Two cylinder points controlled transistor ignitor with safety switch

1. Technical parameters

Operating voltage:	8 … 16V
Maximal load pro cannel:	4A
Input threshold:	apx. 1.4V
Supply overvoltage protection:	18 V (suppressor diode)
Primary coil voltage limitation:	330V (Zener diodes)
Time to shut down the coils:	apx. 200 ms

2. Usage

This unit is designed for any two-cylinder motorcycle with points ignition. In case of four-cylinder bike one needs two units. The function of this device is to switch the ignition coils without loading the points. The current through the points will be only several tens of mA (instead of 2 … 3A) and the voltage across the points at the moment of breaking will be equal to the board voltage (12 … 14.5V instead of 200 … 300 V). The points will never more burn out, the adjustment will have to be done once per several ten thousand km, the spark voltage will be higher and the spark will be more precisely timed resulting in better starting of engine, quiet run, lower consumption and emissions. The included safety timers (independent for each channel) switch the ignition coil current off if the user forgets to switch the ignition off when by staying engine or in case of points defect. The timers are restarted at the moment of opening of points, and after that is the unit able to ignite again. It is important to note that the unit even in case of blocking consumes the electricity. The current is much lower as the consumption of the ignition coil, but in case of forgotten ignition in ON state the battery would be discharged after few days. Due to the presence of safety timers it is not recommended to connect both channels parallel in order to increase the power handling capacity (e.g. in case of single cylinder motorbike)

3. Installation

- Clean the points (or rather replace them) and adjust the ignition
- Disconnect the battery
- Remove the capacitors from the points
- Install the ignitor to any place of the motorbike, but not too close to the engine or exhaust pipes (they are too hot). Use wires with cross-section min. 1.5 mm^2 for ground and coils connections. For other connections 0.75 mm^2 is enough.

Warning: Connection of outputs and + 12V may result in destruction of transistors. The ignitor must be supplied from the line "+12V Ignition", not directly from the battery, otherwise the battery will be discharged or even the ignition coil will burn out during the shut-down time.

- Connect the battery – no LED hast to light. Switch the ignition ON - the green LED must light.

- Try to short the points. The corresponding red LED must light, but the coil current must go off after apx. 200 ms (+12 V against the ground on the corresponding output - orange or grey line)

- Run the engine and readjust the points.