SIPOS 5 actuator cuts flood defence costs

Photographs show SIPOS 5 actuators mounted on penstock sluice gates at Brettachtal's flood defences.

www.sipos.de

Application

Flood Defence

Design Challenge

A remote site with limited power supply

Flood defense basins are often located a considerable distance from power supplies, leading to long cabling distances. To avoid problems associated with high start up currents in conventional actuators, either 'oversized' cables or soft start devices must be used. Oversizing of cables is expensive and soft start devices typically limit actuator output torque, which can be critical on floodgates operated in emergency conditions.

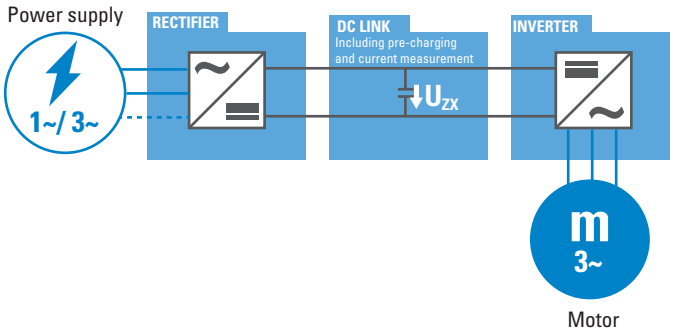
Solution

High start-up torque at less than nominal current

The innovative design of the SIPOS 5 actuator includes an integral frequency converter, which means that there is no start-up current. Power supplies can therefore be sized to suit the nominal current avoiding component oversizing. As a result, costs are saved in both cabling and by using low voltage switchgear. In addition, maximum start-up torque is available for applications where there are long periods of inactivity and high loads, such as a floodgate closing against high water flows in the event of emergency flood defense. The SIPOS 5 actuator provides maximum torque at start-up and suffers no torque reduction even if the voltage drops by as much as 15% (transitionally up to -30%).

Technical Data

Frequency Converter



Function Profile

The SIPOS 5 actuator uses a frequency converter to provide complete control of the motor i.e. speed, direction and torque. The voltage applied to the motor determines output torque, whilst frequency controls output speed. As the motor voltage and frequency are regulated independently from the input supply, this gives the SIPOS 5 a unique ability to precisely control the motor output.

CONTACT
SIPOS Aktorik GmbH
Im Erlet 2
D-90518 Altdorf
Germany

tel: +49 (0) 9187 9227 - 0
email: info@sipos.de

www.sipos.de

SIP-V-I/VA 26.16.011 GB 02.13