ELECTRO-MECHANICAL ACTUATOR - EMA

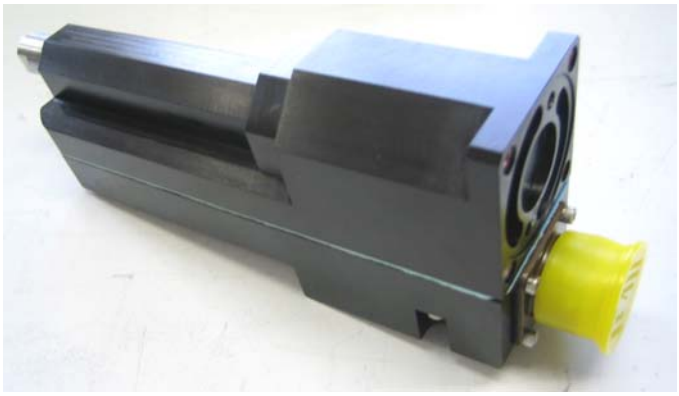
DESCRIPTION

This electromechanical actuator was designed to obtain a desired position in a reliable way to the reception of an order sent on ARINC data bus. It is able, with a good dynamics, to drive its stem of exit on both sides of a point medium.

The principle of the movement is given by a brushless motor coupled with a screw and nut mechanism able to support heavy loads. Thus, when the jack are not in function, the connection between the stem and the frame is fixed and secure.

The knowledge of the position of the stem of exit is given by an absolute analog sensor, allowing to exempt datum sequence.

Integrated electronics is particularly compact, with redundancy as per DAL A level, while integrating the driver to control the motor.



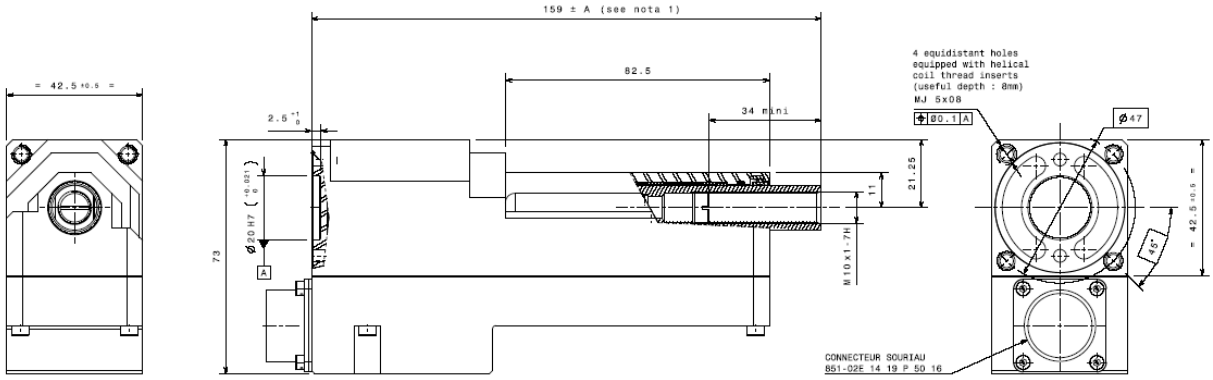
MAIN CHARACTERISTICS

Nominal voltage	24 to 28 V
Min voltage	12 V
Current peaks	< 4A
Max speed @ nominal voltage	40 mm/s (with 50 N load)
Max speed @ minimum voltage	10 mm/s (with 50 N load)
Max load at nominal speed	> 20 daN
Ultimate load (without actuation)	830 daN
Mass	650 +/- 25 gr
MTBF	10 302 flight hr
Free play	0.15 +/- 0.05 mm
Stroke	From +/-2 to +/-10 mm
Position response	< 10 ms

➢ Environmental conditions:

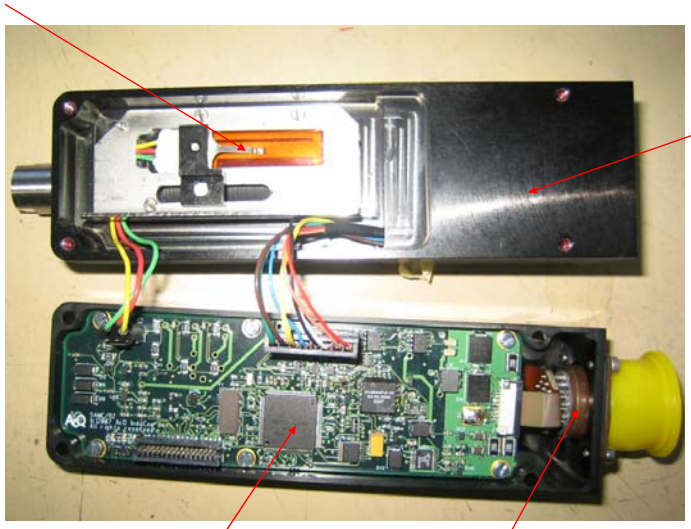
- Per DO 160E
- Demonstrated performance
  - Humidity (72 h)
  - Sand & dust
  - Salt spray (48 h)
  - Temperature (-55°C to +85°C)
  - Altitude
  - Endurance (10 000 h)

DIMENSIONS



DESCRIPTION

Analogical position feedback thanks to proven membrane potentiometer technology
(Alternative: An intrinsically redundant contactless sensor can also be integrated to provide absolute position references)



Brushless motor

Double face electronic card
Based on coldfire processors

ARINC control & monitoring

APPLICATIONS

Used for flying control on helicopter.