



INDIAN INSTITUTE OF TECHNOLOGY KANPUR
DEPARTMENT OF MECHANICAL ENGINEERING
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Enquiry no.: ME/ERL/2013-14/September/02

Enquiry date: September 18th, 2013

Last Date: November 20th, 2013

**Enquiry for Hydrogen Fuel Injector and Injector Driver Circuit for
Engine Applications**

Sealed quotations are invited for the purchase of hydrogen fuel injector and injector driver circuit for engine applications. Gaseous fuel injectors (8 Nos.) for hydrogen injection and its driver circuit is required from a reputed injector manufacturer for engine applications.

The detailed specifications are as follows:

1. Hydrogen Injector (8 Nos)

Output from the injector

- ◆ Should be designed for port injection or throttle body injection;
- ◆ Compatible fuels: Hydrogen, CNG;
- ◆ Side feed-bottom discharge type of injection will be preferred;
- ◆ It should have solenoid actuation system;
- ◆ Coil resistance: 0.46 ± 0.02 Ohms;
- ◆ Maximum operating pressure should be around 5 bar;
- ◆ Operating temperature range of injector should be from -40°C to 120°C ;
- ◆ Should be operated with peak and hold type current waveform for lesser response time of injector opening;
- ◆ Peak current should be 8 Amp and hold current to be 2 Amp;
- ◆ Response time should be less than 2 ms for 8:2 Amp;
- ◆ Operating voltage for injector should be 12 V or 24 V; and
- ◆ Input to the injector will be the output of injector driver circuit.

2. Injector Driver Circuit

Output from Injector driver circuit

- ◆ Should be able to generate 8A peak current and 2A hold current for operating the injector;
- ◆ Should be able to control four injectors simultaneously;
- ◆ Injector driver module should be designed for 12 V input voltage;
- ◆ It must get actuated from a 5V TTL pulse signal given to it;
- ◆ Should be able to control the injector opening duration by changing the pulse duration of TTL logic signal given to it;

Input to Injector driver circuit

- ◆ 5V TTL pulse signal with varying pulse duration will be given to the injector driver circuit for actuation;
- ◆ A power source of 12V with maximum current output of 15-20A will be provided by IITK.

Terms & Conditions:

- (i) Provide “Authorization certificate” from the manufacturer, if representing an international supplier. This is not required, if the manufacturer themselves are quoting.
- (ii) Prices should be FOB, nearest airport.
- (iii) Validity of quotation should be at least for 90 days.
- (iv) Warranty must be specified clearly.

Kindly send your best offer (Techno-Commercial offer in a single document) so as to reach us on or before November 20th, 2013 to the following address:

The undersigned reserves the right to accept the offer in part or full or reject without assigning any reasons.

Prof. Avinash Kumar Agarwal
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In case of any queries/ clarifications related to this tender, you may contact Mr. Anuj Pal (+91 9454855794).