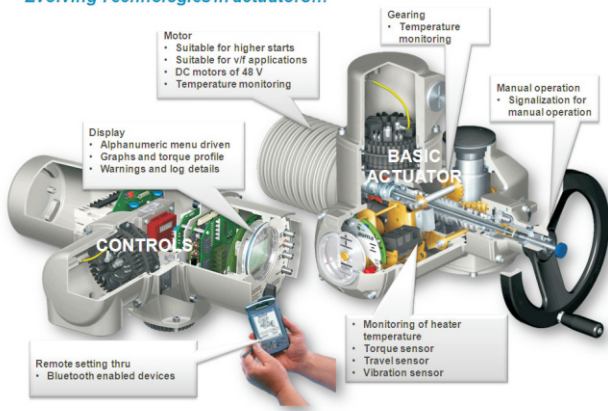


Trends in Valve Automation

Evolving Technologies in actuators...



Electric Actuators for valve automation are constantly evolving to meet increasing needs of the customers in process industries. This article examines the recent trends in various technological aspects of electrical Actuators.

The electrical Actuator as a product is a combination of electrical, mechanical and electronic technology. The electrical layer relates to the basic driving element of an Actuator i.e., induction motor. This has remained unchanged for many years.

The mechanical layer is the internal gearing which is responsible for multiplying and transmitting torque from the motor to the Actuator output. The transmission of torque through worm and worm wheel mechanism has also remained largely unaltered for many years.

The third layer is the electronics / software layer which is responsible for the control of the electrical Actuator. This layer is the most dynamic of all layers and is constantly evolving.

Today's trends include Non Intrusive setting of Actuators, which implies

incorporating torque and position sensors. This effectively replaces the mechanical torque switching and counter gear mechanism used in Actuators.

Others sensors are also used for effective temperature & vibration monitoring.

The effective use of sensors in combination with microprocessor logic gives added value to customer like.

- ▶ Interactive alphanumeric display for easy setting and diagnosis
- ▶ Non Intrusive setting through Bluetooth

from laptop / FDA devices

- ▶ Use of event logging for preventive maintenance
- ▶ Use of Torque profile for maintenance of valve

All these factors contribute to effective maintenance of plant. The increased use of sensors and microprocessor logic has hugely increased the cost to benefit ratio of electrical Actuators, thus making it increasingly attractive for end users to opt for these technologies.

Usage of field bus for communication with Actuators means that data available in Actuators is available instantly at important centralized location of the plant both from operational point of view as well as from for preventive maintenance purposes. This contributes to better asset management in user industries.

Electronics in sensing...

