



MPS36

Air Data Test Set



Digital Air Data Test Set

The DMA MPS36 is a laboratory digital technology Air Data Test Set with extreme accuracy for testing aircraft pitot-static components.

The MPS36 is designed to meet and exceed manufacturers test requirements for military and commercial fixed / rotary wing aircraft, with altitude control accuracy better than ± 2 feet at sea level (or ± 0.002 inHg).

PC control in laboratory operations can be accomplished by a serial RS232 or parallel GPIB communication protocol interface. The MPS36 can be used as a replacement of earlier technology precision laboratory air data test set applications.

The MPS36 uses precision vibrating cylinder transducers with a special characterization for maximum accuracy of all altitude and airspeed parameters. Use of fast and precise flow valves, digitally commanded, allows great control stability.

The MPS36 requires lower maintenance costs and extended calibration periods compared to previous equipment. Up to 30 user programmed test routines can be entered and stored in on board memory, and can be executed using a single key.

The MPS36 can be used in ATE systems: it accepts commands through RS232 or GPIB bus; simple high level words are used to input all the control parameters, thus reducing time to develop new SW programs.

FEATURES

- Accuracy ± 2 feet at sea level or ± 0.002 inHg.
- Low maintenance design eliminates high calibration and maintenance costs.
- Full featured "at-a-glance" 20x4 char. flat panel display.
- Complete Automatic Safety Protection for fail-safe operation.
- Standard IEEE-488 and RS232 interface ports for ATE/PC operations.
- Multiple pressure engineering unit capability.
- 3HE 84TE rack (19" x 15" x 5.2")
- Very high resolution (0.2 Pa for static pressure).
- Up to 30 user programmed test routines, single key executable, can be stored into internal memory
- Audible indication when approaching set point

Automatic Safety Protection Features

Inherently safe with internal HW and SW protection. Manual vents allow ambient conditions to be safely reached in case of power failure. Factory safe limits or custom programmed limits prevent UUT damage.

Display

The 20x4 character LCD display shows all the information needed by the user through a simple, intuitive and complete visual interface. Altitude, airspeed, rates and mach no. or equivalent pressures are simultaneously displayed in logical and simple arrangements together with units and indication of stability quality.



MPS36 STANDARD SPECIFICATIONS

Parameter	Range		Resolution		Accuracy	
	Measure	Control	Meas.	Contr.	Measure	Control
Altitude(ft)	-7,000 100,000	-7,000 80,000 (100,000 2 pumps)	1	1	±2 @ SL ±4 @ 30,000 ±7 @ 50,000	±2 ^[2]
Static pressure (inHg) (Pascal)	0.3 to 38 1,000 to 130,000	Same as measure	0.0001 0.2	0.001 2	±0.001 inHg @ 3.5 ±0.002 inHg @ 30	
Hi range ver. (inHg) (Pascal)	0.3 to 50 1,000 to 170,000		0.0001 0.2	0.001 2	±0.01 inHg @ 50	
Pitot pressure (inHg) (Pascal)	0.3 to 77 1,000 to 260,000	Same as measure	0.0001 0.5	0.001 2	±0.002 inHg @ 3.5 ±0.004 inHg @ 30	
Hi range ver. (inHg) (Pascal)	0.3 to 105 1,000 to 350,000		0.0001 0.5	0.001 2	±0.006 inHg @ 80	
Altitude slew rate (ft/min)	0 to 60,000 0 to 100,000 ^[1]	0 to 60,000 0 to 100,000 ^[1]	25 > 1,000 5 < 1,000	25	±10±1% of reading	same as measure
Air speed (kts)	10 to 850 10 to 1,000 ^[1]	10 to 850 10 to 1,000 ^[1]	1 < 50 0.1 > 50	0.1	±0.5 @ 50 < ±0.1 @ >300	±1
Ultra Low Speed (ULS) funct.	ULS: 5 to 200	ULS: 2 to 200	ULS: 0.1 > 20		ULS:±0.001 inHg	
Mach No.	0 to 6	0 to 6	0.001	0.001	< 0.002	±0.002
Airspeed slew rate (kt/min)	0 to 900	0 to 900	10	10	±10±1% of reading	±5%

Control capability on all load volumes; Static to 125cu ins (2048cc) Pitot to 80cu ins (1311cc)
 Accuracy compliant with FAA advisory circular 43-2B, and Reduced Vertical Separation Minimums
 Notes ^[1] - High speed (Military) version only. ^[2] Control stability: Typically ±10ppm FS pressure at 40,000 ft into leak tight system

PHYSICAL/DIMENSIONS

Rack mount configuration: 19" x 15" x 5.2"
 Weight, with case: 50 lbs.

TEMPERATURE RANGE

Operating 0 to +50°C
 Storage -20 to +70°C

POWER SUPPLY

Universal power supply: 90-240 VAC; 50-400 Hz.

WARRANTY AND CALIBRATION

Unit is internally self-calibrating for valve adjustment
 Calibration is fully software accomplished by comparison against a primary or transfer standard instrument.

Warranty: two years
 Calibration interval: one year recommended

MPS36 OPTIONS

- B. ARINC429** interface
- C. IEEE488** GPIB control (RS232 standard)
- D. PDA** for wireless remote control
- E. Multiple Isolators:** Inquire
- F. ADWIN** PC Control software
- G. Hand held remote control unit:** 4 x 20 characters backlit LCD
- H. Gray Code Altitude Device Readout**
- N. EPS1** External Vac/Pressure supply
- M. EPSR1** External rackmount Vac/Pressure supply
- **Custom Pitot/Static** connections available

SOFTWARE LIBRARY

Serial Command Set
 GPIB Command Set
 Circa 1975 IEEE-488 Command set
 Customer interface software for modular ATE applications.

Note: --- Specifications subject to change without notice ---



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