

# **TEASER CONSULTING ENGINEERS PRIVATE LIMITED**

OFF. NO-11, 3<sup>RD</sup> FLR., SCO NO-3 & 4, HUDA MARKET, SECTOR-19, FARIDABAD, HARYANA, (121002) INDIA Contact No. - +91 129 4027798, +91 6396945806 Email Id – info@teaserindia.com

# **Instrumentation Spare Parts**

### 1. SENSORS AND TRANSMITTERS: -

Sensors and transmitters are both crucial components in measurement and control systems, but they have distinct functions. A sensor detects a physical variable and converts it into an electrical signal. A transmitter then conditions, amplifies, and transmits this signal, often over long distances, to a control system or other monitoring device. Essentially, a sensor provides the raw measurement, while a transmitter makes that measurement usable for further processing and control

- **E Pressure Transmitters** (e.g., for kiln pressure, preheater, etc.)
- **Temperature Sensors** (RTDs, Thermocouples)
- Level Transmitters (Ultrasonic, Radar for silo levels)
- Flow Transmitters (Air, gas, or slurry flow)
- Vibration Sensors (for kiln bearings, motors, fans)



### 2. CONTROL VALVES AND ACTUATORS: -

Control valves and actuators work together to regulate fluid flow in various applications. The control valve is the component that physically restricts or allows flow, while the actuator provides the force to operate the valve based on signals from a control system

- Pneumatic and electric control valves
- Positioners (Electro-pneumatic or smart)
- Solenoid valves
- Limit switches for valve position feedback







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### 3. ANALYZERS: -

Analyzers are tools used to examine and determine the properties or composition of substances, whether they are physical, chemical, or biological. They can be physical instruments (hardware) or software-based. Analyzers are crucial in various fields like industrial processes, medical diagnostics, and scientific research

- Gas Analyzers (O<sub>2</sub>, CO, CO<sub>2</sub>, NOx for kiln exit gases)
- Dust Monitors
- pH and conductivity analyzers (in water treatment areas)



### 4. ELECTRICAL AND INTERFACE COMPONENTS: -

Electrical components are the building blocks of electronic circuits, designed to perform specific functions like controlling current, storing energy, or facilitating connections. Interface components, on the other hand, bridge the gap between different parts of a system, whether it's between a user and a computer, or between different pieces of electronic equipment

- Signal isolators, converters, and repeaters
- I/O modules (for PLC or DCS)
- Terminal blocks, relays, power supplies
- Communication modules (Profibus, Modbus, Ethernet)





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# 5. CONTROL SYSTEMS (PLC/DCS) SPARES: -

Control system spares for Programmable Logic Controllers (PLCs) and Distributed Control Systems (DCS) are crucial for maintaining operational reliability and minimizing downtime in industrial automation. These spares can be categorized as consumable, commissioning, installed, operational, or mandatory, and are essential for ensuring the smooth functioning of critical processes.

- PLC CPUs (e.g., Siemens, Allen Bradley, ABB)
- Input/output modules (DI/DO/AI/AO)
- HMI Panels and industrial PCs
- Redundant power supplies and communication cards







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### 6. Calibration and Maintenance Tools: -

Calibration and maintenance tools are essential for ensuring the accuracy and reliability of measuring instruments and equipment across various industries. These tools range from simple devices like thermometers and pressure gauges to complex systems like multifunction calibrators and calibration management software. Proper calibration and maintenance practices are crucial for maintaining product quality, meeting regulatory requirements, and optimizing operational efficiency.

- Portable calibrators (pressure, temperature)
- HART communicators
- Loop testers
- Diagnostic tools

### Common Brands in Cement Plants

- E ESiemens
- ABB
- Endress+Hauser
- Emerson / Rosemount
- Yokogawa
- SMAR
- VEGA
- Honeywell





