



*Creating a Better Future, FineTek Sensing the World*

# *Instrumentation Solutions for Cement Industry*





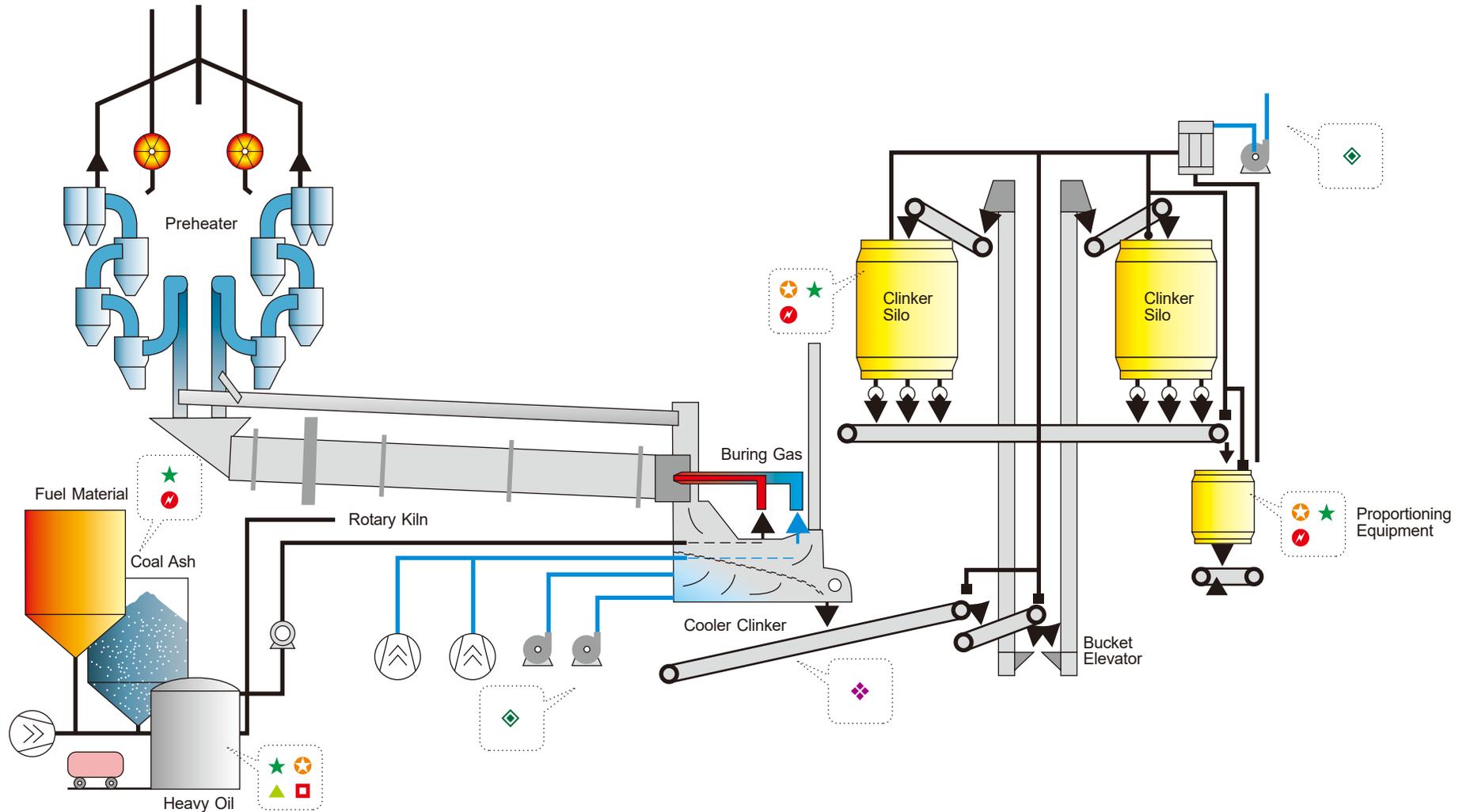
FineTek has accumulated 30 years of technology and has always focused on the field of industrial sensing measurement and research and development. Specialized R&D capabilities and stringent process management have resulted in us not only obtaining ISO9001 certification but also meeting a variety of the industry certification.

FineTek is committed to the development of the flow meter, and research. Approved by the National Industrial Technology Research Institute (ITRI) who provides annual checks. The products are widely applied to all kinds of fluids and liquid applications.

The cement industry which is part of the manufacturing sector has a relatively mature and stable development of technology. Its main production process involves mixing certain proportions of materials such as raw limestone, clay, silica and iron slag in a grinding mill and aggregating them into rawmix which is then transformed into clinker heated at high temperature inside a cement kiln. Gypsum added and ground into fine powder produce normal cement.

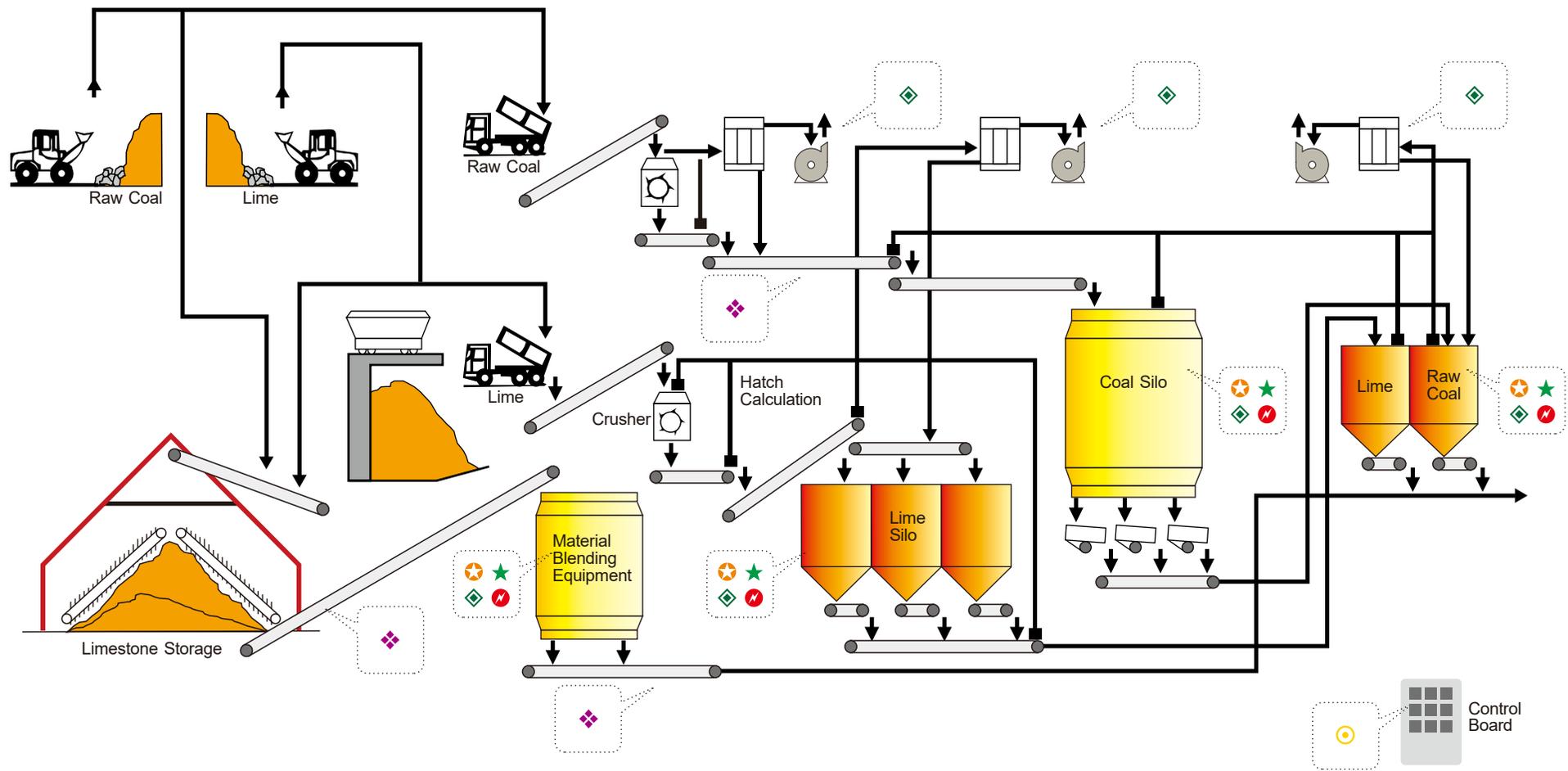
# Cement plant process flow drawing (phase 1)

- |                                   |                     |                            |                     |
|-----------------------------------|---------------------|----------------------------|---------------------|
| ★ Powder/ Solid Level Transmitter | EBX JFR             | ▲ Float Level Switch       | FAX/FBX FCX/FDX FFX |
| ◻ Liquid Level Transmitter        | EAX FGX ECX EGX EFX | ⚡ Bridge Break             | BA BV               |
| ★ Powder/ Solid Level Switch      | SAX SBX SCX SEX     | ◇ Dust Collector Equipment | AEX BRC             |
| ◆ Conveyor Belt Safety Device     | SRS SRT EDX         |                            |                     |



# Cement plant process flow drawing (phase 2)

- |                                   |                 |                            |       |
|-----------------------------------|-----------------|----------------------------|-------|
| ★ Powder/ Solid Level Transmitter | EBX JFR         | ⚠ Bridge Break             | BA BV |
| ★ Powder/ Solid Level Switch      | SAX SBX SCX SEX | ◇ Dust Collector Equipment | AEX   |
| ◆ Conveyer Belt Safety Device     | SRS SRT ED      | ⦿ Panel Meter              | PM/PB |





## JFR484 FMCW Radar wave level gauge



### OPERATING PRINCIPLE

The JFR4 radar wave level meter is a smart, non-contact solids level-measuring instrument that uses 80GHz high-frequency. The antenna is further enhanced for optimal processing. The new, fast microprocessor can perform signal analysis and processing at a faster rate, ideal for level measurement in storage tanks and solid silos. Provides RS-485 digital signals and emits 4~20mA analog signals, which can be easily connected to back-end extension applications.

The product is dustproof and waterproof, suitable for outdoor or industrial environments, and can be used for industrial measurement of barrels and tanks, and other measurement of solids in industrial and environmental applications.

### FEATURES

- Non-contact measurement, no wear and tear, and no pollution.
- Small antenna size, easy to install.
- Short wavelength, reflects well on inclined surfaces.
- The measurement blind spot is small; therefore having a good advantage when measuring small storage tanks. ; The beam angle is small, the energy is concentrated, and the echo ability is enhanced, making it conducive in avoiding interfering objects.
- Unaffected by temperature and pressure changes.
- Dust environments can also accurately read the real-time echo.
- High signal-to-noise ratio, even in the case of fluctuations.
- The 80GHz frequency is the best choice for measuring solid and low dielectric constant media, and it is suitable for the measurement of material working conditions with the dielectric constant of the medium under test  $\geq 1.8$ .

### SPECIFICATIONS

- Medium: Solids
- Measurement range: 35m/85m
- Frequency: 80GHz
- Power supply: 24VDC
- Power consumption: Max.0.54W
- Blind spot: 1.6 uA
- Resolution: 0.4m/0.5m
- Accuracy:  $\pm 1$ mm
- Analog output: 4-20mA
- Beam angle: 4°
- Operating temp. range: -40~120°C
- Operating pressure: 0~40 bar
- Antenna material:  $\phi 76$ mm SUS304/SUS316L
- Fault output: 20.5mA ; 22mA ; 3.9mA
- Damping time: 0~100s adjustable
- Cover material: Aluminum /IP67
- Cable inlet: M20\*1.5 (cable outer diameter: 6~9mm)  
Blind plug 20\*1.5



## SEX Rotary Paddle level switch

### OPERATING PRINCIPLE

The paddle rotation is impeded by material, surrounding the paddle, motor will stall and cause the Micro-Switch to change state. (including an alarm or control)

### FEATURES

- Airtight sealing device, outdoor application is available
- High safety dust protection
- The torque force is adjustable
- The performance of torsion is stable and reliable
- If the rotary paddle bears an extra overload the motor will be appeared slide to prevent the inside mechanism damaged
- Easy maintenance
- SE380 design with adjustable torque to fit wide density range

### SPECIFICATIONS

- Power: (A)110VAC, (B)220VAC, (C) 240VAC, (D) 24VAC, (E) 24VDC
- Operating temp.: 20~70°C (Max. 200°C)
- Power consumption: 3W, 11W (DC 24V)
- Contact capacity: SPDT 5A/250VAC (Std) or 3A/250VAC
- Connection: 1"PF, JIS 2-1/2" x5 kg/cm<sup>2</sup> (other types are optional)
- Housing: IP65 aluminum
- Conduit: 1/2" PF
- Ex-proof cert.: PTB ATEX, NEPSI (optional)





Used in the level monitoring of the tank, it belongs to non-contacting measurement, with long service life. The 2-wire output of the product is convenient to install, which can measure the level 18m away at maximum. The protection grade is IP67.

## EAX4 Ultrasonic level transmitter



### OPERATING PRINCIPLE

The ultrasonic level transmitter is a non-contact, low-cost and easy-to-install measuring device. It can be applied to most industrial applications for liquids. Most important aspect of it is that it is easy-to-install and low maintenance due to no moving parts.

### FEATURES

- 4~20mA two-wire output.
- 24Vdc power supply.
- Casing protection IP67.
- With integrated structure.
- Probe material PVDF.
- False echo detection.
- 2" connection.
- Non-contact measurement. Easy installation.
- Fully isolated analog output.
- With temperature compensation feature, which can improve measurement accuracy.
- Beam angle: 5°
- Not affected by liquid temperature, S.G, viscosity
- Maximum measurement range 8m (26 ft).

### SPECIFICATIONS

- Frequency: 50KHz
- Power consumption: 500mW @ 24VDC
- Communications: 4~20mA
- Blanking distance: 300mm
- Maxi. range: 8m
- Resolution: 1mm
- Accuracy:  $\pm 0.25\%$ (full scale)
- Operating Temp.: -40~80°C
- Beam angle: 5°
- Max. Operating pressure: <0.1MPa
- Weight: 1.4kg



Apply to the natural water, wastewater, unknown liquids and well reservoirs. Contact capacity up to 10A/250Vac. You can also do multi-level control Float material available with plastic and stainless steel Micro switch, Proximity Switch, Reed Switch and Mercury Switch available Simple installation and durable.

## FAB Cable float level switch



### OPERATING PRINCIPLE

Cable float switch is a simple structure, easy to use, and safety Wholly reliable liquid level detection tool, which uses micro-switches, magnetic reed switch or mercury switch do contact.

To hammer rise and fall with the water level as the center angle changes when the horizontal plane and the rise or hem angle exceeds the angle, steel beads or mercury will move up and down as the angle output ON or OFF contact signal to reach the level detection function.

The float housing demand different plastic and stainless steel for selection, applicable to a variety of high and low temperature wastewater environment.

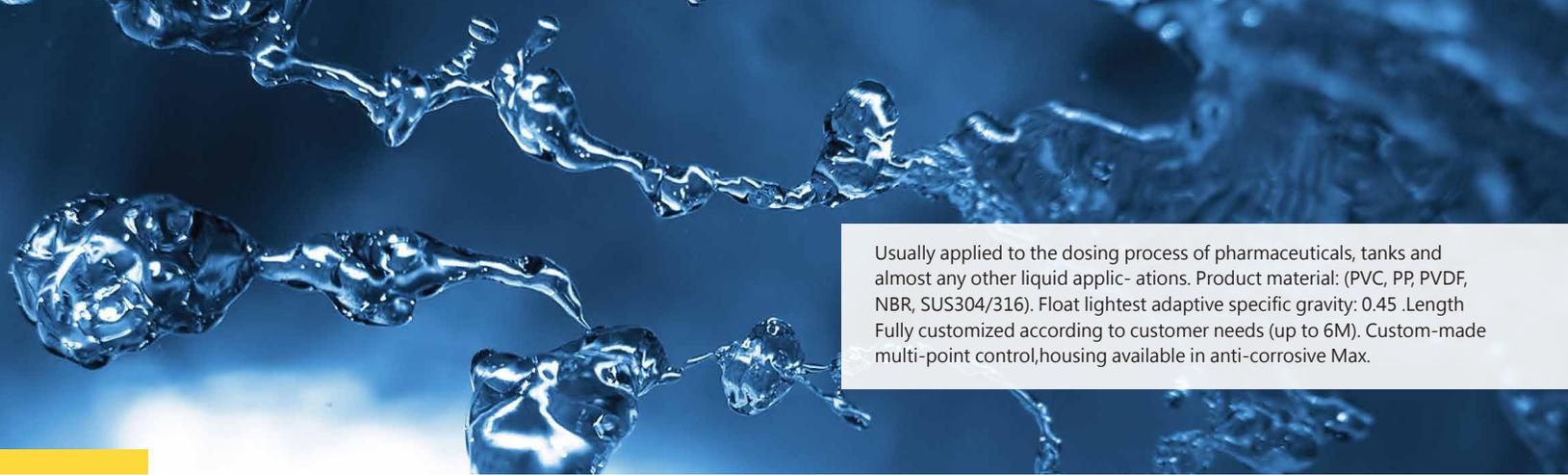
### FEATURES

- Suitable for long-distance, multi-level control, Shen pumps or containing particulate / liquid control of the bulk impurities.
- Has the best environmental tolerance, easy to replace, and cheap.

### SPECIFICATIONS

- Wetted material: PVC / PP / SUS304
- Operating temp: 60°C / 70°C / 125°C
- Contact form: SPST-NO / SPST-NC / SPDT
- Contact rating: 10A/250VAC or 15A/250VAC
- Actuation angle:  $28^{\circ} \pm 2^{\circ}$
- Pressure: 2kg/cm<sup>2</sup>
- Wire voltage: 600VAC
- Isolation resistance: >100MΩ





Usually applied to the dosing process of pharmaceuticals, tanks and almost any other liquid applications. Product material: (PVC, PP, PVDF, NBR, SUS304/316). Float lightest adaptive specific gravity: 0.45 .Length Fully customized according to customer needs (up to 6M). Custom-made multi-point control, housing available in anti-corrosive Max.

## FDX Magnetic float level switch

### OPERATING PRINCIPLE

In a sealed metal or plastic tube, set point or points, Magnetic reed switch, and then the tube through one or more of the hollow equipped with a ring magnet inside the float, and the use of a fixed ring control the float and the reed switch in the relevant position, so that the float in the fluctuate within a certain range.

### FEATURES

- The position of the control switch is customized by the user. Contact life of up to one million times.
- Protection class IP65 junction box above.
- The wetted materials are PVDF, PP, SUS304 and SUS316, suitable for all kinds of liquid.
- The maximum operating temperature of 200°C  
Maximum operating pressure of 50 Bar.

### SPECIFICATIONS

- Wetted material: PVDF / PP / SUS304 / SUS316
- Installation connect: 1"~6" thread or flang
- Ambient temp.: -20~85°C
- Operation temp.: -20~200°C
- Wetted temp: <200°C
- Contact form: SPST-NO / SPST-NC / SPDT
- Contact capacity: 10W / 20W / 50W / 60W
- Float S.G.: >0.5 of water
- Operating pressure: 50bar (max.)
- Degree of protection: IP65
- Explosion proof:  
ATEX 2G Ex d IIB T6~T3 Gb (Optional)





## SAX Capacitance level switch



### OPERATING PRINCIPLE

Capacitance switch relay on electrical capacitance theory (the ability of a medium to store electrical energy). When an electrical has two separated conductive plates, the space between the plates acts as a capacitor and stores the electrical energy.

### FEATURES

- As Capacitance Level Switch has no moving parts inside the device, it will not be affected by friction. It is suitable for powder or liquid application easy to install. The customer can choose the types for his requirements.
  - Standard Type (SA110 & SA111 A/B/C)
  - High-Temperature Type (SA120 & SA128 A/B/C)
  - Corrosion proof Type (SA130 & SA132 A/B/C)
  - Remote probe Type (SA140 A/B/C)
  - Cable Type (SA150 A/B/C)
  - Flat Plate Type (SA160 A/B/C)
  - Explosion-Proof Type (SA270 ~ SA279)
  - Intrinsically Safe Explosion-Proof Type (SA370 ~ SA378)
  - Anti-Static Type (SA180 & SA181 A/B/C)

### SPECIFICATIONS

- Power: 110/220VAC  $\pm 10\%$  or 19~24VDC
- Output rating: SPDT 5A/250VAC/30VDC, NPN transistor output
- Sensing probe material: SUS304/316, PP, PVDF coating
- Connection: 1"PT JIS 1-1/2" x5 kg/cm<sup>2</sup> (other types are optional)
- Operating temp.: -20~80°C (Max. 800°C)
- Insulated material: UPE, PEEK, Ceramic,
- Housing: IP65 aluminum
- Sensitivity range: 10pF (Std)
- Delay time setting: 0~6 sec
- Ex-proof cert.: Ex dia IIC (optional)



## SBX RF-Capacitance / Admittance level switch



### OPERATING PRINCIPLE

When medium contacts with measuring electrode, the admittance between measuring electrode and ground electrode will be increased, by the variation of admittance, medium level can be determined. Between the measuring and ground electrodes, the signal wave of shielding electrode is exactly the same with the wave of measuring electrode, but both signal waves are completely isolated. Thus, it can prevent the variation of admittance of probe and GND which was caused when medium attaches to the electrode. This can ensure the level switch only sense the admittance between measuring electrode and tank wall which can eliminate the false alarm caused by medium attached to the probe.

### FEATURES

- It is not affected by material adhesion.
- It is easy to install and adjust.
- It has good stability and not affected by temperature.
- It is with delay time function, 0~30s.
- IP65 protection.
- DPDT, 5A/250Vac contact output.
- Maximum operating temperature of 550°C (450°C for explosion proof type)
- Switchable high/low level fail safe protection alarm function.
- Suitable for measuring liquid, viscous liquid, solid, granules and etc.
- Simulation alarm test function.
- Explosion Proof Ex d IIB T1~T6 (SB17 series)

### SPECIFICATIONS

- Power supply: 24VDC±20%  
115/230VAC±10%, 50/60Hz
- Operating temp.: -40~150°C/550°C
- Output contact: 5A/250VAC, DPDT
- Operating pressure: ATM~ 20kg/cm<sup>2</sup>
- Sensitivity: 0.3PF
- Power consumption: Max. 2W
- Delay time setting: 0-30s
- Fail safe alarm: Low or high (switchable)
- Cable gland: 1/2"NPTx2
- Connection: 3/4" / 1"PT  
(other specification can be customized)
- Housing: Aluminum alloy baking varnish (IP65)
- Probe material: SUS304 or 316
- Insulation material: PTFE or ceramic



## SCX Tuning fork level switch



### OPERATING PRINCIPLE

The Tuning fork contains piezoelectric crystal built into the vibration tube that produces vibrations/resonations at specific frequencies. One element acts as a transmitter of the signal and the other receives the signal and converts it to electrical output.

### FEATURES

- Wide voltage supply range 19~253 VAC/VDC, 50/60Hz
- High vibration force suitable for power & solid applications
- Suitable for most powder form material (10g ~ 50g)
- DPDT Relay / PNP & NPN output
- High/Low failure safe modes
- Operate Temperature 230°C
- Fail safe
- Withstand tough lateral loads and static electricity
- Sludge level detection in waste water

### SPECIFICATIONS

- Power: 19~253 VAC/VDC, 50/60Hz
- Connection: 1-1/2"PT (other types are optional)
- Power consumption: Max. 1.5W
- Separation voltage: 3.7 kV
- Overvoltage protection: Over voltage category II
- Ambient temp.: -40~80°C
- Operating temp.: -40~230°C
- Bulk density: 10 g/l or 50 g/l
- Measuring frequency: (PNP & NPN) Max. 350mA
- Operating pressure: 25 Bar
- Output signal: DPDT Relay / PNP & NPN
- IP protection: IP67 (Aluminum housing)
- Ex-proof cert.: NEPSI (pending)



Common to all applications. Liquid, can also be measured if containing particles. A liquid mixture of granules for most temperatures, pressure, density and viscosity does not affect operation. Product accuracy of up to 0.3%, with optional lining material, optional diameter range from DN15~500.

## EPD Electromagnetic flowmeter

### OPERATING PRINCIPLE

The working principle of the electromagnetic flowmeter is based on the Faraday law of electromagnetic induction. When the conducting liquid flows in the orthogonal direction of the magnetic line direction, it will cut the magnetic lines and generate induced voltage, which shows linear relationship with the flowing speed. Thus, the fluidic volume flow can be calculated.



Standard Type



Remote Type



### FEATURES

- The measurement results are not affected by the change in liquid density, viscosity, temperature, pressure and conductivity.
- It can be widely applied in the conducting liquids that may contain fiber, solid granules and suspended matters.
- Enclosure protection rating: IP67/NEMA 4X
- Suitable for all kind of acid/alkaline environment

### SPECIFICATIONS

- Power supply: AC100~240VAC/24VDC
- Accuracy: 0.5% · 0.3% · 0.2%
- Medium temp.: 80°C(NBR) · 120°C(PTFE)
- Ambient temp.: -40~70°C
- IP rating: IP67/NEMA4X
- Electrode material:  
Stainless steel, Hastelloy, titanium, tantalum
- Lining material: PTFE, Synthetic rubber, neoprene
- Flange material: Carbon steel
- Analog output : 4~20mA, 2~8KHz
- Communication interface: RS485

## EPU Clamp-On Ultrasonic Flowmeter



### OPERATING PRINCIPLE

EPU Clamp-on ultrasonic flowmeters measure by using ultrasonic pulse waves to pass through the probe and strike the liquid material. While the pulse waves rapidly disperse through the liquid, the liquid flow will cause a small change in the rate at which the pulse waves are spread. This change in time at which the pulse waves are dispersed is proportional to the flow rate of the liquid. Hence, the flow rate of the liquid is derived.

### FEATURES

- No intrusion in the pipeline during measurement of flow rate, hence no adverse effects will be caused on the pipeline or process liquid.
- LCM display of instantaneous flow rate and cumulative amount.
- Standard 4-20mA, pulse wave output, RS485 Modbus communication.
- High-quality, durable, and reliable.
- Applicable to all types of liquids that without air, sediment or sludge.
- Able to measure both volume and flow rate of liquid.
- Languages on operation interface: traditional Chinese, simplified Chinese, and English.
- IP67 protection level, with waterproof transducer.

### SPECIFICATIONS

- Power Supply: 18~32 VDC / 100~240 VAC
- Measurement Technology: Transit-time measurement method
- Analog Output: 4~20 mA
- Pulse Mode:  
NPN transistor output, 32 VDC / 200 mA
- Communication Interface: RS-485 (Modbus)
- Measurement Range:  
Flow velocity 0~15 m/s
- Accuracy:  
±0.2% F.S. at 0.6~3 m/s  
±1% O.R. at 3~15 m/s
- Ambient Temp.: -20~60°C
- Protection Rating: IP67



## EPF Doppler ultrasonic flowmeter



### OPERATING PRINCIPLE

The doppler ultrasonic flowmeter adopts contactless measurement. It is simple to install, convenient, and easy to maintain. It is suitable for measuring liquids in pipelines that contain tiny particles, impurities or air bubbles. Precise, stable & reliable, this flow meter is applicable in the sewage and wastewater to detect the flow rate of water in pipelines. The doppler ultrasonic flow meter (EPF) transmits pulse waves to the pipeline through a sensor. The pulse wave signal is reflected after encountering particles in the liquid or air and is then received by the sensor. Based on the changing values of the frequency, the movement speed of the particles can be calculated. The average flow rate is therefore calculated using a set flow field data.

### FEATURES

- It's available to have a the flow measurement without cutting or disassembling the existing pipes, easy for on-site installation.
- LCM display shows instantaneous and cumulative flow rates.
- 4-20mA output, pulse wave output, RS485 Modbus communication.
- Suitable for various types of wastewater with high bubble content and liquids containing particulate impurities.
- Interface languages: Traditional Chinese, Simplified Chinese, English.

### SPECIFICATIONS

- Screen dimensions: LCM 128\*64 pixel backlight
- Comm. interface: RS-485(Modbus)
- Analog output : 4~20mA
- Pulse width: Automatic (pulse wave width 50%)
- Pulse mode: NPN transistor output 32vdc/200mA
- Pipeline dimensions: DN15 ~ DN500
- Flow range: 0.03~12m/s
- Measurement accuracy: 0.12~1.5m/s,  $\pm 0.25\%$  F.S.  
1.5~12m/s,  $\pm 2\%$  O.R.
- Power input: 18~32 VDC/ 100~240VAC
- Operating temp.: 20°~70°C
- Conveyor protection level: Waterproof and dust-proof IP67
- Sensor operating temp.: -25°~55°C
- Sensor cable length: 6.8m
- Sensor protection level: Waterproof and dust-proof IP66



## BRC Diaphragm valve



### OPERATING PRINCIPLE

The diaphragm valves are used specifically in the dust collector system. The valve consists of 2 air chambers divided by a piece of diaphragm. The 2 chambers are connected through an air passage (air passage's diameter is smaller than the orifice of the pilot valve). When the orifice opens, the air in the upper chamber is exhausted much faster than the speed of air that enters through the air passage. The air pressure of the upper chamber drops significantly, the higher pressure of the lower chamber pushes the diaphragm up and opens a bigger passage for air to enter into the bottom chamber. This sudden burst of air is used to inflate the fabric filter so as to shake off all the dust clinging on the bag filter. When the orifice closes, the pressure in both chambers equalizes and the diaphragm returns to its original position via the force of the coiled spring.

### FEATURES

- Fast Response, large flow volume, effective cleaning action on fabric filter
- Low Air consumption
- Compatible with programmable sequential controller
- Ease of adjustment in jet pulse timing and duration

### SPECIFICATIONS

- Power: 24Vdc $\pm$ 10%,110/220Vac,  $\pm$ 20% 50/60Hz  
DIN Optional for DIN connector or lead wire
- Suitable fluid: Air
- Body material: Aluminum
- Diaphragm material: Engineering plastic or NBR
- Operating temp.: -20~85°C
- Ambient temp.: -20~60°C



In case of emergencies relating to the conveyor equipment, pulling a steel wire rope which is along the convey on site, steel wire will activate SRS pull cord switch to shut down the power of equipments.

## SRS Safety cable pull switch



### OPERATING PRINCIPLE

IBelt conveyor safety cable pull switches are designed for providing a switching system to isolate the power to conveyor system and other equivalent process equipment in the emergency condition. The cable pull switches are actuated by a plastic coated steel wire, which are placed along-side the conveyor. When you pull on the cable at any point, it will trip and automatically lock the switches, deenergizing the conveyor starter contactor. Each switch is bi-directional in operation and has two cable fitted to it from opposite directions terminated with a spring at the anchor points, please see drawing 4 the springs will operate the switch on cable breakage. After tripping the mechanical latch can be released only on the switch itself by the reset lever.

### FEATURES

- Universal design for bi-direction activation
- Compact design for tight-fit areas, IP67 rugged die cast aluminum housing
- Manual reset lever
- Easily orientated at either end or intermediate position in pull cable run
- Cable Pull 30° for shutting down system
- Highly visible black arm easily shows condition of the switch, indicating alarm or normal
- SRS-170, Explosion-proof

### SPECIFICATIONS

- Contact Rating: 15A at 125/250 VAC  
0.5A at 125 VDC, SPDT × 2
- Operating Force: 49 ± 9.8 N (5 ± 1 kgf)
- Reset Mode: Automatic reset
- Ambient Temperature: -20 ~ 60 °C
- Protection Rating: IP67
- Housing Material: Painted ADC (Aluminum Die-Cast)
- Weight: Approx. 2.9 kg



SRT is used for detecting torsion in the conveyor belt and deviation from the chassis centerline due to overloading.

## SRT Conveyor belt misalignment switch



### OPERATING PRINCIPLE

It is used for detecting torsion in the conveyor belt and the belt misalignment from the chassis centerline due to overloading. It can effectively prevent the medium from falling out, equipment failure due to overloading, or human injuries. During operation, misalignment of the conveyor belt may be occurred due to overloading, belt shifting or torsion which the belt presses the roller lever to trigger the micro switch and generate alarm signal. Alarm signal output: The roller lever moves 20 degree vertically. Shut-down signal output: The roller lever moves 35 degree vertically.

### FEATURES

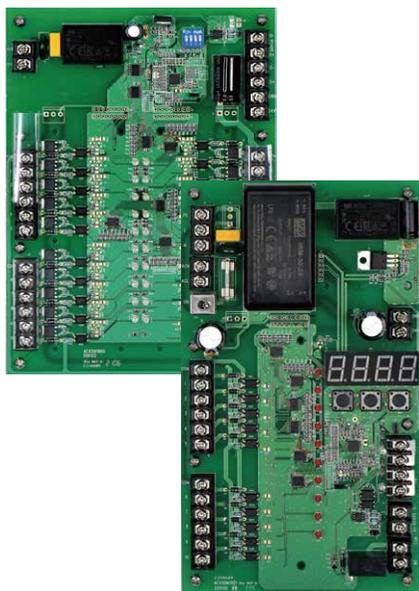
- The roller lever can move up to max. 75 degrees bi-directionally. The internal torque spring will be automatically reset.
- Die cast ADC enclosure. Good air tight characteristics. IP67 protection level.
- Alarm signal output: The roller lever moves 20 degree vertically. Shut-down signal output: The roller lever moves 35 degree vertically.
- Trigger point of alarm and shutdown is controlled by precision mechanical design. Special action angle is optional by customization.
- It can prevent downtime and product loss caused by failure of the conveyor system, as well as avoiding additional cost in replacing conveyor belt.
- Easy installation, fast performance.

### SPECIFICATIONS

- Contact Rating: 15A at 125/250 VAC  
0.5A at 125 VDC, SPDT × 2
- Operating Torque: 3.4 ~ 5.4 N·m (0.35 ~ 0.55 kgf·m)
- Reset Mode: Automatic reset
- Ambient Temperature: -20 ~ 60 °C
- Protection Rating: IP67
- Housing Material: Painted ADC (Aluminum Die-Cast)
- Weight: Approx. 2.9 kg



## AEX6 Programmable sequential controller



### OPERATING PRINCIPLE

Programmable Sequence Controller AEX6 is specifically designed for use with pneumatic dust collector systems. It comprises of a microprocessor and a logic analysis & control circuit, with an output of 10, 20 points (up to 620 points with an expansion board) to control the solenoid of the diaphragm valve which in turn controls the pulse jet sequence of the valves, thus achieving the dust collector's main objective of cleaning the bag filter. The LED display panel indicates the current pulse jet position. Pulse Jet time and interval time can be adjusted. The number of control points can also be adjusted and increased. Wide application range, with user-friendly operation.

It has an external current input terminal, which can be connected to a differential pressure transmitter or used for dust concentration detection. When the current reaches the set value, the fabric bag is attached to a greater degree, and the pulse jet interval is automatically shortened to improve the efficiency of bag cleaning. Continuous low current indicates that the fabric bag has broken and pressure has reduced. A built-in relay contact can be used as an alarm output.

### FEATURES

- Digital display for easy operation and real time control of operation status.
- Microprocessor control accurate and precise operation.
- Remote control function convenient to start and stop operations.
- Able to automatically execute pulse jet cycle even after system shuts down, therefore preventing clogging caused by damp and dust residue in the fabric bag.
- Number of output points can be increased up to 620 points. It can be connected to 4~20mA input (differential pressure or dust detection) when the set value is reached.
- Interval time is automatically shortened to improve performance, with a Relay output to warn when the fabric bag is broken.

### SPECIFICATIONS

- Voltage: 100/240VAC,  $\pm 10\%$  50Hz/60Hz
- Power consumption: 3VA (excluding the output load)
- Ambient temp.: -20~70°C
- Pulse Jet time: 10~9900ms
- Pulse Jet interval: 1~999 seconds
- Shutdown cycle function: Yes
- Remote control function: Yes
- 4~20mA input: Yes
- Alarm output contact: SPST 3A 250VAC/24VDC
- Number of output points: Mother board -10, 20 and maximum expandable 620
- External box: 210x290x100 box ABS/cover PC.

MF5000 is a measuring device for determining the mass throughput of free flowing bulk materials. Powder, dust or granules that are transported in free fall or in pneumatic conveyor systems can be measured online reliably and without contact.

## MF5000 Flow meter bulk solids

### OPERATING PRINCIPLE

Using the capacitive measuring principle, MF5000 generates a homo-geneous electromagnetic field. Bulk material that is transported through the sensor has a higher dielectric constant than air and thus increases the measured capacitance of the field.

The change in capacity is proportional to the bulk material concentration in the measuring pipe.

### FEATURES

- Process and quality assurance ensured by reliable throughput measurement.
- Use in free fall and pneumatic conveyance.
- Low overall height, easy integration into existing systems.
- Easy product calibration with calibration assistant.
- No influence from moving components in the vicinity.
- Optional output of velocity and concentration
- Large measuring range, also suitable for lower product concentrations.
- Large selection of sizes.
- Switchable direction of flow.

### SPECIFICATIONS

- Power supply: 19~31VDC
- Process temp.: Standard max. 130°C  
Optional max. 160°C
- Pressure: 10/16 bar, opt. up to max. 64bar
- Materials (sensor housing): Galvanized steel, chromated, painted, normal steel
- Materials (Inner sensor pipe): Glass fibrereinforced epoxy resin Vinyl ester resin PTFE Ceramic
- Pipe diameter: DN25 ~ DN300
- Protection rating: IP68



When granulates, powders, blasting material, dust or other solids are (pneumatically) transported, blockages, an empty hopper or a product-bridge at the bottom of a storage tank can immediately and securely be recognized.

## FS620 Flow switch for solids in flexible hoses

### OPERATING PRINCIPLE

The measurement principle is based on the detection of moving electrical charges which naturally adhere to the solids surface and are produced e.g. through friction on the hose-wall. Only moving particles generate a signal.

### FEATURES

- Blockages, and empty hopper or a product-bridge at the bottom of a storage.
- tank can immediately and securely be recognized.
- Multiple hose outer diameters are available.
- Non-contact measurement, very simple to install.
- Version for the use in ATEX-Zone 2 and/or 22.
- Multiple signal output relays, transistors, and analog.
- 4-20mA options.

### SPECIFICATIONS

- Input Power Supply: 17~31 VDC
- Ambient Temperature: -40~70°C
- Sensitivity: 0.1 mg/m<sup>3</sup>
- Pressure Resistance: 10 bar
- Signal Output:
  - Relay: max. 48 VAC/DC, 1A
  - Transistor Output: 31 VDC, 15 mA
  - Analog Output: 4~20 mA
- Junction Box Material: Stainless steel
- Sensing Tube Material: POM (Polyoxymethylene)
- Protection Rating: IP67





**Creating a Better Future, FineTek Sensing the World**

## **FineTek Co., Ltd.**

No.16, Tzuchiang St., Tucheng Industrial Park, New Taipei City 236, Taiwan R.O.C.  
Tel: (886) 2 2269 6789 Email: [info@fine-tek.com](mailto:info@fine-tek.com)

**Shanghai** 86 21 6490 7260

**USA** 1 909 598 2488

**Singapore** 65 64526340

**Germany** 49 (0)4185 8083 12

**Indonesia** 62 (021) 2958 1688