



Grown...to meet challenges

30+ years in Process Control Instrumentation

SSSI - Speed-O-Pilot

Version 2.1

SSSI, Speed-O-Pilot is an intelligent and versatile speed limit switch suitable for detecting underspeed condition of rotating, reciprocating or conveying equipment. It can also detect a missing object amongst a series of objects continuously moving at a constant speed. Examples include detecting a missing bucket in a bucket elevator, a missing object on a conveyor belt, etc.

Principle

The sensor works on the principle of reluctance. Whenever the motion detection sensor detects a ferromagnetic target, a signal in the form of a pulse is given to the microprocessor (in the evaluation unit). The microprocessor evaluates the time between consecutive pulses and converts it into ppm (objects per minute). When the speed becomes less than the programmed 'underspeed-A' value, underspeed-A relay changes the state. When the system rotates at a constant speed, the time gap between two consecutive pulses remains constant. Now, if an object (and hence pulse) is missed, this time gap increases. This is sensed by the microprocessor and it operates the missing object relay. The relay output contacts can in turn be used for signaling or controlling. Flashing LED in the preamplifier indicates that the moving target is within the sensing range and facilitates target-to-detector distance setting.



Approvals CE Marking, RoHS Compliance

Features

- Galvanically isolated 4-20mA transmission output
- 2 underspeed, overspeed alarms with independent relays
- An independent relay for missing object/bucket detection
- Display latches after detecting underspeed-A condition
- Accurate pulse rate evaluation with optimum response
- Easy to install and calibrate
- Programmable set point and switching hysteresis
- User-friendly programming using 5 push button keys
- 5-digit LED display indicates speed in PPM
- Rugged motion-detector probe for heavy industries
- Works reliably in dusty environments

Applications

- Bucket elevator system in cement plants
- Conveyer belts in material handling plants

Our Clientele

- ACC
- Ambuja Cement
- India Cement
- Lafarge Cement
- Ultratech Cement
- JK Cement
- Dalmia Cement
- My Home Cement

Manufacturing Level Instruments & Speed Monitoring Systems

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Technical Specifications

Housing:	Cast aluminium weatherproof, back panel / wall mounting
Dimensions:	180 X 180 X 85 mm
Cable Entry:	3 Nos. of 1/2, 3/4" BSP / NPT
Operating Temperature:	-20 °C to +60 °C
Mains Voltage:	Universal Power Supply (90-265 V AC)
Relay Outputs:	3 sets of potential free contacts rated at 230 VAC 6A, 50 Hz for non-inductive loads
Indication:	4-digit 7-segment LED Yellow: Power ON Red: Alarm Green: pulse detection
Alarm Mode:	Underspeed, zerospeed, missing object (field selectable)
Measuring Range:	20 to 9999 ppm
Time Delay:	Start-up: Programmable upto 99 seconds with provision for interlocking with controlled equipment
Temperature:	Standard: 120°C Customized: Up 200°C
Target Material:	Ferromagnetic e.g. MS buckets
Display:	Resettable (using magnetic key) without opening the enclosure
Calibration:	Can be calibrated prior to mounting if the speed (buckets per minute) of the system is known

Why Sapcon

- Sapcon – Synonymous with Level Measurement.
- Pioneers in this field with over 32 years of expertise.
- Understanding your problems, always ready with solutions.
- Masters in customization.
- Offering accelerated delivery, saving your inventory costs.

Parts

The parts of SSSI are explained in Figure 1.

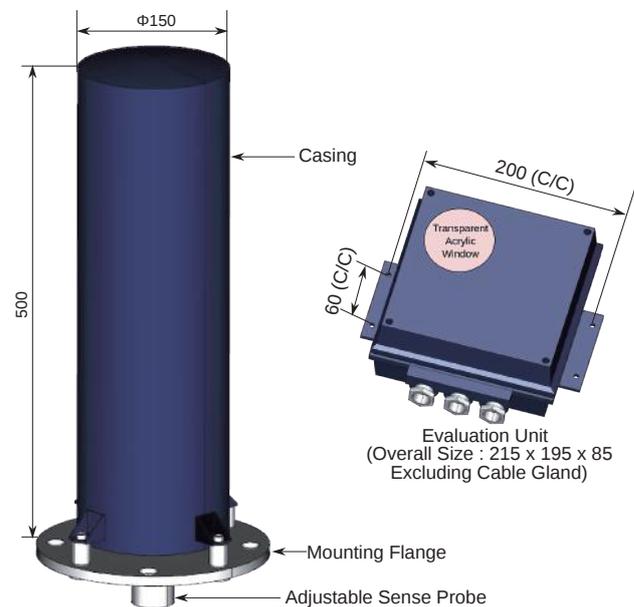


Figure 1: Parts of SSSI

System diagram

The mounting arrangement for SSSI is shown in Figure 2.

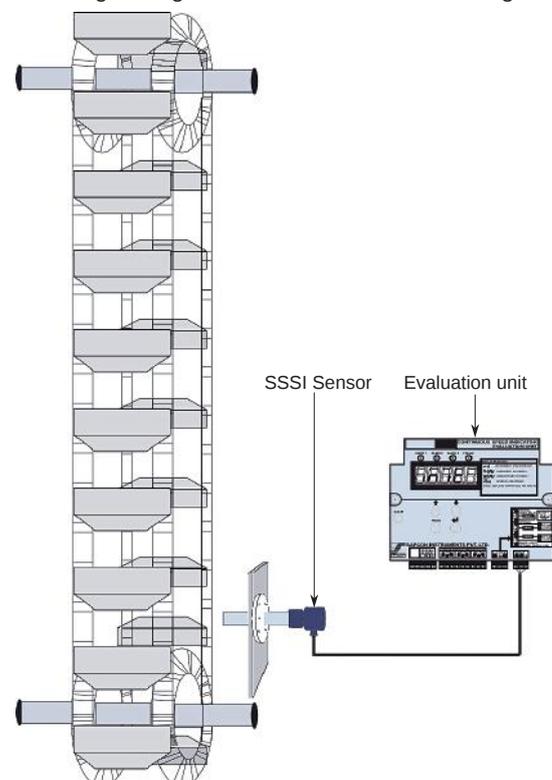


Figure 2: SSSI showing missing bucket in a bucket elevator

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