

*We care for actuation.*

# PSM

The efficient  
Multi-turn Actuator



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## 1 Pad-lockable Local Control Unit for Parameterisation and Diagnostics

The large-size LCD display shows all important parameters and diagnostic data in a self-explanatory and easily understandable way using symbols and/or plain text. The actuator status is also indicated remotely by 3 bright LEDs.

## 2 Automatic Commissioning

A clear configuration menu allows easy adjustment of the PSM to a valve and its travelling range. During normal operation, the smart electronic control unit monitors end positions and torque, and controls the actuation speed.

## 3 Mechanical Position Monitoring

The 25-bit position sensor is absolute encoded and independent of any back-up battery, ensuring precise and permanent position monitoring even at loss of supply power. It works independently of the mechanical position indicator and does not need any adjustment over the full possible travel range.

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**4 Communication Plug for Parameterisation via Web Interface**

Alternatively to using the local control unit, adjustment of parameters and read-out of diagnostics data can be done with a common internet browser reading from the IP address of the PSM. Required is just a standard network cable, but no specific software. An integrated memory card stores status and working data of the PSM permanently.

**5 Mechanical Position Indicator**

Adjustment of the position indicating device is done non-intrusively at the communication port. The housing does not need to be opened.

**6 Brushless DC Motor with Electronic Commutation**

The smart control enables the DC motor to provide the full nominal torque at the first turn of the motor. This avoids current peaks in the power supply line. To prevent the PSM from overheating, the electronic unit reduces the output speed if appropriate.

**7 Variable-Speed Actuator**

Different rotation speeds of the output are configurable for various ranges of the travel and the set value. To protect both gear and motor, and to reduce wear of the valve, the end stops can be approached with reduced speed. This feature also helps to avoid pressure blows in the pipe line.

**8 Highly efficient Combination of Motor and Gears**

The overall efficiency factor of the PSM is optimised with specific components to reduce operating cost over the life cycle to about 60% of the cost of conventional actuators. The high mechanical efficiency of the planetary gear allows high duty cycles, as the motor produces only low dissipation energy.

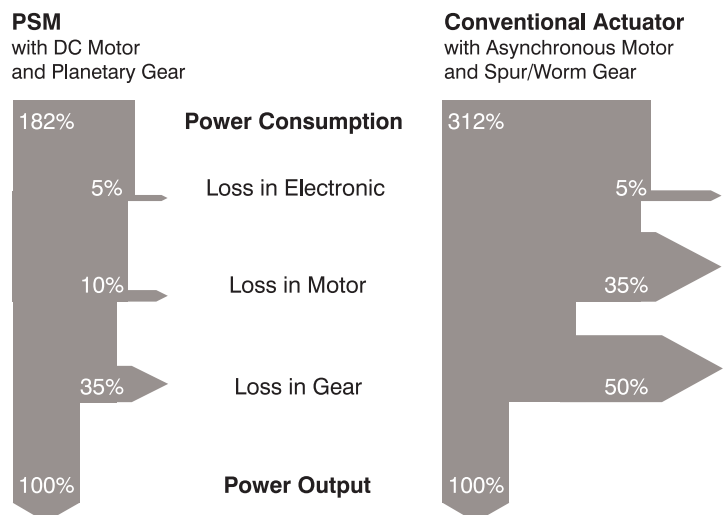
**9 Mounting Flange as per ISO Standard**

Direct mounting of the PSM to valves with standard flange is possible due to its ISO flange, with connection bores for various counter flanges.

**Energy Balance**

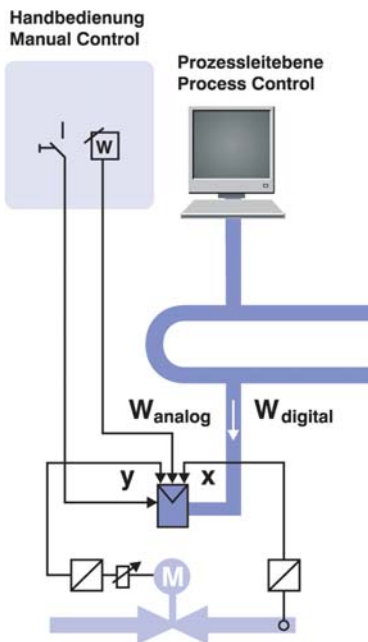
The electric energy consumed in a conventional electric multi-turn actuator with asynchronous motor and spur/worm gear is about three times the mechanical output energy.

For providing the same mechanical output energy, the PSM needs electric energy of less than double the output energy, resulting in energy and cost savings of about 40% over the whole working time.



## Optional Accessories

### Integrated Process Controller PSIC



The optional process controller PSIC reads the signal of a sensor as actual process value, and positions the valve in accordance to a modulating or a programmable fixed set value.

### Externally mounted Local Control Box



The local control box is available for remote mounting as an option. Easy manual operation of the valve as well as adjustment of all values is given even in case the actuator itself is mounted inaccessibly.

### Fieldbus Interface



Interface modules for various field bus protocols are available.

### ATEX Conformity



Special versions as per ATEX standards permit installation of the PSM in hazardous areas.