

# MLS 130

## MAGNETIC READER SENSORS



- Small Structure
- Easy Installation
- Resolution from 1  $\mu\text{m}$  to 100  $\mu\text{m}$
- High Accuracy and Repeatability
- Spiral and Wired Options
- Dust, oil and nourishment insensitive
- Robust Aluminum Body
- IP67 Protection Class

# USER

# MANUAL

# 1. WARNINGS



- 1.** Connections must be completed by only authorized personnel.
- 2.** Consider the warnings when completing the connections and using the scale.
- 3.** Pay attention about the sensors power supply. (For TTL sensor max. 5V, for Push-Pull sensor max. 30V). Don't energize the scale before all connections completed.
- 4.** Distance between sensor and control unit must be short as possible. Avoid additions except the suitable connector unless it needs.
- 5.** Be away the sensor and cables from high power cables, contactor, engine, or inductive and capacitive noise sources.
- 6.** The screen cable must be connected to the earth line.
- 7.** The magnetic tape must be away from magnetic areas.
- 8.** The proximity of the band with comparator, magnet or similar instruments having a magnetic effect, disrupts the working structure of the band.
- 9.** Don't make any connection when the scale energized.
- 10.** Please call the service for any problem about the scale.
- 11.** Transport and storage should be at their original packaging and an ambient temperature of  $-25^{\circ}\text{C}$  /  $+85^{\circ}\text{C}$  in such a way that they will not be exposed to dust, humidity, impact, vibration, falling or water.
- 12.** Chemicals such as alcohol, thinner etc. should not be used for cleaning the product. The product should be wiped with a damp cloth.
- 13.** The product may be damaged and may become unusable if used outside of the specifications in the user manual. In this case, the product will be out of warranty.

## 2. GENERAL INFORMATION

MLS130 series sensors can be used with magnetic stripe tape as well as PS1 profile system and PS2 profile system. It moves position 0,1 - 2 mm without touching the magnetic band and reads the position information precisely and sends it as encoder pulse. The MLS 130 magnetic reader sensors can be installed in even the smallest areas due to very small dimensions.



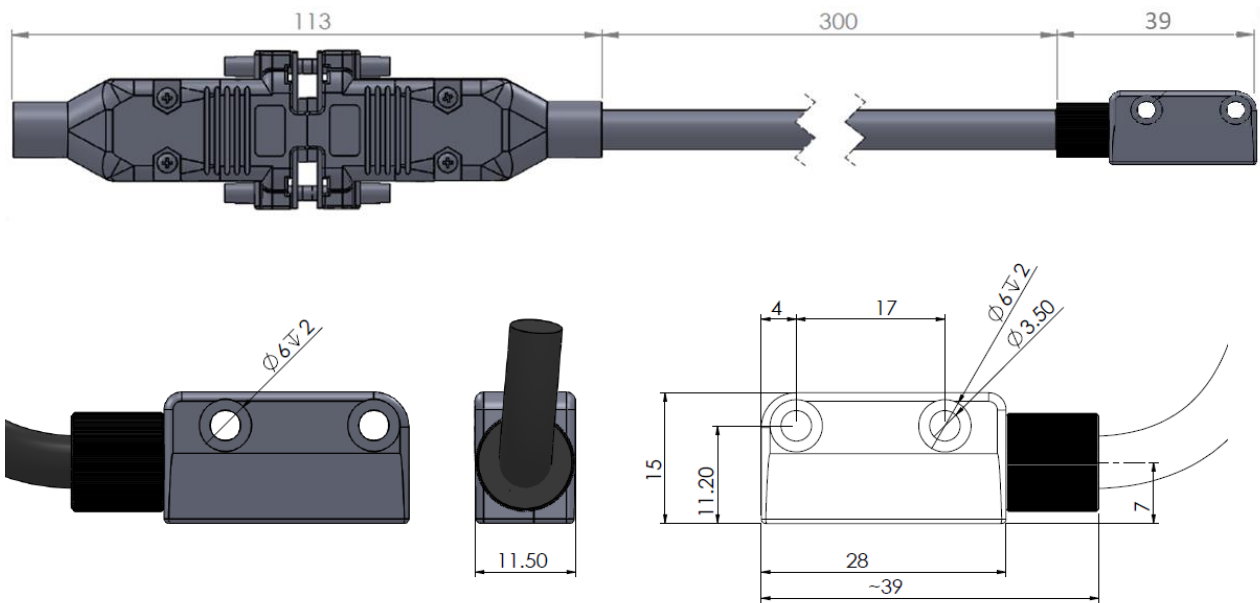
### Applications:

- Machining Centers
- PVC Cutting Machines
- Wood Cutting Machines
- Lathes, Milling, Drilling, Grinding Machines
- Sheet Metal Working Machines
- Marble Machines
- Welding Machines
- Bending Machines
- Electrical Discharge Machines
- Robotics / Material Handling
- Glass Working Machinery etc...

## 3. TECHNICAL FEATURES

<b>Measurement Type</b>	Magnetic, non-contact				
<b>Resolution</b>	1µm, 5µm, 10µm, 25µm, 50µm, 62.5µm, 80µm, 100µm (Optional others)				
<b>Supply And Output</b>		<b>PP</b>	<b>TTL</b>	<b>HTL</b>	<b>HPL</b>
	<b>Supply</b>	10...30 VDC	5 VDC	10...30 VDC	5...30 VDC
	<b>Output</b>	10...30 VDC Push-pull	5 VDC TTL RS422 Line Driver	5 VDC TTL RS422 Line Driver	5...30 VDC Push-pull
<b>Output Signals</b>	A, /A, B, /B, Z, /Z				
<b>Current Consumption</b>	40 mA / channel max.				
<b>Repeatability</b>	± 1 Pulse				
<b>Gap between tape and sensor</b>	0,1 mm to 2 mm				
<b>Operating Speed</b>	3 m/s				
<b>Operating Temperature</b>	-25...+85 °C				
<b>Storage Temperature</b>	-40...+100 °C				
<b>Electrical Connection</b>	D-Sub 9 pin connector, 5 or 8 x 0,14 mm <sup>2</sup> shielded cable				
<b>IP Protection Class</b>	IP67				
<b>Material</b>	Aluminum				

## 4. MECHANICAL DIMENSIONS



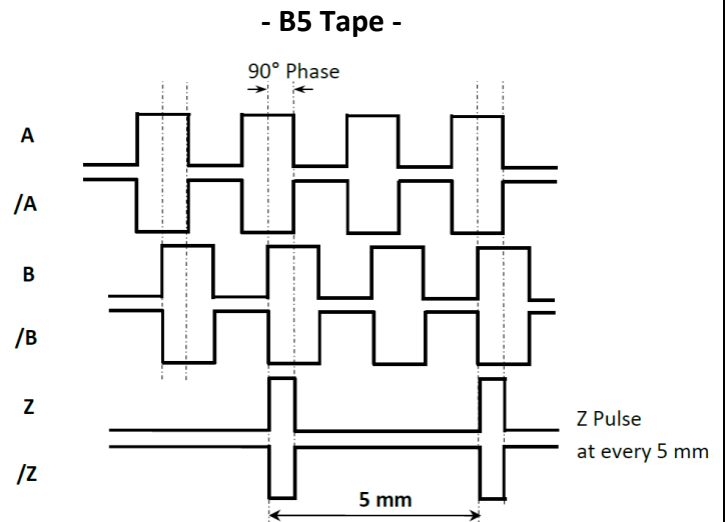
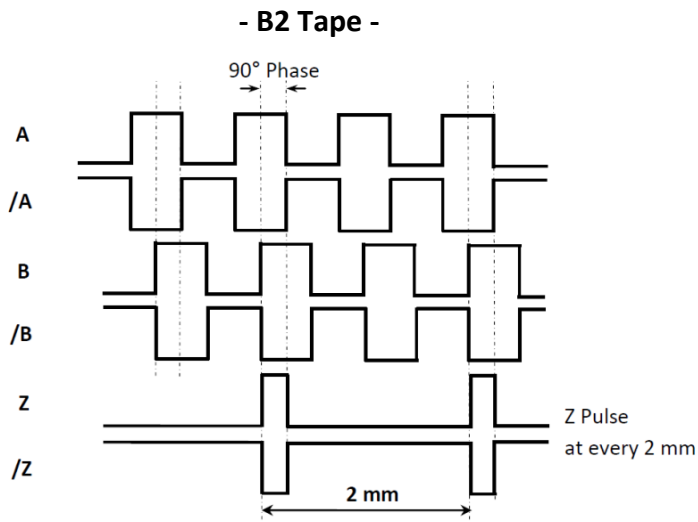
**WARNING (!)** The sensor and magnetic tape must be away from magnetic areas. The proximity of the band with comparator, magnet or similar instruments having a magnetic effect, disrupts the working structure of the band.

## 5. ELECTRICAL CONNECTION

SIGNAL	CABLE COLOR	D-SUB 9 PIN / SOCKET PIN NO
A	YELLOW	1
/B	WHITE	2
+V	RED	3
0V	BLACK	4
/A	BLUE	5
B	GREEN	6
/Z	GREY	7
Z	PINK	8
-	SHIELD	9

\* For other socket connections, see: Page 6- Other Socket Connections

In the above table the cable colors of sensors output signals are given. If the control circuit is suitable in the Line Driver sensors of the not output 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.



## 6. MAGNETIC TAPE AND PROFILE SYSTEMS USED WITH MLS 130

**MLS 130 + B Series Magnetic Tape**



**MLS 130 + PS2 Slim Profile**



### \*Other Socket Connections

**S41 Connection (EAE) / M16 8 Pin Female Socket**

Pin No	Cable Color	Signal
1	RED	POWER SUPPLY
2	BLACK	GROUND
3	YELLOW	A
4	PINK	Z
5	GREEN	B
6	WHITE	/B
7	GREY	/Z
8	BLUE	/A
9	-	-

**S87 Connection (EC-4) / D-Sub 9 Pin Male Socket**

Pin No	Cable Color	Signal
1	-	-
2	RED	POWER
3	BLACK	GROUND
4	BLUE	/A
5	YELLOW	A
6	WHITE	/B
7	GREY	/Z
8	PINK	Z
9	GREEN	B

**S71 Connection (CYBELEC) / D-Sub 9 Pin Male Socket**

Pin No	Cable Color	Signal
1	BLACK	GROUND
2	BLUE	/A
3	WHITE	/B
4	GREY	/Z
5	RED	POWER
6	YELLOW	A
7	GREEN	B
8	PINK	Z
9	-	-

**S86 Connection (DELEM) / D-Sub 9 Pin Male Socket**

Pin No	Cable Color	Signal
1	PINK	Z
2	GREEN	B
3	YELLOW	A
4	-	-
5	BLACK	GROUND
6	GREY	/Z
7	WHITE	/B
8	BLUE	/A
9	RED	POWER

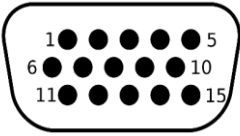

**S50 connection (EMS) / D-Sub 9 Pin Male Socket**

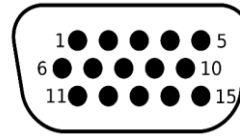

Pin Numarası	Cable Color	Signal
1	PINK	Z
2	GREY	/Z
3	RED	POWER
4	-	-
5	BLACK	GROUND
6	YELLOW	A
7	BLUE	/A
8	WHITE	/B
9	GREEN	B

**S42 Connection (SINO) / D-Sub 9 Pin Male Socket**


Pin Numarası	Cable Color	Signal
1	BLUE	/A
2	BLACK	GROUND
3	WHITE	/B
4	-	-
5	GREY	/Z
6	YELLOW	A
7	RED	POWER
8	GREEN	B
9	PINK	Z


**S57 Connection (TURANLAR) / D-Sub 15 Pin Male Socket****S43 Connection (FAGOR) / D-Sub 15 Pin Male Socket**


 Pin Numarası	 Cable Color	Signal
1	YELLOW	A
2	BLUE	/A
3	-	-
4	PINK	Z
5	GREY	/Z
6	-	-
7	-	-
8	BLACK	GROUND
9	-	-
10	GREEN	B
11	WHITE	/B
12	-	-
13	-	-
14	-	-
15	RED	POWER

 Pin Numarası	 Cable Color	Signal
1	YELLOW	A
2	BLUE	/A
3	GREEN	B
4	WHITE	/B
5	PINK	Z
6	GREY	/Z
7	-	-
8	-	-
9	RED	POWER
10	-	-
11	BLACK	GROUND
12	-	-
13	-	-
14	-	-
15	SHIELD	GND

## **ATEK ELEKTRONİK SENSÖR TEKNOLOJİLERİ SANAYİ VE TİCARET A.Ş.**

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