



D. Marchiori

# MPS38B

## Compact Automatic Air Data Test Set

- Full automatic control for Altitude & Airspeed
- Fully RVSM compliant with 12 months recalibration period
- Integral pressure and vacuum pumps with 1000 hour life
  - Universal ac powered for national and aircraft supplies
  - User programmable safety limits and test programs
  - Lightweight rugged case, carry to the cockpit



# MPS38B Precision Compact Digital Air Data Test Set

## SUPPLYING AIR DATA TEST SETS TO THE WORLD

DMA traces its origins back to 1938, mainly as a test equipment manufacturer to support European aviation requirements. Today DMA supply precision Air Data Test Sets and other aviation ground support equipment to aircraft manufacturers, repair stations and operators throughout the world.

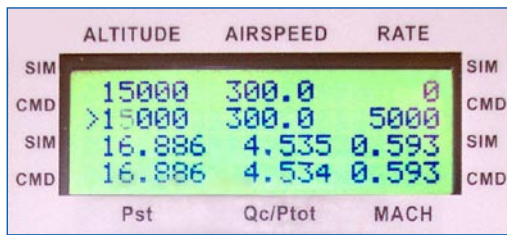
## FLIGHT LINE TESTER FOR DEMANDING APPLICATIONS

The MPS38B is a budget priced two channel, static and  $Q_c$  / Pitot, digital technology hand portable Air Data Test Set incorporating many standard features normally found on more expensive test instruments. The construction is both rugged and rainproof for demanding flight line use. The unit is housed in an easily hand-carried case.

## EASY INTUITIVE INTERFACE

Using logical key press routines the MPS38B is easy to use by both beginners and experts. Testing and trouble shooting can be performed via the built-in intuitively arranged colour-coded keypad and large 4 x 20 character back-lit display.

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



## ACCURACY ACHIEVED BY THE END OF SELF TEST

A precision absolute sensor is utilised for the static, altitude channel, and a precision differential transducer for the  $Q_c$ /Pt, airspeed, channel. Pressure and temperature characterisation is applied to the sensors ensuring very high accuracy is achieved at all operating pressure values, without any significant warm-up time.

## EXTENDED PUMP LIFE

The MPS38B is a rugged flight line instrument designed for low maintenance. The internal pressure and vacuum pumps run only on demand, when the instrument needs them operable, extending the pump life.

## AUTOMATED CALIBRATION

Calibration, performed by software, is fast and simple since no mechanical adjustments are required. Calibration factors are password protected for security. The resultant accuracy of the sensors exceeds the RVSM industry requirements.

## LOW POWER CONSUMPTION FOR HIGH RELIABILITY

Careful consideration during the design ensures low power consumption giving minimal internal temperature rise which consequently results in high reliability: typically 75 VA power consumption from the a.c. line.

## BUILT IN SAFETY LIMITS FOR UUT PROTECTION

The MPS38B is designed for maximum safety during testing. Key DMA design features protect both the test set and the systems under test. Negative  $Q_c$ , a pressure condition of  $P_s$  greater than  $P_t$ , is prevented in both manual and automatic operation. If a.c. power is lost the Unit Under Test (UUT) is safely isolated and can be manually vented preventing instrument and test set damage.

Numerous preset factory or user programmed safe limits are provided to prevent damage to the UUT. These limits can be modified by the user either temporarily or permanently, with password protection if desired.





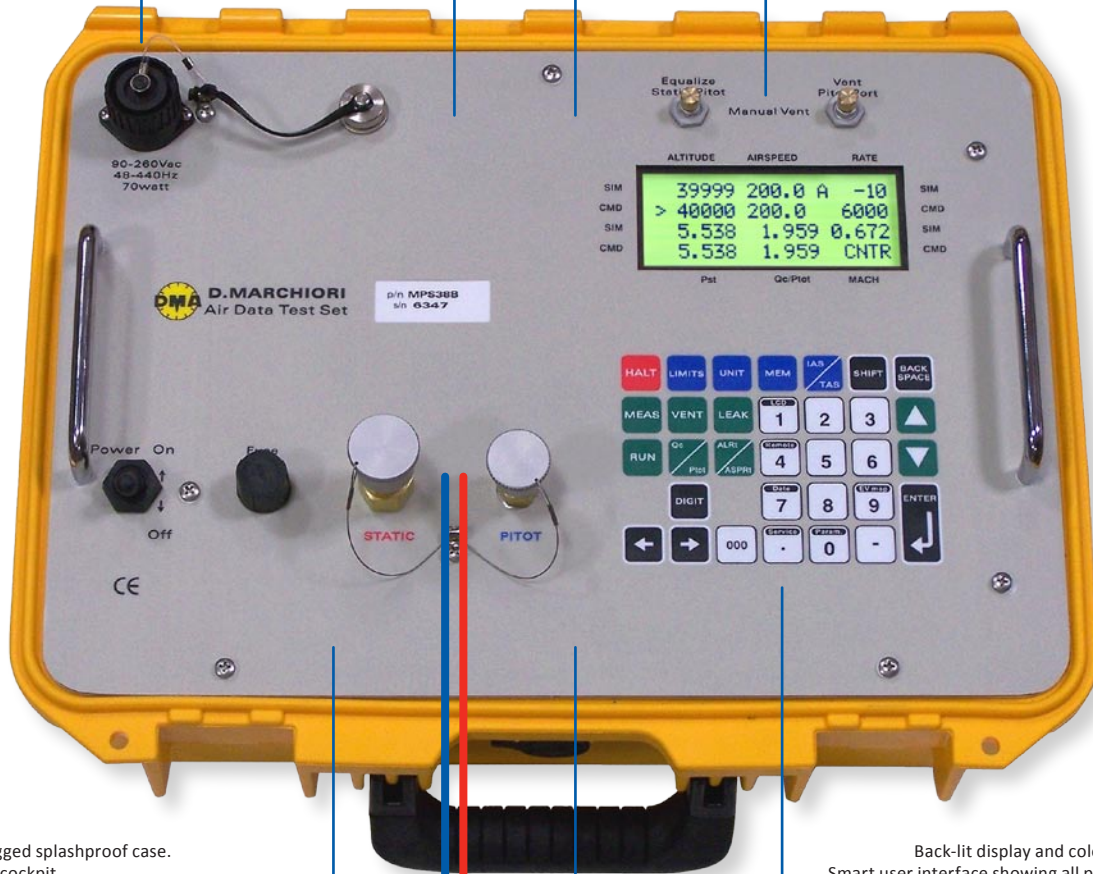
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Internal pumps run only on demand

Fully automatic control. User programmable limits

Universal power input.  
Low power consumption for  
high accuracy and reliability

Manual vents for Static and Pitot



Portable and rugged splashproof case.  
Easily carried to cockpit

Back-lit display and colour coded keypad.  
Smart user interface showing all parameters at once

2 Channels of independent  
pressure control for Static and Pitot

Accuracy  $\pm 3$  ft at sea level, meets RVSM requirements

A wide range of pitot-static adaptors and  
adaptor kits are available from DMA



# MPS38B Standard Specifications



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	PARAMETER	RANGE		RESOLUTION		ACCURACY	CONTROL STABILITY	
		MEASURE	CONTROL	MEASURE	SETPOINT			
STATIC	Altitude (ft)	-2,000→65,000	-2,000→50,000	1	1	± 3 @ SL ± 7 @ 30,000 ± 18 @ 50,000	± 2	
	Vertical speed (ft/min)	0→6,000	0→6,000	5 @ < 1,000 25 @ > 1,000	25	± 25 ± 1% of reading	± 100	
	Static (inHg abs) (hPa abs)	1.7→32 56→1090	3.4→32 116→1090	0.001 0.01	0.001 0.01	± 0.003 ± 0.1	± 0.002 ± 0.07	
PITOT	Airspeed	Standard (kts)	10→700	10→700	1 @ < 50 0.1 @ > 50	1	± 0.5 @ 50 ± 0.1 @ > 500	± 2
		Ultra low speed function <sup>[1]</sup> (kts)	5→200	5→200	0.1 @ > 20		± 0.03 hPa	± 0.03 hPa
	Airspeed slew rate (kts/min)	0→500	0→500	10	10	± 10 ± 1% of reading	± 10%	
	Mach No. (mach)	0→4	0→4	0.001	0.001	< ± 0.003	± 0.002	
	Pitot (Qc) (inHg diff) (hPa diff)	0→31 0→1040	0→31 0→1040	0.0001 0.01	0.0001 0.01	± 0.005 ± 0.17	± 0.004 ± 0.14	

Notes: Control capability on all load volumes (cu. in.): Static: 0 to 2 L (125 cu. in.), Pitot: 0 to 1.3 L (80 cu. in.). Larger volumes acceptable

<sup>1</sup> Standard mode of test set below 200 kts

## STANDARD TEST FUNCTIONS

- Pressure/vacuum generation
- Automatic leak check
- Controlled venting to ambient
- Altitude/airspeed input
- Static/dynamic(Qc)/total pressure input
- Altitude/airspeed rates input
- Mach Number input
- TAS / IAS toggle , TAS temperature correction
- Altitude offset correction
- 30 user test programmed profiles of 26 steps each
- Ultra low speed (5 to 200 kts) for improved accuracy and stability
- Audible indication when approaching set point

## DISPLAY AND KEYPAD

Integral display and keypad in splash proof and shock protected front panel.  
Back lit LCD displays all test parameters.

## DISPLAYED UNITS

Altitude: ft, m  
Airspeed: kts, km/h, mph  
Pressure: InHg, hPa, kPa, Pa, psi, mmHg

## CALIBRATION

One year interval, performed using software.

## PHYSICAL SPECIFICATIONS

Weight: 10 kg. (22 lbs.)  
Dimensions: L 430 x W 360 x H 180 mm  
(L 17 x W 14 x H 7 in.)  
Connections: Quick release Hansen fittings.

## ENVIRONMENTAL

Temperature range  
Operating: -5°C to +50°C  
Storage: -20°C to +70°C  
Splashproof and shockproof.  
CE compliant.

## POWER SUPPLY

Universal power supply: 90-240 VAC; 50-400 Hz.  
75 VA  
EPU8E External battery supply available

## WARRANTY

Unit: 2 Years  
Pumps: 1000 running hours

## OPTIONS

- K. EPU8E External power unit
- Custom Pitot/Static connections available

## ASSOCIATED PRODUCTS

Pitot-static adaptors  
Pressure indicators/transfer standards



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Representative



Ongoing development results in specifications being subject to change without notice