D.MARCHIORI

MPS35C Air Data Test Set

PRECISION THREE PRESSURES DIGITAL AIR DATA TEST SET

MPS35C is a digital technology portable Air Data Test Set incorporating many standard features normally found on more expensive air data test sets. It is built rugged and splashproof for demanding commercial and military flight line use.

The MPS35C is easy and fast to use by both experts and first time users. Testing and troubleshooting with the MPS35C can be performed via an intuitively arranged colour-coded keypad using the large (4x20) character front panel LCD backlit display or a multifunction hand controller.

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

Two vibrating element absolute transducers and one differential for AOA with pressure and temperature characterisation ensure high accuracy at all pressure values. The unit is within the accuracy band at the completion of the self test and initialisation sequence.

Three pressures are controllable separately and independently: static, pitot and angle of attack pressures to test the aircraft equipped with Smart Pitot Probes. The angle of attack pressure can be displayed either in pressure units with a maximum of 0.0001 inHg resolution or directly in degrees of AOA with 0.1 deg. resolution.

A 4+4 (or 2+2+4 when in AOA mode) multiple line switching allows fast and safe isolation of a leaking channel.

FEATURES
- **Accuracy ± 3 feet at sea level, exceeds RVSM calibration requirements.**
- **Compact and self contained. The test set is housed in a single 34 Kg wheeled case with stowable handle.**
- **Three pressures controllable separately and independently: static, pitot and AOA.**
- **Easy to read LCD backlit display and splashproof keypad controls.**
- **Lightweight remote hand held control or PDA with wireless Bluetooth connection(as option).**
- **Removable Compact Flash Memory card to store and manage test results and to update internal software**
- **Low power consumption**
- **Low maintenance design; industry exclusive 5000 hour pump guarantee.**
- **Internal auto-recharge battery provides more versatility and safety**
- **Multiple line switching: 4+4 static and pitot lines or 2+2+4 static, AOA and pitot lines**

The MPS35C is a rugged and low maintenance design. Internal pumps run only on demand, extending pump life. Calibration, performed by software, is fast and simple since no mechanical adjustments are required. Calibration factors are password protected.

Low power absorption grants low temperature and high endurance: typical 90 VA power from a.c. line (including power supply efficiency).The MPS35C is equipped with internal rechargeable batteries which ensure four hours of full operation.

The MPS35C uses precision vibrating cylinder pressure sensors for maximum accuracy to exceed RVSM calibration requirements.

MULTIPLE CIRCUIT ISOLATION
The MPS35C is configured to control up to 8 isolated lines, 2 for static, 2 for AOA, 4 for pitot, controlled from the remote hand controller. When AOA is not used, the MPS35C can control the switching of 4 static lines + 4 pitot lines in any combination.

SAFETY
The MPS35C is designed for maximum safety during testing. Key DMA design features protect the test set and instruments under test. A pressure condition of Ps greater than Pt is prevented in both manual and automatic operation. With loss of power the test circuit is safely isolated and can be manually vented preventing instrument and test set damage. Factory or user programmed safe limits prevent damage of UUT.

MPS35C STANDARD SPECIFICATIONS

Operating temperature range: -5°C to +50°C   Storage: -20°C to +70°C
Control capability on all load volumes (cu. in.):   Static: 0 to 125, Pitot: 0 to 80 cubic inches.

Parameter	Range		Resolution		Accuracy	
	Measure	Control	Measure	Control	Measure	Control
Altitude(ft)	From -3,000 to +80,000	from -3,000 to +60,000	1	1	±3 @ SL ±5 @ 30,000 ±20 @ 60,000	±2
Altitude slew rate (ft/min)	N 0 to 6,000 HR 0 to 30,000	0 to 6,000 0 to 30000	25 > 1000 5 < 1000	25	±10 ±1% of reading	same as measure
Airspeed (kts) Ultra Low Speed funct.	C: 10 to 850 ULS: 5 to 200	C: 10 to 850	1 < 50 0.1 > 50 0.1 > 20	0.1	±0.5 @ 50 ±0.1 @ >500 ULS: ±0.001 inHg	±1
Angle of Attack pressure	-2.5 to 2.5 inHg	-2.5 to +2.5	0.001 inHg	same	±0.003 inHg	same
Mach No.	0 to 4	0 to 4	0.001	0.001	< 0.002	±0.002
Airspeed slew rate (kt/min)	0 to 700	0 to 700	10	10	±10 ±1% of reading	±5%

N: normal   HR: high rate

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
- pressure/angle of attack input
- Mach Number input
- EPR generation
- TAS / IAS toggle
- Offset correction
- 30 user programmed test profiles
- ultra low speed (5 to 200 kts) function
- 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 parameters.

CALIBRATION
One year interval, performed using software.

PHYSICAL SPECIFICATIONS
Weight: 34.5 kg. (76 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

HAND HELD REMOTE CONTROL UNIT

WARRANTY
Unit   Two years
Pumps 5000 hours

OPTIONS
A. 28 V d.c. power supply (18 to 36 V d.c.)

B. ARINC429

C. IEEE488 GPIB control (RS232 standard)

D. PDA for wireless remote control

F. ADWIN PC Control software

G. Hand held remote control unit including 15 m extension cable

H. Gray Code Altitude Device Readout

-   Custom Pitot/Static connections available

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