

# SPEED-O-TESTER SSI... series SPEED MONITORING SYSTEM



**SAPCON SPEED-O-TESTER** is a versatile speed limit switch suitable for detecting an overspeed or underspeed condition of rotating, reciprocating or conveying equipment. It can also detect a missing object amongst a series of continuously moving objects at a constant speed, such as a missing bucket in a bucket elevator.

## SALIENT FEATURES

- Easy to install and simple to calibrate.
- Accurate pulse interval evaluation by comparison with a stable internal time base.
- Overspeed/ Underspeed alarm, field selectable, with fail-safe relay operation.
- Built-in adjustable start up delay with interlocking provision allows the monitored device to accelerate before the speed is evaluated.
- Flashing LED in the pre-amplifier indicates the moving target is within the sensing range and facilitates target to detector distance setting.
- Flashing LED in the evaluation unit confirms receipt of pulses.
- Normal, Alarm and Power Failure, indicated by LED's.
- Rugged motion detector probe especially designed for heavy industrial application.

## APPLICATIONS

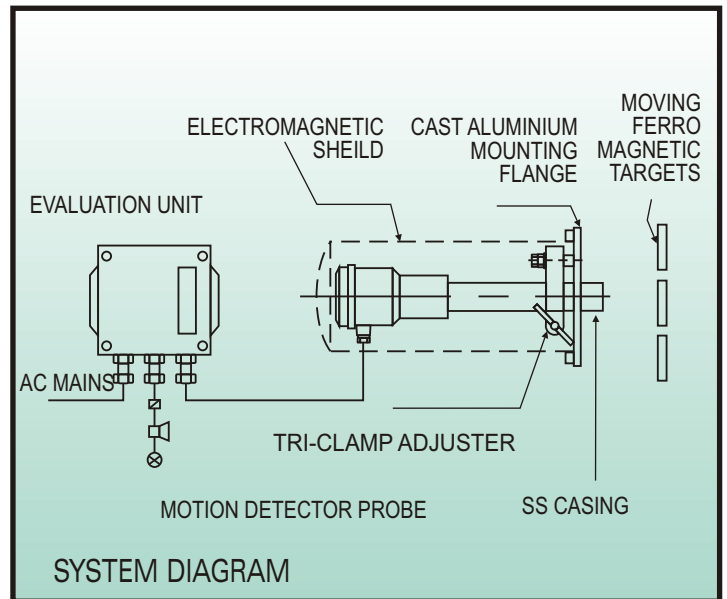
Detects speed of conveyors and Bucket Elevators and signals an alarm if the speed falls below the set speed. Special sensor detects moving ferrous objects from 100 mm distance. It can also be used as a missing bucket detector. High temperature models upto 200°C are available.



## SYSTEM DESCRIPTION

The speed monitoring system comprises of a motion detector probe (MDP) with pre-amplifier (PA) and an evaluation unit (EU). When MDP is suitably installed to sense the moving target, the PA outputs pulses, the frequency of which is proportional to the speed of the moving target. These pulses are superimposed on the power supply feeding the PA and are transmitted to the EU. The EU after processing the pulses, compares their duration with stable internal time reference. This duration is sensed, amplified and made to operate a relay whose contacts in turn can be used for annunciation/control.

This has a specially designed probe suitable upto 120°C standard (200 °C special), with a large sensing range of 100 mm working on the reluctance principle. It has SS casing with an aluminium mounting flange and a tri-clamp arrangement for easy adjustment of target distance. An electronic insert is housed in the cast aluminium probe head provided with a suitable cable gland. An electromagnetic shield covers the rear of the probe to minimize interference from stray electromagnetic fields.



TECHNICAL DATA	
EVALUATION UNIT	
<b>Housing</b>	: Cast Aluminium, Weather Proof, Stoving enamel painted, suitable for back/wall mounting.
<b>Cable Entries</b>	: 3 Nos. of 1/2" BSP / NPT
<b>Operating Temperature</b>	: -20°C to +60°C.
<b>Mains</b>	: 110/230 V AC (-10 to +10%) 50Hz (as specified in order).
<b>Power Consumption</b>	: 5 VA approx.
<b>Relay Output</b>	: One set of potential free change over contacts rated at 6A, 230V AC 50Hz for non-inductive load.
<b>Power to Pre-amplifier</b>	: 12VDC at 50 mA max.
<b>Indication</b>	: Red/Green LED's for Alarm and Normal, Flashing Yellow LED for pulse/fault diagnosis.
<b>Alarm Mode</b>	: Overspeed/Underspeed field selectable
<b>Measuring Range</b>	: 2 to 3000 Pulses / Min. (PPM)
<b>Set Point Adjustment</b>	: Coarse setting by jumpers, fine setting by potentiometer.
<b>Start-Up Time Delay</b>	: 0 to 60 sec. Adjustable by means of a potentiometer.

<b>Interlock</b>	: By potential free NO contact of contactor controlling the Motor of the monitored equipment.
<b>Overall Dimensions</b>	: 180 x 180 x 85 mm.
PRE-AMPLIFIER (Electronic Insert)	
<b>Housing</b>	: Plastic with built-in terminals.
<b>Potting</b>	: Epoxy compound.
<b>Operating Temperature</b>	: -20°C to + 80°C.
<b>Supply</b>	: 12 V DC at 50 mA max. derived from Evaluation Unit.
<b>Output</b>	: Current pulses.
PROBE	
<b>Probe Head</b>	: Cast Al. weather-proof.
<b>Mounting</b>	: Cast Al. Flange.
<b>Target Range Adjustment</b>	: By tri-clamp mechanism.
<b>Max. Detection range</b>	: 100 mm
<b>Target Material</b>	: Ferromagnetic
<b>Min. Target Area</b>	: 20 x 20 cm
<b>Temp. Range</b>	: 120°C (Standard)

## SAPCON INSTRUMENTS PVT. LTD.

131 Palshikar Colony, Indore - 452 004, MP, INDIA  
 Voice: +91-731-5085751, 5082751, 2475751/52/53  
 Facsimile: +91-731-2475475  
 e-mail: sapcon@sancharnet.in, sapcon@eth.net  
 website: www.sapconinstrument.com