

Electromechanical with rotary output- for safety critical unmanned systems

For controlling unmanned systems, quality RC hobby servos and high grade multipurpose industrial actuators have become firmly established within the unmanned systems community. Although a lot of effort has been invested to improve the reliability of such servos, there is still one main drawback: Any kind of component failure can result in a total loss of the system. Particularly in unmanned helicopter applications, there is little chance to support system reliability by adding more actuators to operate the main rotor swash plate or the tail rotor sufficiently in case of an actuator failure.

To overcome these disadvantages we, at Pegasus Actuators GmbH, have developed the world's first small electro-mechanic redundant servo actuator enhancing servo-actuator reliability to an unparalleled level. The new product features two BLDC motors, a triple redundant PA-ME³ contact-less sensor unit, multiple redundant digital servo controller boards, multiple redundant master controller boards and a redundant servo signal and power supply. Therefore our redundant actuators even tolerate failures like a defective power – or signal cable. In difference to our industrial grade actuators our redundant actuators feature a unique single point failure tolerant system architecture. The Pegasus redundant servo actuator is a Stand-Alone solution, meaning that all redundancy related process cycles are performed internally by the actuator. The advantage: No additional engineering for modified A.P systems, no redundancy related decisions to be proceeded by the A.P. system, only necessary requirement is that we need two identical channels for each redundant servo actuator. In case of a component failure a specific warning signal will be reported . Our redundant actuators will perform their full torque, rotational speed and bandwidth – even after a single point failure incidence. For more detailed info please ask for related documentation.

Typical Applications:

- Control surfaces requiring servo actuation
- Hi-value target drones - surface control, speed brakes
- Utility actuation - throttle control, doors, spoilers
- Helicopter - manned or unmanned
- Swash plate or flap control