



D.MARCHIORI

MPS34C Air Data Test Set



DIGITAL AIR DATA TEST SET

The MPS34C is a digital technology portable Air Data Test Set with all the features for troubleshooting and certification of aircraft pitot-static systems.

The MPS34C is simple and fast to use by both experts and first time users. Testing and troubleshooting with the MPS34C can be performed via an intuitively arranged colour-coded keypad using the clear (4x20) front panel display or an HHRCU remote hand terminal.

All air data functions are simultaneously displayed; constant screen or menu changes are not required. Readings of commanded and measured test values are displayed.

The MPS34C exceeds all current air data testing requirements, including the needs of RVSM. Vibrating element sensors with a special characterization procedure (30 ppm.f.s. linearity error typical) give very high accuracy at all altitude and airspeed values. The unit is within the accuracy band at the completion of the self test and initialisation sequence.

Preset factory or user programmed safe limit settings prevent damage to instruments under test during operation.

PROGRAMMABILITY

Up to 30 user programmed test routines can be entered and stored in the internal memory. Each routine may have up to 26 test points. Routines are single key automatically executable, all test profiles can be run without operator action.

FEATURES

- Very high accuracy, ± 2 feet at sea level, exceeds RVSM calibration requirements.
- Compact and self contained. Housed in 34 Kg case with wheels and stowable handle.
- Easy to read LCD front panel backlit display and splashproof keypad controls.
- Lightweight remote hand held control.
- Optional wireless remote control with bluetooth PDA.
- 4+4 pneumatic outputs (or 5+3 specially designed for Airbus) can apply different static and pitot pressures.
- Low maintenance design; internal pumps with 5000 hours warranty.
- Internal auto-recharge battery provides more versatility and safety .
- Gray code altitude device readout .
- Removable Compact Flash memory card to store and manage test results.

The MPS34C design is rugged and low maintenance. Internal pumps run only on demand; low power consumption results in high endurance, low temperature and high accuracy: typically 90 VA from the a.c. line (including power supply efficiency).

MULTIPLE CIRCUIT ISOLATION

The MPS34C is configured to control into 4+4 static and pitot lines and provide switched isolation, (5+3 for Airbus version) either locally or via the remote hand controller. Different static and pitot values can be locked into the appropriate leak free lines for checking the altitude comparator and similar functions. A new method for leak testing (one line in control mode while the other is in measure mode) ensures higher safety and avoids wasting test time.



CALIBRATION

Calibration can be performed quickly and simply by S/W adjustment of four coefficients when an acceptable standard is utilized.

SUPPLY

The MPS34C operates on world-wide and aircraft ac power supplies and internal battery with greater than 4 hours operating life.

MPS34C STANDARD SPECIFICATIONS

Operating temperature range: -5°C to +50°C , Storage -20°C to +70°C
Control capability on all load volumes : Static: 0 to 250, Pitot: 0 to 100 cubic inches.

Parameter	Range		Resolution		Accuracy	
	Measure	Control	Measure	Control	Measure	Control
Altitude (ft)	from -3000 to +80000	from -3000 to +60000 HR to 80000	1	1	±2 @ s.l. ±4 @ 30000 ±15 @ 60000	±2
Altitude slew rate (ft/min)	N 0 to 6000 HR 0 to 30000	0 to 6000 0 to 30000	25 > 1000 5 < 1000	25	±10 ± 1% of reading	same as measure
Airspeed (kts) Ultra Low Speed funct.	10 to 850 HR 10 to 1000 ULS: 2 to 200	10 to 850	1 < 50 0.1 > 50 0.1 > 20	0.1	±0.5 @ 50 ±0.1 @ > 500 ULS: ±0.001 inHg	±1
Mach no.	0 to 6	0 to 6	0,001	0.001	< 0.002	±0.002
Airspeed slew rate (kt/min)	0 to 800	0 to 800	10	10	±10 ± 1% of reading	±5%

N: normal HR: high range

STANDARD TEST FUNCTIONS

- pressure/vacuum generation
- automatic leak check
- controlled venting to ambient
- altitude/airspeed input
- static/dynamic/total pressure input
- altitude/airspeed rates input
- Mach Number input
- EPR generation
- TAS / IAS toggle
- elevation offset correction
- 30 user programmable test profiles
- ultra low speed (2 to 200 kts) function
- external vacuum / pressure connections
- 4+ 4 multiple isolator. (Different static and pitot pressures can be generated)
- safe manual venting
- compact flash card to store test results
- audible indication when approaching set point

DISPLAY AND KEYPAD

- Integral display and keypad in splashproof and shock protected front panel
- LCD with backlighting displays all test parameters
- Hand held remote control unit: 4 x 20 characters backlit LCD with 15 m (50 ft) extension cable
- Remote wireless pocket PC control available

CALIBRATION

One year interval - by keyboard numeric inputs

PHYSICAL SPECIFICATIONS

Weight: 34 kg. (75 lbs.)
Dimensions: L 625, W 500, H 300 mm (24.4"x19.7"x11.8")

ENVIRONMENTAL

Splashproof and shockproof
CE compliant

POWER SUPPLY

Universal power supply: 90-240 Vac; 50-400 Hz.
4 hours operation internal rechargeable battery

WARRANTY

Instrument	Two years
Pumps	5000 hours

OPTIONS

- A. 28 V d.c.** power supply (18 to 36 V d.c.)
- B. ARINC429** Interface
- C. IEEE488** GPIB control (RS232 standard)
- D. PDA** for wireless remote control
- E. 5+3** multiple isolator (Airbus version)
- F. ADWIN** PC Control software
- **Custom Pitot/Static** connections available

Note: --- Ongoing development results in specifications being subject to change without notice ---



D. Marchiori srl Ground Support Equipment

Via Pontina, km 43,856 - 04011 Aprilia (LT) ITALY - phone: ++39 06 9282733

fax++39 06 9275401 - www.dma-aero.com - d.marchiori@mcLink.it

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