

## WARRANTY STATEMENT

Under normal use and care Oppama Industries agrees to repair or replace free of charge any tachometer found to be defective. This warranty is for one year from the original date of purchase, and is extended to the original purchaser only and is not transferable.

For repair or replacement, return the defective tachometer with proof of purchase to your dealer.

Date of Purchase: \_\_\_\_\_

Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

Retailer: \_\_\_\_\_

### IMPORTANT

Complete this warranty card at the time of purchase and keep a copy for your records.

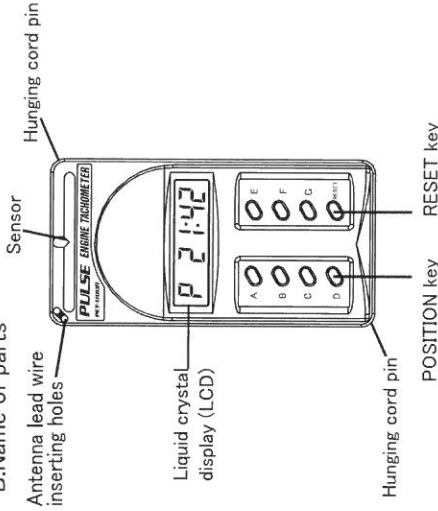
This warranty is provided by Oppama Industry Co. LTD.  
14-2, Natsushimacho, Yokosuka, Kanagawa 237-0061, Japan  
Phone +81-46-866-2139 Fax +81-46-866-3090  
Email info@oppama.co.jp http://www.oppama.co.jp

## A.Function

The PET-1100R is a pulse-activated tachometer. It detects and counts electric pulses produced at the time of ignition of gasoline engines, and processes the detected signals into rpm readings according to the type of engines being monitored.

This unit is capable of monitoring rpm of 11 types of gasoline engines that are shown in the position table. This unit cannot be used for direct ignition engine.

## B.Name of parts



## C.Measuring Position Chart

Key	Position	Objective engine	Measurable range
A	P 21-42	Stroke 2 Cylinder 1	100 ~ 19000
B	P .43	Stroke 4 Cylinder 2	100 ~ 13000
C	P 22-44	Stroke 2 Cylinder 2	100 ~ 9500
D	P 23-46	Stroke 2 Cylinder 3	100 ~ 6500
E	P .41	Stroke 4 Cylinder 1	100 ~ 19980
F	P .45	Stroke 4 Cylinder 5	100 ~ 7000
G	P 24-48	Stroke 2 Cylinder 4	100 ~ 4800

## D.Specifications

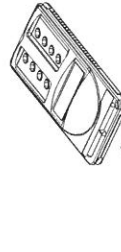
Objective engine	Stroke 2 Cylinder 4
Display interval	0.5sec
Accuracy	$\pm 10\text{r/min}$ ( $\pm 20\text{r/min}$ for 4-str 1-cyl)
Battery life	Approx. 20,000 hr
Working Temperature	$-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$
Storage Temperature	$-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$
Dimensions(L x W x H)	120 x 62 x 13mm
Weight	61g
Accessories	Antenna lead with clip Hanging cord Instruction Manual

## E.How to use

### (1)Non-Contact Method(Fig.1)

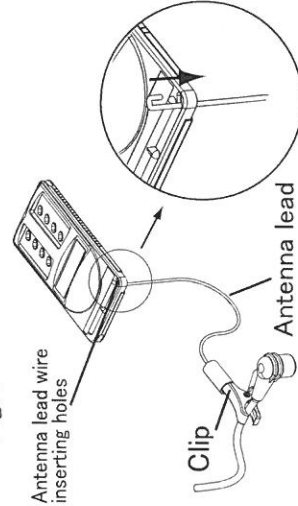
1. Turn ON the unit by depressing POSITION key.
2. Select the POSITION number applicable to the engine to be monitored, referring to the Measuring Position Chart.
3. Depress the POSITION key as many times as needed until the selected POSITION number appears on the LCD
4. With the engine running, hold the unit so that the sensor end is at an appropriate distance (1cm~50cm) from the active ignition cable (or one a multiple cylinder engine, from the spot where all the ignition cables are clustered). "Appropriate monitoring distance" varies with the signal strength and the type of engines being monitored; it is established when the rpm readings appearing on the LCD have become stabilized within a  $\pm 10 \sim \pm 15\%$  rpm range. The engine's rpm readings will continue to appear at 0.5 sec intervals as long as the unit is held at the proper monitoring distance (CAUTION: Do not allow the unit to touch any active ignition cable, or the unit's failure may result.)
5. Move the unit away from the running engine, or stop the engine, and the POSITION number will appear on the LCD. The unit will automatically turn OFF in one minute thereafter.

Fig.1



Ignition cable

Fig.2



Antenna lead wire inserting holes

Clip

Antenna lead

## F.NOTES AND CAUTIONS

1. Use P 21:42 when 4-stroke 1-cylinder engine that sparks at spark plug every revolution is monitored.
2. Some engines employ "double spark" ignition method where the number of sparks per revolution is double that of the ordinary engines. Since rpm reading are given based on the count of spark-generated electric pulses, this means that the rpm readings displayed represent two times the actual, correct readings. To obtain direct rpm readings on a double-spark ignition engine, select the POSITION number by doubling the number of cylinders of the engine: For example, the POSITION number to select for a double-spark ignition, 2-stroke 1 cylinder, or 4-stroke 2-cylinder engine should be P 22:44 instead of P 21:42 .
3. Very rarely, strange figures or symbols happen to appear on the LCD. This condition does not represent the unit's failure. If this has occurred, depress RESET key: the figures 8888-88 will temporarily appear and then POSITION number P 21:42 will follow, indicating that the unit is in normal working condition.
4. When the antenna lead is used, be sure to keep it free from contact with metallic surfaces to avoid possible errors in rpm readings.
5. Keep this unit away from strong physical shocks.
6. Never touch the inside circuit to prevent any unnecessary trouble or malfunction.