



Precision control with synchronised SIPOS 5

Photograph shows the Messbrueckle bridge which spans the River Tauber in Wertheim, Bavaria, Germany. The bridge, shown in its elevated position, is raised over 5 metres using two SIPOS 5 actuators.



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Application

Flood damage prevention

The Messbrueckle bridge carries pedestrians across its span of 31 metres. The sturdy construction weighing some 17 tons must be raised 5.4 metres in 45 minutes to prevent damage from the force of water and flotsam in the event of flooding.

Design Challenge

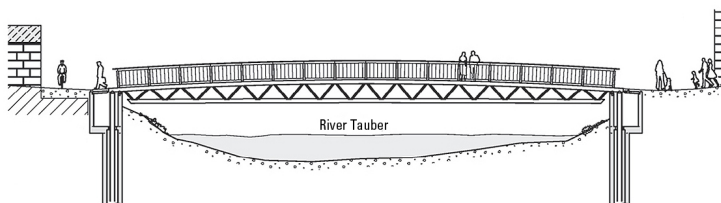
Lift synchronisation using linked actuators

The two ends of the pedestrian bridge are raised using actuators, however the height deviation of the two bridge ends must be minimal. In order to achieve this, the movement of each actuator must be carefully monitored and precisely controlled.

Solution

Master and slave SIPOS 5 actuators

The SIPOS 5 has an integral position sensor with I/O interface which can be used to link and synchronise the movement of the two actuators. The complete movement sequence can be programmed and master / slave roles assigned. Using the feedback loop and precise actuator control ensures smooth, level and reliable operation of the bridge.



Functional Profile

The SIPOS 5 detects drive shaft travel with an integral precision potentiometer, or an encoder, for contact-less position detection.

By linking two or more actuators together the movement of the actuators can be synchronised and controlled in a precise and repeatable manner.

Location

Wertheim, Germany



CONTACT

SIPOS Aktorik GmbH
 Im Erlet 2
 D-90518 Altdorf
 Germany

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

www.sipos.de