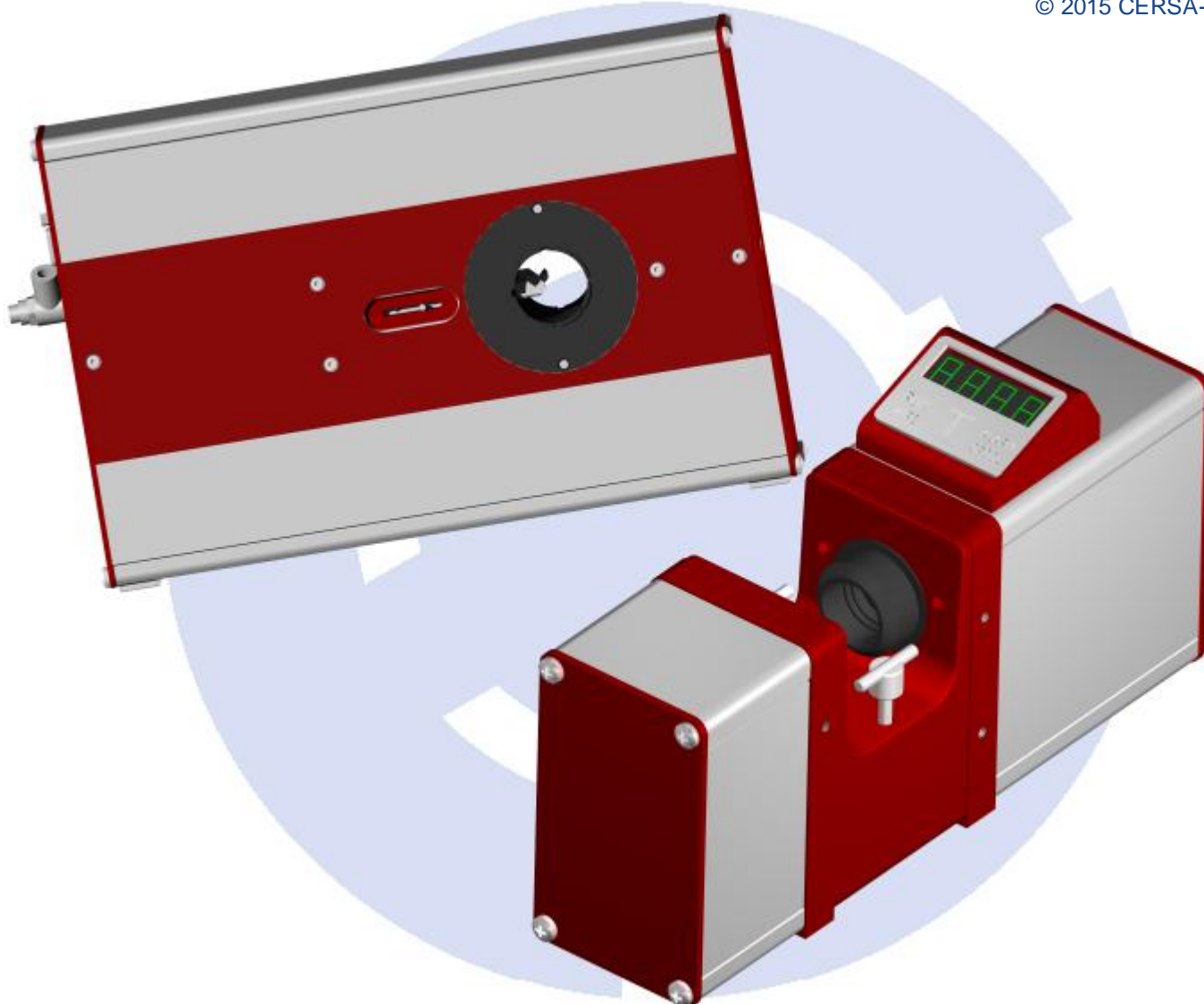


Measure & Control
Instruments



LDS Laser Diffraction Sensor Specifications.

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Part I: Introduction

The **LDS** (Laser Diffraction Sensor) is specially built for dimensional measurements in wire industry. It measures the diameter with high accuracy on 1 or 2 axes (depending on the version). Its measurement principle is based on laser diffraction. This method is position and vibration independent.

With 2 axes, it gives well enough, an indicator of roundness in line process.

The **WSR** (Wire Sample Rotation) and **Foot Pedal** accessories are reliable tools used in laboratory to certify and qualify the production. It integrates in one single instrument the diameter, the ovality measurement as well as event management and recording.

The LDS instrument uses the latest technology to give the maximum performance.

Main Advantages

- Accurate diameter measurement.
- Full ovality measurement with WSR accessory.
- Vibration measurement independent.
- Real time tolerances checking.
- Cable position measurement.
- Spool length and speed computing.
- Compact and hardened industrial instrument.
- Local display of measures and parameters.

CERSA-MCI develops and produces also complementary high performance measurement instruments for wire, cable, tube industry and optical fiber production.

Part II: Specifications

1 General specifications

DIAMETER MEASUREMENT

Model :	LDS200	LDS800	LDS2000
Range :	5-200 μm	18-800 μm	50-2000 μm
Uncertainty / Repeatability:		+/- 0.03 % of the diameter	
	<i>Remarks:</i> Includes slow ambient temperature fluctuation w ithin 10-40 °C. Includes wire moves w ithin the measurement area		
Number of axis :	1 or 2 (both versions are available)		
Internal measurement frequency :	400 Hz (no averaging required)		

ANALOG OUTPUT

Quantity :	1 (for diameter control)	
Type	Voltage	Current
Range :	$\pm 4\text{V}$	0-20mA or 4-20mA
Updating frequency	400Hz	
<i>Voltage (Av) or current (Aa) option must be specified at order.</i>		

DIGITAL OUTPUTS (Open collectors)

For alarms, tolerances...(user configurable)

Quantity :	2 (or 1 if length reset input is used)
<i>(I) option must be specified at order</i>	

DIGITAL INPUTS

For WSR, Foot pedal, length counting and length reset.

Quantity :	2
<i>(I) option must be specified at order</i>	

DISPLAY AND KEYBOARD

Display	7 segments 4 digit LED display.
Keyboard	3 boutons keyboard for tolerance configuration and length - speed display.
<i>(D) and (K) option must be specified.</i>	

RS232 COMMUNICATION

Used to connect the instrument to CIM softw are

Baudrate :	user configurable (38400 to 115200)
Maximum cable length :	35 meters (certified only w ith cables supplied by CERSA)

ENVIRONMENTAL CONDITIONS:

Ambient w orking temperature :	10 - 40 °c
Maximal w orking internal temperature :	55 °c
Storage temperature :	0 - 60 °c