



1. System Overview

The aircraft electromechanical system simulation test equipment is used to simulate the interface, working state and fault logic of the electromechanical system in the laboratory, and receive the control instructions output by the electromechanical integrated management system, verify various control relations between the airborne subsystems, and support the development, debugging and verification of the electromechanical integrated management system.

Using platform software design ideas, can quickly carry out ICD file manual input or automatic import, and complete automatic testing. The platform supports all kinds of current mainstream bus forms, including RS232/RS485/RS422, 1394, FC, ARINC429, CAN, 1553B, AFDX, etc.

2. Technical indicators

According to the requirements of the technical agreement, the simulation target should meet the following requirements:

- PXI/PXIe architecture;
- RS422A serial data interface: not less than 16 channels; Each channel can be independently configured with 232/422/485, with speeds ranging from 150bps to 921.6 KBPS.

- ARINC429 bus interface: no less than 4 channels;
- CAN bus interface: no less than 2 channels;
- Discrete (Ground/On, 28V/ Ground, 28V/ On) Output ports: not less than 96. The output type can be changed by hard jumpers or software configurations.
- Discrete (Ground/On, 28V/ Ground, 28V/ On) Input interface: at least 32 inputs. The input type can be changed by hard jumper or software configuration.
- 0 ~ 10VDC differential analog output interface: no less than 16 channels, full range accuracy 0.5%;
- 0 ~ 100mVDC differential analog output interface: not less than 16 channels, full range accuracy 1%;
- Resistance analog output interface: 9 channels, $10\ \Omega \sim 4K\ \Omega$, resolution $\leq 0.125\ \Omega$, accuracy $\leq \pm 1\ \Omega$;
- Frequency analog output interface: no less than 8 channels, adjustable 10Hz~1MHz, output level for square wave, sine wave and other signals, frequency full range accuracy is 1%, output waveform peak-to-peak value between -10V~10V adjustable;
- DC voltage 10VDC input interface: 16 channels, full range acquisition accuracy <0.5%;
- 0 ~ 50mA, 400HZ AC current output interface: 32 channels, full range accuracy 0.5%; Frequency range 300HZ ~ 500HZ adjustable, accuracy $\pm 1\text{Hz}$.