



Electric Torque Switches

A unique safety feature for electric actuators.



A P5-120-N4 Actuator with Torque Switches on a Cooling Tower Control Valve

- **Water Processes**
- **Wastewater Treatment**
- **Damper Systems**
- **Slurry Processes**
- **Applications where foreign objects may be present**



A P3-120-N4 Actuator showing the Torque Switch upper assembly

By their design, electric actuators use a motor to drive the output gearing. When the actuated valve or damper reaches its desired position, the motor switches off. When something interferes with the movement of the flow control device that prevents it from reaching its desired position, the motor will continue to run, even though the actuator is not moving. This motor stall can damage the motor sufficiently to prevent the actuator from functioning.

Unplanned outages and downtime can be costly but these can be avoided by equipping the electric actuator with a torque switch. A torque switch senses the amount of torque being delivered to the controlled device. When the output torque exceeds a specified amount, the motor power is interrupted.

For example, sometimes welding slag can be dislodged during flow. If the slag becomes lodged in an electrically actuated butterfly valve, then the valve may be prevented from closing. The actuator will not reach its closed end of travel and will continue to run, causing the eventual thermal shut down of the motor. Similarly, in a waste water treatment plant, torque switches are needed in case there are enough solids in the waste stream to prevent the valve from closing. In fact, all actuators that meet ANSI/AWWA C542-09 "Electric Motor Actuators for Valves and Slide Gates" standards must be equipped with torque switches.

ProMation Engineering offers actuators with and without torque switches; not all applications may have the need. However, if there is a possibility that something may interrupt the action of the valve or damper, it is wise to include torque switches. ProMation Actuators with torque switches meet ANSI/AWWA C542-09 requirements.

Created for industrial use!

There is much more at www.promationei.com.

If you have any questions or comments, please feel free to contact us at any time at 352-544-8436.