

Laser Speed and Length Sensors ISD-5 Series. Specification



Parameter	ISD-5 Standard	ISD-5 Mini	Notes
Speed range, m/s	0,02 – 20	0,005 - 5	Typical values. The less nominal working distance the less min and max speed range.
Speed accuracy*, % RMS	±0,07 ±0,02	±0,15 ±0,05	No signal averaging With averaging 0,2 - 0,3 s, at V > 1 m/s
Length accuracy*, % RMS	<±0,05	<±0,1	При предварительной калибровке на длинах пути >2 м.
Measuring frequency, Hz	16 - 54		
Nominal distance to the object (tolerance), cm	10, 20, 30, 50, 75, 100)	10,15, 20	Could be noted at ordering
Distance tolerance	±20-25% of nominal		Depends on the surface (on the edge of the range signal decreased)
Emitter type	Visible or IR c.v. laser, 5 – 120 mW	Visible c.v. laser, <5 mW	class 3B – 3R
Power supply, V	12 (8 - 14)		Internal linear voltage regulators +5V in sensor and controller unit.
Power consumption, Wt: Sensor	0,5 - 2	0,5	
Controller unit	1		
Temperature working range, °C	+15...+50		-10...+50 – with active thermostabilization (option): -50...+80 °C with protect air cooling housing (option).
Sensor weight, g	320	70	
Sensor size, mm	85x79x46	58x43x30	Without connector , blend and fixing holes (see picture below)
Cable length from sensor to controller unit, v	1,8 or 3		Standard cable RS-232 or VGA with DB9 connectors are used. To extend a length it is possible to connect cables sequential.
Sensor environmental protection	IP67		
Controller unit:			
Weight, g Size, mm	350 120x100x35		
Analog out Digital out	Speed, 150 mV/(m/s) 3V max. Length, 2000 pulses/m (=speed 2000 Hz/(m/s), meander 0 – 3 V, TTL compatible, up to 200 KHz. Ethernet (UDP protocol)		Typical values, user adjustable (see software description below). ADC and frequency resolution – 12 bit Others on request
Physical data latency at measurement freq, ms 54 Hz 16 Hz	9 31		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.

* Precalibration needed to reject the geometric errors of sensor mounting.

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

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www.fae.it
e-mail: fae@fae.it



LASER
MEASURING SYSTEMS

FAE S.R.L. • Via Tertulliano, 41 • 20137 Milano
Tel. +39 02 55187133 • Fax +39 02 55187399