

OPERATION MANUAL

IGNITION PULSE DETECTORS

Model IP-292 (For primary low voltage)

IP-296 (For secondary high voltage)

ONO SOKKI CO.,LTD.

1. INTRODUCTION

These detectors are used to detect the number of ignition pulses produced in the gasoline engines in the way that the model IP-292 pinches a primary cord (low voltage) and model IP-296 pinches a secondary cord (high voltage) of the ignition coil. The compact, light-weight and clip-on design of these detectors offer a simple and easy detection of the number of pulses. Since the detector and its cord are made of heat resistance materials, these models are not affected by the high temperature in the engine room.

2. SPECIFICATIONS

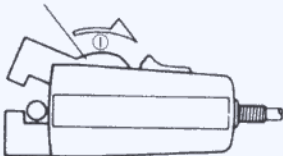
Engines applied : 2-cycle and 4-cycle gasoline engines
Point of installation : IP-292...Primary cord of ignition coil
IP-296...Secondary cord (high voltage)

Maximum diameter of cord : $\phi 10$ mm at max.
Operating temperature : $-40^{\circ}\text{C} \sim +120^{\circ}\text{C}$
Storing temperature : $-50^{\circ}\text{C} \sim +120^{\circ}\text{C}$
Mass (with cable) : About 280g
Signal cable : About 4.9 meters long, with C O2 (BNC) type connector
Dimensions : See Outline Drawing

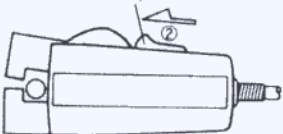
3. OPERATION

1. Pull raised part 1 backward with your thumb, and the upper jaw will open.
Bring cord into the mouth of the detector and release raised part 1, and the upper jaw will come down to close the mouth incompletely. (set IP-292 to the primary cord and IP-296 to the secondary cord of the ignition coil)
Push slide knob 2 forward to completely close the upper jaw. The detector jaws must be completely closed during the measurement.
2. Connect the signal cable trailing by the detector to a measuring instrument.

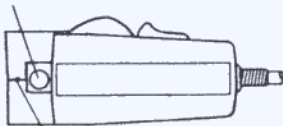
Pull raised part 1 in the arrowed direction to open the upper jaw.



Push slide knob 2 in the arrowed direction to completely close the upper jaw.



The diameter of the ignition coil cord must be 10 mm or less

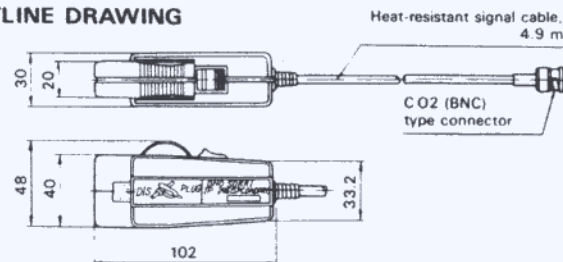


Remove dust, moisture, oil and other foreign matters from the mating surface of jaws

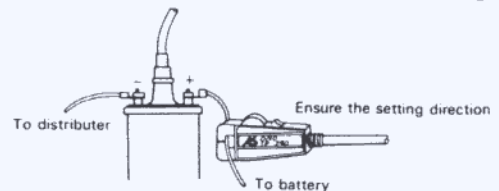
4. CAUTION IN OPERATION

1. Install the detector on the ignition coil in the direction shown in the instruction label on the detector. But, depending upon the engine type there is a possibility to cause unstable measurements or inaccurate detection. In such case, install the detector in the reverse direction. Make sure that the detector jaws are completely closed.
2. The IP-292 is installed around the primary cord of ignition coil and IP-296 the secondary cord (of ignition coil). Be careful that so as not to cramp the electrical cable, which makes impossible for rpm measurement.
3. Although the signal cable is made of the heat-resistant materials, pass it to the measuring instrument through a low-temperature and low-noise space in the engine room.
4. Take care not to contaminate the mating surface of the jaws with dust, moisture, oil or any other foreign matters. Keep it always clean in order to obtain the accurate results of measurement.
5. When the detector is not in use, place it on a vibration-free bench or the like. Mechanical vibration may affect the firm engagement of the upper and lower jaws in the long run causing errors in measurement.
6. The detector jaws are made of brittle material. Do not give an intensive shock to them, because cracked or damaged jaws may fail to detect the pulse.
7. Each Ignition Pulse Detector has a label mentioning "IP-292 (PRIMARY)" or "IP-296 (SECONDARY)". Make sure before measurement that your detector is installed in the correct position as stated.
8. In our products, following models AR-721, EP-603, AM-161, AT-631, CT-550, CT-650 specify the IP-295 to be used. If the IP-296 is used to be combined with such models, care should be taken to install the IP-296 reversely in the direction shown in the instruction label.
9. Take extremely care of high temperature parts or rotating parts of engines.

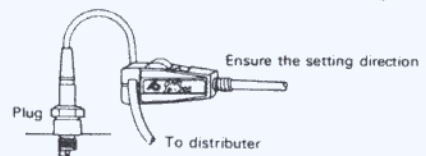
OUTLINE DRAWING



Model IP-292(For primary cord, low voltage)



Model IP-296 (For secondary cord, high voltage)



Guarantee This detector is fully guaranteed against defects in workmanship and materials for the period of 12 months after shipment and such defects are repaired by us free of charge.