

MLS 210

MAGNETIC READER SENSORS



- Resolution from 5 μm to 100 μm
- High Accuracy and Repeatability
- Spiral and Wired Options
- Dust, oil and nourishment insensitive
- Robust Aluminum Body
- IP67 Protection Class
- Easy Installation

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°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

MLS 210 series reader sensors can be used with all magnetic tape and profile systems but we suggest you with PS1 profile system or PS3 profile system for the best harmony. The reader sensor glides contactless over the profile with gap up to 0,1 – 2 mm. MLS 210 reader sensors have models with scraper or without scraper. Also spiral or pure cable models are available.

Applications:

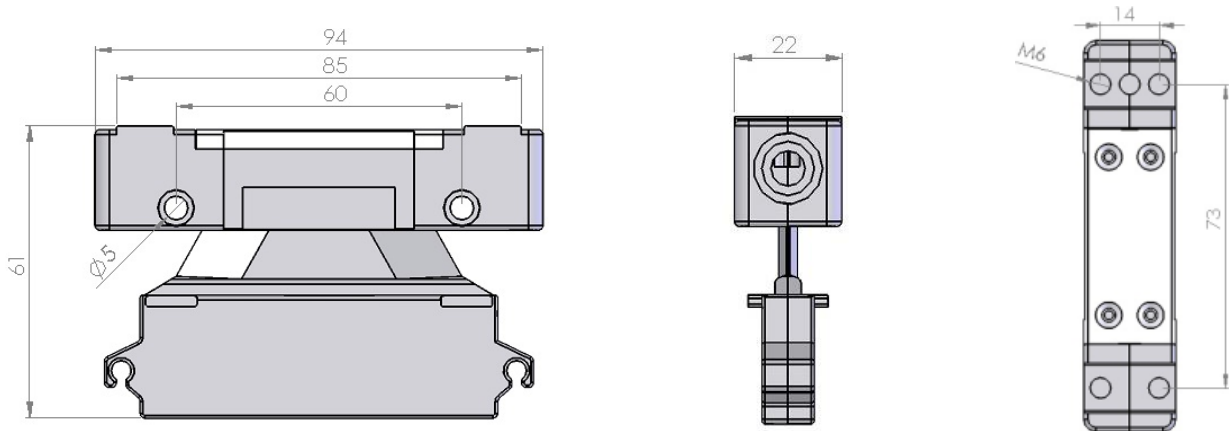
- Machining Centers
- PVC Cutting Machines
- Wood Cutting Machines
- Lathes, Milling, Drilling, Grinding Machines
- Sheet Metal Working Machines
- Marble Machines
- Welding Machines
- Bending Machines
- Electrical Discharge Machines
- Robotics / Material Handling
- Glass Working Machinery
etc...

3. TECHNICAL FEATURES

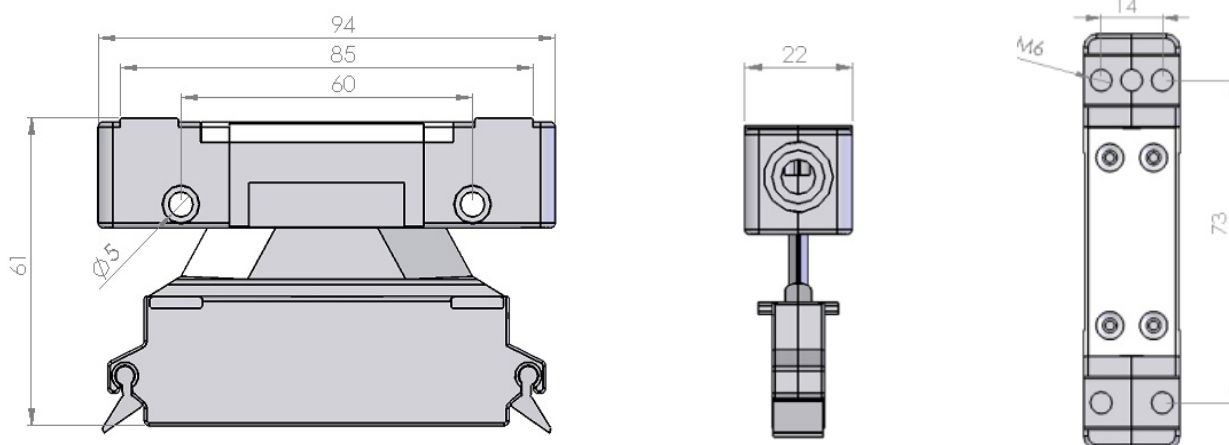
Measurement Type	Magnetic, non-contact				
Resolution	5µm, 10µm, 25µm, 62.5µm, 100µm (Optional others)				
Supply And Output		PP	TTL	HTL	HPL
	Supply	10...30 VDC	5 VDC	10...30 VDC	5...30 VDC
	Output	10...30 VDC Push-pull	5 VDC TTL RS422 Line Driver	5 VDC TTL RS422 Line Driver	5...30 VDC Push-pull
Output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

4. MECHANICAL DIMENSIONS

- Model Without Scraper-



- Model With Scraper-



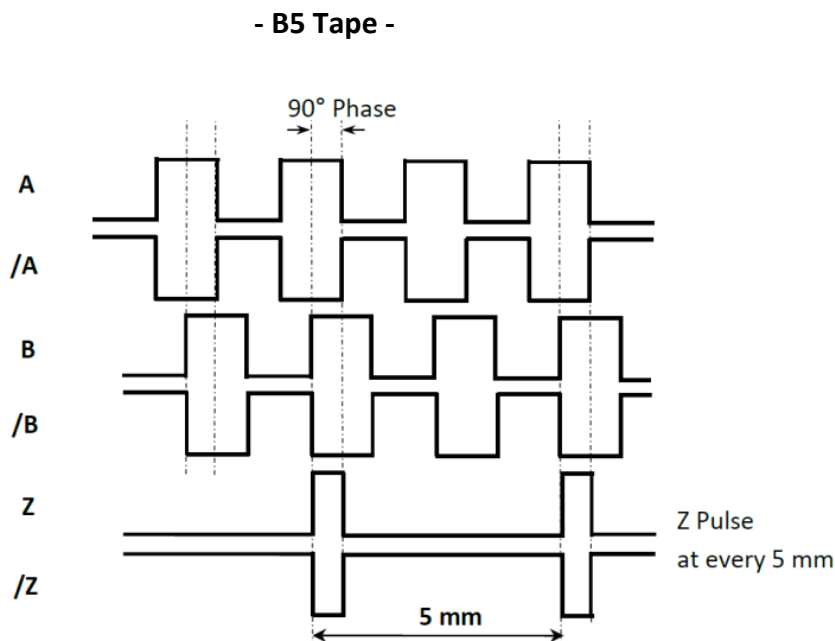
WARNING (!) The sensor and magnetic tape must be away from magnetic areas. The proximity of the band with comparator, magnet or similar instruments having a magnetic effect, disrupts the working structure of the band.

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 210



- [PS1 Profile System \(With scraper\)](#)
- [PS3 Profile System \(Without scraper\)](#)

1.

*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

S42 Connection (SINO) / 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

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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