

Standard DRO linear scales:

	Standard DRO linear encoders		Standard DRO&NC linear encoders	
Model Name	TGM 111	TGM 113/115	TGM 130/131	TGM 170
Model picture				
Output signals	SO=Sine voltage DI=square wave differential DO=square wave	SO=Sine voltage, DS=square wave differential RS422A DO=square wave	SI = 11mApp, SV = 1Vpp DS=square wave differential RS422A DO=square wave	SI = 11mApp, SV = 1Vpp DS=square wave differential RS422A DO=square wave
Engraving pitch	20mm or 40mm	20mm or 40mm	20mm or 40mm	20mm or 40mm
Resolution	Available: 1mm, 2mm, 5mm, 10mm,	Available: 0.5mm, 1mm, 2mm, 5mm, 10mm	Available: 0.5mm, 1mm, 2mm, 5mm, 10mm	Available: 0.5mm, 1mm, 2mm, 5mm, 10mm
Accuracy (at 20°C/68°F)	±3 mm (Lm<520mm), ±5 mm, ±10 mm	±3 mm (Lm<520mm), ±5 mm, ±10 mm	±3 mm, ±5 mm, ±10 mm	±3 mm, ±5 mm, ±10 mm
Light source	IR LED	IR LED	IR LED	IR LED
Photo detector	Photo transistor		Solar Cell	
Cross section	20x32mm (47,6mm)	16,3x29mm (45mm)	18x32mm (46mm)	37x51,5mm (77.5mm)
Measuring length [mm]	70,120,170,220,270,320, 370, 420, 470, 520, 570, 620, 670, 720, 770, 820, 920, 1020, 1120 (max for TGM113), TGM111: up to 2020mm TGM113: up to 1120mm TGM115: up to 1720mm TGM130: up to 1240mm TGM131: up to 2040mm TGM170: up to 3040mm		70,120,170,220,270,320, 370, 420, 470, 520, 570, 620, 670, 720, 770, 820, 920, 1020, 1140, 1240 (max for TGM130 and TGM131 without mounting bar), 1340, 1440, 1540, 1640, 1740, 1840, 2040 (max for TGM131 with mounting bar), 2240, 2440, 2640, 2840, 3040 (max for TGM170)	
Reference Mark	Reference Marks: TGM111: optionally each 100 mm TGM113/115: optionally each 50 mm,		Reference Marks: TGM130: : optionally each 50 mm TGM131/170: optionally each 50 mm or Distance coded: Passing two adjacent reference marks that are max. 20 mm apart from each other reproduces absolute position.	
Operating temperature	0 °C to +50°C, (32°F to 122°F)		0 °C to +50°C, (32°F to 122°F)	
Storage temperature	-30°C to +70°C, (-22°F to 158°F)		-30°C to +70°C, (-22°F to 158°F)	
Humidity range	30% to 90% (no condensation)		30% to 90% (no condensation)	
Protective design grade (class)	Normal: IP53; with Air Purge: IP64		Normal: IP53; with Air Purge: IP64	
Atmosphere	Corrosive gas should not be contained in the atmosphere		Corrosive gas should not be contained in the atmosphere	
Vibration resistance (max vibration)	30 m/s ²		30 m/s ²	
Shock resistance (max shock)	100m/s ²		100 m/s ²	
Max. Response speed	45 m/min		60 m/min	
Power supply	+5 V ± 5%		+5V±5%	
Power consumption	130 mA max.		130 mA max.	
Cable length:	3m standard, available up to 50m		3m standard, SI: up to 20m DS: DO: up to 50m SV: up to 150m	