



Linear optical readers series KD are accurate and reliable, especially suited for applications in severe industrial environments.

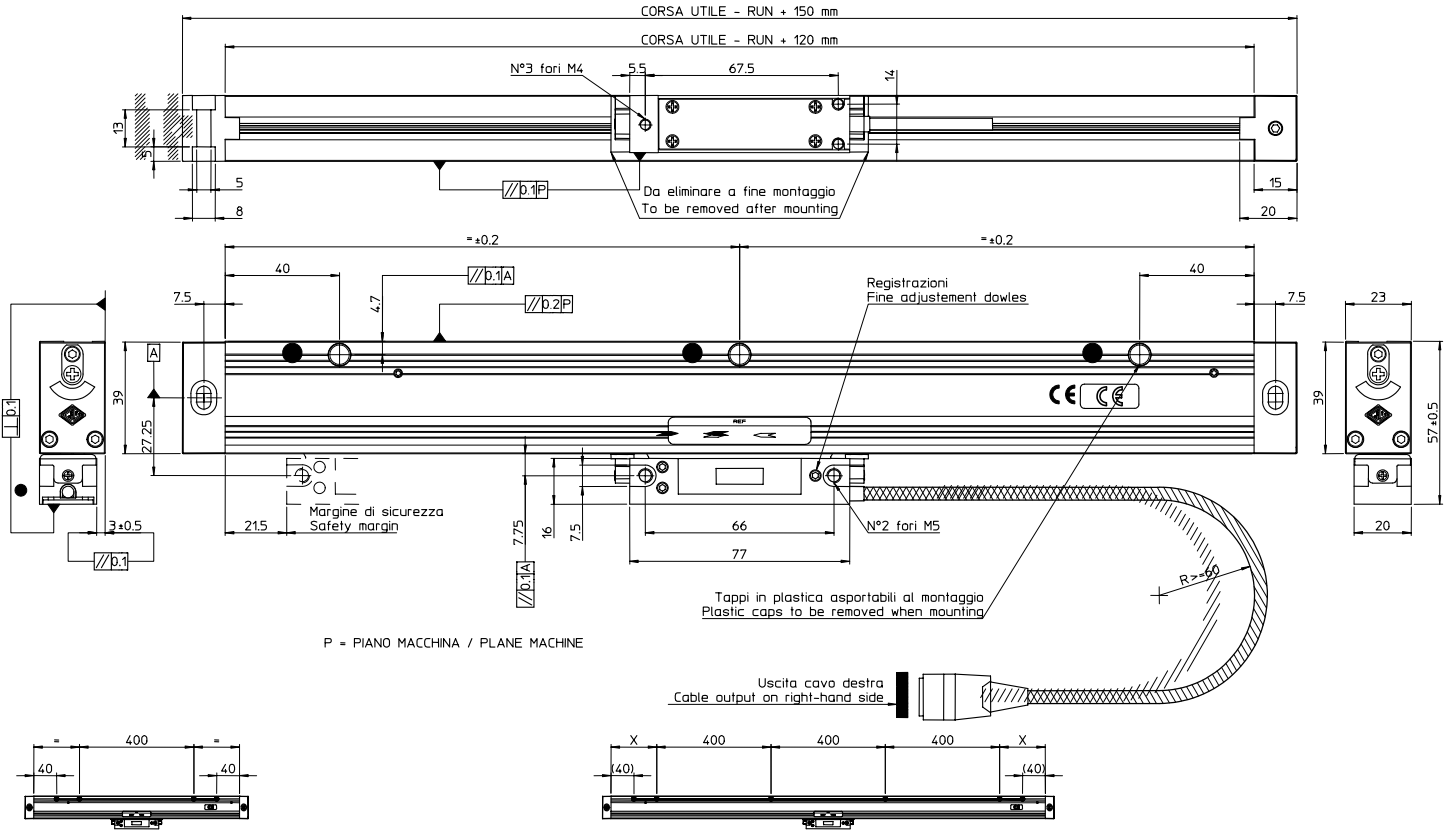
They can be profitably employed on machine tools (CNC, boring machines, planomillers, vertical lathes, punching machines.....) and on operating and automatic machines (eg. bending presses, cutting machines, beading machines).

**STROKES:** standard: 250 to 6500 mm; over 6500 mm: modular version

<b>Mechanical Specifications</b>	<b>KD10</b>	<b>KD100</b>	<b>KD200</b>	<b>KD1000</b>
Case	extruded aluminium			
Measuring element	out of stainless steel with thermal compensation			
Operating principle	photoelectric reading by reflection			
Dimensions	23 x 56.7 mm			
Total dimensions	stroke + 150 mm			
Grating pitch	400 µm	40 µm	20 µm	40 µm with inside divider by 10
Reading resolution after the external electronic quadrupling	0.1 mm	0.01 mm	0.005 mm	0.001 mm
Protections	anti-oil double gum sealing			
Accuracy (at 20°C)	± 0.010 mm/m	± 0.005 mm/m	± 0.003 mm/m	± 0.003 mm/m
Max. speed	120 m/min	80 m/min	60 m/min	25 m/min
Max. acceleration	40 m/sec. <sup>2</sup>	30 m/sec. <sup>2</sup>	30 m/sec. <sup>2</sup>	25 m/sec. <sup>2</sup>
Thermal expansion	ppm/°C/m = ± 10.6 T rif. 20°C ± 0.1°C			
Vibration resistance (10÷2000 Hz)	100 m/sec. <sup>2</sup>			
Shock resistance (11 ms)	≤ 150 m/sec. <sup>2</sup>			
Operating temperature	0÷50 °C relative humidity 20-80%			
Stocking temperature	-20÷70 °C			
Protection degree	standard IP54, pressured type IP64			

<b>Electrical Specifications</b>	<b>KD10</b>	<b>KD100</b>	<b>KD200</b>	<b>KD1000</b>
Zero pulse	1 zero reference at half measuring length (other positions on request)- type <b>1Z</b>			
Supply	standard: 12Vdc - 40 mA / on request: 5 Vdc 65 mA			5Vdc 65mA
Output signals	2 square waves 90° degree out of phase			
Electronic outputs	NPN pull-up collector/ optional 5 Vdc line driver			5Vdc line driver
Connections	standard cable with metal sheat 4 mt long			

## Mechanical Dimensions



P = PIANO MACCHINA / PLANE MACHINE

Forature per corse comprese tra 700 e 1100 mm  
Drilling diagram for runs between 700 and 1100 mm included

Per corse superiori a 1100 mm foratura passo 400  $\pm 0.2\ mm$  - Aggiungere due fori a 40 mm se  $X > 175\ mm$   
Drilling pitch is 400 mm when the run exceeds 1100 mm, add two holes at 40 mm when  $X > 175\ mm$



Optical linear scales series KP are accurate and reliable; thanks to their reduced dimensions they can be applied even on small-sized machine tools (millers, lathes, grinders, spark erosion machines..).

The possibility to adjust the scales in the mounting phase avoids any problem linked to mechanical alignment and results particularly useful in case of machines retrofitting.

**STROKES: 250 to 700 mm**

<i>Mechanical Specifications</i>	<b>KP10</b>	<b>KP100</b>	<b>KP200</b>
Case	extruded aluminium		
Measuring element	out of stainless steel with thermal compensation		
Operating principle	photoelectric reading by reflection		
Dimensions	20 x 41 mm		
Total dimensions	stroke + 154 mm		
Grating pitch	400 µm	40 µm	20 µm
Reading resolution after the external electronic quadrupling	0.1 mm	0.01 mm	0.005 mm
Accuracy (at 20°C)	± 0.010 mm/m	± 0.005 mm/m	± 0.003 mm/m
Max. speed	120 m/min	80 m/min	60 m/min
Max. acceleration	40 m/sec. <sup>2</sup>	30 m/sec. <sup>2</sup>	30 m/sec. <sup>2</sup>
Thermal expansion	ppm/°C/m = ± 10.6 T rif. 20°C ± 0.1°C		
Vibration resistance (10÷2000 Hz)	100 m/sec. <sup>2</sup>		
Shock resistance (11 ms)	≤ 150 m/sec. <sup>2</sup>		
Operating temperature	0÷50 °C relative humidity 20-80%		
Stocking temperature	-20÷70 °C		
Protection degree	standard IP53, pressured type IP64		

<i>Electrical Specifications</i>	<b>KP10</b>	<b>KP100</b>	<b>KP200</b>
Zero pulse	1 zero reference at half measuring length (other positions on request)- type <b>1Z</b>		
Supply	standard: 12Vdc - 40 mA / on request: 5 Vdc 65 mA		
Output signals	2 square waves 90° degree out of phase		
Electronic outputs	NPN pull-up collector/ optional 5 Vdc line driver		
Connections	standard cable with metal sheat 4 mt long		

