

## REMOTE OPTICAL SENSOR

Part Number: PROB00

Optical sensor      Range 25 mm - 1 meter.  
Visible light source.  
On-target indicator.

This accessory plugs into the connector at the end of the instrument, automatically switching off the internal optical system. The Optical sensor can accommodate the Contact adaptor for remote measurement of linear rates in difficult or inaccessible applications.

Contact adaptor      converts optical sensors to measure RPM and meters/min by direct contact method. supplied complete with rpm cone and metric wheel.

Part Number: PMB

Sensor bracket      Steel bracket for fixed mount of PROB00

### WARNING

Only alkaline batteries must be used in these instruments. Under no circumstances must dry batteries or calculator batteries be used as these cannot supply the power required and can damage the instrument due to leakage.

## DANAHER CONTROLS

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# DYNAPAR MODEL HT100 HAND TACHOMETER

## INSTRUCTIONS & SPECIFICATION

### General Description

The HT100 is a 5 digit microprocessor based hand-held tachometer/timer/counter. It features user selectable Autoranging function, six measuring ranges, and optical or direct contact (using adaptor provided) operation.

An accessory remote optical-sensor-probe is optionally available. It also may be used with the direct contact adaptor.

### General specification

Speed range	3 - 99999 rpm
Display	5 digit Red LED 10.5mm (0.4")
Display update time	0.8 secs > 75 rpm, time of pulses < 75 rpm
Accuracy	$\pm 0.05\%$ $\pm 1$ digit of reading
Timebase	Crystal controlled
Auto/fixd ranges	User selectable via Yellow switch
Resolution - Rate modes	1 digit or max. 0.001 in Autorange
Time Modes -	0.01 - 99999 sec.
Count Mode -	1 Count (1 pulse/shaft rev. in contact mode)
Last reading hold	Reading displayed for 10 seconds
Memory recall	Reading recalled for up to 1 min
Over-range	Display flashes
Under range	Display reverts to zero (Rate modes)
On Target Indicator	Green LED indicates correct optical path
Battery low indication	LED indicates batteries may need replacement.
Optical range	25mm - 1000 mm (1" - 3 ft)
Optical angle	$\pm 45$ deg. to reflective marker
Light source	Visible light, long life lamp
Power source	4 x AA size Alkaline cells OR AA Ni-Cad echargeable cells

Remote Sensor input	3.5mm socket for PROB00
Direct Contact Adaptor	Converts HT100 to direct contact measurement of rpm, ft/min, or m/min

**COUNT MODE** Counts revolutions or Meters (0.1 metre units) this mode operates with Time Accumulative mode Average rate can be measured by using Total Count/Time Acc. information.

## USER CONTROLS

### RED MEASURE SWITCH - DUAL FUNCTION CONTROL

1) Press to Measure switch. Automatic switch off

2) Data reset

### YELLOW RECALL/AUTO SWITCH - DUAL FUNCTION CONTROL

1) Selects Auto or fixed ranges when RED switch is held ON

2) Selects Memory recall after RED switch is released

When held ON, reading is continuously held.

### SIX WAY SLIDER SWITCH - MEASURING RANGES

SWITCH POSITION	RANGE
1) rpm	3 - 99999
2) m/min	1 - 19999
3) ft/min	1 - 19999
4) Time Interval	0.01 - 99999 seconds
5) Count	1 - 99999
6) Time Accumulative	0.01 - 99999 seconds

**RPM MODE** - Speed range is 3 rpm to 99,999 rpm direct reading, or up to 500,000 rpm  $\pm 10$  rpm, USING m/min DIVIDE BY 10 function

### MAXIMUM SPEED WITH CONTACT ADAPTOR

Governed by upper speed limit of bearings and is affected by measurement duration, typically 50,000 rpm for 10 seconds.

Maximum linear rate is typically 1500 m/min or 4,500 feet/min

## DESCRIPTION OF TIME AND COUNT FUNCTIONS

**TIME INTERVAL MODE** Measures the time between successive pulses, used to measure reciprocal rate, (Secs/Rev) Speeds below 3rpm can be accurately checked..

**TIME ACCUMULATIVE MODE** Measures total time for all Pulses from start to finish, operates in conjunction with count mode

## HOW TO USE THE TACHOMETERS OPTICAL MODE

1) Stop machine and attach reflective marker to shaft (5 x 25mm)

2) Select function required

3) Press & hold RED switch

4) Aim light onto reflective marker

5) Ensure GREEN LED light glows steadily

6) Observe reading

Releasing RED switch holds displayed reading for 10 seconds. Press Yellow switch to recall last reading for another 10 seconds. (data held for 1 min in internal memory).

Reading will remain in display while Yellow switch is held ON. Pressing RED switch will reset any value.

### CONTACT MEASUREMENT WITH ADAPTOR

Carry out points 2 & 3, make contact with shaft via the rpm cone or surface speed wheel, check points 5 and 6.

### AUTORANGE SELECTION - RATE MODES ONLY

The instrument is always in FIXED range mode at switch on.

a. PRESS and HOLD the RED Measure switch.

b. MOMENTARILY press YELLOW Recall/Auto switch.

c. Take reading (AUTOMATIC RESOLUTION IN OPERATION)

d. To switch OFF the AUTORANGE during measurement, press the YELLOW switch momentarily OR release the RED switch momentarily.

### AUTORANGE RESOLUTION CHANGEOVER POINTS

#### RATE MODES ONLY

Less than - 99	(0.001 resolution)
100 - 999	(0.01 resolution)
1000 - 9999	(0.1 resolution)
10,000 - 99,999	(1. resolution)