

***“tough tech for tough environments”***

***PA-RR-260-8 redundant actuator***

**Pegasus**

Actuators GmbH



**DISTRIBUTOR**



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## ***PA-RR-260-8 redundant actuator***



### **General Description**

Pegasus redundant servo actuators have been developed for applications that require extraordinary operating reliability. The actuator's two channel design allows for continuous operation even after a single point failure has occurred.

### **Redundancy Architecture**

The actuator hardware consists the following:

Multiple master control units allow for a majority decision, 2 independent servo controllers each controlling one brushless motor and 3 contact-less position angle sensors in order to detect and rectify an incorrect output shaft position signal. During standard mode the actuator exchanges signals thru both actuator channels.

In standard mode motor no. 1 and its power stage unit are working, meaning that the motor no. 2 and its power stage unit will only be engaged after no.1 unit has failed. The actuator performance is not negatively effected after a motor/ power stage failure.

An example for a single point failure management: in case of a defective motor, the multiple master controllers immediately recognise that the actuator did not reach the desired position in time. The back up motor/ servo controller unit will be switched on without requiring the assistance of the AP. In principle all possible single point failures are handled accordingly.

Another example: in case of a broken signal cable, the multiple master controllers will diagnose a missing or invalid signal and switch to the other channel. In case of two different but valid signals, the master-controllers will stay with the original communication channel.

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# **REDUNDANT PA-RR-260-8 UAV SERVO ACTUATOR**



## **Operating Data**

### **Supply data:**

Operating voltage: 18V - 32V  
Operating voltage typical: 24V  
Standby current: 250mA

### **Performance data :**

Stall torque: > 500 Ncm / > 710 oz-in.  
Rated torque\*\*: 300 Ncm / 425 oz-in.  
Speed at rated torque: 130°/sec.  
No load speed: 210°/sec.  
Gear train backlash: < 0,5°  
Travel angle: standard  $\pm 90^\circ$   
Max. travel angle (optional):  $\pm 170^\circ$   
PA-SC release point: 500Ncm / 710 oz-in.  
Peak current - short time: 1950mA  
Stall current - cont.: 1150mA (limited)  
Weight: 520g / 18,3 oz

\*\*according Pegasus Actuators GmbH specs.  
(please inquire the test-specifications)

### **Environmental data:**

Axial load on output shaft: < 100N  
Lateral load on output shaft: < 600N  
Operating temperature: -40°C - +70°C  
Storage temperature: -40°C - +85°C

### **Environmental specifications:**

DO-160 F (RCTA)  
MIL-STD-810G

### **Product features:**

Redundant PA-ME<sup>3</sup> magnetic deflection angle sensor  
Dual brushless motors  
Dual servo controller PCB  
Dual Glenair Mighty Mouse Series 801, 7-pin connector  
Single Point Failure redundancy architecture  
Oil lubricated gear-box  
Unparalleled anti flutter circuit  
Enhanced positioning resolution  
Inbuilt (switchable) termination resistor  
Inbuilt safeguarding fuses  
Inbuilt power supply filter  
Enhanced feedback signal resolution

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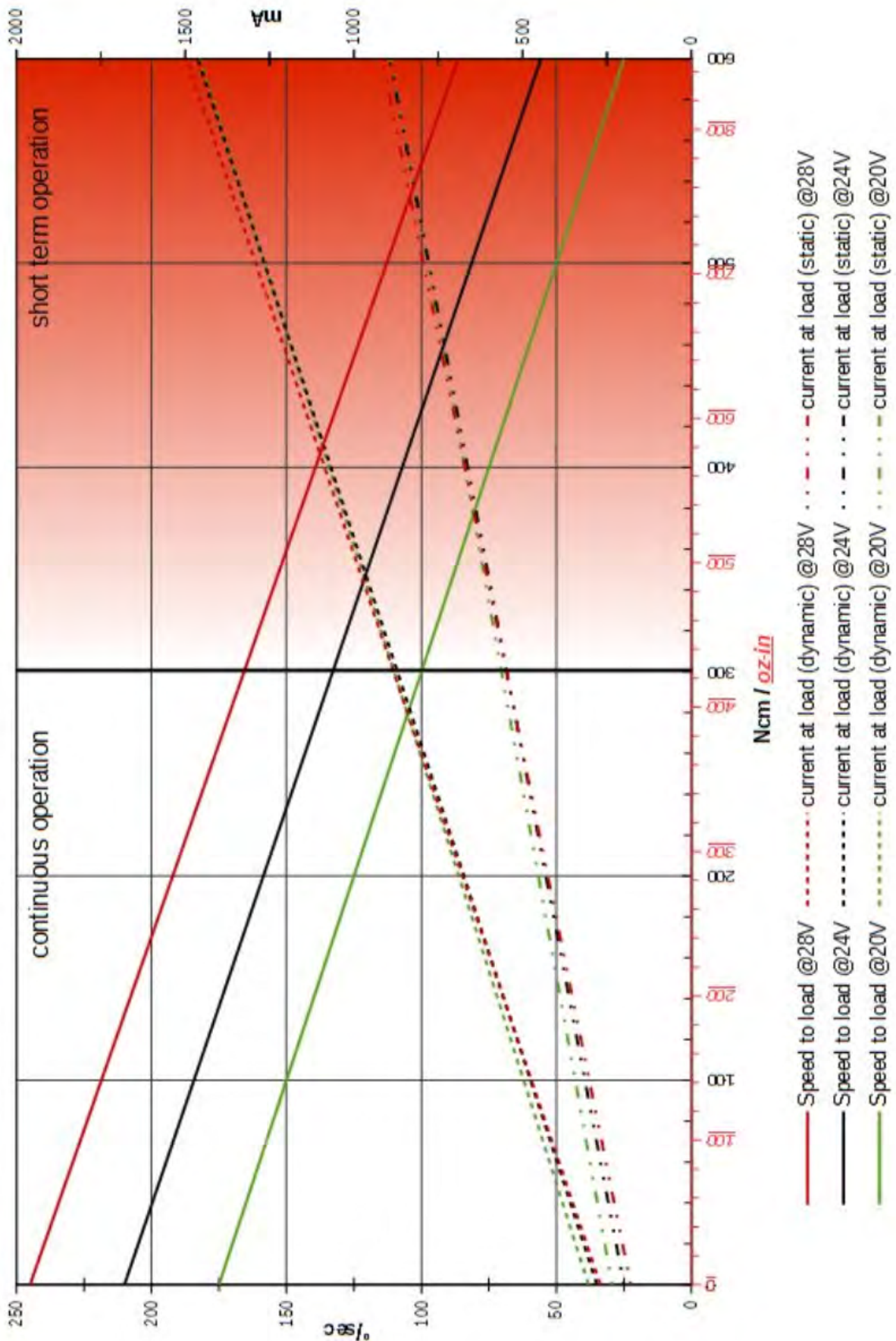
**PA-RR-260-8 redundant actuator**

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**PA-RR-260-8-C-24-C-XXX-XX  
24V**



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## **PA-RR-260-8 redundant actuator**

### **RS485 Interface Description**

Baud-Rate	115200 bit/sec. $\pm 1,357\%$
Resolution	$< 0,022^\circ$

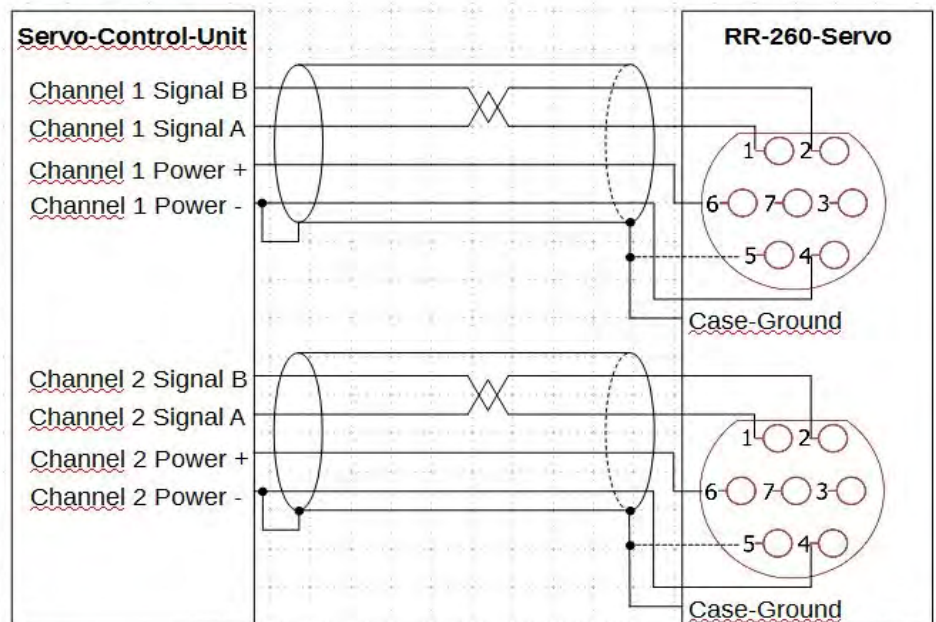
### **Connector:**

Glenair Series 801 MightyMouse:801-011-07NF6-7PA

Mating connector: Glenair Series 801-007 or 801-008 with shell size 6-7 and Key position A

### **Pin Assignment:**

1	Signal A
2	Signal B
3	
4	Power - (GND)
5	
6	Power + (VCC)
7	



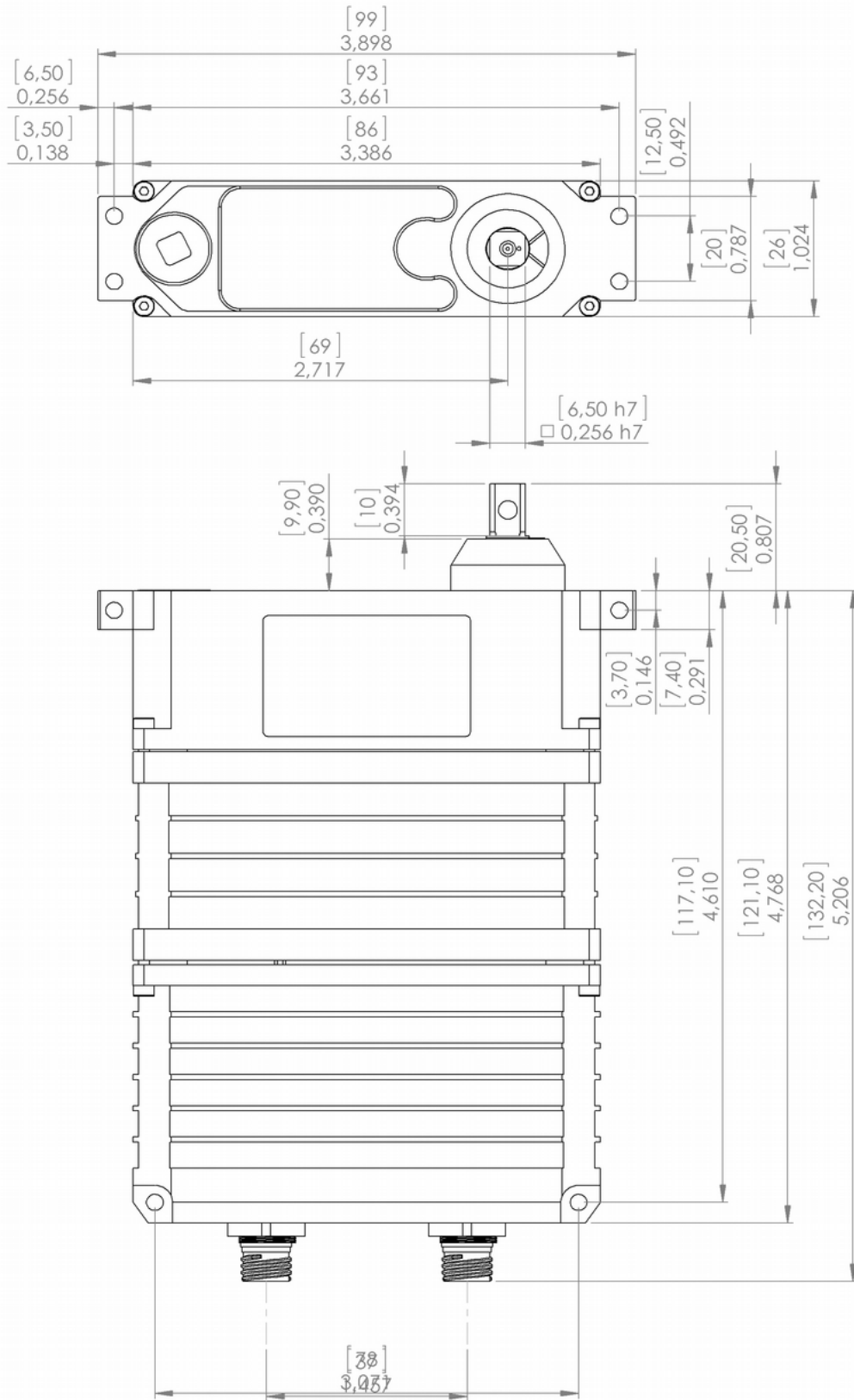
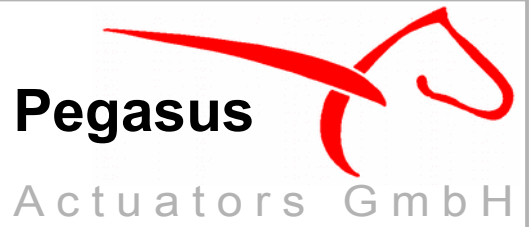
### **Dimensions:**

Case Dimensions	86 x 121,1 x 26 mm 3,386 x 4,768 x 1,024 in
Weight:	520gr. 18,3 oz



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DIMENSIONS. [mm]  
inch

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**Order Code:**

**PA-RR-260-8-C-24-C-315-00**

- revision index
- max. travel angle: 315°
- input signal: redundant RS485
- nominal operating voltage: 24V
- PA-SC overload gear protection
- Actuator type

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