

# Linear and Rotary Glass Scales

MicroE Systems offers a wide array of chrome on glass scales. Easy to install, choose from standard linear and rotary scales, or customized linear, rotary, and rotary segment scales where needed. Use linear glass scales when you need the highest accuracy.

## Glass Scale Options

- Standard linear: 10mm - 1m (consult MicroE for longer lengths)
- Standard rotary: 44mm - 121mm diameter, with or without hubs
- Custom linear\*: special lengths, widths, thickness, index mark locations, pre-printed index and limits, and special low CTE materials
- Custom rotary\*: special ID's, OD's (up to 304.8mm), index mark inside the main track and special low CTE materials
- Mounting of hubs for rotary scales: MicroE Systems can mount and align standard, custom, or customer-supplied hubs
- Rotary segments\*: any angle range; wide range of radius values

\*Custom scales or rotary segments are available in OEM quantities. Contact your local MicroE Systems sales office.

## Linear Glass Scales

The index is bi-directional, operates at all encoder speeds, and is repeatable to 1LSB.

The scale length that you specify for your application must be calculated as follows.

$$\text{Glass Scale Length} = \text{Measuring Length} + 5\text{mm}$$

Example: A Measuring Length of 25mm is required, and limits will not be used. Scale Length = 25mm + 5mm = 30mm.

Index mark location and limit mark lengths can be customer-specified. Contact MicroE Systems.

## Standard Short Linear Scales

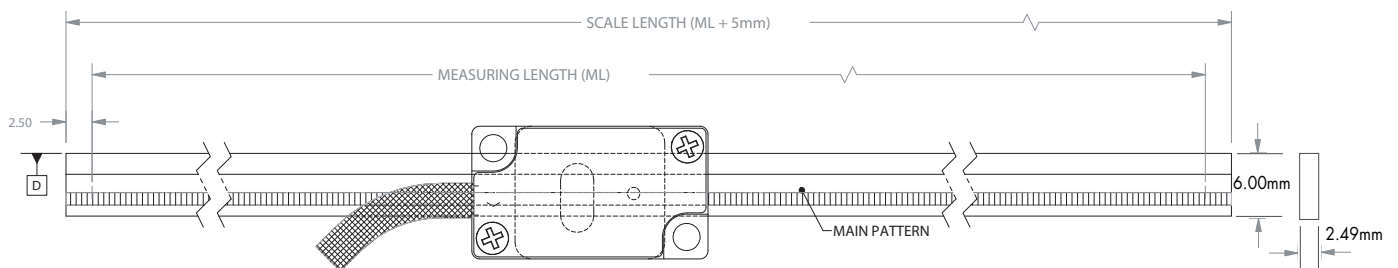
130mm and Shorter

Dimensions in mm.

### Specifications

Accuracy	±1.5µm standard accuracy grade ±1µm available (high accuracy grade)
Material	Soda lime glass
Typical CTE	8ppm/°C (Ultra-low CTE glass available)

Order the required Scale Length using model number MIIxxxx where xxxx = Scale length in mm (10mm - 1000mm). Example: (30mm Linear Glass Scale): MII030.



**D** = Mounting Surface Reference Edge

Note: The following are only examples; you can order any size.

Model	MII018	MII030	MII055	MII080	MII105	MII130
<b>Scale Length</b>	18mm	30mm	55mm	80mm	105mm	130mm
<b>Measuring Length - Without Limits</b>	13mm	25mm	50mm	75mm	100mm	125mm
<b>Measuring Length - With Limits</b>	N/A	N/A	15mm	40mm	65mm	90mm

Custom scales available, including scales with pre-printed index and limits

# Linear Glass Scales

## Standard Long Linear Scales

131mm and Longer (Dimensions in mm.)

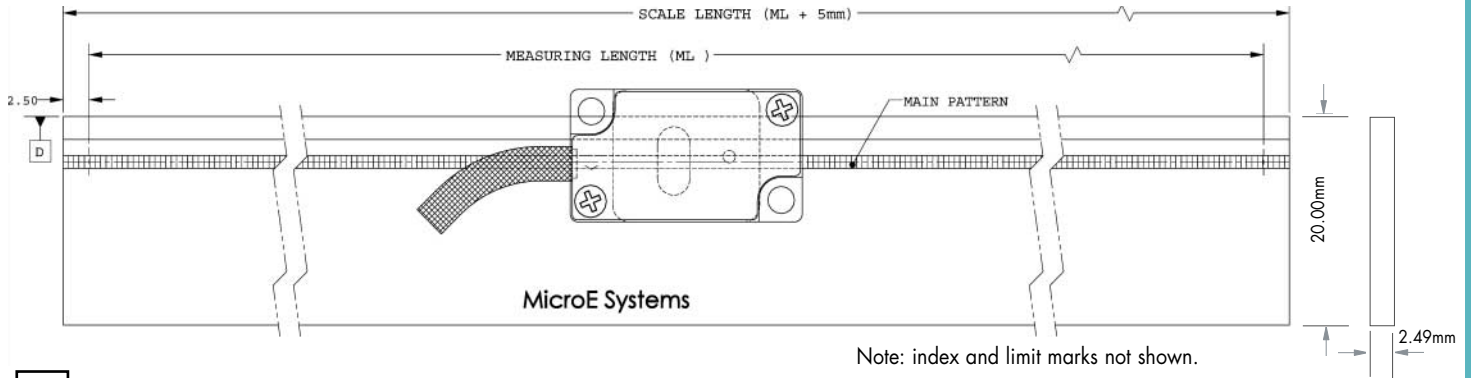
### Specifications

Accuracy	±5µm standard accuracy grade ±2µm available (high accuracy grade)
Material	Soda lime glass
Typical CTE	8ppm/°C (Ultra-low CTE glass available)

Order the required Scale Length using model number MIILxxxx where xxxx = Scale length in mm (10mm - 1000mm).

Example: (225mm Linear Glass Scale): MIIL225. Contact MicroE Systems for lengths greater than 1m.

Index mark location and limit mark lengths can be customer-specified. Contact MicroE Systems.



**D** = Mounting Surface Reference Edge

Note: The following are only examples; you can order any size.

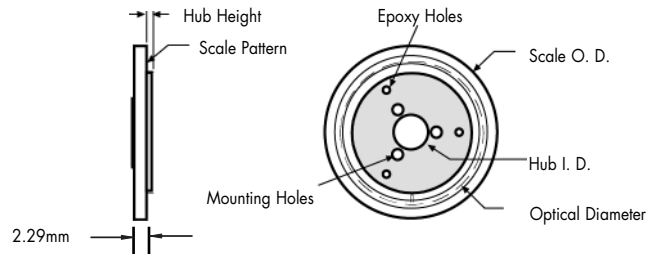
Model	MIIL155	MIIL225	MIIL325	MIIL425	MIIL525	MIIL1000
Scale Length	155mm	225mm	325mm	425mm	525mm	1000mm
Measuring Length - Without Limits	150mm	220mm	320mm	420mm	520mm	995mm
Measuring Length - With Limits	115mm	185mm	285mm	385mm	485mm	960mm

# Rotary Glass Scales with Built-in Index

## Standard Rotary Scales

### Specifications

Material	Soda lime glass
Typical CTE	8ppm/°C



Dimensions in mm

Model No.	Fundamental CPR	Scale Outer Diameter	Scale Inner Diameter	Optical Diameter	Hub Inner Diameter +0.013mm/-0.0000	Hub Height
MIIR4513	5000	44.45mm	12.70mm	31.83mm	6.358mm	1.27mm
MIIR6425	8192	63.50mm	25.40mm	52.15mm	12.708mm	1.52mm
MIIR12151	16384	120.65mm	50.80mm	104.30mm	25.408mm	2.03mm

Custom scales are available including larger diameters