

# VIBRATION TABLE DATA LOGGER

## SPECIFICATION:

DATA LOGGER  
NO OF CHANNELS : Data logger of 2 channels can be provided.

## Minimum requirement

DISPLAY : 16 X 2 line LCD display with backlight.  
SCAN RATE : 0.2 sec per channel.  
SAMPLING RATE : 30 samples per sec.  
INPUT : 2 channels.  
ANALOG : 1 channels.  
DIGITAL : 1 channel for speed.  
SERIAL OUTPUT : RS-232 Serial output provided at 9600 baud rate with USB.  
POWER : 230V 50Hz.  
SOFTWARE : VIBRATION ANALYSISER Lab View Software 2009 to Monitoring and controlling the Data Acquisition, Tend Plot, Offline Analysis, Printing.

## POSITION TRANSDUCER SPECIFICATIONS:

### Special features

- Long life – 100 x 106 movements
- Outstanding linearity – up to  $\pm 0.075\%$
- Choice of plug or cable connection
- DIN standard gauging end
- Double bearing system on shaft
- Insensitive to shock an vibration
- Repeatability to  $\pm 0.002$  mm



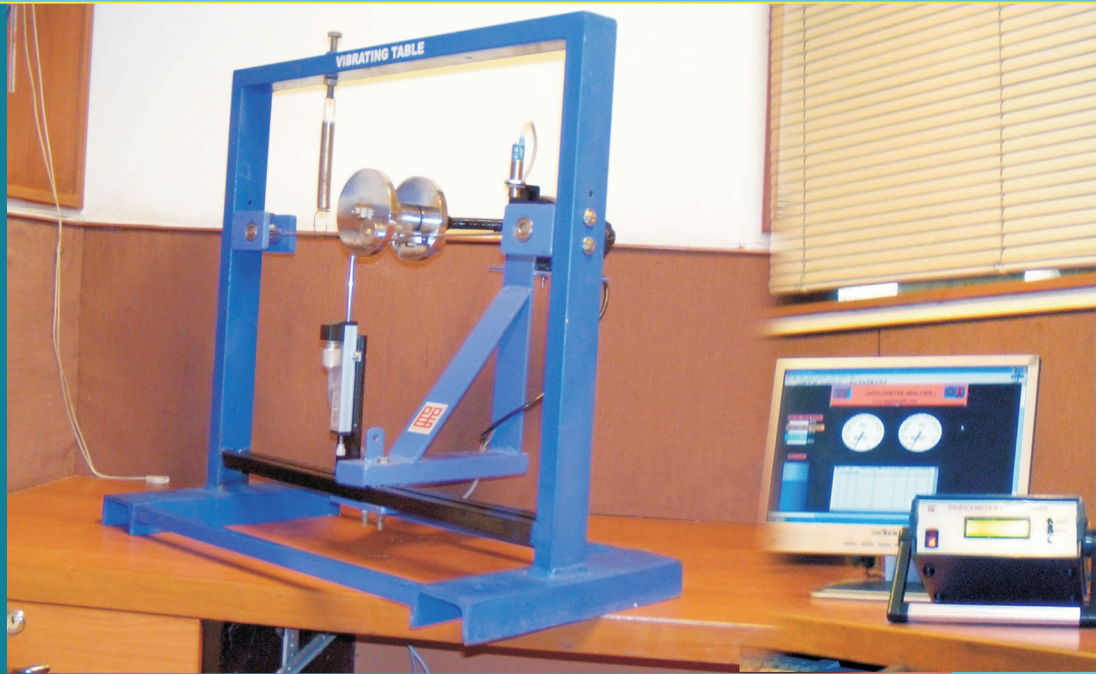
Nomenclature	Specifications
Displacement	75mm
Operating frequency	Approximately 50hz with output of 5V DC
Nominal resistance	5 Kohms
Housing	Aluminum, Anodized
Actuating shaft	stainless steel with anti-rotation device, inside thread M 2.5 x 6
Fixings	Adjustable clamps
Electrical connections	Type 3 wire plug connector

## PROXIMITY TRANSDUCER SPECIFICATIONS:

### RPM MEASUREMENT

A proximity sensor is a sensor able to detect the presence of nearby objects without any physical contact. A proximity sensor often emits an electromagnetic or electrostatic field, or a beam of electromagnetic radiation (infrared, for instance), and looks for changes in the field or return signal. The object being sensed is often referred to as the proximity sensor's target. Different proximity sensor targets demand different sensors.

Nomenclature	Specifications
Input voltage	5-12VDC
Electrical connections	Type 3 wire connection
Red wire	+12vDC
Black wire	Ground
Green wire	Output
Output Type	DC pulse wave form out put PNP



## MICROCONTROLLER SPECIFICATIONS:

40-PIN 8-BIT CMOS FLASH MICROCONTROLLERS

PIC16F877

### Microcontroller Core Features:

#### High performance RISC CPU

- Only 35 single word instructions to learn
- All single cycle instructions except for program Branches which are two cycle
- Operating speed: DC - 20 MHz clock input DC - 200 ns instruction cycle
- Up to 8K x 14 words of FLASH Program Memory, Up to 368 x 8 bytes of Data Memory (RAM) Up to 256 x 8 bytes of EEPROM Data Memory
- Pinout compatible to the PIC16F877A
- Interrupt capability (up to 14 sources)
- Eight level deep hardware stack
- Direct, indirect and relative addressing modes
- Power-on Reset (POR)
- Power-up Timer (PWRT) and Oscillator Start-up Timer (OST)
- Watchdog Timer (WDT) with its own on-chip RC oscillator for reliable operation
- Programmable code protection
- Power saving SLEEP mode
- Selectable oscillator options
- Low power, high speed CMOS FLASH/EEPROM technology
- Fully static design
- In-Circuit Serial Programming (ICSP) via two pins
- Single 5V In-Circuit Serial Programming capability
- In-Circuit Debugging via two pins
- Processor read/write access to program memory
- Wide operating voltage range: 2.0V to 5.5V
- High Sink/Source Current: 25 mA
- Commercial, Industrial and Extended temperature ranges
- Low-power consumption:
  - < 0.6 mA typical @ 3V, 4 MHz
  - 20  $\mu$ A typical @ 3V, 32 kHz
  - < 1  $\mu$ A typical standby current

### Peripheral Features:

- Timer0: 8-bit timer/counter with 8-bit prescaler
- Timer1: 16-bit timer/counter with prescaler, Can be incremented during SLEEP via external Crystal/clock
- Timer2: 8-bit timer/counter with 8-bit period Register, prescaler and postscaler
- Two Capture, Compare, PWM modules
  - Capture is 16-bit, max. resolution is 12.5 ns
  - Compare is 16-bit, max. resolution is 200 ns
  - PWM max. resolution is 10-bit
- 10-bit multi-channel Analog-to-Digital converter
- Synchronous Serial Port (SSP) with SPI (Master mode) and I2C (Master/Slave)
- Universal Synchronous Asynchronous Receiver Transmitter (USART/SCI) with 9-bit address detection
- Parallel Slave Port (PSP) 8-bits wide, with external RD, WR and CS controls (40/44-pin only)
- Brown-out detection circuitry for Brown-out Reset (BOR)

## PIN OUT

VDD		VSS	
1	RA0/VPP	26	RD0/PC0
2	RA1/AN0	27	RD1/PC1
3	RA2/AN1	28	RFB
4	RA3/AN2/VREF	29	RFB
5	RA4/AN3/VREF	30	RD4/PC4
6	RA5/T0CKI	31	RFB
7	RA6/AN4/SS	32	RFB
8	RA7/AN5/PC	33	RD5/PC5
9	RA8/AN6/SS	34	RFB
10	RA9/AN7/PC	35	RFB
11	RA10/AN8/SS	36	RD6/PC6
12	RA11/AN9/PC	37	RFB
13	RA12/AN10/SS	38	RD7/PC7
14	RA13/AN11/PC	39	RFB
15	RA14/AN12/SS	40	RD8/PC8
16	RA15/AN13/PC	41	RFB
17	RA16/AN14/SS	42	RD9/PC9
18	RA17/AN15/PC	43	RFB
19	RA18/AN16/SS	44	RD10/PC10
20	RA19/AN17/PC	45	RFB
21	RA20/AN18/SS	46	RD11/PC11
22	RA21/AN19/PC	47	RFB
23	RA22/AN20/SS	48	RD12/PC12
24	RA23/AN21/PC	49	RFB
25	RA24/AN22/SS	50	RD13/PC13
26	RA25/AN23/PC	51	RFB
27	RA26/AN24/SS	52	RD14/PC14
28	RA27/AN25/PC	53	RFB
29	RA28/AN26/SS	54	RD15/PC15
30	RA29/AN27/PC	55	RFB
31	RA30/AN28/SS	56	RD16/PC16
32	RA31/AN29/PC	57	RFB
33	RA32/AN30/SS	58	RD17/PC17
34	RA33/AN31/PC	59	RFB
35	RA34/AN32/SS	60	RD18/PC18
36	RA35/AN33/PC	61	RFB
37	RA36/AN34/SS	62	RD19/PC19
38	RA37/AN35/PC	63	RFB
39	RA38/AN36/SS	64	RD20/PC20
40	RA39/AN37/PC	65	RFB
41	RA40/AN38/SS	66	RD21/PC21
42	RA41/AN39/PC	67	RFB
43	RA42/AN40/SS	68	RD22/PC22
44	RA43/AN41/PC	69	RFB
45	RA44/AN42/SS	70	RD23/PC23
46	RA45/AN43/PC	71	RFB
47	RA46/AN44/SS	72	RD24/PC24
48	RA47/AN45/PC	73	RFB
49	RA48/AN46/SS	74	RD25/PC25
50	RA49/AN47/PC	75	RFB
51	RA50/AN48/SS	76	RD26/PC26
52	RA51/AN49/PC	77	RFB
53	RA52/AN50/SS	78	RD27/PC27
54	RA53/AN51/PC	79	RFB
55	RA54/AN52/SS	80	RD28/PC28
56	RA55/AN53/PC	81	RFB
57	RA56/AN54/SS	82	RD29/PC29
58	RA57/AN55/PC	83	RFB
59	RA58/AN56/SS	84	RD30/PC30
60	RA59/AN57/PC	85	RFB
61	RA60/AN58/SS	86	RD31/PC31
62	RA61/AN59/PC	87	RFB
63	RA62/AN60/SS	88	RD32/PC32
64	RA63/AN61/PC	89	RFB
65	RA64/AN62/SS	90	RD33/PC33
66	RA65/AN63/PC	91	RFB
67	RA66/AN64/SS	92	RD34/PC34
68	RA67/AN65/PC	93	RFB
69	RA68/AN66/SS	94	RD35/PC35
70	RA69/AN67/PC	95	RFB
71	RA70/AN68/SS	96	RD36/PC36
72	RA71/AN69/PC	97	RFB
73	RA72/AN70/SS	98	RD37/PC37
74	RA73/AN71/PC	99	RFB
75	RA74/AN72/SS	100	RD38/PC38
76	RA75/AN73/PC	101	RFB
77	RA76/AN74/SS	102	RD39/PC39
78	RA77/AN75/PC	103	RFB
79	RA78/AN76/SS	104	RD40/PC40
80	RA79/AN77/PC	105	RFB
81	RA80/AN78/SS	106	RD41/PC41
82	RA81/AN79/PC	107	RFB
83	RA82/AN80/SS	108	RD42/PC42
84	RA83/AN81/PC	109	RFB
85	RA84/AN82/SS	110	RD43/PC43
86	RA85/AN83/PC	111	RFB
87	RA86/AN84/SS	112	RD44/PC44
88	RA87/AN85/PC	113	RFB
89	RA88/AN86/SS	114	RD45/PC45
90	RA89/AN87/PC	115	RFB
91	RA90/AN88/SS	116	RD46/PC46
92	RA91/AN89/PC	117	RFB
93	RA92/AN90/SS	118	RD47/PC47
94	RA93/AN91/PC	119	RFB
95	RA94/AN92/SS	120	RD48/PC48
96	RA95/AN93/PC	121	RFB
97	RA96/AN94/SS	122	RD49/PC49
98	RA97/AN95/PC	123	RFB
99	RA98/AN96/SS	124	RD50/PC50
100	RA99/AN97/PC	125	RFB
101	RA100/AN98/SS	126	RD51/PC51
102	RA101/AN99/PC	127	RFB
103	RA102/AN100/SS	128	RD52/PC52
104	RA103/AN101/PC	129	RFB
105	RA104/AN102/SS	130	RD53/PC53
106	RA105/AN103/PC	131	RFB
107	RA106/AN104/SS	132	RD54/PC54
108	RA107/AN105/PC	133	RFB
109	RA108/AN106/SS	134	RD55/PC55
110	RA109/AN107/PC	135	RFB
111	RA110/AN108/SS	136	RD56/PC56
112	RA111/AN109/PC	137	RFB
113	RA112/AN110/SS	138	RD57/PC57
114	RA113/AN111/PC	139	RFB
115	RA114/AN112/SS	140	RD58/PC58
116	RA115/AN113/PC	141	RFB
117	RA116/AN114/SS	142	RD59/PC59
118	RA117/AN115/PC	143	RFB
119	RA118/AN116/SS	144	RD60/PC60
120	RA119/AN117/PC	145	RFB
121	RA120/AN118/SS	146	RD61/PC61
122	RA121/AN119/PC	147	RFB
123	RA122/AN120/SS	148	RD62/PC62
124	RA123/AN121/PC	149	RFB
125	RA124/AN122/SS	150	RD63/PC63
126	RA125/AN123/PC	151	RFB
127	RA126/AN124/SS	152	RD64/PC64
128	RA127/AN125/PC	153	RFB
129	RA128/AN126/SS	154	RD65/PC65
130	RA129/AN127/PC	155	RFB
131	RA130/AN128/SS	156	RD66/PC66
132	RA131/AN129/PC	157	RFB
133	RA132/AN130/SS	158	RD67/PC67
134	RA133/AN131/PC	159	RFB
135	RA134/AN132/SS	160	RD68/PC68
136	RA135/AN133/PC	161	RFB
137	RA136/AN134/SS	162	RD69/PC69
138	RA137/AN135/PC	163	RFB
139	RA138/AN136/SS	164	RD70/PC70
140	RA139/AN137/PC	165	RFB
141	RA140/AN138/SS	166	RD71/PC71
142	RA141/AN139/PC	167	RFB
143	RA142/AN140/SS	168	RD72/PC72
144	RA143/AN141/PC	169	RFB
145	RA144/AN142/SS	170	RD73/PC73
146	RA145/AN143/PC	171	RFB
147	RA146/AN144/SS	172	RD74/PC74
148	RA147/AN145/PC	173	RFB
149	RA148/AN146/SS	174	RD75/PC75
150	RA149/AN147/PC	175	RFB
151	RA150/AN148/SS	176	RD76/PC76
152	RA151/AN149/PC	177	RFB
153	RA152/AN150/SS	178	RD77/PC77
154	RA153/AN151/PC	179	RFB
155	RA154/AN152/SS	180	RD78/PC78
156	RA155/AN153/PC	181	RFB
157	RA156/AN154/SS	182	RD79/PC79
158	RA157/AN155/PC	183	RFB
159	RA158/AN156/SS	184	RD80/PC80
160	RA159/AN157/PC	185	RFB
161	RA160/AN158/SS	186	RD81/PC81
162	RA161/AN159/PC	187	RFB
163	RA162/AN160/SS	188	RD82/PC82
164	RA163/AN161/PC	189	RFB
165	RA164/AN162/SS	190	RD83/PC83
166	RA165/AN163/PC	191	RFB
167	RA166/AN164/SS	192	RD84/PC84
168	RA167/AN165/PC	193	RFB
169	RA168/AN166/SS	194	RD85/PC85
170	RA169/AN167/PC	195	RFB
171	RA170/AN168/SS	196	RD86/PC86
172	RA171/AN169/PC	197	RFB
173	RA172/AN170/SS	198	RD87/PC87
174	RA173/AN171/PC	199	RFB
175	RA174/AN172/SS	200	RD88/PC88
176	RA175/AN173/PC	201	RFB
177	RA176/AN174/SS	202	RD89/PC89
178	RA177/AN175/PC	203	RFB
179	RA178/AN176/SS	204	RD90/PC90
180	RA179/AN177/PC	205	RFB
181	RA180/AN178/SS	206	RD91/PC91
182	RA181/AN179/PC	207	RFB
183	RA182/AN180/SS	208	RD92/PC92
184	RA183/AN181/PC	209	RFB
185	RA184/AN182/SS	210	RD93/PC93
186	RA185/AN183/PC	211	RFB
187	RA186/AN184/SS	212	RD94/PC94
188	RA187/AN185/PC	213	RFB
189	RA188/AN186/SS	214	RD95/PC95
190	RA189/AN187/PC	215	RFB
191	RA190/AN188/SS	216	RD96/PC96
192	RA191/AN189/PC	217	RFB
193	RA192/AN190/SS	218	RD97/PC97
194	RA193/AN191/PC	219	RFB
195	RA194/AN192/SS	220	RD98/PC98
196	RA195/AN193/PC	221	RFB
197	RA196/AN194/SS	222	RD99/PC99
198	RA197/AN195/PC	223	RFB
199	RA198/AN196/SS	224	RD100/PC100
200	RA199/AN197/PC	225	RFB
201	RA200/AN198/SS	226	RD101/PC101
202	RA201/AN199/PC	227	RFB
203	RA202/AN200/SS	228	RD102/PC102
204	RA203/AN201/PC	229	RFB
205	RA204/AN202/SS	230	RD103/PC103
206	RA205/AN203/PC	231	RFB
207	RA206/AN204/SS	232	RD104/PC104
208	RA207/AN205/PC	233	RFB
209	RA208/AN206/SS	234	RD105/PC105
210	RA209/AN207/PC	235	RFB
211	RA210/AN208/SS	236	RD106/PC106
212	RA211/AN209/PC	237	RFB
213	RA212/AN210/SS	238	RD107/PC107
214	RA213/AN211/PC	239	RFB
215	RA214/AN212/SS	240	RD108/PC108
216	RA215/AN213/PC	241	RFB
217	RA216/AN214/SS	242	RD109/PC109
218	RA217/AN215/PC</		