



**INDIAN INSTITUTE OF TECHNOLOGY KANPUR**  
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Enquiry no.: ME/ERL/2012-13/March/01

Enquiry date: March 25<sup>th</sup>, 2013

Last Date: April 16<sup>th</sup>, 2013

**Enquiry for 6 Channel Direct Injector (DI) Driver System (NI 860781-01)**

**with Given Specifications**

NI 860781-01, 6 Channel Stand Alone Direct Injection Driver System is required with the following specifications:

- ◆ System receives injector command signals from ECU and drives direct injectors
- ◆ Capable of driving solenoid or piezoelectric direct injectors
- ◆ Ready-to-run software application included
- ◆ User interface allows user to calibrate and customize injector current profile
- ◆ The Stand Alone Direct Injector Driver System should feature a Real Time Controller, Modular direct injector driver and digital input modules. The system integrates with existing engine control systems, accepts external digital fuel command signals from an engine controller, and provides the power electronics necessary to drive high-power solenoid or piezoelectric direct injectors.
- ◆ The system should be scalable with 3, 6, 9, and 12 injector channel configurations (2, 4, 6, and 8 channels when used with piezoelectric direct injectors). These systems should provide a digital input per channel for directly commanding each injector. Each system is to be delivered with a ready-to-use software application for calibrating the injector current profile.
- ◆ The future expansion capability must be present for common rail fuel pressure control.
- ◆ The system should meet the following hardware specifications:
  - (1) Controller
    - ◆ Embedded controller with Real-Time OS for deterministic control, data logging, and analysis
    - ◆ 533 MHz processor, 2 GB nonvolatile storage, 256 MB DDR2 memory
    - ◆ Dual Ethernet ports with embedded Web and file servers for remote user interfacing
    - ◆ Hi-Speed USB host port for connection to USB flash and memory devices

- ◆ RS232 serial port for connection to peripherals; dual 9 to 35 VDC supply inputs
  - ◆ -20 to 55 °C operating temperature range
- (2) Chassis
- ◆ 8-slot reconfigurable embedded chassis that accepts modular C Series module
  - ◆ Xilinx Virtex-5 reconfigurable I/O (RIO) FPGA core for ultimate processing power
  - ◆ Ability to automatically synthesize custom control and signal processing circuitry using LabVIEW
  - ◆ DIN-rail mounting options
  - ◆ -40 to 70 °C operating range
- (3) Digital Input Module
- ◆ 6-channel, 500 ns digital input
  - ◆ ±5 to 24 V, differential/single-ended digital input
  - ◆ Hot-swappable operation
  - ◆ Extreme industrial certifications/ratings
  - ◆ -40 to 70 °C operating range
- (4) Direct Injector Module Kit (2 Quantity)
- ◆ Piezoelectric injector capability
  - ◆ 3-channel direct injector driver, 2-channel piezo injector driver
  - ◆ Up to 175 V internal boost power supply (1 V resolution) and 30 A peak/15 A hold current
  - ◆ Operates from 6 V to 32 V battery or DC power supply
  - ◆ Programs for engine-synchronous multi-pulse injection control (up to 5 pulses)
  - ◆ Application for calibrating injector current profile

**Terms & Conditions:**

- (i) Provide “Authorization certificate” from the manufacturer as well as the “Proprietary Certificate”.
- (ii) Prices should be FOB.
- (ii) Validity of quotation should be at least for 90 days.

***Kindly send your best offer (Techno-Commercial offer) so as to reach us on or before April 16<sup>th</sup>, 2013 to the following address:***

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