore a reliable monitoring solution capable of connecting to many different kinds of sensors was needed to monitor the correct operation of the valve at high accuracy and analyse the data for a remedy. This device would also need to be simple to configure and operate as well as include powerful data analysis software and a modular design to accommodate possible expansion to add more input and output channels in future.

The manufacturer installed a Delphin TopMessage Data Acquisition and Control System close to the valve control unit in order to record all data following the valve's movement. From the many available configurations, management selected a TopMessage data logger with an 8-channel ADFT module featuring synchronously fast sampling analog inputs. The TopMessage data logger was placed into an explosion-proof enclosure in a nearby EX zone, and its compact design fit neatly into the small compartment.

The TopMessage system measured the 3-phase engine current consumption and voltage. The installed sensors included a strain gauge for torque measurement, a motor voltage transducer, 2 control circuit voltage transducers, and 3 motor current probes. The strain sensor measured force and torque during the movement of the refinery valve. The analog inputs were configured for 1 kHz sample

rate each, and the TopMessage datalogger recorded on all 8 channels synchronously into its spacious 1GB internal memory. Data transfer was accomplished through a wireless Ethernet radio. The internal logic channels of the TopMessage were configured in such a way so that the data storage was activated on certain threshold levels of engine current consumption, ensuring that only relevant data during the valve movement was logged. These in-built logic functions also allowed the user to configure the TopMessage device with event-based logging functions.

The Delphin TopMessage functioned as a modular and scalable system capable of highly accurate measurements with up to 24-bit resolution, with true differential inputs along with 2 slots for analog or digital input or output cards and a CANbus for expansion modules. Contained in an industrial-grade enclosure, the stand-alone data logger had screw terminals for secure connections, performed signal conditioning, and included an Ethernet interface to connect to a PC for data analysis. The TopMessage datalogger recorded all the data from each valve movement, when an event trigger automatically downloaded the data from the system via wireless Ethernet network to a PC in the central control room.

To find the ideal solution for your application-specific needs, contact a Data Logger Applications Specialist at (800) 546-1113 or visit www.pco2.com

