

MM21** PORTABLE MICROMANOMETERS

Digital portable micromanometer for absolute, relative, differential pressure and temperature measurements, with large LCD display. To measure the pressure use is made of an internal module of the differential type with respect to the atmosphere fixed full scale. The interface cable MES471, enables the instrument to the automatic recognition of the calibration values of the pressure probes prepared. The temperature is detected using immersion, penetration, contact or air, both platinum RTD100, 1000, nickel NI 100 or thermocouple type K. MM21* with datalogger, store up to 36,000 samples which can be transferred to a PC connected to the instrument via the multi-standard RS232C serial port and USB 2.0.



Configuring the storage interval, printing, and baud rate from the menu. By RS232C serial port can be transferred in real time, the acquired measurements to PC or portable printer. Functions Max, Min and Avg for the calculation of the maximum, minimum and average, Peak function to detect the presence of pressure peaks. Other functions: relative measurement REL, HOLD and the automatic turning off. Security of data stored unlimited and independent of the state of charge of the batteries.

DESCRIPTION

Models	MM21140	MM21340	MM21640	MM2114B2	MM21142	MM21342	MM21642	MM2114B2
Full scale mbar	+/- 20	+/- 200	+/- 2000	600...1100	+/- 20	+/- 200	+/- 2000	600...1100
Barometer	-	-	-	YES	-	-	-	YES
Datalogger	-	-	-	-	YES	YES	YES	YES
RS232C-USB	-	-	-	-	YES	YES	YES	YES
Ext. Supply	-	-	-	-	YES	YES	YES	YES

TECHNICAL SPECIFICATIONS

Dimensions and weight:	(L x W x H) 185x90x40mm, 470 g (with batteries)
Materials:	ABS, rubber
Display:	2x41/2 digits plus symbols. Visible area 52x42mm
Work temperature/%RH:	-5 ... 50°C, 0...90%RH, without condensation
Protection:	IP67
Power supply:	4 x 1.5V batteries type AA. Autonomy 200 hours with 1800mAh alkaline batteries
Mains adapter:	MM21*42 model only, Optional, output 9Vdc / 250mA
Units:	°C - °F - Pa - hPa - kPa - mbar - bar - atm - mmHg - mmH2O - kgf/cm2 - PSI - inchHg
Date/hour:	real time. Accuracy 1min / month max deviation
Storage logger:	MM21*42 models 2000 pages of 18 samples each, quantity 36000 pairs of samples
Storage interval:	1s ... 3600s (1 hour)
Serial interface:	Galvanically isolated RS232C (MM 21 ... 42)
Baud rate:	1200 to 38400 baud, Data bits 8, Parity None, Stop bits 1 Flow Control Xon / Xoff
Serial cable length:	Max 15m
Instant print interval:	1s ... 3600s (1 hour)
USB Interface:	Type 1.1 - 2.0, galvanically isolated (MM21...42)
Input connections:	2 connectors - 8 Poles male DIN 45326 input probes Serial interface and USB (MM21*42) 8-pole Mini Din Mains adapter 2-pole connector (positive at center) (MM21*42)



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PRESSURE AND TEMPERATURE SENSORS - DESCRIPTIONS

PRESSURE SENSORS TABLE						
Pressure f.s.	Over-pressure max	Resolution	Accuracy from 20 to 25°C OFS	Differential Pressure *	Relative Pressure**	Absolute Pressure **
10.0 mbar	20.0 mbar	0.01 mbar	0.5%	705-10M		
20.0 mbar	40.0 mbar	0.01 mbar	0.5%	705-20M		
50.0 mbar	100 mbar	0.01 mbar	0.5%	705-50M		
100 mbar	200 mbar	0.1 mbar	0.25%	705-100M		
200 mbar	400 mbar	0.1 mbar	0.25%	705-200M		
			0.25%		704-200M	
500 mbar	1000 mbar	0.1 mbar	0.25%	705-500M		
			0.25%		704-500M	
1.00 bar	2.00 bar	1 mbar	0.25%	705-1B	705BARO	
			0.25%		705-1BI	
2.00 bar	4.00 bar	1 mbar	0.25%	705-2B		
			0.4%		704-2BGI	704-2BAI
5.00 bar	10.00 bar	1 mbar	0.4%		704-5BGI	704-5BAI
10.0 bar	20.0 bar	0.01 bar	0.4%		704-10BGI	704-10BAI
20.0 bar	40.0 bar	0.01 bar	0.4%		704-20BGI	704-20BAI
50.0 bar	100.0 bar	0.01 bar	0.4%		704-50BGI	704-50BAI
100 bar	200 bar	0.1 bar	0.4%			704-100BAI
200 bar	400 bar	0.1 bar	0.4%			704-200BAI
500 bar	750 bar	0.1 bar	0.4%			704-500BAI

* Membrane NOT isolated Max temperature 0 ... 60 ° C. Attacks tube. 5 mm.

** Insulating membrane. Max temperature 0 ... 80 ° C. Attacks 1/4 "BSP M

RTD 100 TEMPERATURE SENSORS, resol. 0.1 ° C, drift in temperature at 20°C= 0.003% / °C			
Model	Type	Range °C	Accuracy
472I	Immersion	-196...+500	+/-0.25°C (-196...+350°C), +/-0.4°C (+350...+500°C)
472I.0	Immersion	-50...+400	+/-0.25°C (-50...+350°C), +/-0.4°C (+350...+400°C)
473P.0	Penetration	-50...+400	+/-0.25°C (-50...+350°C), +/-0.4°C (+350...+400°C)
474C.0	Contact	-50...+400	+/-0.25°C (-50...+350°C), +/-0.4°C (+350...+400°C)
475A.0	Air	-50...+250	+/-0.3°C (-50...+250°C)
472I.5	Immersion	-50...+400	+/-0.3°C (-50...+350°C), +/-0.4°C (+350...+400°C)
472I.10	Immersion	-50...+400	+/-0.3°C (-50...+350°C), +/-0.4°C (+350...+400°C)

RTD100 TEMPERATURE SENSOR 4-W, resol. 0.1°C, drift in temperature at 20°C=0.003%/°C			
47.100	4-wires	-50...+400	Class A
RTD 100		-196...+500°C	
Thermocouple	type K	-200...+1370°C	



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