



DE8491EX Fuel Quantity Test Set

The fuel quantity test set can be used on any aircraft with capacitance probe technology

Ultra Precision Control Systems is an Ultra Electronics business specialising in electronic sub-systems designed for use within the Aerospace and Defence industry. Ultra's experience in designing ruggedised and deployable test equipment goes back to the mid-1980s and our product portfolio includes test equipment that is in service on all major UK MoD and many US DoD platforms. Areas of expertise include fuel system, 1553 databus, RF filter and Electrical Wiring Interconnect System (EWIS) integrity testing. Ultra also provides special-to-type test solutions to help our customers tackle the most demanding test requirements worldwide.

The DE8491EX is a microprocessor controlled test set capable of taking probe measurements and simulating fuel state conditions. The automated test procedure reduces test time and helps eliminate operator error. Test scripts are written in line with existing maintenance procedures, and users can download the test data for diagnostic purposes and trend analysis.

The test set is operated via simple menu-driven software and platform-specific configuration files. Connection to the aircraft is made via application-specific cables to a multi-pin connector, allowing for multiple probes to be measured over a single connection.

Specifically designed as ruggedised, portable ground-support equipment for use at operational level, the fuel quantity test set is an accurate and reliable maintenance tool used by many defence agencies and Original Equipment Manufacturers (OEMs) around the world.

Key features

- One test set for multiple aircraft types
- Measures voltage, resistance, continuity and distance to fault
- Tests thermistor level sensors
- Measures fuel, LOx and water systems
- Fully automated test sequence with calculated pass / fail limits
- User configurable test operation
- Results can be downloaded for trend analysis
- ATEX 95 (94/9/EC) group 2, category 3 approved

Technical data

Software

- Factory installed to customer specification
- Additional aircraft software upgrades by request
- User configuration available

Capacitance measurement range

- Measures AC and DC capacitance values of tank unit probes
 - AC: 0pF to 30,000pF
 - DC: 0pF to 1,500pF
- Automatic or manual operating mode

Accuracy

- AC: +/-0.2% of reading or +/-0.1pF, whichever is greater
- DC: +/-0.2% of reading or +/-0.2pF, whichever is greater

Capacitance simulation range

- Simulates capacitance values of the fuel system for calibration, validation and fault finding
- Tank unit simulation 11pF to 10,000pF (accurate to 0.05% of measurement range of full scale)
- Compensator simulation 11pF to 1000pF (accurate to 0.05% of measurement range of full scale)

Insulation resistance measurement

- Total range 0 to 20,000 Mohms
 - 0 to 2,000 ohms accurate to 5%
 - 2,000 ohms to 20,000 Mohms accurate to 10%

Distance to fault nominal 1pF/foot

- 0pF to 30,000pF (accurate to +/-2% of reading, or 0.1pF, whichever is greater)

Voltage measurement range

- 0 to 40 volts (accurate to +/-1% of the full scale)

Connections

- Measurement / simulation inputs / outputs internally multiplexed to a multi-pin connector for aircraft-specific cables
- Power connector
- Utility connector via RS232

Dimensions

- 330mm (h) x 430mm (w) x 330mm (d)
- 13in (h) x 17in (w) x 13in (d)

Weight

- 14.5 kg (32 lbs)

Temperature range

- Operating: -20C to +55C
- Storage: -50C to +71C

Accessories supplied

- Power leads
- RS232 interface lead
- Operators manual
- AC/DC converter (PCP)
- Bonding lead

Power supply

- 18V to 32V DC
- Rechargeable battery pack

Calibration

- Power On Self Test (POST)
- Continuous self-calibration using high precision internal reference
- Annual factory calibration

Qualification

- MIL-PRF-28800F (Class 1 equipment)
- MIL-STD-461E
- IEC 1010



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Precision Control Systems
Arle Court, Hatherley Lane
Cheltenham GL51 6PN
Tel: +44 (0)1242 221166
www.ultra-pcs.com
www.ultra-electronics.com

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