

PACER INDUSTRIES, INC.

Operating Instructions For
Model DA4000 Digital Anemometer

PLEASE NOTE: Calibration procedures and schematics are not available for this instrument. There are no internal adjustments. Calibration is in the Microprocessor chip.

The probe head is calibrated using a Laser-anemometer as reference in a 6" wind tunnel. Curves are attached.

ON
OFF

The DA4000 is switched ON by pressing the ON/OFF switch. Pressing it a second time will turn the unit OFF. To check the display segments, press and hold the ON/OFF switch.

MPS

Pressing MPS will give indicated measuring value in meters per second with 2 decimals resolution.

FPM

Pressing FPM will give indicated measuring value in feet per minute.

2
SEC

2 Second measuring time. In actual operation the DA4000 will indicate the actual speed every 2 seconds.

16
SEC

16 Second measuring time. In this operation the DA4000 will indicate the arithmetic average measuring value over 8 measurings.

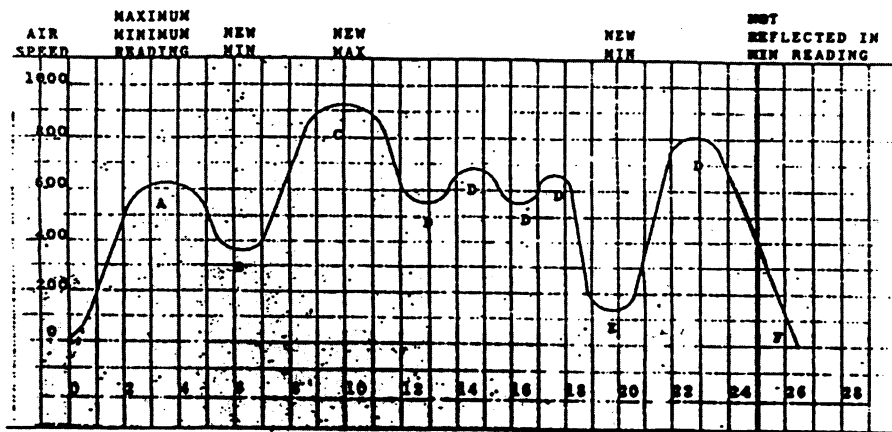
When pressing the 16 SEC button, a 16 second measuring integration time will start. During the integration time, the display will indicate "16 SEC". After the arithmetic average measuring value is indicated, this value will be updated every 2 seconds. Every time the 16 SEC button is pressed, the integration time will be restarted.

MAX

When pressing the MAX button, the highest value (since switching on the DA4000) will be indicated. The clearing is operated by the ON/OFF switch. The maximum hold will operate in both the 2 SEC and 16 SEC measuring times and will indicate the respective values. The measuring mode is indicated by a flashing "H 2" and the value; alternatively "H 16" and the value.

MIN

When pressing the MIN button, the lowest value (since switching on the DA4000) will be indicated. The minimum hold will operate in both the 2 SEC and 16 SEC measuring times and will indicate the respective values. The clearing is operated by the ON/OFF switch.



ELAPSED TIME

- A. First maximum reading. Also first minimum reading until B occurs.
- B. The new Min will register after the air speed starts to increase.
- C. The new higher Max will register after the air speed starts to decrease.
- D. This speed is in between the earlier Max and Min and will not be reflected.
- E. This speed is slower than the previous Min and will now be the new Min after the air speed starts to increase.
- F. This speed will not be reflected in the Min reading because it goes directly to zero without increasing speed in the process. This protects against false Min readings when the probe is withdrawn from the air stream.

BATTERY CHECK: A low battery voltage is indicated by displaying an "L".

RVE USED IN THE CALIBRATION OF THE MICROPROCESSOR CHIP/AP275 PROBE

<u>FREQUENCY (HZ)</u>	<u>FPM</u>	<u>MPS</u>	<u>FREQUENCY (HZ)</u>	<u>FPM</u>	<u>MPS</u>
5.00	52.2	.26	850.00	2722.0	13.82
10.00	68.0	.34	900.00	2880.0	14.62
15.00	83.8	.42	950.00	3038.0	15.43
20.00	99.6	.50	1000.00	3195.9	16.23
25.00	115.4	.58	1050.00	3353.9	17.03
30.00	131.2	.66	1100.00	3511.9	17.83
35.00	147.0	.74	1150.00	3669.9	18.64
40.00	162.8	.82	1200.00	3827.8	19.44
45.00	178.5	.90	1250.00	3985.8	20.24
50.00	194.3	.98	1300.00	4143.8	21.04
55.00	210.1	1.06	1350.00	4301.8	21.85
60.00	225.9	1.14	1400.00	4459.8	22.65
65.00	241.7	1.22	1450.00	4617.7	23.45
70.00	257.5	1.30	1500.00	4775.7	24.25
75.00	273.3	1.38	1550.00	4933.7	25.06
80.00	289.1	1.46	1600.00	5091.7	25.86
85.00	304.9	1.54	1650.00	5249.6	26.66
90.00	320.7	1.62	1700.00	5407.6	27.46
95.00	336.5	1.70	1750.00	5565.6	28.27
100.00	352.3	1.78	1800.00	5723.6	29.07
110.00	668.3	3.39	1850.00	5881.6	29.87
120.00	826.3	4.19	1900.00	6039.5	30.67
130.00	984.2	4.99	1950.00	6197.5	31.48
140.00	1142.2	5.80	2000.00	6355.5	32.28
150.00	1300.2	6.60	2050.00	6513.5	33.08
160.00	1458.2	7.40	2100.00	6671.5	33.88
170.00	1616.2	8.20	2150.00	6829.4	34.69
180.00	1774.1	9.01	2200.00	6987.4	35.49
190.00	1932.1	9.81	2250.00	7145.4	36.29
200.00	2090.1	10.61	2300.00	7303.4	37.09
210.00	2248.1	11.41	2350.00	7461.3	37.90
220.00	2406.0	12.22	2400.00	7619.3	38.70
230.00	2564.0	13.02			

CURVE USED IN THE CALIBRATION OF THE MICROPROCESSOR CHIP/API00 PROBE

<u>FREQUENCY (HZ)</u>	<u>FPM</u>	<u>MPS</u>	<u>FREQUENCY (HZ)</u>	<u>FPM</u>	<u>MPS</u>
5.00	68.6	.34	650.00	2070.6	10.51
10.00	84.1	.42	700.00	2225.8	11.30
15.00	99.7	.50	750.00	2381.0	12.09
20.00	115.2	.58	800.00	2536.2	12.88
25.00	130.7	.66	850.00	2691.3	13.67
30.00	146.2	.74	900.00	2846.5	14.45
35.00	161.7	.82	950.00	3001.7	15.24
40.00	177.3	.90	1000.00	3156.9	16.03
45.00	192.8	.97	1050.00	3312.1	16.82
50.00	208.3	1.05	1100.00	3467.3	17.61
55.00	223.8	1.13	1150.00	3622.5	18.40
60.00	239.3	1.21	1200.00	3777.7	19.18
65.00	254.9	1.29	1250.00	3932.9	19.97
70.00	270.4	1.37	1300.00	4088.1	20.76
75.00	285.9	1.45	1350.00	4243.2	21.55
80.00	301.4	1.53	1400.00	4398.4	22.34
85.00	316.9	1.61	1450.00	4553.6	23.13
90.00	332.4	1.68	1500.00	4708.8	23.91
95.00	348.0	1.76	1550.00	4864.0	24.70
100.00	363.5	1.84	1600.00	5019.2	25.49
200.00	673.9	3.42	1650.00	5174.4	26.28
250.00	829.1	4.21	1700.00	5329.6	27.07
300.00	984.2	4.99	1750.00	5484.8	27.86
350.00	1139.4	5.78	1800.00	5640.0	28.64
400.00	1294.6	6.57	1850.00	5795.2	29.43
450.00	1449.8	7.36	1900.00	5950.3	30.22
500.00	1605.0	8.15	1950.00	6105.5	31.01
550.00	1760.2	8.94	2000.00	6260.7	31.80
600.00	1915.4	9.72			