



**AAL**<sup>®</sup>  
Autometers Alliance Ltd

# ACTIVE SPEED SENSOR

For Traction Motor Speed measurement



**Autometers Alliance Ltd** Offers compact & robust Active Speed Sensor based on Hall Effect sensing principle to work in harsh environment for speed monitoring of Traction Motor.

Active Speed Sensor senses the toothed iron wheel having 120 teeth to be mounted on Traction Motor shaft.

## Salient Features

- Sensors and its processing circuits are encased in metallic (Aluminium) housing and sealed properly confirming to IP68 protection class.
- Sensor is protected against short-circuit, overvoltage and reverse polarity.
- Based on Hall effect sensing principle it provides very accurate measurement of Traction Motor speed almost from 0 speed to 3000 RPM.
- Two galvanically isolated Speed pulse signal.

### Application:

Measured speed signal is used for calculation of Locomotive speed in order to activate the speed limit for constant speed control & for the adhesion control during starting and braking and to manage the effectiveness of wheel slip control.

|                                  |   |
|----------------------------------|---|
| Input working Voltage            | Input supply option;<br>110VDC + 25% - 30%<br>9 to 32VDC  |
| Input Current                    | 20 mA maximum   |
| Nos. of Pulse per revolution     | 120 Pulses Per revolution / Customized  |
| Maximum sensing speed            | 3000RPM   |
| Output speed signal Pulse        | Output signal options:<br><br>2 galvanically isolated pulse of 25±5 micro second width & amplitude of 2V±0.5V peak<br><br>Two open collector out put pulses at 90° Phase difference |
| Motor movement direction sensing | Speed signal polarity<br><br>Phase difference between two output pulses   |
| Input & output connections       | Power supply: 3 pin ITT Circular Connector<br>Speed signal: 5 pin ITT Circular Connector  |
| Redundancy of Circuits.          | Hall sensors & processing unit,<br><br>Power supply (optional)  |
| Operating Temp. range            | -25°C to 70°C   |
| Protection                       | Against reverse polarity, short circuit and over voltage  |
| EMI/EMC                          | As per IEC 60571, IEC61000-4  |
| Standard                         | IEC-60571, IEC61373 (category2), IEC60529 (IP68)  |



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