



Product Profile

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About SBEM

SBEM was established in 1974 and is India's market leader in Level Instrumentation. With a futuristic approach and a warm beginning in providing Oil Companies, with tank Level Gauging Solutions, SBEM has evolved into an organization offering multiple products. SBEM Pvt. Ltd. has established itself as a FLOW MEASUREMENT Solutions Provider. It has now entered in Analytical Solutions for PHE, WTP Sectors. SBEM is an ISO 9001:2008 certified company with a DSIR approved R & D Centre. SBEM's core strength is its ability to custom design solutions for each application & customer's from every industry including:

Thermal Power

Steam Turbine, Turbo Generator, Condenser / Heat Exchanger, Condensate Polishing Unit (CPU), Coal Handling Plant (CHP), Ash Handling Plant (AHP), Fuel Oil Handling, DM Plant, Pre Treatment – Water Treatment Plant (PT-WTP), Effluent Treatment Plant (ETP), Cooling Tower and Fire Protection

Public Health Engineering

Over head tanks (OHT), Elevated storage reservoirs (ESR), Reservoirs and Distributed pipelines.

Indian Navy

Steel

Cement

Oil Refineries & Gas

Edible Oil

Vision:

To become the Preferred Partner and Solution Provider in the Process Control and Automation Industry

Mission:

To provide Continuous Value Addition to our Customers by offering Reliable, Cost effective and Customized Solutions

SBEM in a capsule:

- 100% indigenous Level Measuring instruments since 1978
- SBEM has aggressively moved into the Flow measurement domain & has Electromagnetic, Battery Operated & Ultrasonic Flow Meters on offer.
- One of first SSI's to obtain ISO 9001:2008 certification in India
- Largest number of installed Tank Farm Management Systems in India
- The only 100% indigenous Servo Gauge in 1992
- Integration of Radar Gauges (other makes) with SBEM Tank Farm Management systems
- Indigenously developed Phased Capacitance Level Transmitters and Ultrasonic Switches for Indian Naval Submarines
- Pioneered Magnetostrictive Probes for Automotive LPG Dispensing Stations (ALDS)
- Accurate Magnetostrictive Level Probes for Retail Outlet Automation
- · Weight and measure model approval
- SIL 2 certified 139 Servo Gauge as per IEC 61508
- NABL accredited flow meter calibration laboratory as per ISO/IEC 17025: 2005

What sets us apart from our competition is our extensive application engineering knowledge garnere over 3 decades + of successful supply to users installations in India and abroad

LEVEL SWITCHES



Side mounted Float 137EA/EY/C Top mounted Displacer 137D/P/L/Y

Product Features

- Weatherproof or Flameproof models
- Enclosure in cast aluminium
- Wetted parts in stainless steel or polypropylene
- Side mounted version with various float extensions like horizontal, vertical
- Top mounted switch for up to 3 set points
- Set point adjustability over entire measuring range (up to 20 m) by adjusting displacer position
- Different type of chambers for external mounting of the switch
- High temperature and pressure versions available
- "CE" declaration of conformity for side mounted versions

Applications

137- EA / EY / C

- Low / High alarm Interface level control.
- Differential level control
- Controlling level of liquids like Water, Oils, Fuels, Condensate, Acids, Alkalies, etc.

137- D/P/L/Y

• For liquids with density 0.5 to 1.2 gm/cc

Specifications

- Switch Rating: 5A@ 230 VAC Resistive
- Temperature:

Side mounted: 0°C to 180°C , -20°C to 300°C Versions for very high temperature up to 450°C

Top mounted: 0°C to 150°C , 0° C to 350°C

Pressure:

Side mounted: 30 Kg/cm² or 40 Kg/cm² Top mounted: 10 Kg/cm² or 40 Kg/cm²

- Process Connection: Flanged
- Protection: IP67



RF Admittance / Capacitance 114RFS

Product Features

- Integral and Remote mounting versions
- Surface or pipe mounting for remotely mounted versions
- · Single point with adjustable time delay
- · Probe failure alarm
- Sturdy Electrode to withstand impact due to clinkers
- Different Electrodes to enable use for various duties
- High temperature duties for solids-Upto 600°C
- "Coatsafe Probes" overcome effect of material build-up

Applications

- Designed for Solids with low dielectric Fly Ash, Clinkers, wood chips, etc.
- For high temperature solid duties
- Cement, free flowing solids

114 MLS models for liquids

Specifications

- Power Supply: 115 or 230 VAC
- Mounting: Horizontal
- Electrode Excitation: 400 kHz
- Process Connection: 1" BSP or 1-1/2" BSP threaded
- Cable Entries: 1/2" NPT or 3/4"UNF
- Protection: IP67

Conductivity 130IC / RC

Product Features

- · Uses field proven level control technique.
- Wide range of electrodes to suit various applications
- · No calibration required
- For upto 5 set points
- Field settable fail safe feature
- Simple to install
- Surface or Pipe mounting options in remote version

Applications

- In Non-furning liquids like water
- Water bound solutions as corrosive liquids like acids and alkalies

Specifications

- **Power Supply:** 24 VDC or 110 / 230 VAC
- **Switch Rating:** 5A@230VAC / 115 VAC, 50 Hz

• Temperature: 0°C to 50°C

Relative Humidity: 0-95%

• Cable Entries: 1/2"NPT, 3/4"UNF/ET

• Protection: IP67







LEVEL SWITCHES

Acoustic Rod Switch 136 ARS

Product Features

- Two wire or relay output version
- IS version available
- · Compact size
- Operating pressure up to 40 Kg/cm²
- Stainless steel housing
- · No moving parts
- Direct or Reverse action selected by jumper

Applications

Marine

• Detection of water in all tanks, wells, separators, overfill pipes, etc.

Others

- Detection of light muds, viscous fluids
- Detection of creams, lotions, oils
- Detection of chemicals and pharmaceutical products

Specifications

Power Supply: 12-30 VDC
 Temperature: 0°C to 90°C
 Pressure: Up to 40 kg/cm²

- Process Connection: Threaded 1" BSP or 1" NPT
- · Output:
 - Two wire current output-5 or 14 mA settable or
 - Four wire current and contact output
- Protection: IP67



Paddle Level Switch 135LC

Product Features

- · Weatherproof enclosure,
- · Cast aluminum polyurethane painted.
- Separate cable entries for supply & control.
- Lip seal to prevent ingress of dust particles in to main enclosure.
- Fixed / adjustable shaft extensions to suit the functional requirement.
- · Optional air purging facility.
- · High temperature stand off available.

Applications

 It controls the level of free flowing powders or granules or solids in the hoppers, bins and silos

Specification

- Switch Rating: 24VAC or 230VAC, 5A or 230VAC, 10A
- Temperature: 0°C to 100°C 100° To 400°C (with HTSO & Sindano Flange)
- Pressure: Atmospheric
- Protection: IP67

Top Mounted Float 134S

Product Features

- · Single or dual set points
- · Contact type
- · Alarm with relay output
- Suitable for top mounting
- Minimum connection size of 2 1/2" NB
- Weatherproof & Flameproof enclosure

Applications

- High Level Alarm for LPG Bullets
- · Hi or Low Level Alarms

Specifications

- Hysterisis: 10mm
 Pressure: 16kg/cm²
- Operating Temperature: -25 to +100 °C
 Measuring Range: Up to 3000 mm
- Density Range: 0.45 g/cc minimum
- Protection: IP67





LEVEL TRANSMITTERS







Pulse Radar 138 C / K For Liquids-Solids

Product Features

- · Two wire
- Variety of antennas to suit application
- Measuring range up to 70 m
- 6 GHz & 26 GHz Versions
- High accuracy up to ±3 mm
- Low dead band
- Small beam angles of up to 4^o
- Dual chamber construction separates electronics from terminals
- Aiming device helps focusing the beam for use in solids
- Integrated air purge connection for use in dusty atmospheres

Applications

Solids:

- Coal, cement, fly ash, clinker, gypsum, storage tanks or process vessels in dusty media, with or without aiming device
- Storage silos, hoppers
- Bunkers

Liquids:

- Level measurement specially for corrosive media
- Edible Oil

Specification

Power Supply: 14 - 30 VDC
 Temperature: Up to 200°C
 Pressure: Up to 16 kg/cm²

Process Connection: Threaded or flanged

• Output: 4-20 mA, 2 Wire, HART

Protection: IP67

Ultrasonic ULTRAMATE 136 SS ULT

Product Features

- · Two wire
- 8 line Graphical display
- Fully temperature compensated
- Stainless steel sensor
- · Magnetic key operation
- No site calibration required
- · Measuring Range: 4m or 8m
- Accuracy: 0.2% of measuring range

Applications

- For Liquids
- Volume can be displayed
- May be used for open channel flow measurement
- Temperature Indication

Specifications

Power Supply: 14 to 30 VDC
 Temperature: -10 to 60° C

• **Pressure:** Atmospheric / upto 5 kg/cm²

Process Connection: Threaded, SO flange

• Output: 2 Wire, 4 - 20 mA

• Protection: IP67

Ultrasonic ULTRAMATE 136ULX

Product Features

- Two wire
- 8 line Graphical display
- Optional HART output with 2 wire units
- Fully temperature compensated
- Stainless steel sensor
- · Magnetic key operation
- No site calibration required
- Measuring Range: 4m or 8m or 10m
- Accuracy: 0.2% of measuring range

Applications

- · For Liquids
- · Volume can be displayed
- May be used for open channel flow measurement
- Temperature Indication

Specifications

Power Supply: 14 to 30 VDC

Temperature: -10 to 60° C

Pressure: Atmospheric

• Process Connection: Threaded

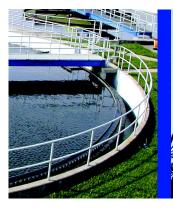
• Output: 2 Wire, 4 - 20 mA, HART Output

• Protection:IP67











LEVEL TRANSMITTERS

Hydrostatic pressure **103HPT**

Product Features

- Submersible transmitter -Two wire
- · Highly accurate and long-term stable sensor elements
- Compensated for temperature and air pressure fluctuations
- Stainless Steel Housing
- < 22 mm diameter can be used even in 1" Bore pipes.
- · No site calibration required

Applications

- · Level indication of tanks
- Water level measurement in rivers and Bore wells

Specifications

- Power Supply: 14 30 VDC • Temperature: 0 to 70°C
- Measuring Range: Up to 20 m of WC
- Output Signal: 4 20 mA • Accuracy: +/- 0.5% FSD

Rate of Flow, 104R0F Loss of Head, 104LOH

Product Features

- · Two wire
- Low cost solution for filter beds
- No site Calibration required
- All still pipes & accessories for fitment are
- · Higher accuracy with multipoint calibration
- All entries are protected through password
- Self diagnostic function i.e. error message on display

Applications

104 LOH

• Differential Level Measurement (Loss of Head) for water in filter beds

104 ROF

- · Measurement of flow rate in the inlet or outlet of filter house or filter beds, effluent treatment plants & other similar applications
- Open channels

Specifications

- Power Supply: 24 VDC
- Accuracy: ± 2% of probe length • Display: 6 digit LCD display
- Temperature: 0 to 60°C(Max.)
- Pressure: Atmospheric
- Cable Entries: 1/2" NPT or 3/4" UNF(F)

Capacitance 103CLT

Product Features

- · Two wire transmitter
- Level to Volume conversion with strap
- Wide range of electrodes to suit various duties
- · Programming and calibration in sealed condition of unit
- · Higher accuracy for multipoint calibration
- Up to 10 point calibration is possible
- Remote as well as integral versions are available
- Two version for conductive and Nonconductive liquids
- · IS version available

Applications

- · Power plants
- Refinery
- Petrochemical plants
- Chemical plants
- Turbine cooling systems in power plants
- Raw / Pre Water treatment plants
- Effluent treatment plants
- Sewage treatment plants

Specifications

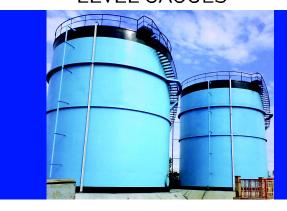
- Power Supply: 24 VDC
- Temperatures: 0°C to 55°C
- Humidity: 0-95% max.
- Display: 6 digit LCD Display
- Accuracy: ± 2% of FSD
- Protection: IP67







LEVEL GAUGES







Float & Board 131

Product Features

- Wetted parts available in SS304 / Ss316.
- Suitable for installation on "Tank in Service"
- Large numerals visible from a distance
- · Simple installation and commissioning
- Liquid seal for trap vapour for highly evaporating material
- Indicator rolls on gauge board with the help of nylon rollers
- Supplied with all installation accessories
- Floats of various materials & sizes are available to suit specific requirements

Applications

- Top mounted version designed specifically for sump application is available
- Number of configurations to suit various tanks underground & above ground, Cone Roof, Sump, Floating Roof, Horizontal Cylindrical, Reservoir, etc.

Specifications

- Float Diameter: 300 or400 mm.
- Process Connections: 1½" threaded / Flanged
- Tank Height: Suitable for 2 to 20 mtr.

Float & Tape (ATLG) Based Tank Gauging System

Product Features

- Level Measurement for Petroleum storage tanks in Refineries, Marketing Terminal or Oil storage tanks, Fire Water Tanks
- Accessories for remote Control / Indication
- Solutions for Level measurement of clear liquids in large bulk storage tanks (Cone Roof, Floating Roof, Underground)
- Mounting: Side or top
- Ranges: 0-8 m, 0-12 m, 0-16m, 0-24 m Resolution: 1 mm

Accuracy: ± 2 mm with 400 mm dia. float

Automatic Tank Level Gauge (133ATLG)

Accessories

- Limit switch assembly (133LA) Switches (2 point or 4 point)
- Two wire transmitter (133TS) 4-20 mA proportional to level
- Smart Tank data Transmitter (133STDT) Transmission of level & temperature data
- Liquid seal assembly (133LS) For blanketed tanks
- Communication Interface Unit (CIU)
 Control room unit for communication with
 the tank level gauges
- Tank farm Management Software (SBTFMS)

Versatile Inventory Management programme

Servo Operated Tank Gauging System

Product Features

- Accurate Level, interface level, temperature & density measurement in one instrument.
- Useful for automation in Refineries, Marketing Terminal /depots — Storage Tanks Strategic Reservoirs, Caverns.
- LPG Servo Gauge for Level, Temperature Measurement for Spheres & Bullets.
- Display at Local, at Grade Level, Remote possible
- Hybrid Servo Gauge provides Online Density Measurement.
- RS 485 Communication for Communication Interface Unit (CIU) & SBTFMS software for inventory report, trends, alarm monitoring
- SIL 2 Certified current & Relay output.

Servo Gauge (139 M)

Accessories

- Portable programming Unit (139PPU)
 For programming of Servo Gauge
- Calibration chamber (139CC)
- Tank side Indicator controller (139TSIC)

Visual indication of level and volume at tank side

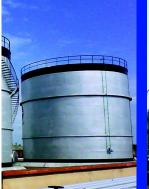
- Communication interface unit [133CIU / 133RCU]
 Control room unit for communication with the tank level gauges [133 CIU with CMA supervisor systems on standard modbus protocol]
- Average temperature indicator (133TMP)
 For measurement of temperature
- LPG Servo Gauge
- Tank Inventory Management Software (SBTFMS)

Versatile Inventory Management programme

 Custody Transfer Approval: Weight & Measures as per OIMLR85 standard.









LEVEL GAUGES

Magnetostrictive Level Probe 134TM with Fill Point Indicator 134H/134FPI For ALDS (Automotive LPG Dispensing Stations)

Product Features

- Reliable and accurate level and interface level measurement in underground and above ground horizontal cylindrical tanks
- Applicable for pressurized / atmospheric storage tanks containing LPG, motor spirit, high speed diesel, superior kerosend oi
- Remote Indicator Transmitter enables display of level, interface level, volume, % volume at the fill point.

Applications

- 100 point strapping table for volume indication
- · Flameproof and weatherproof enclosure
- Intrisically safe probe
- Fill point indicator, 134 FPI for viewing the tank data at fill point
- Up to 4 tanks can be grouped and connected to one Fill Point Indicator
- Sales Room Indicator, 134 SRI helps viewing tank data in control room
- Up to 8 tanks (two groups of 4 each) can be connected to one 134 SRI
- Optional SMS facility Tank data at regular intervals, alarm conditions

Specifications

Accuracy: +/1mmResolution: +/-0.1mm

• Pressure: Upto 16 kg/cm²

Temperature: 25 to 100°C
Measuring Range: up to 3 m
Density Range: 0.45 to 1.2gm/cc

• Protection: IP67





Tank Farm Management System, SBTFMS

Tank Farm Management System Software package is a powerful and versatile inventory management programme for bulk storage tanks for refineries and marketing of petroleum products.

Product Features

- Real time tank gauging data such as level, temperature, water interface and pressure
- Real time inventory calculations
- Liquid and mass calculations of vapor in LPG .
- Volumes are calculated as per strap table entry. Cylindrical and spherical tanks are also supported.
- Reliable alarm handling Receive alarm summary, alarm log and alarm event log
- Leakage alarms
- Reports Schedule report times. Reports may be saved as pdf.
- · Historical data storage
- · Audit log for events
- · Tank & Group views
- · Numerical & graphical displays
- System capability up to 128 tanks through2 Communication Interface units & 200 tanks with up to 4 Communication Interface Units.

Applications

- Refineries
- Independent Tank terminals
- · Marketing Terminals
- · Fuel Depots
- Pipeline terminals
- Petrochemical Industry
- Bio fuel storage
- Aviation Fuel Depots



Lube Oil Customised SCADA Development

Product Features

- · Monitor tank farm up to any no. of tanks
- Display of Level / Volume (with the help of strapping tables which relate the liquid level to volume)
- Display of mass (manual entry of density)
- · Display of temperature
- Easy installation Narrow beam Pulse Radar, 138K56 allows installation practically anywhere in the tank
- · Proven in various industrial environment
- Graphical Display
 Single tank at a time with all parameters
 data. Selection of Tank No. to view a
 particular tank data
- Data logging and Trending
- Operator friendly software
- SMS Alerts (Time / Event Driven)



FLOW METERS





FLOW METERS

Electromagnetic Flow Meters 151MFM

Product Features

- Measurement of flow rates of electrically conductive liquids water.
- Flanged and Wafer versions available.
- The liquid flow is measured with no obstructions and no pressure drop.
- Rubber / PTFE / Neoprene / Hard Rubber / Polyurethane Lined Sensors
- GSM/ GPRS feature
- · Inbuilt Data Logger
- Graphical LCD backlit / 2 line LCD backlit display
- Excellent long term accuracy
- · Bi-directional flow measurement
- · Empty pipe detection
- Selectable flow units
- Ex-proof Version

Applications

• Used for Water & waste Water in closed Pipe flow.

Specification

· Power Supply:

Universal 85-265 VAC, 45-65 Hz / 24 VDC

- Measuring Range: DN 15 DN 2000
- **Pressure**: 6 / 10 / 16 kg/cm²
- Minimum conductivity of measured liquid: 20 μS/cm
- Electrode material: SS 316; Optional-SS 316L, Hastealloy C, Titanium or Tantalum
- · Output:

Frequency, pulse and current outputs. Optional RS 232 and RS 485 outputs. Optional HART O/P

Optional GSM / GPRS connectivity

· Protection:

IP67 for Integral Version and IP67 or IP68 for Remote Version



Battery Operated Electromagnetic Flowmeters 151 MFM B

Product Features

- Measurement of flow rates of electrically conductive liquids/water.
- · Flanged versions.
- The liquid flow is measured with no obstructions and no pressure drop.
- Rubber / PTFE / Neoprene / Hard Rubber / Polyurethane Lined Sensors
- GSM/ GPRS feature
- · Inbuilt Data Logger
- · Graphical LCD
- Excellent long term accuracy
- · Bi-directional flow measurement
- · Empty pipe detection
- · Selectable flow units

Applications

- Water and Waste Water
- Irrigation and Dewatering

Specification

- Power Supply:
- 3.6V Battery Pack Max. 5 yrs life
- Measuring Range: DN 15 DN 600
- **Pressure:** 6 / 10 / 16 Kg/cm²
- Minimum conductivity of measured liquid: 50 µS/cm
- Electrode material:

SS 316, SS 316L, Hastealloy C, Titanium

Output

Opto-mos relay pulse output, 50 Hz max. RS 485 (Optional) / GSM/GPRS (Optional)

· Protection:

Sensor / Converter - IP 68



** For 15 sec sampling

Ultrasonic Flow Meter 153UCW / BTU Meter

Product Features

- Measurement & detection of volumetric flow rates of most Liquids
- Hand held (Portable) / Wall mounted converter
- Easy to install
- · Measuring accuracy ±1%
- Wide range of pipe sizes
 15 mm 6000 mm
- · Totalized Flow

Clamp-on type Sensors

Applications

- · Drinking water, raw water, waste water
- Sewage/ drainage water with < 2% of Total suspended solids
- Boiler feed water
- · Pipeline leak detection

Specifications

· Power Supply:

153UCW: 85 to 230 VAC 153UCH: Rechargeable battery powered with 230 VAC

Measuring Range:

15 - 6000 mm pipe diameter

• Pressure: 10 kg/cm²

Output:

153UCW: 4-20 mA + Pulse + Relay

Output

153UCW: Temperature (Pt100) and analog input for heat flow and pressure measurement

• Protection: IP67

Ultrasonic Clamp-on Wall mounted Parasonic 153UCW







ACCESSORIES

Machine To Machine Interface 200 - M2M

Product Features

- Upto 16 Field devices (8 Modbus, 4 Analog & 4 Digital)
- 24 VDC Transmitter supply (Optional)
- Weatherproof IP67 as per IS / IEC 60529
- Alarm Monitoring Programmable
- · Smart diagnostics
- MODBUS communication errors notification
- Analog over & under current notification
- Support for all data types in MODBUS RTU Communication
- Support for upto 32 registers/parameters
- Seamless integration with SCADA using MODBUS TCPor SBEM proprietary protocols
- M2M Config Utility Easy to use GUI for quick setup

SMS Feature

- Periodic data SMS & Alarm, error alert
- Min to max interval: 5 min to 31 days
- Max mobile no users: 10

Built in Data logger

- Min-max no of parameters enabled: (1-40)
- Max-min no of records stored: (34K-2K)

Applications

Various applications in monitoring for several industries like PHE, Water Treatment, Power, Cement, Chemical and others.

- Water monitoring applications in distribution & treatment
- Tank Level Monitoring, Remote Monitoring And Automatic Meter Reading

Specifications

- Power Supply: Universal 85 to 260VAC, 50~60 Hz
- Communication: GSM / GPRS
- Temperature: 0 to +55°C
- LED Indication for Network Strength and Power Supplies
- USB Port for data retrieval on flash drive or host PC.



Water Balancing SCADA (WBS)

SBEM's Water Monitoring/Balancing system is used in large industrial setups (Power, Cement, Chemical etc.) for reliable online monitoring of water withdrawls from water sources, consumptions & thereby calculating losses.

Product Features

- Real time monitoring of instantaneous flow rate and cumulative flow.
- Reliable Measurement and wireless data transfer considering remote locations.
- Seamless integration with M2M using standard M0DBUS TCP or SBEM proprietary protocol (ASCII)
- TCP/IP or UDP transport layer.
- Displays the Flow rate trends & reports of the field devices with selectable Date/Time ranges.
- Separate Consumptions are provided for Industrial / Domestic Purpose.
- Expandability in System. New Stages, Clusters, Devices can be added as per user requirement.
- Multi Location monitoring to view data / reports simultaneously.
- Other process instruments (level, pressure etc.) can be integrated with the system.
- Provision for Virtual Flow Meters.

Applications

- Water and Waste water Management (WTP).
- Effluent Treatment Plant (ETP).
- Public Health Engineering (PHE).
- Elevated Storage Reservoirs & Distributed Pipeline Monitoring

Tank Level Indicator, 103HTL

Product Features

- · Weatherproof IP67 housing
- Field mounted indicator for display of tank data at tank bottom
- Powers and connects with any transmitter
- Bright LED display
- Site programmable
- Up to 4 configurable relays
- Display of Volume with 64 point level vs. volume strap table
- Bargraph display of % level or % volume
- Differential output with selection of model with dual inputs
- Ready to mount with wall/pipe mounting kit

Applications

- Overhead tanks and sumps
- Horizontal storage tanks

Specifictions

- Power Supply: 110 VAC / 230 VAC, ±10%, 50Hz
- Input: 4-20 mA (Single / Dual)
- **Display:** 5 digit, 10 mm seven segment LED
- Accuracy: ± 0.1% of FSD
- · Range:
 - Std. 0 100%
- Optional -1999 to 9999
- Output:
 - -Up to 4 Nos. potential free relay outputs
 - Retransmission 4-20 mA
 - MODBUS RTU RS 232/ RS 485
- Transmitter supply: 24 VDC
- Mounting: Wall / Pipe





ACCESSORIES





Digital Process Indicator 176

Product Features

- Keeps the control room informed about the tank data
- Panel mounted indicator controller with optional 4 alarm/ control relays & display
- Powers and connects with any transmitter
- Bright LED display of level, instantaneous flow and % Volume
- · Optional MODUS RS 232/ RS 485 output
- Differential output with selection of model with dual inputs
- Dust proof enclosure with epoxy powder coating
- · Tamper proof key board programming

Applications

- Overhead tanks and sumps
- Storage tanks

Specifications

- Power Supply: 110 VAC / 230 VAC, ±10%, 50Hz
- Input: 4-20 mA (Single / Dual)
- Display: 4 digit, 12.5 mm high red LED
- Accuracy: ± 0.1% of span
- Range:
 - Std. 0 100%
 - Optional -1999 to 9999

Output:

- Up to 4 Nos. potential free relay outputs
- Retransmission 4-20 mA
- MODBUS RTU RS 232 or RS 485
- Transmitter supply: 24 VDC
- Dimensions :
 - Front Facia (mm) : 96X96 - Cut out (mm) : 92X92 - Depth (mm) : 110



Flow Indicator Totaliser 191

Product Features

- Displays flow of the open channels from sensor input
- Panel mounted indicator controller with optional 2 alarm/control relays (one for instantaneous flow and one for totalised flow) and display
- Powers and connects with any transmitter used for flow measurement
- Bright LCD display of instantaneous flow and totalised flow
- · Optional MODUS RS 232/ RS 485 output
- Dust proof enclosure with epoxy powder coating

Applications:

• Open channels

Specifications

- Power Supply: 110 VAC / 230 VAC, ±10%, 50Hz
- Input: 4-20 mA
- Display: 2 line LCD display
- Accuracy: ± 0.1% of span or ± 1 digit

• Range:

- Std. 0 100%
- Optional -1999 to 9999

Output:

- Up to 2 Nos. potential free relay outputs
- Retransmission 4-20 mA
- MODBUS RTU RS 232 / RS 485
- Transmitter supply: 24 VDC

· Dimensions:

- Front Facia (mm) : 96X96 - Cut out (mm) : 92X92 - Depth (mm) : 110



Phase Capacitance Level Sensor, CLS/ CLR/ PCLS Indication and Display System, IDU

Product Features

CLS

- Continuous Level measurement up to 20 meters
- · Sensor Protection by Stainless steel hose
- Quick and easy installation and calibration
- Flexible sensor to suit any tank shape
- Mounting may be adapted to suit other usage
- Maintenance free. No moving parts
- Sealed and rugged stainless steel construction
- Suitable for high pressure up to 15 kg/cm²
- Microprocessor based intelligent electronics
- Two wire system; Power and Signal on same wires

IDU

- Indicator and Display Unit IDU for six tanks
- Displays % Level and % Volume
- Panel mounted unit with bright LED seven segment display
- Auto scrolling / manual tank data display selection
- Offline diagnosis and Programming
- Remote indication by slave unit-RDU
- Automatic changeover in case of IDU failure

Applications

- EKM Class Submarines
- Conductive liquids with low/medium viscosity like water, water bound solutions
- · Fresh water / Salt water
- Non-conductive liquids like mineral oil



PRODUCTS FOR MARINE DUTIES





PRODUCTS FOR MARINE DUTIES

Ultrasonic Level Switch ULS/ULR/SULS

Product Features

- Detects presence or absence of liquids
- For high or low level alarms
- Selectable Fail Safe High (FSH) / Fail Safe
- Low installations
- Mounting may be adopted to use other
- Can be mounted vertically or horizontally
- Rugged stainless steel or titanium construction
- Sealed construction for high pressure up to 45 Kg/cm²
- Inbuilt sensor health check facility
- · May be interfaced direct to PLC

Applications

Marine & Naval:

- Detection of water Sea water, fuel oil, etc. Others:
- · Detection of light muds, viscous fluids
- Detection of creams, lotions, oils
- Detection of chemicals And pharmaceutical products

Specifications

• Power Supply: 18-30 VDC • Temperature: -10°C to 55°C • Pressure: Up to 45 kg/cm² · Process Connection: Flanged • Output: Open Collector

• Tripping Point: ± 5 mm

• Protection: IP68

Fuel Water Sensors

Function of the Fuel Water Separation sensor is to identify change in flowing medium (i.e. fuel to water and vice versa) in a pipeline or

Product Features

- · Rugged construction
- Type tested for naval and marine use
- Remote Level Alarm

Applications

- To check the level of fuel Sea water boundary on board the ship
- · LSHS Diesel & Sea water interface

Specifications

- **Power Supply:** 220 V, 400 Hz, ±10%
- Output: Relay energised / de-energised in presence / absence of liquid
- Max Pressure (wet side) at Sensor: 40 Kg/cm²
- Max Pressure at cable side: 5 Kg/cm²
- Max Temperature: 0 to 50 °C
- Set Value (for signaliser) & indicate rising / Falling: 6 mm from the lower end of the sensor
- Accuracy: ± 10 mm Protection: IP 68

Tank Gauging and Flood Warning System, 171TGD + FWS

- Integration of systems & sensors from one
- Tank Gauging
- Ballast Monitoring Water ingress detection & alarm (SOLAS)
- Flood Warning Systems

Product Features

- · Integration of systems & sensors from one
- MULTIPLE PARAMETERS Level, Flow, Temperature & Pressure - Switches & Transmitters
- Interface for IPMS
- Data acquisition and display
- Alarm monitoring
- Historical trending
- Remote Monitoring Multiple locations
- Display of volume, percentage volume and other possible parameters
- Multiple Local Display Units (LDU)
- · Certified for use in hazardous areas
- Marine Type Approvals

Applications

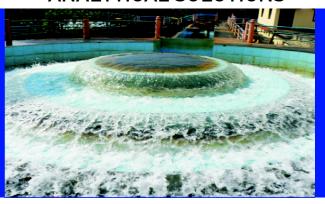
Trim & Heel Tanks, Black Water, Lube Oil, Sludge Tanks, Fresh Water, Fuel Oil, Bilge Water, Dirty Oil, Grey Water, AVCAT







ANALYTICAL SOLUTIONS





Online pH Analyser 141 pH

Product Features

- Easy To Install mounting options provide optimum versatility with a one-piece const -ruction with process threads in two places.
- Analog Output is available in loop powered 2 wire or in 4 wire transmitter mode.
- Auto Temperature Compensation is available using a NTC10K resistor. Manual temperature compensation is also available
- Easy Calibration is possible with standard buffer solutions in simple menu guided steps making site re-calibration quick and efficient.
- User Friendly UI with menu based programming, LCD with Backlit feature.

Applications

Water and Industrial Water Treatment Plants:

- · Drinking water
- Municipal Water treatment
- Waste Water treatment

Specifications

Sensor & Controller

- pH Measurement Range: 0 to 14 pH
- Accuracy: 0.1 pH
- Temperature Range: 0 to 50°C
 Temp Accuracy: ± 0.5° C
- Analog Output: Configurable 4-20mA
- Load Resistance: 500 (Max), DC24V
- Power Supply: 220VAC/110VAC/24VDC



Low Range Turbidity Analyser 143 TUR L

Product Features

- Complete Integrated System with a sensor, defoaming system and a multi function controller with analog, digital and MODBUS communication outputs.
- Accurate Readings are ensured with its continuously flowing sample, cross-mazing defoaming system and tungsten lamp as a white light source.
- Convenient Cleaning with its easy to clean optics and defoaming system ensures minimum downtime during maintenance.
- User Friendly UI with menu based program.
- 3.5"320×240 TFT true color display with backlit feature.
- Multiple Outputs available with 2 channels 4-20mA output, RS485 MODBUS & 3 digital outputs.

Applications

- Turbidity measurement in the inlet / outlet of water treatment plant.
- Turbidity measurement for Filter Monitoring, Filter back washing, Drinking water networks

Specifications

- Measurement Range: 0 to 100 NTU
- Accuracy:
 - < 40 NTU : \pm 2.5 % of Full Scale > 40 NTU : \pm 5 % of Full Scale
- Analog Output: (400 Ohms@24V DC)
 2 channel 4-20 mA
- **Digital Output:** (50mA 30VAC/DC) 3nos programmable for open / close / pulse
- Communication: MODBUS RTU RS485
- Power Supply: AC 230V
- Operating Temperature: 0 to +50°C



High Range Turbidity Analyser 143 TUR H

Product Features

- Submersible Sensor Design with built-in optical maintenance brush / wiper.
- Direct Connectivity with PC, PLC, various modems like Zigbee/CDMA/GPRS/WIFI etc. Internet using RS485 Digital Communication Port
- Settable Period / Preset Timer for Cleaning Optical Window

Applications

- Drinking Water
- Waste Water

Specifications

- Measurement Range: 0.01 to 4000 NTU
- Accuracy:
 - < 0-100 NTU : ± 2.5 % of Full Scale > 100-4000 NTU : ± 5 % of Full Scale
- Light Source: 850 nm (Infrared light)
- Sample Flow: < 3 m/s.
- Cable Length: Standard Length 10m
- Power Supply: DC 24V ± 15%
- Pressure Range: ≤ 6 bar
- Working Environment: 0 to 40 °C





ANALYTICAL SOLUTIONS

Online Chlorine Analyser 145 CLO

Product Features

- Amperometric Design with Chlorine, pH, Pt1000 sensors with an advanced compensation algorithm results in an accurate measurement of Chlorine. No Reagents required
- Multiple Outputs available with 2 channel 4-20mA outputs, RS485 MODBUS and selectable 3 digital outputs
- User Friendly UI with menu based programming, LCD with Backlit feature.

Applications

Applications in Chlorine measurement for several Industries like PHE, Water Treatment, Swimming pool, Spa, Water Fun facility.

- · Chlorine & Free Chlorine in Drinking water
- · RO Feed Water
- Product Water Quality
- Monitoring Chlorine in Final Treatment

Specifications

Measurement Range:

- Free Chlorine: 0-2 ppm or 0-20 ppm
- **CLO2:** 0-2 ppm or 0-20 ppm
- **pH:** 0-14 Temp.: 0-99.9 °C (Pt1000)

Accuracy:

- Chlorine: ±10% of Full scale
- pH: ±0.1 Temperature: ±0.5°C

Outputs:

- Analog Output: (500 Ohms@24V DC)
 2 nos. 4-20 mA programmable for free chlorine, ClO2, Temp, pH
- Digital Output: (50mA 30VAC/DC)- 3 nos programmable for free chlorine, ClO2, Temp, pH, timing output
- Communication: MODBUS RTU RS485
 Others:
- **Power Supply:** 220VAC ±10%, 50 Hz
- Required Flow Rate: (250 350) ml/min
- · Installation: Wall / Panel Mounting
- Working Temp.: 0 to 50 °C





Dissolved Oxygen Analyser 144 DOT

Product Features

- Polarographic (Amperometric) Method utilised is most popular method used industrywide in continuous Waste Water Treatment Systems
- Automatic Temperature Compensation is provided by the inbuilt temperature element in the DO sensor and the temp. compensation algorithms in the controller.
- Manual Compensation for atmospheric pressure and salinity.

Applications

Waste water treatment plants

- 02 control in the aeration basin
- · Process water treatment and monitoring
- Status monitoring of drinking water (oxygen enrichment, corrosion protection, etc.)
- Water quality monitoring in rivers, lakes or seas
- Online Dissolved oxygen monitor and control in the environmental monitoring

Specifications

Measurement Range:

- Dissolved Oxygen: 0 to 20 ppm
- Temperature: 0 to 60°C

Accuracy:

- Dissolved Oxygen: ±0.30 ppm
- Temperature: ±0.5°C

Outputs:

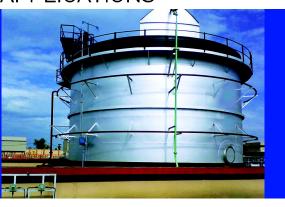
- Analog Output: (500 Ohms@24V DC) 1 no 4-20 mA
- **Digital Output:** (50mA 30VAC/DC) 2nos with hysteresis setting

Others

- Power Supply: DC24±4V
- Senor Material: 316L, Stainless Steel
- Lowest Flow Rate: 0.3 m/s.
- Temperature of Media: 5 to 45 °C

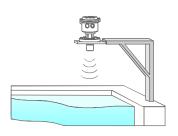


APPLICATIONS



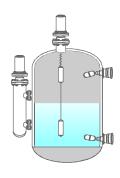


Open Tanks / Reservoirs

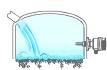


- Ultrasonic, 136ULX
- Capacitance, 103 CLT with still well
- Hydrostatic, 103 HPT with still well
- Pulse Radar, 138

High & Low Level Alarms Limit Detection / Pump Control Run Dry / Pump Protection

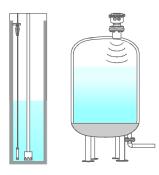


Overfill Protection



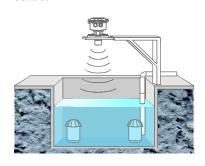
- Capacitance, 114 MLS
- Float, 137EA / EY / C
- Displacer 137D / P / L
- Conductivity 130IC / RC
- Ultrasonic rod, 136URS

Tank Level Monitoring



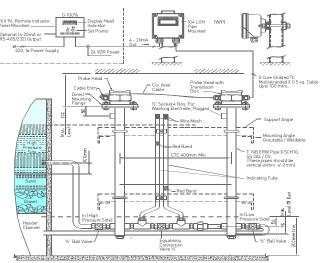
- Ultrasonic, 136ULX
- Capacitance, 103 CLT
- Hydrostatic, 103 HPT
- Pulse Radar, 138

Underground Sump Level & Pump Control



- Ultrasonic, 136ULX
- Capacitance, 103 CLT
- Hydrostatic, 103 HPT
- Pulse Radar, 138

Gravity Filter Beds

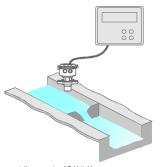


 Capacitance based Loss of Head Indicator Transmitter, 104LOH



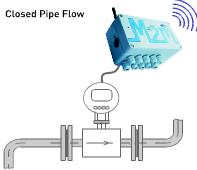
APPLICATIONS

Open Channel Flow



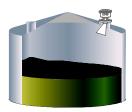
- Ultrasonic, 136ULX
- · Capacitance, 104R0F





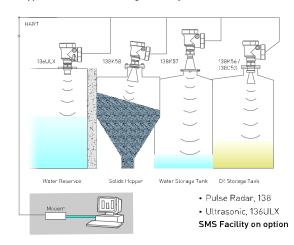
- Electronmagnetic, 151MFM
- Ultrasonic, 153UFM

Bulk Solids

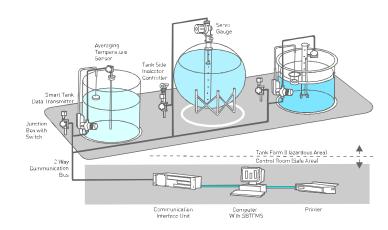


• Pulse Radar, 138

Typical Tank Farm Management System



Typical Tank Inventory Management System Servo Gauge / Float & Tape based

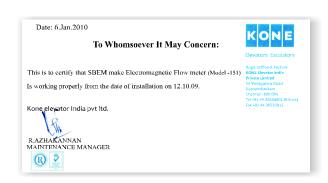


- Servo Gauge, 139M
- Automatic Tank Level Gauge (Float & Tape) 133ATLG with accessories
- Temperature Sensor, 133TMP
- Tank Farm Management System, SBTFMS

Customer Appreciation- Our Success Stories

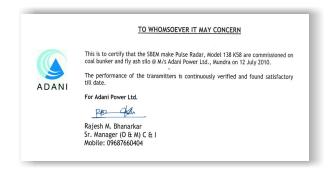
Our biggest motivation is customer satisfaction. Words of appreciation from our customers not only make us happy, but drive us

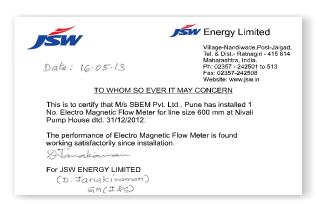
for further innovation and better service. A token of appreciation from our customers- our hard earned reward.















Our Clients Portfolio

Ingenious solutions from Indigenous source

Our products are used across multiple industries and clients. From raw water to sewage and treated water, SBEM has an extensive presence in the market. Illustrations are given below:

	BHEL	NTPC	Reliance	MAHAGENCO	ESSAR	Adani
Power	LANCO	Jindal Power	India Bulls	Tata Power	Coastal Energen	DVC
Water & Waste water	Thermax	VATECH	Ion Exchange	PRAJ	Driplex	BGR Energy
Cement & Steel	Ambuja	India Cements	Aditya Birla	SAIL	Tata Steel	JSW
Chemical, Sugar & Food	Deepak Nitrite Limited	Shree Renuka Sugars Ltd.	местесн	Cargill	Desmet ballestra	Ruchi Soya
Oil, Refineries & Gas	IOCL	BPCL	HPCL	ONGC	VANAZ	EMERSON
	Indian Strategic Petroleum Reserves Limited		ONGC Petroleum Additions Limited		IOT Infrastructure & Energy Services Ltd	
Turnkey Automation	L&T	Honeywell	ABB	Alfa Laval	ThyssenKrupp	GE
Consultants	EIL	Avant-Garde	TCE	Mecon	DCPL	
	Fichtner	Jacobs	M.N.Dastur	Mott MacDonald	Uhde India	Toyo Engg.
Indian Navy & Marine	Mazagaon Dock Limited (MDL)	Ship Building Centre (SBC)	Defence Macl Establistm		INS Sindhu dhwaj	INS Sindhukesari

Your Applications & Our Solutions

Thermal Power

Application	SBEM Solution
Coal Bunkers	Pulse Radar, 138
Travelling Water Screens	Hydrostatic Pressure Transmitters, 103 HPT, Ultrasonic Transmitters, 136 ULX
Gravity Filter beds	Loss of Head Level Indicator - Transmitters, 104 LOH
Flow Measurement	Electromagnetic Flow Meters, 151 MFM
Various Tanks	Float, displacer, conductivity, capacitance type level
Ash Slurry	Ultrasonic Level Transmitters, 136 ULX, Pulse Radar,
Ash Hoppers	RF Admittance type level switches, 114 RFS

Public Health Engineering

Application	SBEM Solution
Gravity Filter beds	Loss of Head Level Indicator - Transmitters,
Sumps at Water Treatment	Ultrasonic Level Transmitters, 136 ULX
ESR at various locations	Ultrasonic Level Transmitters, 136 ULX
Raw water intake, Distribution channels	Ultrasonic Flow Meters, 153 UFM; Electromagnetic Flow Meters, 151 MFM
Sewage Treatment Plants	Open Channel Flow Meters, 136 ULX

Water & Waste Water Treatment / Distribution

Application	SBEM Solution
Raw Water Intake	141pH,Turbidity 143 TURL, Disoloved Oxygen 144 DOT, Electromagnetic Flowmeter 151 MFM
Coagulation	141pH, Turbidity 143 TURL, Conductivity Controller 142COC
Chlorine Injection	Free Chlorine 145 CLO,141pH
Effluent Treatment Plant	141pH,Conductivity Controller 142COC
Aeration Besin	Disoloved Oxygen 144 DOT,141pH, Conductivity Controller 142COC
Secondary Clarifier	141pH,Conductivity Controller 142COC
Swimming Pool and Spa	Free Chlorine 145 CLO,141pH

Steel Industry

Application	SBEM Solution
Gas Holder	Float & Tape Level Gauge with Two Wire Transmitter, 133 ATLG +TWT
Iron Ore/ Direct Reduced Iron (DRI)	Ultrasonic Level Transmitter, 136 ULX; Pulse Radar, 138
Back filter hopper	Capacitance Type Level Switch, 114MLS
LPG Tanks	Servo Gauge,139 M
Fuel Oil Tanks	Float & Tape Level Gauge with Two Wire Transmitter, 133 ATLG +TWT

Oil, Gas & Refineries

Application	SBEM Solution	
Cone Roof & Floating	Float Operated Microprocessor based Level Transmitter & Indicator 133/STDT/CIU/SBTFMS	
Roof Tank	Servo Operated Microprocessor based Level Transmitter & Indicator 139/TSIC / CIU/SBTFMS	
Spheres /	Magnetically coupled Level Switch 137 L / 137 P	
Mounded Vessels	Servo Operated Microprocessor based Level Transmitter & Indicator 139/TSIC / CIU/SBTFMS	
Mounded Vessels and	Displacer Level Switch 137 L / 137 P	
Underground Bullets in Auto LPG Stations	Magnetostrictive Level Transmitter & Indicator, 134 TM / 134 H / 134 S / 176	
CAVERNS	Servo Operated Microprocessor based Level Transmitter & Indicator 139/TSIC / CIU/SBTFMS	

Cement Industry

Application	SBEM Solution
Coal Bunkers	
VRM Feed Belt Disc / VRM Lime Stone	Pulse Radar, 138; Paddle Type Level Switch, 135 LC
Coal Mill	r addice Type Level Switch, 100 Lo
Kiln & Cooler ESP	
Bauxite Storage	Capacitance Level Switch, 114 MLS;
Limestone Storage	Paddle Type Level Switch, 135 LC
Fly Ash ESP Hoppers	
Cement Bins	Pulse Radar, 138;
CM CLR Hoppers	
Lime Stone, Iron Ore, Bauxite,Lignite,	Pulse Radar, 138; Paddle Type Level Switch, 135 LC
Silo HLA	r dadie Type Level Switch, 100 Lo
Kiln Feed Bin	
Water Balancing System	151 + SCADA

Edible Oil

Application	SBEM Solution
Raw material storage	Paddle Level Switch, 135 LC; Float type Level Switch, 137EA; Top mtd. Displacer Type Level Switch 137 D
Cleaning, Dehulling	Paddle Level Switch, 135 LC; 135 VS; Capacitance Level Switch, 114 MLS
Crush, Cooking, Expelling	Capacitance Level Switch, 114 MLS; Float type w Level Switch, 137EA;Top mtd. Displacer Type Level Switch 137 D
Refining, Deodorising	
Oil Storage	Vibrating Fork type Level Switch, 135 VLM; Side
Hydrogenation	mounted Float type Level Switch, 137EA; Top mounted Displacer Type Level Switch 137 D; Capacitance Level Switch, 114 MLS
Liquid Extraction	, , , , , , , , , , , , , , , , , , , ,

Product Overview

Level Indicators & Transmitters











Open Channel Flow Meters











Level Switches

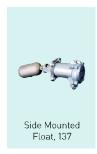














Closed Pipe Flow Meters / Accessories











Tank gauging solutions

- Servo (139M) based, Float & Tape type level gauges (133ATLG) based, Magnetostrictive (134TM) based, etc.
- Tank farm management systems with field gauges, control room unit and SBTFMS software
- Site survey, project planning, detailed engineering, execution, installation & commissioning, support & training

- · Solutions for solids and liquids
- Multiple technologies
- · Multiple segments
- · Multiple parameters
- Multiple applications

Site Installations









SBEM site
installations
ensure the
highest
standards &
quality of
measurements





Flow Laboratory



Laboratory accredited by NABL as per ISO/IEC 17025:2005 Lab No. : C-0828















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