INFORMATIONAL MANUAL
TECHNICAL DATA

FALKON IGNITION

Processor controlled ignition for petrol model engines.

Introduction

During the construction of the modern intelligent ignition for model engines there was placed an emphasis particularly on increasing the reliability and effectiveness of this device. The source of the intelligence of this ignition is the processor Intel MCS 51, which perfectly controls the electronic system and in the dependence on revolutions it sets up the preignition angle, which calms the run of the engine very much, advances its dynamics and moves the idle to the lower revolutions. At the construction of the software processor there was made use of the latest information from the field of the development of internal combustion engines. The ignition and all of its parts are resistant to vibrations, ultraviolet radiation, oils, fuel and higher temperature.

Tested at EMC

Measurement of interfering radiation in the 30 – 1000MHz band EN 55022/B
– pass
Test of electric discharge resistance EN 61000-4-2 (IEC 801-2), IEC 1000-4-2
– pass
Immunity test radiated electromagnetic field requirements EN 61000-4-3 (IEC 801-3), IEC1000-4-3
– pass.

Installation

1. Read carefully service instructions before installing the ignition.
2. Make sure that there is no possibility of connection with the batteries during the installation of the ignition.
3. When installing the ignition into the model choose such position as there would not happen any mechanical damage to the electronic unit or pertinent cables during the run. The ignition and all of its related parts(the engine with its sources and cables) must be placed at the furthest distance possible (at least 25 cm) from the radio set and all of its parts (servos, sources, receiver, cables etc.).
   Fix steadily all the cables passing through the model. The guarantee does not cover any mechanical damage of the ignition including the cables.

Basic information

- ignition and pre-ignition are controlled by the processor Intel MCS 51
- reverse protection against reversing of polarity incorporated
- "children" fuse
- intensified energy of spark
- supply by 4 – 5 pieces of NiCd/NiMh cells (4.8 V or 6V)
- supply cable equipped with JR connector
- recording of revolutions by Hall sensor
- idle consumption of all the types of 13mA
- guarantee of 2 years

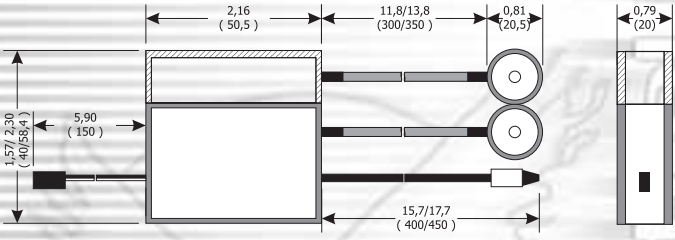
Ignition controlled by the processor Intel
PCI 1.3 for one-cylinder ZDZ engines
PCI 2.3 for two-cylinder ZDZ engines

Attention! This product is intended only for model engines. It can never be used in any manned machines.

TECHNICAL DATA

PARAMETER	VERSION	MIN	TYPICAL	MAX	UNIT
Supply voltage	PCI 1.3 / PCI 2.3	3.8	4.8 – 6	6.7	V
Current consumption	PCI 1.3	13 (0)	220 (2000)	680 (8000)	mA (RPM)
	PCI 2.3	13 (0)	300 (2000)	1100 (8000)	mA (RPM)
Plug voltage	PCI 1.3 / PCI 2.3	20	21	22	kV
RPM range	PCI 1.3 / PCI 2.3		900 – 9000	25000	RPM
Weight	PCI 1.3		130		g
	PCI 2.3		190		g
Range of working temperature	PCI 1.3 / PCI 2.3	-10	+25	+85	°C
	Hall sensor	-40	+25	+150	°C
Angle of controlling the pre-ignition	PCI 1.3 / PCI 2.3	0		35	degrees

DIMENSIONS



Hall sensor

Hall sensor is a highly precise recorder of the engine revolutions. For its right working there is the necessity of a special magnet placed on the moving part of the engine (hub). On the ZDZ engines those magnets are already installed. The sensor does not react in case of incorrect polarity of the magnet. You can adjust the pre-ignition individually by shifting the recorder. The recorder must be placed in the sensor clamp aslant up. The recorder is outstanding for its large range of working temperature (from -40 to 150 °C).

Installation of the Hall sensor

The basic adjustment of the preignition is set up by the producer of the engines. This adjustment is 0.1 – 0.3 mm before the top dead centre of the piston. If you are adjusting the preignition once more it is necessary to adjust the engine according to the following points:

1. Adjust the engine so as to the piston was 0.1 – 0.3 mm before the top dead centre.
2. Move the holder of the sensor at maximum in sense of turn over of the propeller.
3. Then, move the holder of the sensor when the ignition is switched on as far as the spark springs.
4. Fix the holder of the sensor in this position and the ignition is set up.
5. The engine is prepared to run after the backward screw on of a spark plug.

You can also use quick setup as shown on picture.

All the other modes of run are controlled by the microprocessor in dependence on the revolutions of the engine.

The spark ignition happens after the magnetic field leaves the sensor.

There is a safety fuse installed in the ignition PCI, that switches off the device after one minute of inactivity. For the recovery of the function it is necessary to switch the power supply off and reconnect it in about few second.

Engine	„A“
40 RV	7 mm
60 RV	6 mm
80 RV	6 mm
80 B2 RV	6 mm

120 B2 RV
160 B2 RV