

**OBSOLETE**

# LS4100

## *High Performance Ultra Compact Laser Scanner*

### Features

- Reading distance up to 400 mm
- Depth of field up to 360 mm
- Scanning speed up to 1300 scans/s
- Ultra compact dimensions  
84 x 68 x 28 mm
- PCS signal to measure printing quality
- Programmable digitizer
- Protection class IP65
- Frontal or lateral laser output

### Applications

- Packaging machines
- Machines for chemical and biomedical analysis
- Pharmaceutical verifiers
- Reading on small conveyors
- Automated warehouses
- Labelling machines
- Quality control
- Work-in-progress control

### General Description

With its **LS4100** industrial reader, Datalogic has created the smallest high performance scanner available on the market. Extremely compact size and high reading capability are the main characteristics of the **LS4100** and are made possible thanks to a sophisticated optical system and advanced electronics. The new scanner offers high scanning speed, up to 1300 scans per second; high depth of field, up to 360 mm; and a max. reading distance of 400 mm. The **LS4100** reader features numerous innovative characteristics which considerably broaden its application possibilities, among which: PCS analog output signal for measuring print quality and a digitizer programmed according to the code to be read.

The scanner is also distinguished by its ease of installation, its rugged housing and IP65 protection class, which guarantees protection in the most severe industrial conditions, even with water and dust present. Thanks to these characteristics, the **LS4100** reader can be advantageously employed in a large number of applications, among which: packaging machines, chemical and biomedical analysis machines, pharmaceutical verification, high speed conveyors, quality control systems, checking and identification systems on production lines.

## Technical Description

The LS4100 industrial bar code reader is equipped with a highly advanced and extremely compact optical system which allows codes with resolutions between 0.10 mm and 1.0 mm to be read up to a max. distance of 400 mm. The high standard scanning frequency of the laser beam, 800 scans per second, can be increased up to 1300 scans per second. This characteristic permits optimum reading even for very fast automatic machines, as the laser beam carries out a high number of scans for each bar code.

The programmable digitizer based on sophisticated electronics modifies the reader's characteristics according to the code to be read. This assures a high depth of field for any type of code at any resolution value.

Thanks to this highly innovative system, the LS4100 industrial reader offers a very large depth of field, up to 360 mm.

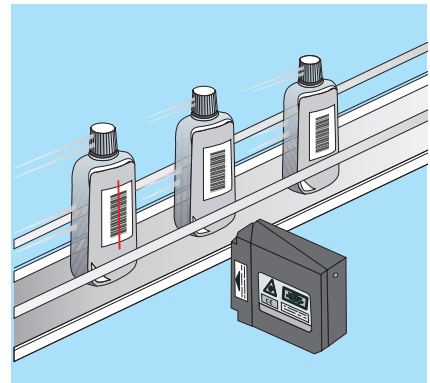
The new LS4100 also has a facility for interfacing with decoding algorithms which use the code reconstruction technique. Its connection to decoding units, which possess this feature, allow it to create omni-directional reading systems at low cost. The LS4100 also supplies an output PCS signal (Print Contrast Signal): the print quality of the code is measured by the laser beam in real time.

Particular effort was dedicated to reducing the size of the new LS4100 reader. Its dimensions: 84 mm long, 68 mm wide and 28 mm deep, make Datalogic's LS4100 the smallest high performance industrial reader available on the market.

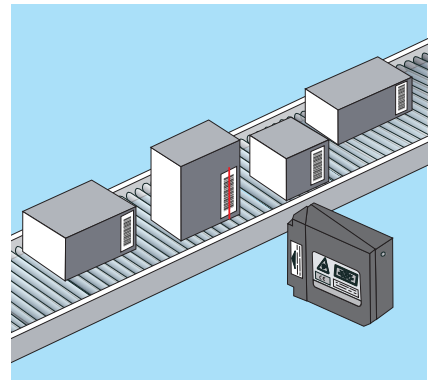
Its rugged housing, with IP65 protection class, is able to withstand the most severe industrial conditions, even in the presence of water and dust. The laser beam output window can be positioned at the front or on the side of the device to facilitate installation and/or resolve any space problems.

The LS4100 industrial reader is also available in the raster version.

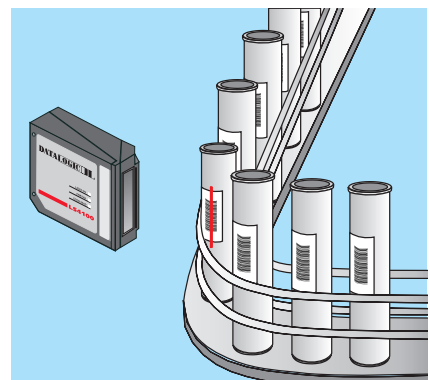
In order to take complete advantage of the full potential of the LS4100 industrial reader it is advised to complete the reading system with an industrial decoder which guarantees high performance levels (Datalogic DP1100).



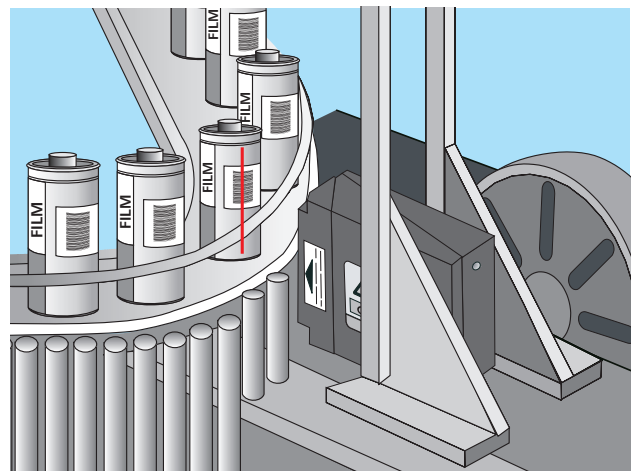
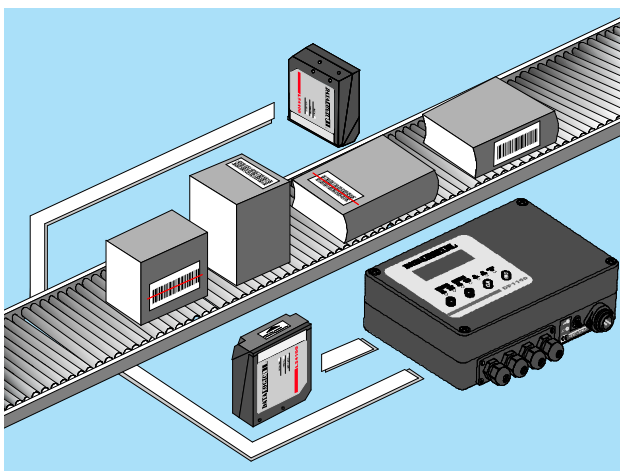
*High scan rate*



*Large depth of field*

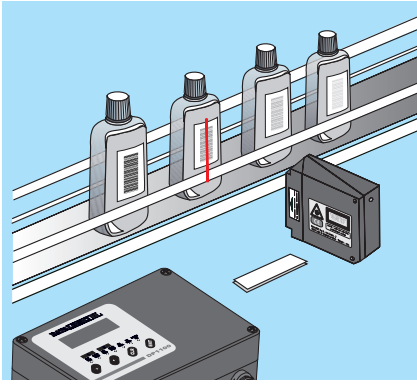


*Ultra compact dimensions*



*Typical applications: Bar code reading on conveyors and automatic machines*

## Application Description



Analogue output of the PCS signal

The LS4100 industrial reader is particularly suited to applications in which the space dedicated to the reader is extremely limited. These limitations are typical, for example, in applications for automatic machines, packaging machines and machines for chemical and biomedical analysis. The LS4100 is also suited to applications on small conveyors, where a high depth of field and the ability to read any type of code at any resolution is required.

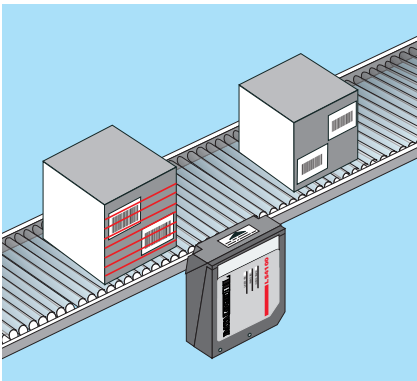
All applications characterised by code detection of fast moving objects will find that the LS4100 reader guarantees decoding security, thanks to the high scan rate. Besides the PCS signal, which gives an analogic measurement of the code print quality, it can also be used to verify the readability of newly printed codes. This function can also be coupled with normal reading operations.

The LS4100 is also ideal for reading high resolution codes, typical of the pharmaceutical and quality control sectors. In fact, it can read codes with a resolution up to 0.10 mm.

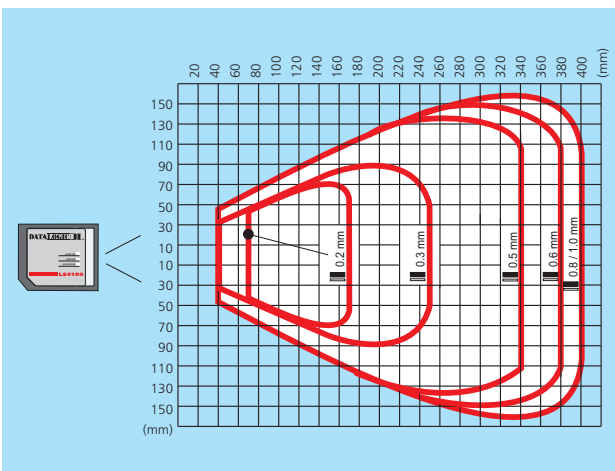
In general, any industrial applications made in the presence of water and dust can take advantage of the LS4100's performance, as it is enclosed in rugged housing with IP65 protection class.



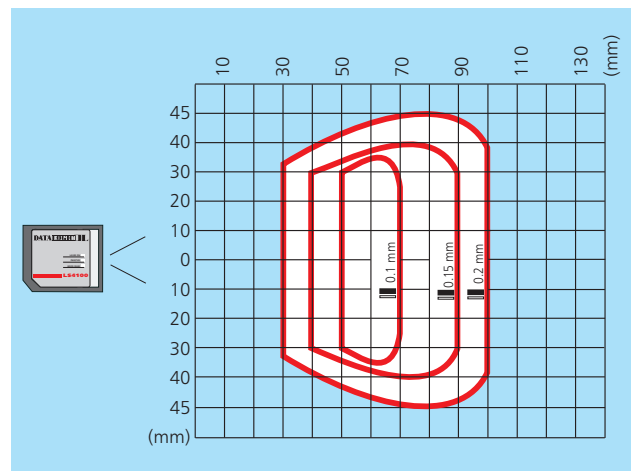
Rugged industrial housing IP65



Frontal or lateral laser output and Raster version



LS4100-1XXX reading diagram



LS4100-2XXX reading diagram

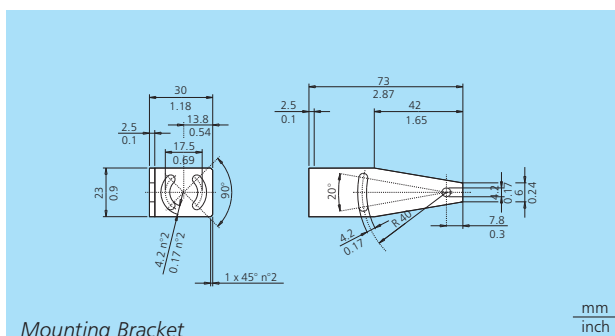
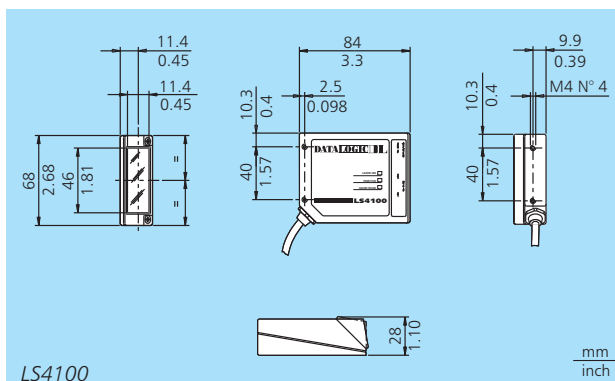
## Models and Accessories

MODEL	RESOLUTION		RASTER VERSION	USA VERSION	ORDER NO.
	Standard	High			
LS4100-1000	•				910851000
LS4100-1001	•			•	910851010
LS4100-1010	•		•		910851020
LS4100-1011	•		•	•	910851030
LS4100-2000		•			910851040
LS4100-2001		•		•	910851050

### Specifications

POWER SUPPLY	10 to 30 Vdc
POWER CONSUMPTION	< 2 W
LIGHT SOURCE	Visible laser diode (670 nm)
MAX. RESOLUTION	
LS4100-1XXX	0.20 mm (8 mils)
LS4100-2XXX	0.10 mm (4 mils)
SCANNING SPEED	800 (1300) scans/sec.
MAX. READING DISTANCE	
LS4100-1XXX	400 mm (15.75 in)
LS4100-2XXX	100 mm (3.94 in)
MAX. DEPTH OF FIELD	
LS4100-1XXX	360 mm (14.18 in)
LS4100-2XXX	70 mm (2.76 in)
APERTURE ANGLE	60 degrees
LED INDICATORS	'Power On', 'Laser On', 'Good Read'
LASER CLASSIFICATION	IEC 825 Class 2
LASER CONTROL	Security system to turn laser off in case of motor slow down or failure
DIMENSIONS	84 x 68 x 28 mm (3.31 x 2.68 x 1.10 in)
WEIGHT	425 g (15 oz)
CASE MATERIAL	Alluminium
OPERATING TEMPERATURE	0 to 40 °C (32 to 104 °F)
STORAGE TEMPERATURE	-20 to 70 °C (-4 to 158 °F)
HUMIDITY	90% non condensing
VIBRATION RESISTANCE	IEC 68-2-6 test FC 1.5 mm; 10 to 55 Hz; 2 hours on each axis
SHOCK RESISTANCE	IEC 68-2-27 test EA 30 G; 11 ms; 3 shocks on each axis
PROTECTION CLASS	IP65

### Dimensions



# DATA LOGIC DL

Bar Code & More

We reserve the right to make modifications and improvements

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