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.

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 pauses<75 rpm
Accuracy ± 0.05% ±1 digit of reading
Timebase Crystal controlled
Auto/ fixed ranges User selectable via
Yellow switch
Resolution - Rate modes 1 digit or max. 0.001
in Autorange
Time Modes - 0.01 - 99.999 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 ±45 deg. to reflective marker
Light source Visible light, long life lamp
Power source 4 x AA size Alkaline cells OR AA Ni-Cad rechargeable cells

DANAHER CONTROLS
1675 Delany Road
Gurnee, IL 60031
Phone: 708/622-2666

Made in UK June, 1992
Remote Sensor input
Direct Contact Adaptor

3.5mm socket for PROB00
Converts HT100 to direct contact measurement of rpm, ft/min, or m/min

USER CONTROLS
RED MEASURE SWITCH - DUAL FUNCTION CONTROL
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

<table>
<thead>
<tr>
<th>SWITCH POSITION</th>
<th>RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) rpm</td>
<td>3 - 99999</td>
</tr>
<tr>
<td>2) m/min</td>
<td>1 - 19999</td>
</tr>
<tr>
<td>3) ft/min</td>
<td>1 - 19999</td>
</tr>
<tr>
<td>4) Time Interval</td>
<td>0.01 - 99999 seconds</td>
</tr>
<tr>
<td>5) Count</td>
<td>1 - 99999</td>
</tr>
<tr>
<td>6) Time</td>
<td>0.01 - 99999 seconds</td>
</tr>
</tbody>
</table>

RPM MODE - Speed range is 3 rpm to 99,999 rpm direct reading, or up to 500,000 rpm ±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.

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 Accum. Information.

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 OPERATIONS)
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

<table>
<thead>
<tr>
<th>Rate Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 99</td>
<td>0.001 resolution</td>
</tr>
<tr>
<td>100 - 999</td>
<td>0.01 resolution</td>
</tr>
<tr>
<td>1000 - 9999</td>
<td>0.1 resolution</td>
</tr>
<tr>
<td>10,000 - 99,999</td>
<td>1. resolution</td>
</tr>
</tbody>
</table>