



- Optical measurement
- Measuring lengths from 50 mm to 1000 mm
- High resolution up to 1  $\mu\text{m}$
- $\pm 10 \mu\text{m}$  accuracy
- 5 ball bearing system
- Single or double seal protection
- 5 VDC TTL quadrature or 1vpp sinusoidal output signal
- Easy mounting
- 60 m/min traveling speed

ALS series optical linear encoder systems are protected from factors such as dust, shavings, dirt and coolant with its compact design. ALS4 series, which has optical measuring principle with glass ruler, can measure between 50 and 1000 mm.

#### APPLICATIONS

- Manuel Benches
- Press Brakes and Bending Machines
- Robotic / Material Packaging
- Linear Bearing Systems
- Automation and Robotic Applications
- Textile Machinery
- Transfer Machines
- Turning, Milling
- Woodworking machines etc.

#### TECHNICAL FEATURES

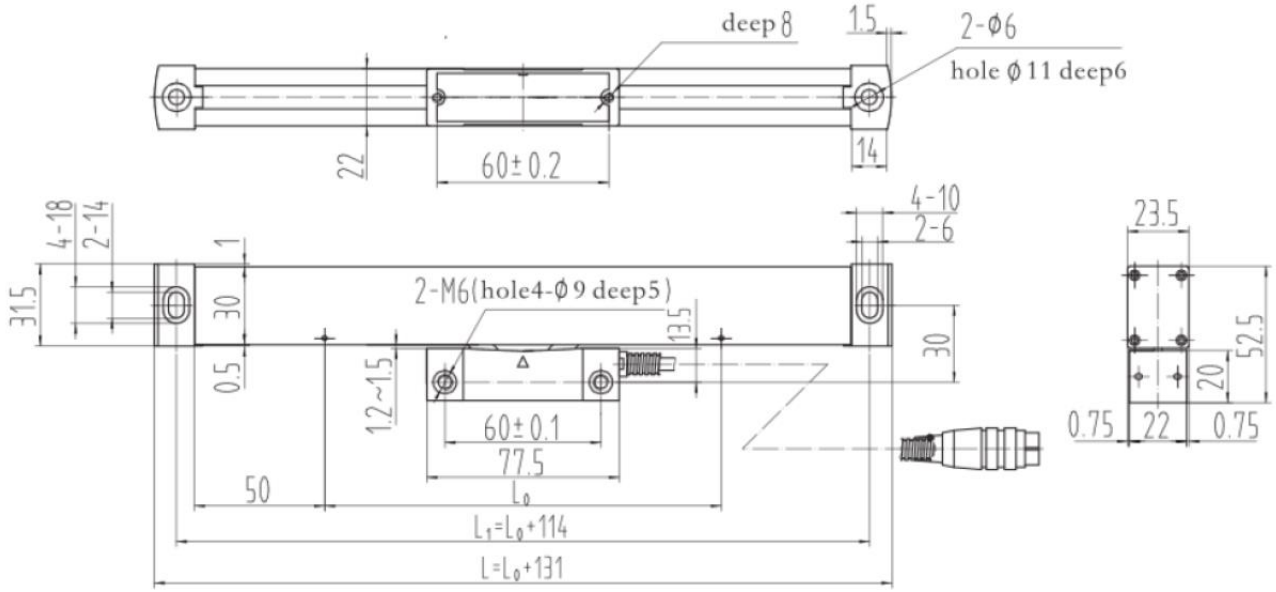
<b>Measuring Type</b>	Optical	<b>Reference Mark</b>	1 reference mark at every 50 mm
<b>Measuring Lengths</b>	Different lengths from 50 mm to 1000 mm	<b>Body Material</b>	Aluminum
<b>Resolution</b>	1 $\mu\text{m}$ , 5 $\mu\text{m}$ or 1Vpp sinusoidal	<b>Operating Temperature</b>	0°C...50 °C
<b>Signal Period</b>	20 $\mu\text{m}$	<b>Storage Temperature</b>	-20°C...70 °C
<b>Accuracy</b>	$\pm 10 \mu\text{m}$	<b>Protection Class</b>	IP54
<b>Repeatability</b>	$\pm 1$ pulse	<b>Electrical Connection</b>	Spiral cable and socket (For TTL Signal:D-SUB 9 pin male socket / For Sinus Signal: M16/8 pin female socket)
<b>Max traveling speed</b>	60m/min		
<b>Supply Voltage</b>	5 VDC	<b>Max cable length</b>	50-500mm (3m armoured cable) 600-2000mm (5m armoured cable)
<b>Output Type</b>	5V TTL or 1Vpp Sinusoidal		

#### ELECTRICAL CONNECTIONS

PIN NO	CABLE COLOR	D-SUB 9 PIN SOCKET	M16/8 PIN FEMALE SOCKET
		TTL SIGNAL	SINUS SIGNAL
1	WHITE	A	0°
2	BROWN	/B	180°
3	RED	+5VDC	+5VDC
4	BLACK	0V-GND	0V-GND
5	BLUE	/A	90°
6	GREEN	B	270°
7	YELLOW	/Z	Z
8	GREY	Z	N/C

In the table, the cable colors of sensors output signals are given. If the control circuit is suitable, in the line driver sensors, the not signals (/A, /B, /Z) have to be added to the system. If it is not suitable /A, /B, /Z signal cables must be fixed as insulated separately. Don't forget that these edges have electricity too.

## MECHANICAL DIMENSIONS





**L<sub>0</sub>:** Measuring Length (mm) (different lengths from 50 to 1000 mm)  
**L<sub>1</sub>:** Distance between mounting holes (mm)  
**L :** Body Length (mm)


## ORDER CODE

Model				Measuring Length
ALS 4	-	XX	-	Different lengths from 50 mm to 1000 mm
				Resolution
				01 : 1μm
				05 : 5μm
				S : Sinusoidal

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