



## ESP Hopper Level Measurement – Innovative Solutions

**Problem for ESP Hopper Level Measurement** - The ESP Fly Ash Hopper can easily be managed with the High- and Low-Level Switches. However, the current ESP Level Switches are calibrated with a Potentiometer which makes the calibration expertise dependent.

### **Solution for Balance Fields of ESP Hopper Level Measurement –**

**NEW INNOVATIVE DIGITAL LEVEL SWITCHES** specially designed for ESP Hoppers, this new system is in operation at various power plants for ESP Fly Ash hoppers for NTPC and Non NTPC Projects solves the above problem

- **Advantage**
  - LED Display of Numeric Value and calibration thru Keypad for actual sensitivity
  - Easy calibration with real on screen values and easy user diagnostics
  - Can identify build up on the probes
  - Excellent immunity to product build-up & temperature stability - no false alarm / trips





*Level Measurement Solutions*  
for over **3** Decades

# DIGITAL RF LEVEL SWITCH MODEL-550

## GENERAL APPLICATION

EIP Level Sensors designed to provide accurate and reliable level information of Solids (Powder & Lumps), Liquids and Slurry applications for point level detection In storage Bins, Silos, Hoppers, Tanks, Chutes and any other vessels / tanks where material is stored, processed and discharged even at high temperature / Pressure/ corrosive applications.

## COATING

A build-up is not uncommon with a coating on objects protruding into the vessel / tank. A conventional level controls would sense the build-up and record false signals. EIP Level Sensors are designed to ignore any build-up of coating on the probe or vessel / tank walls.

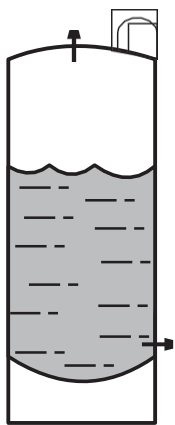
## AMBIENT CONDITIONS

EIP standard Level Sensor probes are rated to 230 C. ambient temperature of material and special high temperature probes are rated to 800 C. Electronic Unit is tested at -25 C to + 70 C. ambient temperature. The electronic unit and sensing probe housing is designed and tested for outdoor duty for highly dusty area. Environmental tests conducted on RF Level Sensors as per Indian and International standards.

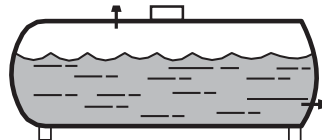
## PRESSURE

EIP standard sensing probes are rated with a pressure rating of 70 psi . Higher pressure rated probes are also supplied as specified.

## TYPICAL APPLICATION



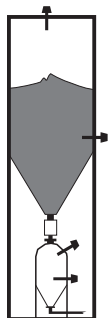
ACID TANK



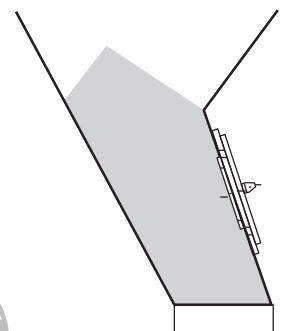
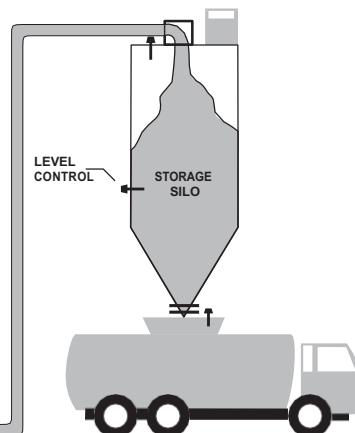
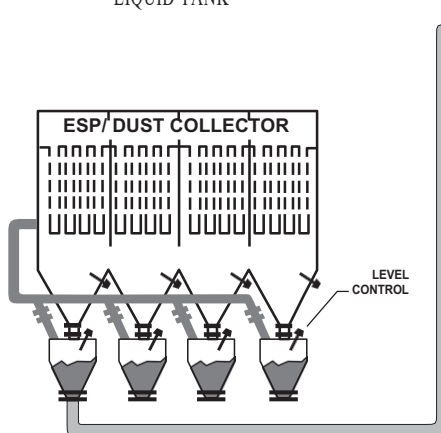
LIQUID TANK

FLY ASH  
SALT  
CEMENT  
SILICONE CARBIDE  
UREA  
COALTAR  
LIME  
PIGMENTS  
SODA ASH BAUXITE  
COAL POWDER FRUIT  
PULP  
COAL LUMP  
IRON ORE  
ALUMINA  
IRON CHROMATE  
WHEAT & OTHER  
FOOD SODIUM  
NITRATE GRAINS  
KAOLIN CLAY  
DETERGENTS

ZINC OXIDE TALC  
STRACH  
POLYSTER  
SEWAGE SLUDGE  
PLASTIC PELLETS  
SLURRIES  
PVC RESIN CLAY  
GLASS BATCH  
ACIDS  
CARBON BLACK  
ALUMINUM OXIDE  
SILICA S AND  
LEAD OXIDE  
OILS  
GLASS CUTLET  
SILICA FLOUR  
BORAX  
SUGAR  
EARTH  
AND MANY MORE



BIN/SILO



TRANSFER CHUTE

## HOW EIP LEVEL SENSORS WORKS

### DESCRIPTION

EIP Point level sensor includes an electronic unit and a sensing probe, connected by a co-axial cable. The electronic unit consist of an oscillator, a detector and output relay which is controlled by the detector. The probe do not contain electronics or any other sensing element only terminals are provided to connect the signal cable. The probe contains an active section and shield section insulated from each other and from the vessel ground as shown.

### FUNCTION

The oscillator generates low-power RF signal which is used to provide signals equal in frequency, phase and amplitude to both, active section and shield section of the probe. The signal applied to the shield is held constant by use of a compensating amplifier. The detector is then used to compare the fixed signal with active signal which varies with the change of media between the probe and Vessel/Hopper wall. Difference in the signals compared by the detector cause the output relay to activate. The contacts of the output relay to when activated are used to indicate the presence or absence of material in the vessel /Hopper at the probe level.

# DIGITAL RF LEVEL SWITCH MODEL-550

## TECHNICAL SPECIFICATION

### DIGITAL ELECTRONIC CONTROLLER (MODEL: EU 550-DG)

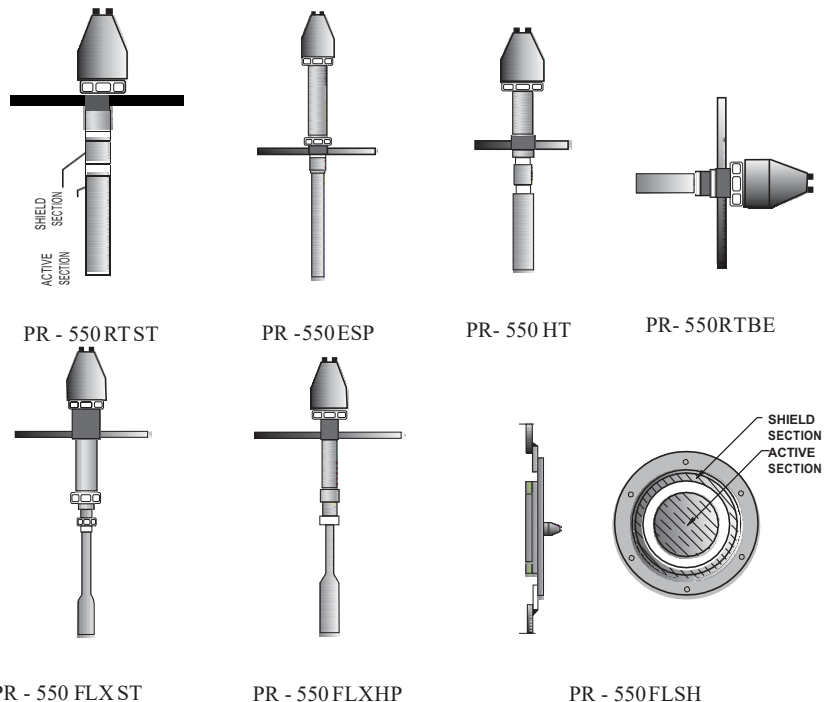
INPUT SUPPLY VOLTAGE	: 24 V DC / 220VAC/110VAC @ 50/60Hz (TO BE SPECIFIED)
RELAY OUT PUT	: 2 NOS. SPDT RELAY CHANGE OVER POTENTIAL FREE CONTACT
CONTACT RATING	: 6 AMPS at 240VAC / 0.5 AMPS at 24VDC
ENCLOSURE PROTECTION	: IP-66/67
ENCLOSURE HOUSING	: CAST ALUMINIUM / STAINLESS STEEL (OPTIONAL)/ EX'd' (OPTIONAL)
AMBIENT TEMPERATURE	: 70 °C
POWER CONSUMPTION	: 6VA MAX.
ELECTRICAL CONNECTION	: ¾" ET- 2NOS. & 1/2" ET-1NO.
TERMINAL BLOCK	: PLUG IN TYPE OR FIXED (TO BE SPECIFIED)
LOCAL INDICATION	: DIGITAL DISPLAY AND KEYPAD CALIBRATION

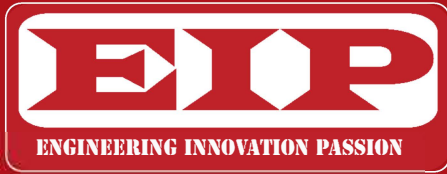


DIGITAL RF LEVEL SWITCH DISPLAY WITH KEYPAD

### SENSING PROBE (MODEL : REFER BELOW)

MATERIAL (ACTIVE)	: STAINLESS STEEL-316 OR 304 (AS SPECIFIED)
MOUNTING	: FLANGE MOUNTED OR SOCKET MOUNTED (AS SPECIFIED)
DESIGN TEMPERATURE (Instr.)	: 230°C (MAX.) WITH PTFE INSULATION OR 800 °C (MAX.) WITH
CERAMIC INSULATION	
DESIGN PRESSURE	: 10Bar Max ( IN ACCORDANCE TO APPLICATION) ( TO BE SPECIFIED)
ENCLOSURE PROTECTION	: IP-66/67
ENCLOSURE HOUSING	: CAST ALUMINIUM / STAINLESS STEEL (OPTIONAL)/ EX'd' (OPTIONAL)
CABLE GLAND PROVISION	: ½"ET -1 No.
PROBE LENGTH / INSERTION LENGTH	: TO BE SPECIFIED





## *About EIP*

EIP was established about three decades ago, since then the company has been able to build its reputation in the field of Design / Manufacture Supply of accurate reliable POINT LEVEL AND INVENTORY CONTROL SYSTEMS which have proven to be in satisfactory operation under harsh environmental conditions. Apart from India EIP products have also been proven in other countries.

EIP aims to provide not only stable operating system but also to re-engineer equipments and systems as per the needs of the customers. This has been possible due to our wide experience in this field backed by constant technological development and absorption of new technologies developed world-wide.

EIP's strong endeavor to provide the best solution to its customers has gone a long way in introducing the most advanced level measurement technology from time to time.

Recent value addition to the Solutions provided by EIP is the Non Contact Ultrasonic Flow Meter which solves the problem of accurate flow measurement without any invasion into the pipeline, and the Solid Flow Detector which determines any choking or jamming of the pipelines in which ash or any other Solid material is flowing.

EIP has also diversified its portfolio to provide Zero leakage Non Corrosive Heavy Duty Knife Gate Valves, Butterfly Valves and Water Control Gate.

### **EIP ENVIRO LEVEL CONTROLS PVT. LTD.**

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