



# ROTARY ELECTRONICS

*Solutions Engineered to Excel*



## Water In Fuel Sensor

Water In Fuel (WIF) sensors are used to indicate the presence of water separated in the diesel filtration system.

### Specifications

- ▶ Configurations 2 pin Passive and 3 pin Active
- ▶ Connectors Integrated standard/customized
- ▶ Operating Voltage: 5V, 12V & 24V
- ▶ Temperature range: -40°C to 140°C
- ▶ Module : Direct lamp drive module and ECU
- ▶ Sensing Electrode lengths : 20 mm, 25 mm, 30 mm, 40 mm & 50 mm
- ▶ Thread sizes: M8, M10, M12, M14 & 3/8"
- ▶ Pressure range: -1bar to 10bar, with burst pressure upto 20bar
- ▶ Vibration resistance : Designed for engine under-hood and chassis
- ▶ No electrolysis in electrodes in active type for long life & higher reliability

### Applications

- ▶ Commercial Vehicles
- ▶ Passenger Vehicles
- ▶ Off-highway Equipment
- ▶ Generators



## Water Auto Drain System for Diesel Filter

The Water Auto Drain System (WADS) is a patented product that enables automatic draining of water from the diesel filter. This prevents the entry of water into the fuel injection system.

### Specifications

- ▶ Available in two variants:
  - WADS & Independent Controller: WADS for filter & controller for cabin mounting
  - WADS with Integrated Controller for filter mounting
- ▶ Capable of operating independently Or can be integrated with vehicle engine ECU
- ▶ Operating Voltage: 12V & 24V

### Applications

- ▶ Commercial Vehicles
- ▶ Passenger Vehicles
- ▶ Off-highway Equipment
- ▶ Generators



WADS with Integrated Controller



WADS & Independent Controller



## Pressure Sensor

Pressure sensor measures the pressure of fluids using Ceramic Piezo Resistive technology with an inbuilt signal conditioner.

### Specifications

- ▶ Operating Voltage : 5V DC
- ▶ Operating Temperature : -40°C to +125°C
- ▶ Operating Pressure : upto 100 bar
- ▶ Proof Pressure: upto 200 bar
- ▶ Burst Pressure : upto 300 bar
- ▶ Output: Analog / PWM



### Applications

- ▶ Engine oil pressure
- ▶ Hydraulic oil pressure
- ▶ Hydrogen pressure

### Sectors

- ▶ Passenger Vehicle
- ▶ Commercial Vehicle
- ▶ Off-Highway Equipment
- ▶ Generators
- ▶ Process Industries

## Pressure Switches

Pressure switches are available in mechanical and Hall-effect technology to sense the defined absolute pressure or differential pressure. The hall-effect switches are completely programmable for ON-OFF state and can maintain low hysteresis.

### Specifications

- ▶ Configurations: 2 wire or 3 wire
- ▶ Temperature range: -40°C to +125°C
- ▶ Operating range:
  - Positive pressure : 0.2 to 40 bar
  - Negative Pressure : 400 to 50 mbar
  - Differential Pressure : 0.6 to 7 bar
- ▶ Burst pressure: Upto 120 bar
- ▶ Supply Voltage: 5V-12V

### Applications

- ▶ Engine oil pressure
- ▶ Brake oil pressure
- ▶ Transmission oil pressure
- ▶ Axle lift
- ▶ Diesel filtration system
- ▶ Air filtration system

### Sectors

- ▶ Passenger Vehicle
- ▶ Commercial Vehicle
- ▶ Off-Highway Equipment
- ▶ Generators
- ▶ Process Industries



Mechanical Pressure Switches



Hall Effect Pressure & Vacuum Switch

Differential Pressure Switches



## Speed Sensors

Speed sensors are available in Variable reluctance and Hall-effect technology to measure RPM, sense direction of rotation and position. Mounting and connector configurations are customizable.

### Specifications

Parameters	Magnetic Pick-up	Hall effect
Temperature Range	-40°C to +180°C	-40°C to +150°C
Air gap	0.2mm-2mm	0.2mm-3mm
Supply Voltage	—	6V-28V
Sensing direction	Unidirectional	Forward / Reverse
Sensitivity	—	Capable of detecting low speed
True Zero Speed Sensing	No	Yes
Configuration	2 - Wire	3 - Wire
Vibration resistance	Immune to engine and chassis vibrations	

### Applications

- ▶ Camshaft position sensing
- ▶ Crankshaft speed sensing
- ▶ Vehicle speed sensing
- ▶ Wheel speed sensing

### Sectors

- ▶ Passenger Vehicles
- ▶ Commercial Vehicles
- ▶ Off Highway Equipment
- ▶ Generator



Hall effect based directional speed sensors



Hall effect based omni directional speed sensors



Variable Reluctance speed sensors



## Position Sensor

Position sensors are available for linear position & angular position sensing.

- Linear Position sensors are available in mechanical & Hall-effect technology
- Angular Position sensors are available in Hall-effect technology

The Hall-effect sensors have accurate position sensing with low hysteresis, good linearity & are fully programmable. Mounting and connector configurations are customizable.

### Linear Position Sensor

Senses the absolute position of the object or its relative linear travel.

#### Specifications

- ▶ Voltage: 12V / 24V
- ▶ Current: 4 Amps
- ▶ Operating Temperature: -40 to 125 °C

#### Sectors

- ▶ Passenger Vehicles
- ▶ Commercial Vehicles
- ▶ Off-Highway Equipment

#### Applications

- ▶ Gear Position Sensing



Mechanical Type



Hall Effect Type

### Angle Position Sensor

Senses the relative angular travel of the object.

#### Specifications

- ▶ Voltage: 5V DC
- ▶ Operating Temperature: -40 to 125°C
- ▶ Electrical Angle: Programmable for multiple linearity

#### Sectors

- ▶ Passenger Vehicles
- ▶ Commercial Vehicles
- ▶ Off-Highway Equipment

#### Applications

- ▶ Throttle position sensing
- ▶ Steering angle position sensing
- ▶ EGR valve position sensing



Hall Effect Type



## Pedal Module

Determines the throttle demand by sensing the pedal travel using an Angle position sensor. The pedal modules can be customized for installation position, size and electrical outputs.

### Specifications

- ▶ Operating Voltage: 5V DC
- ▶ Operating temperature: -40°C to +85°C
- ▶ Redundancy : Dual channel output
- ▶ Output : Analog ratiometric & Digital PWM

### Applications

- ▶ Foot throttle
- ▶ Hand throttle

### Sectors

- ▶ Passenger Vehicles
- ▶ Commercial Vehicles
- ▶ Off-Highway Equipment



## Fluid Level Sensor

Fluid level sensor indicates the level of fluids using reed switch and magnetic float technology. Customizable connector and mounting interface.

### Specifications

- ▶ Operating Voltage: 12V & 24V DC
- ▶ Operating Temperature: -40° to +125°C
- ▶ Pipe length up to 1,000 mm
- ▶ Output: Analog Voltage / Resistance change

### Sectors

- ▶ Passenger Vehicle
- ▶ Commercial Vehicle
- ▶ Off-Highway Equipment
- ▶ Generator



### Applications

- ▶ Coolant level sensing
- ▶ Fuel level sensing

## Temperature Sensors

Temperature sensors for measuring the temperature of fluids and ambient environment with customizable R-T characteristics and packaging requirements.

### Specifications

- ▶ Operating range : -40 °C to 150 °C
- ▶ Sensing technology : Negative temperature coefficient (NTC)

### Sectors

- ▶ Passenger Vehicle
- ▶ Commercial Vehicle
- ▶ Off-Highway Equipment
- ▶ Process Industry

### Applications

- ▶ Engine coolant temperature
- ▶ Fuel temperature
- ▶ Cabin temperature
- ▶ Transmission oil temperature



## Fuel Heater

Heater with customised heating element, thermostat & thermal fuse.

### Specifications

- ▶ Voltage : 12 and 24volts
- ▶ Avg. Power Rating : 250 Watts

### Sectors

- ▶ Passenger Vehicle
- ▶ Commercial Vehicle
- ▶ Off Highway Equipment
- ▶ Generator

### Applications

- ▶ Diesel Fuel Heating



## DC Motors

Compact design having two pole graphite pancake commutator.  
Hermetically sealed Armature windings

### Specifications

- ▶ Operating Voltage : 12 and 24 volts DC
- ▶ Power output : 40 watts
- ▶ Speed : upto 6000 rpm
- ▶ Motor Diameter : upto 70mm
- ▶ Current Rating : 4 A

### Applications

- ▶ Electric Fuel Pump
- ▶ Linear actuator



Armature

### Electric Fuel Pump

The electric fuel pump is used to lift the fuel from the fuel tank and supply fuel at the desired pressure.

### Specifications

- ▶ Flow Rate: upto 300 LPH
- ▶ Pressure: upto 4 bar
- ▶ Voltage : 12V / 24V
- ▶ Current : 8A

### Sectors

- ▶ Off-highway Equipment
- ▶ Diesel Generator
- ▶ Three wheeler
- ▶ Commercial Vehicles



Fuel Pump with integrated DC motor



Fuel Pump Module

## Solenoids

Customized solenoid coils for the required voltage, magnetic field, shape & size.  
Dual coil capability for reduced power consumption.

### Specifications

- ▶ Operating voltage: 12V/24V DC & 230 AC
- ▶ Magnetic flux: upto 10000 Gauss

### Applications

- ▶ Control Valve
- ▶ Linear Actuator

### Control Valves

#### Specifications

- ▶ Operating Pressure: upto 55 bar
- ▶ Media : Air & Liquid refrigerant
- ▶ Armature size: Ø3mm to Ø20mm

#### Sectors

- ▶ Commercial Vehicle
- ▶ Off highway equipment
- ▶ Process Industry

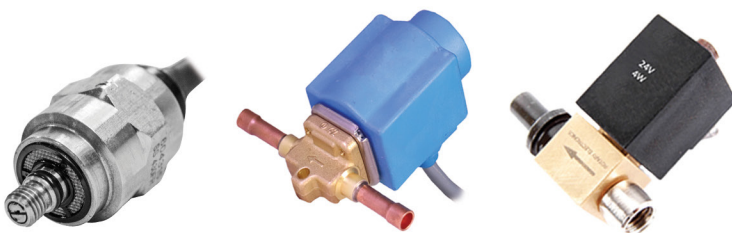
### Linear Actuator

#### Specifications

- ▶ Force: upto 100 N
- ▶ Stroke: upto 35mm
- ▶ Dual coil with timer
- Reduced power consumption

#### Sectors

- ▶ Off highway equipment
- ▶ Generators
- ▶ Process Industry



Shut-Off Solenoid with Timer



## Oxygen Sensor

Senses the condition of Air/Fuel ratio in engine exhaust using Nernst Cell principle.

### Specifications

- ▶ Type : Narrow Band
- ▶ Construction : Planar – Heated
- ▶ Output : 70 to 900 mV
- ▶ Response time : <100ms
- ▶ Operating range : - 40 to 850°C

### Sectors

- ▶ Gasoline Two-wheeler
- ▶ Gasoline Passenger Cars
- ▶ Gasoline Gensets



### Applications

- ▶ Gives feedback to ECU to optimize the air: fuel ratio
- ▶ Catalytic converter monitoring

## NOx Sensor

Measures the concentration of oxygen and the oxides of nitrogen in the diesel engine exhaust using Nernst Cell principle. It comprises of a sensor and a sensor control unit.

### Specifications

- ▶ Range : NO<sub>x</sub> upto 1500 PPM  
O<sub>2</sub> upto 20.9%
- ▶ Communication : SAE J1939 Protocol
- ▶ Operating range : - 40 to 800°C

### Sectors

- ▶ Diesel Passenger Vehicles
- ▶ Diesel Commercial Vehicles
- ▶ Off-Highway Equipment



### Applications

- ▶ Gives feedback to ECU to regulate Urea dosing.
- ▶ Monitoring of SCR

## Flex Fuel Sensor

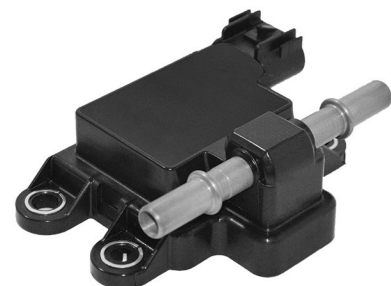
Measures the concentration of ethanol and the temperature of the ethanol-gasoline fuel blend.

### Specifications

- ▶ Measurement Range
  - Ethanol concentration: 0 to 50%
  - Temperature range: - 40 to 110°C
- ▶ Output - PWM with variable frequency
  - Duty cycle represents Temperature
  - Variable frequency represents Ethanol concentration

### Sectors

- ▶ Two-wheeler
- ▶ Three-wheeler
- ▶ Passenger Vehicles



### Applications

- ▶ Flex Fuel vehicles

## Precision Mechanical Products

### Fine Blanking

Thickness upto 8mm

Press Tonnage Upto 200 tons



### Deep Drawing

Ferrous & Non-Ferrous Metals

Thickness – 0.2 mm to 6 mm

Draw depth upto 275 mm

Press Tonnage upto 250 tons



### Fine Finishing

Double Disc Grinding

Double Disc Lapping



### Injection Moulding

All types of Polyimides with 50% fillers

Polybutylene terephthalate (PBT)

Polyphenylene sulfide (PPS upto 40%)

Polyetherimide (PEI)



Air Dryer Cartridge

### Compression Moulding

O-rings

Diaphragms

## Interconnect

Customized Wiring Harnesses and Connectors for OBD and customized applications.

### Sectors

- ▶ Passenger Vehicles
- ▶ Commercial Vehicles
- ▶ Off Highway Equipment



OBD Connector



Wiring Harness

# Clientele



Locations marked on the map include: Mannheim, GR; Sulzbach-Rosenberg, GR; Elyria, OH; Hollysprings, MS; Correggio, IT; Windor, CT; Jacksonville, NC; Mexico City, MX; Sao Paulo, BR; Gurugram; Hyderabad; Pune; Chennai; Dong Nai, Vietnam; and HQ, Bangalore.

Logos of various clients and partners are displayed around the map, including: JOHN DEERE, Cummins, Parker, DELPHI-TVS Diesel Systems Limited, Stanadyne Fueling Innovation, Simpson & Co. Ltd., FEDERAL-MOGUL MOTORPARTS, SPAL, BOSCH, ASHOK LEYLAND, SONALIKA INTERNATIONAL, TAFE, HINDUJA TECH, FORCE MOTORS, MANITOU, CARRARO, UFI FILTERS, Brakes India, HYDAC, TE connectivity, Donaldson FILTRATION SOLUTIONS, COMSTAR, and WIDESCAPE.

VE COMMERCIAL VEHICLES  
A VOLVO GROUP AND EICHER MOTORS JOINT VENTURE

Logos for BHARAT ELECTRONICS, IIT, DRDO, benn, HAL, ressure, elofic, Traditionally Futuristic, and Lucas-TVS Limited are also present.

## About us

- ▶ Established in 1987 in Bangalore
- ▶ Specialized in:
  - Sensors
  - Actuators
  - Precision Components
- ▶ Two state of the art manufacturing facilities
- ▶ In-house Engineering, Tool Design & Manufacturing
- ▶ Best in Quality
- ▶ Customer focused approach
- ▶ One Stop solution provider

## Certifications

- ▶ ISO 9001:2015
- ▶ IATF 16949:2016
- ▶ ISO 14001:2015
- ▶ ISO 45001:2018
- ▶ 'E' certified products
- ▶ DGQA
- ▶ LCSO



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