

## MD40 Optical Linear Encoders

The M-DRO MD40 Slim profile linear optical encoders suitable for a wide range of linear measurement applications on machine tools and inspection equipment. The small profile makes this ideal for a lathe cross slide. Available with reading lengths from 70mm to 570mm.

A rigid aluminum extrusion housing the high precision glass grating. The optical head optical sensors run on high precision micro roller bearings, for a smooth and long life operation.

Three metre flexible armoured cable with 9 Pin D type connector. Standard industrial full differential EIA RS422 line driver output signal with a reference every 50mm.

FOR MORE INFORMATION PLEASE VISIT:  
**WWW.MACHINE-DRO.CO.UK**



Optical Sensor



Test Report Included



MD60-220-1U  
S/N:454654645

Laser Etched with Model & Serial Number



EIA RS422 Output Signal as Standard



Slim profile ideal for lathe cross slide and limited space mounting

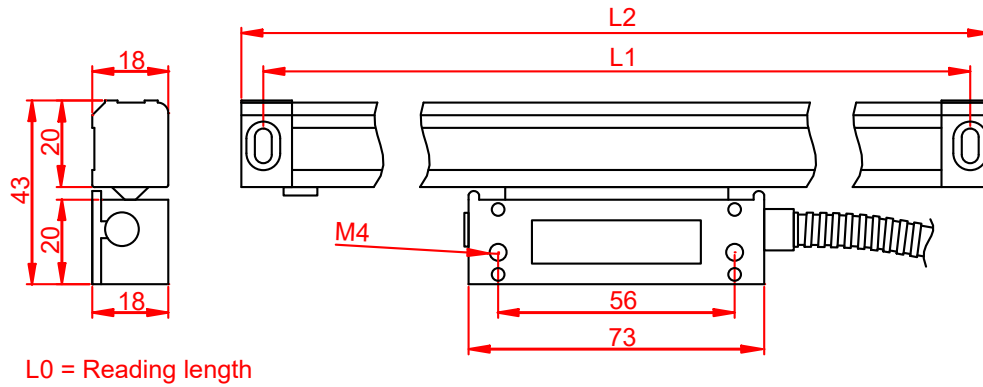
## Applications

- Ideal for lathe cross slides
- Manual milling machines
- Manual lathes
- Surface grinding machines
- Cylindrical grinders
- CNC machine centres
- CNC lathes and milling machines
- Industrial machines
- Inspection machines and equipment
- Optical projectors and comparators
- EDM
- Electrical discharge machines
- 3D printing machines
- Closed loop feedback

## Technical Specifications

Specifications	
<b>Encoder type</b>	Optical (glass grating)
<b>Resolution</b>	5um and 1um options
<b>Cable length</b>	3 metres flexible armored ( <i>extension cables available</i> )
<b>Scale length requirement</b>	Reading length +112mm
<b>Protection class</b>	IP53
<b>Output Signal</b>	5 volt RS422 Differential TTL Quadrature A, /A, B, /B, Z & /Z
<b>Reference mark</b>	Every 50mm
<b>Working temperature</b>	0 ~ 50°C
<b>Storage temperature</b>	-20 ~ 70°C
<b>Relative Humidity</b>	20% to 85% Non-condensing

## Dimensions



Part Number	L0	L1	L2	Part Number	L0	L1	L2	Part Number	L0	L1	L2
DRO-MD40-70	70	172	182	DRO-MD40-220	220	322	332	DRO-MD40-370	370	472	482
DRO-MD40-120	120	222	232	DRO-MD40-270	270	372	382	DRO-MD40-420	420	522	532
DRO-MD40-170	170	272	282	DRO-MD40-320	320	422	432	DRO-MD40-470	470	572	582

## MD40 Encoder Pin Outs

The MD40 outputs a 5 volt EIA422 differential TTL quadrature square wave with 90 degree phase difference.

PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9
A-	0v	B-	screen	Z-	A	+5V	B	Z

M-DRO adaptor cables and interfaces are available to allow simple replacement of damaged/faulty existing equipment for most DRO manufacturers. The plug in adaptors keep both the console and encoders standard. This allows for easy upgrade to M-DRO equipment should another part need replacing in the future.