



# elap HLS

## LINEAR WIRE ENCODER HLS-M • HLS-S • HLS-L

### INSTRUCTION MANUAL

#### SPECIFICATIONS

- Stroke: 1000 ÷ 12000 mm
- Supply voltage 10÷24 Vdc, 5Vdc for line-driver output; power consumption ≤ 60 mA
- Output signals: push-pull, line-driver
- Zero reference : 1 pulse each encoder revolution
- Max speed: 1 m/sec.
- Spring max torque: HLS-S: 700 g – HLS-M: 600/900 g – HLS-L 1500/2000 g
- SUS304 stainless steel wire covered with nylon
- Operating temperature: -10 ÷ 60°C (**HLS-S** 0 ÷ 60°C) / Relative moisture 35 ÷ 90%
- Connections: cable 1 m lg. (**HLS-S** 0.5 m)
- Protection degree IP64 (**HLS-S** IP50)

Type	Stroke	Resolution	Wire Ø	Max load
<b>HLS-M</b>	1000 - 2000 3000 – 4000 – 5000 mm	1 – 0.5 - 0.2 – 0.1 – 0.05 mm	0.7 mm	23 Kg
<b>HLS-S</b>	1000 mm	1 – 0.5 - 0.2 – 0.1 – 0.04 mm	0.6 mm	16 Kg
<b>HLS-L</b>	6000 – 7000 – 8000 – 9000 - 10000 - 11000 – 12000 mm	1 – 0.5 mm	1 mm	60 Kg

### INSTALLATION

- Make sure that the distance to be run by the wire does not exceed the transducer nominal stroke; stretching the wire over its nominal stroke damages the transducer seriously, and causes the decay of the guarantee right.
- Use 4 M3 screws with the following specifications to fix the encoder: **HLS-M** and **HLS-S** screws M3x6 – **HLS-L** screws M4x10
- The wire must run out of the bushing without angle to obtain the best tolerance in measurements.
- It is possible to hook the fixing end of the wire at a steady point and move the transducer body instead of the wire.
- If the application is not a linear one, use a pulley with a proper diameter to smooth the rotation and avoid damaging the wire.
- If the product works in a severe environment, such as in presence of oil, water, heavy dust, iron chipping or any powder which can damage the wire, apply a protective cover.

### CONNECTIONS

Carry out the connections as shown in the diagram hereunder.  
The cable shield is not connected inside the transducer.

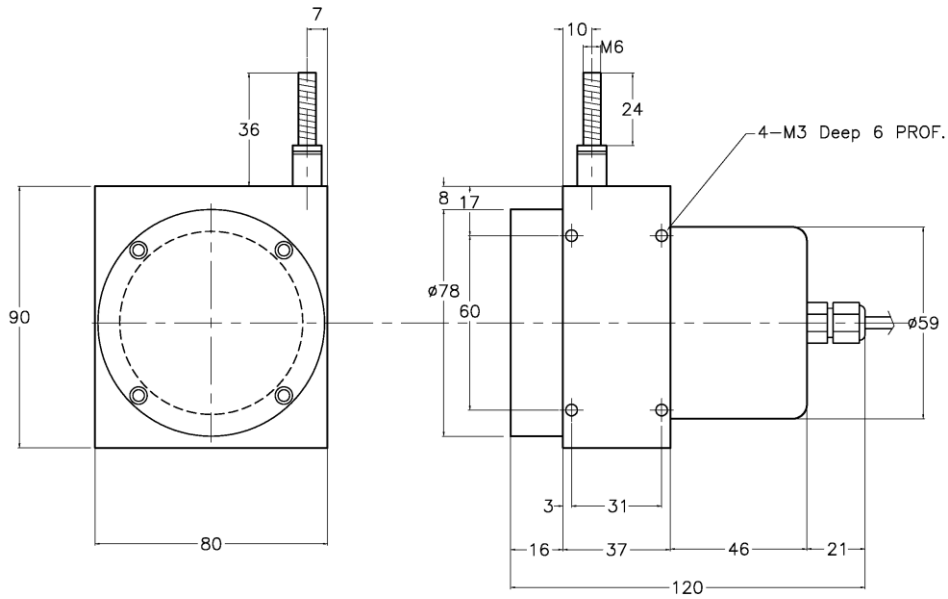
<b>PUSH-PULL output</b> Supply voltage 10/24 Vdc		<b>LINE DRIVER output</b> Supply voltage 5 Vdc		
Cable Colours	Signals	Standard cable (black) HLS-M/HLS-L 1 m HLS-S 0.5 m	Cable length on request (Grey)	Signals
RED	+ Vdc supply	RED	RED	+ Vdc supply
BLACK	0 Vdc supply	BLACK	BLUE	0 Vdc supply
WHITE	A	BLUE	WHITE	A
GREEN	B	GREEN	GREEN	B
YELLOW	Z	YELLOW	GREY	Z
		PURPLE	BROWN	$\overline{A}$
		ORANGE	YELLOW	$\overline{B}$
		BROWN	PINK	$\overline{Z}$
		SHIELD	SHIELD	Not connected



## DIMENSIONS

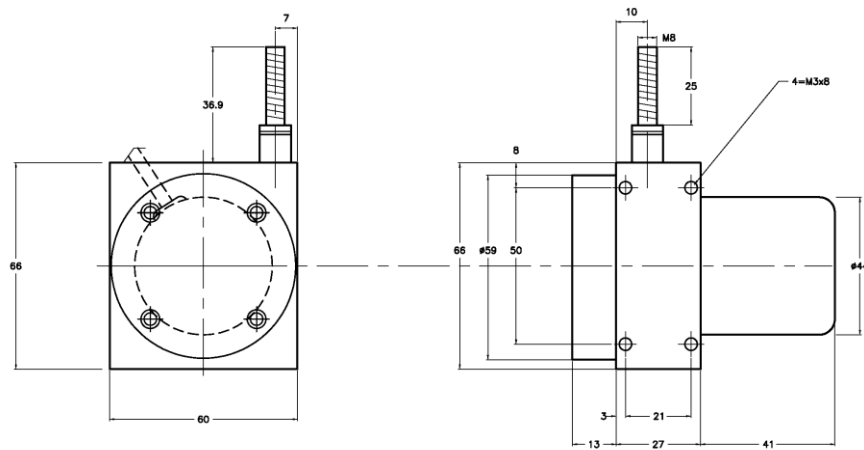
### Transducer HLS-M

Dis.M1295



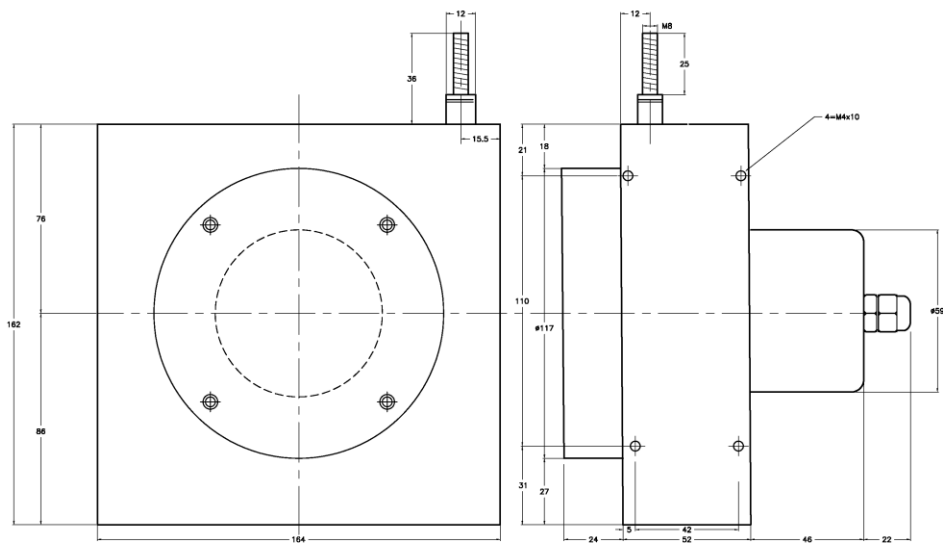
### Transducer HLS-S

Dis.M2122



### Transducer HLS-L

Dis.M2120



Further information at URL: <https://www.elap.it/wire-transducers/wire-encoder-hls/>



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