



D. Marchiori

# MPS34C

## High Precision Air Data Test Set

- Independent control of Altitude & Airspeed
  - Exceeds RVSM accuracy, with 12 months recalibration period
  - Integral pressure and vacuum pumps with 5000 hour warranty
    - Universal AC powered and internal 4 hour battery back-up
    - 4 x PS and 4 x Pt ports with automatic line switching
    - Rugged flightline unit with wheels and stowable tow handle



# MPS34C High Precision 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.

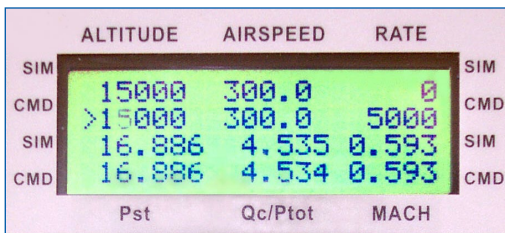
## FLIGHT LINE TESTER FOR DEMANDING APPLICATIONS

The MPS34C is a two channel digital technology 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 a single wheeled case with a stowable handle.

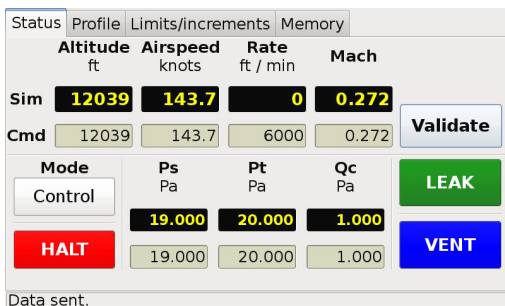


## EASY INTUITIVE INTERFACE

Using logical key press routines the MPS34C 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. For a remote location such as the flight-deck, three control options are available: the Hand Held Remote Control, the Touch Screen Remote Control or a wireless Bluetooth connected PDA. All the important air data functions are simultaneously displayed on all interfaces, constant screen or menu changes are not required. Readings of both commanded and measured test values are displayed.



Laboratory testing can also be performed by a PC connected via RS232 to the remote hand terminal connector. The comprehensive manuals include all the control instructions. ADWIN software is available as a ready-to-run PC based interface.



## ACCURACY ACHIEVED BY THE END OF SELF TEST

Two vibrating element absolute transducers are utilised for the static and pitot channels. 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.

## EXCLUSIVE 5000 HOUR PUMP LIFE WARRANTY

The MPS34C is a rugged flight line instrument designed for low maintenance. Designed by DMA, the low maintenance internal pressure and vacuum pumps run only on demand, extending the pump life and carrying a 5000 hours industry exclusive warranty (see specification for details), based on test set running hours.

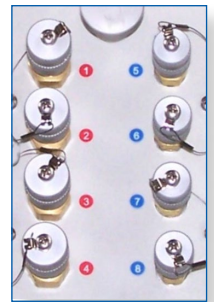
## AUTOMATED CALIBRATION

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 vibrating element sensors exceeds the RVSM industry requirements.

## FLEXIBLE MULTIPLE LINE SWITCHING

By means of independently addressable ports the MPS34C is configured to control up to 8 lines of isolation: 4 ports for static and 4 for pitot.

This multiple line switching permits fast and safe isolation of the lines to isolate leaking channels. Control is possible from any of the local or remote user interfaces. Combinations of line switching are also possible for numerous fault finding routines.



## 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 110 VA power consumption from the AC line.

## INTERNAL BATTERY FOR SAFETY AND VERSATILITY

The MPS34C is equipped with internal rechargeable batteries which provide an emergency power supply able to give up to four hours of full operation. This battery power feature also ensures that operation away from available AC supplies causes no problems to the operator. For those occasions when the AC power fails during a test there is a complete and seamless transfer over to the battery power permitting testing to continue and safe shutdown with total control.

## BUILT IN SAFETY LIMITS FOR UUT PROTECTION

The MPS34C is designed for maximum safety during testing. Key DMA design features protect both the test set and the systems under test. Negative Qc, a pressure condition of Ps greater than Pt, is prevented in both manual and automatic operation. In the unlikely situation where both AC and internal battery operation is not possible 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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Optional Touch Screen Remote Control. Includes USB port for test program storage on USB memory

Hand terminal provides intuitive user interface with back-lit display and colour coded keypad



Altitude	Airspeed	Rate	Mach
ft	knots	ft / min	
Sim 12039	143.7	0	0.272
Validate			
Cmd 12039			
Mode	Ps	Pt	Qc
Control	Pa	Pa	Pa
	19.000	20.000	1.000
LEAK			
HALT	19.000	20.000	1.000
VENT			

Remote Control MPSRE CE

Rugged splash proof case with wheels, stowable handle and removable lid

Universal power input with 28 VDC Option

Low power consumption for high accuracy and reliability

USB port for memory stick

Terminal connector and RS232 port

Vacuum supply for static adaptors

Altitude encoder interface. ARINC429 and IEEE488 available as options

Internal 4 hour battery for safety and versatility

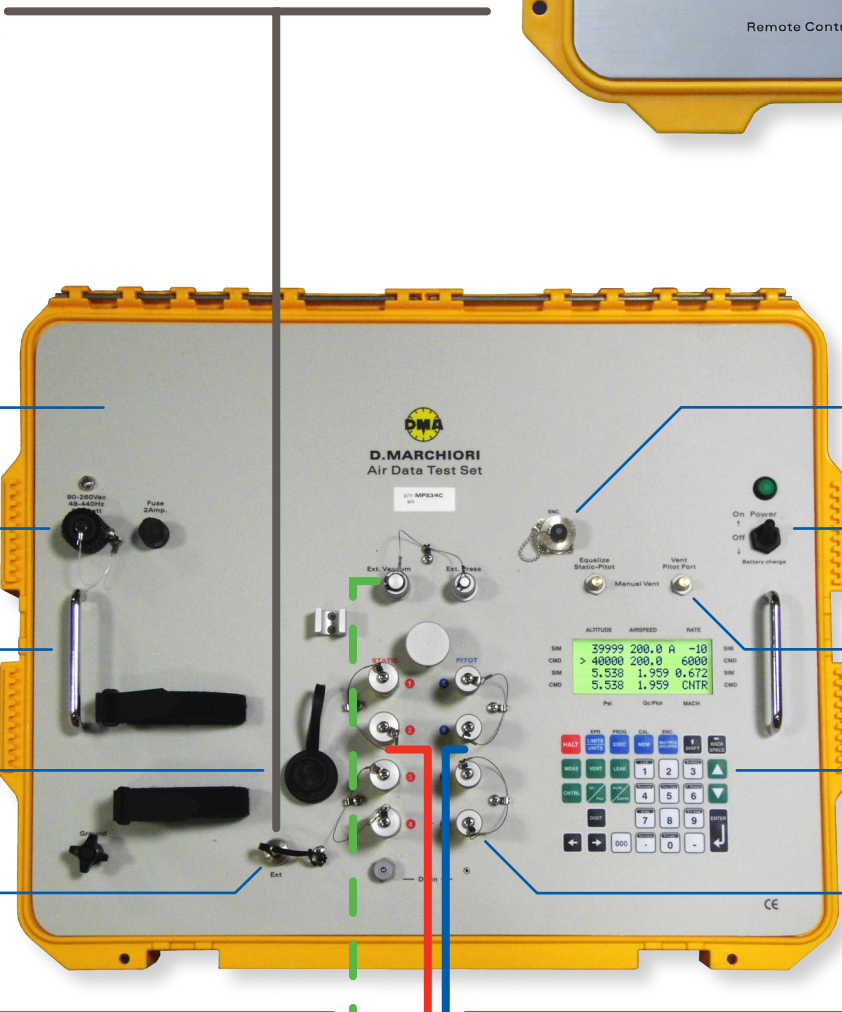
Manual vents for Static and Pitot

Local back-lit display and colour coded keypad for laboratory use

Multiple line switching: 4 static, 4 pitot

2 Channels of independent pressure control for Static and Pitot

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





# MPS34C Standard Specifications

	PARAMETER		RANGE		RESOLUTION		ACCURACY [5]
			MEASURE	CONTROL	MEASURE	SETPOINT	
STATIC	Altitude (ft)		-3,000→99,999	-3,000→80,000	1	1	± 2 @ Sea Level (SL) ± 4 @ 30,000 ± 15 @ 60,000
	Vertical speed	Standard (ft/min)	0→6,000	0→6,000	5 @ < 1,500 [2]	1	± 1% of setting
		High rate option [1] (ft/min)	0→30,000	0→30,000			
Static (inHg abs) (hPa abs)		0.3→33.3 10→1130	0.8→33.3 71→1130	0.001 0.01	0.001 0.01	± 0.0025 ± 0.09	
PITOT	Airspeed	Standard [3] (kts)	10→850 [3]	10→850 [3]	1 @ < 50 0.1 @ > 50	0.1	± 0.5 @ 50 ± 0.1 @ > 500
		Ultra low speed function [4] (kts)	2→850	2→850	0.1 @ > 20		± 0.03 hPa @ 200kts ± 0.14 hPa @ 500kts
	Airspeed slew rate (kts/min)		0→800	0→800	10	10	± 10 ± 1% of setting
	Mach No. (mach)		0→6	0→6	0.001	0.001	< ± 0.002
	Pitot	Standard (inHg abs) (hPa abs)	0.8→77 27→2600	2→77 71→2600	0.0001 0.01	0.0001 0.01	± 0.005 ± 0.17
		Option J2 (inHg abs) (hPa abs)	0.8→103 0.8→3500	0.8→103 0.8→3500			
Engine Pressure Ratio (EPR)		1→2.5 @ SL	1→2.5 @ SL	0.001	0.001	0.001	

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

<sup>1</sup> High rate achievable into small system volumes

<sup>2</sup> 10 above 1,500 ft/min, 25 above 3,000 ft/min, 50 above 6,000 ft/min, 100 above 12,000 ft/min

<sup>3</sup> 1,000 kts with Option J2

<sup>4</sup> Activated on request

<sup>5</sup> Total accuracy includes all metrological uncertainty contributions for the pressure measured. Metrological data has full traceability with International accredited Labs.

## 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
- EPR generation
- TAS / IAS toggle, TAS temperature correction
- Altitude offset correction
- 30 user test programmed profiles of 26 steps each
- Ultra low speed function for improved accuracy and stability
- USB port for USB memory device to store results and download test programs
- Audible indication when approaching set point

## DISPLAYED UNITS

Altitude: ft, m

Airspeed: kts, km/h, mph

Pressure: inHg, hPa, kPa, Pa, psi, mmHg

## DISPLAY AND KEYPAD

Integral display and keypad in splash proof and shock protected front panel.

Back lit LCD displays all test parameters.

Hand held remote control unit: 4 x 20

characters LCD with 50 ft extension cable.

## CALIBRATION

One year interval, performed using software.

## PHYSICAL SPECIFICATIONS

Weight: 34 kg. (75 lbs.)

Dimensions: L 625 x W 500 x H 300 mm  
(L 24.6 x W 19.7 x H 11.7 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.

110 VA

4 hours operation internal rechargeable battery

## WARRANTY

Unit: 2 Years

Pumps: 5000 running hours or 4 years,  
whichever expires first

## OPTIONS

**A0** 28 VDC Power supply: (18 to 30 VDC)

**B4** IEEE488 GPIB control (RS232 is standard)

**B5** ARINC429 monitoring interface

**B7** Gray code altitude device read-out

**E5** 5+3 multiple isolator (Airbus version)

**F2** ADWIN PC Control software (locked to S/N)

**F4** ADWIN PC Control software (unlocked)

**J2** 1000 kts range

– Custom Pitot/Static connections available

## ASSOCIATED PRODUCTS

MPSRE Touch Screen Remote Control

Pitot-static adaptors

Pressure indicators/transfer standards

Ongoing development results in specifications  
being subject to change without notice



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Representative

