



DESCRIPTION

The Flo-tech MC4000 handheld hydraulic system analyzer has inputs for two pressure sensors, one temperature sensor, one flow sensor, and one active pick-up for RPM measurements. Four sensors can be connected at the same time and the measurements displayed in four windows of the LCD display in preselected process units according to US or DIN norms. The display supports English, French, German, Italian, and Spanish languages. Language is selected when ordering.

When operating in the datalogger mode, measurement results are stored in an internal 2.5 MB memory space. Each stored measurement also contains the day, date, and time derived from an internal real-time clock.

Stored measurements are available at the meter’s USB data port and can be uploaded to a Windows® PC using the MC4CON software utility. The MC4CON program permits bi-directional communication for uploading the records to the PC and for downloading the commands from the PC to MC4000.

All parameters can be set using the keys on the front panel. Pressure units can be programmed in bar or psi. The flow and rpm measurements are scaled by using programmable constants. Additionally, three-point flow calibration for the turbine sensors is available. For offset adjustment, the Tare function can be activated to set the display to zero at non-zero inputs.

Hydraulic horsepower is automatically calculated from the measured pressure and the flow. The horsepower units are displayed as either hp or kW, depending on menu selection.

FEATURES

- Handheld hydraulic analyzer offers instant and recordable diagnostics
- Hydraulic horsepower calculations
- Measures fast transients
- Flow sensor linearization
- 2.5 MB data logging capacity
- Five sensor inputs, including:
 - ◊ Turbine flow sensor
 - ◊ Two pressure sensors
 - ◊ Temperature sensor
 - ◊ RPM speed indicator



ACCESSORIES

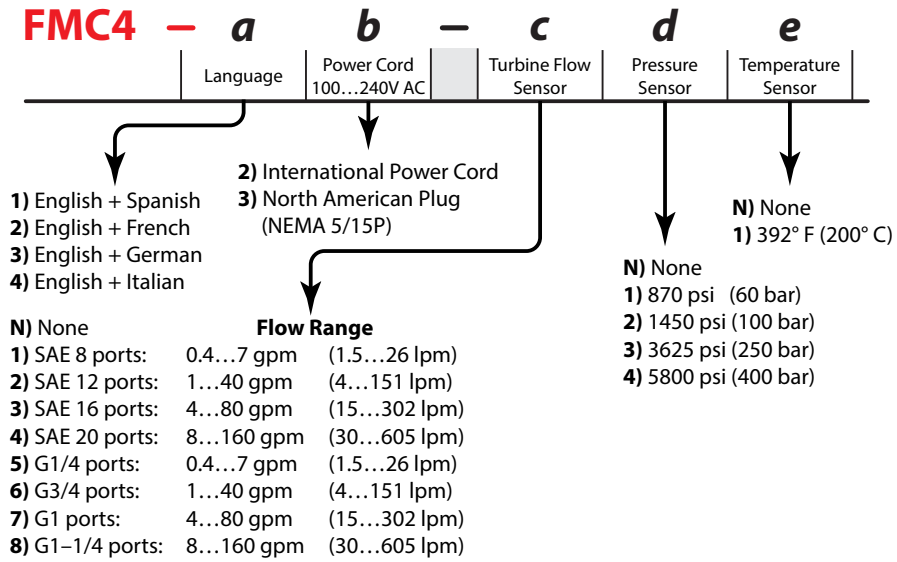
A comprehensive set of accessories is available for the MC4000. Use these accessories to expand the capabilities of the MC4000. For a complete list of available accessories see the MC4000 Parts List.



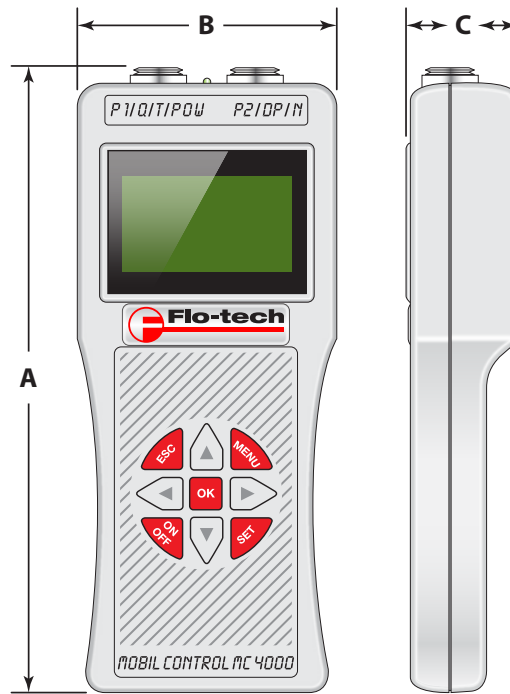
SPECIFICATIONS

Display		
Accuracy	±0.1% + 1 digit from midrange	
A to D	16-bit, Linearity ± (1 LSB + 1 digit)	
Display	Graphic LCD display with back light, 128 x 64 pixels; back light auto-off function	
Inputs	Flow Pressure (P1/P2) Temperature (T) RPM	10 mV...5V _{p,p} sine wave from turbine; frequency range 0.5...10 kHz scalable Dual 4...20 mA Pt-100 -50...500° C 5...24V active pickup; range 30...60,000 rpm
Keypad	Nine keys on the front; backlight is illuminated for 30 seconds after any key is pressed	
Power	Battery Charger	6V, 2 Ah 100...240V AC
	A fully charged battery permits about four hours of operation with two pressure sensors connected and the backlight switched off	
Memory	2.5 MB of datalogging memory can store up to 80,000 samples in all four signal channels, calculated power, date and time; the sampling rate is selectable from 1 s...120 min	
	Peak & valley functions stores the maximum and the minimum values of the P1 and P2 pressure sensors	
	Two fast transients recorders with a sampling rate of 1 ms and a capacity of 240,000 measurements monitor pressure sensor P1. The recording trigger threshold is programmable between 0...100%	
Tare	Pressure channels P1 and P2 are independently set to zero	
Connections	Two eight-pin, 12 mm sensor plugs, USB data connection, battery charging connection	
Indicators	Green LED between the two sensor plugs indicates power to the battery charging circuit	
Environmental	Ambient Temperature Humidity	-22...158° F (-30...70° C). 0...90% non-condensing.
Sensors		
Accuracy	± 1% of reading @ 32 cSt	
Repeatability	± 0.2%	
Pressure max	5800 psi (400 bar) max; 5000 psi (345 bar) max for SAE 20 and G 1-1/4 size models	
Turbine response time	≤200 ms	
Environmental	Fluid Temperature Ambient Temperature Humidity	-4...300° F (-20...150° C) -22...158° F (-30...70° C) 0...90% non-condensing
Materials		
Turbine	Housing	6013-T651 anodized aluminum
	Turbine rotor	T416 stainless steel
	Rotor supports	6061-T6 aluminum alloy
	Rotor shaft	T303 stainless steel
	Ball bearings	440 C stainless steel
	Hub cones	6061-T6 aluminum alloy
	Retaining rings	6061-T6 aluminum allow
	Adapters/plugs	6061-T6 anodized aluminum
Pickup	Seals	Buna N
	Housing	6016-T6 nickel plated
	Nut	T303 stainless steel
Pressure Sensor	Connector	Brass
	Case	300 Series stainless steel
	Diaphragm	17-4 PH stainless steel

PART NUMBER CONSTRUCTION



DIMENSIONS



A	B	C
8.70 in. (221 mm)	3.62 in. (92 mm)	1.62 in. (41 mm)

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