

Optical Speed and Length Sensors ISD-3 Series. Specification



Parameters	Value	Comments
Parameter	Value	Notes
Speed range	0,2 – 250 Km/h	At TTLout 400 Hz per m/s. Others on request
Speed accuracy*	<±0,15 % RMS	Determined on test bench (treadmill) at 18,38 km/h
Absolute distance accuracy*	<±0,1 % RMS	After calibration at S > 100 m.
Measuring frequency	34,5 Hz or 47,5 Hz	User adjustable, (max 80 Hz see capt. 10.3. below for details)
Nominal distance to the road and tolerance (range of working distance)	35 ± 15 cm or 50 ± 20 cm **	Others on request
System power supply (tolerance)	12V nominal (11 – 14,5V)***	
System power consumption	Sensor head: 20 Wt Processor unit: 1,5 Wt	
Sensor head operation temperature range	-20...+50°C	
Weight of the sensor + mounting bracket	280g + 120g	Without cable
Weight of the processor unit	350g	
Sensor dimensions	Ø55 x 205 mm + illuminator	See fig.2.
Processor unit dimensions	120 x 100 x 35 mm	Without connectors
Sensor cable length	5 m	Up to 10 m on request
System power cable length	2 m	Up to 10 m on request
Environmental sensor head protection	IP67	
Magnetic fixing tool	4 magnets x 16 Kg strength	Option, see fig.2.
Controller unit outputs:		
Analog out Frequency out Digital out	Speed, 40 mV/(m/s) 3V max. Length, 400 pulses/m (=speed 400 Hz/(m/s), meander 0 – 3 V, TTL compatible, up to 200 KHz. Ethernet (UDP protocol): No of meas, Speed, Length,	Typical values, user adjustable (see software description below). DAC and frequency resolution – 12 bit Others on request
Physical data latency at measurement freq, ms 34,5 Hz 47,5 Hz	15 11	Stable, =½ of measuring time, without averaging.
Base Software	- Program to read data via Ethernet, visualization and saving data; - Program for sensor diagnostics - Read data example (LabView 8.2.1 and higher) - Dynamic library (DLL) to read data via Ethernet - Sensor parameters configuranion via any Internet browther	See below for details. Custom software by request are possible.

* After calibration on the object to eliminate mounting axes errors.

** For typical road surface. On even and non-contrast surface actual upper limit may be less.

*** Restricted by illuminating lamp only, for it powered directly from power supply. Processor unit and sensor electronics has an individual +5V linear regulator with up to 35 V tolerances.

Due to our continuous efforts to improve sensors, RIFTEK reserves the right to change specification without prior notice.

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