

# Spline Micrometers

## SERIES 331, 111



(Refer to the page 9 for details.)

### FEATURES

- IP65 water/dust protection (series 331).
- The anvil and spindle have a small diameter for measuring splined shafts, slots, and keyways.
- With Ratchet Stop for constant force.
- With SPC output (series 331).



331-251



111-115

### Technical Data

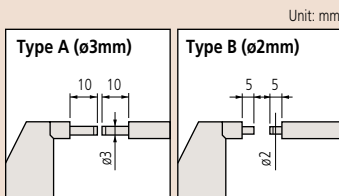
Accuracy: Refer to the list of specifications.  
(excluding quantizing error for digital models)  
Resolution\*: 0.001mm or .00005"/0.001mm  
Graduation\*\*: 0.01mm, .001" or .0001"  
Flatness: 0.3μm  
Parallelism: (2+R/100)μm, R = max. range (mm)  
\*fraction rounded up  
Measuring faces: Carbide tipped  
Display\*: LCD  
Battery\*: SR44 (1 pc.), **938882**  
Battery life\*: Approx. 1.2 years under normal use  
Dust/Water protection level\*: IP65  
\*Digital models \*\*Analog models

### Function of Digital Model

Origin-set, Zero-setting, Data hold, Automatic power ON/OFF, Data output, inch/mm conversion (inch/mm models)  
Alarm: Low voltage, Counting value composition error

### Optional Accessory for Digital Model

**05CZA662**: SPC cable with data switch (1m)  
**05CZA663**: SPC cable with data switch (2m)



### SPECIFICATIONS

Metric	Digital model	Accuracy	Remarks
0 - 25mm	<b>331-251</b>	±2μm	Type A
	<b>331-261</b>	±2μm	Type B
25 - 50mm	<b>331-252</b>	±2μm	Type A
	<b>331-262</b>	±2μm	Type B
50 - 75mm	<b>331-253</b>	±2μm	Type A
	<b>331-263</b>	±2μm	Type B
75 - 100mm	<b>331-254</b>	±3μm	Type A
	<b>331-264</b>	±3μm	Type B

Inch/Metric	Digital model	Accuracy	Remarks
0 - 1"	<b>331-351</b>	±.0001"	Type A
	<b>331-361</b>	±.0001"	Type B
1" - 2"	<b>331-352</b>	±.0001"	Type A
	<b>331-362</b>	±.0001"	Type B
2" - 3"	<b>331-353</b>	±.0001"	Type A
	<b>331-363</b>	±.0001"	Type B
3" - 4"	<b>331-354</b>	±.00015"	Type A
	<b>331-364</b>	±.00015"	Type B

Metric	Order No.	Accuracy	Remarks
0 - 25mm	<b>111-115</b>	±3μm	Type A
	<b>111-215</b>	±3μm	Type B
25 - 50mm	<b>111-116</b>	±3μm	Type A
	<b>111-117</b>	±3μm	Type A
50 - 75mm	<b>111-117</b>	±3μm	Type A
	<b>111-118</b>	±4μm	Type A
75 - 100mm	<b>111-118</b>	±4μm	Type A
	<b>111-119</b>	±4μm	Type A
100 - 125mm	<b>111-119</b>	±4μm	Type A
	<b>111-120</b>	±4μm	Type A
125 - 150mm	<b>111-120</b>	±4μm	Type A
	<b>111-121</b>	±5μm	Type A
150 - 175mm	<b>111-121</b>	±5μm	Type A
	<b>111-122</b>	±5μm	Type A
175 - 200mm	<b>111-122</b>	±5μm	Type A

Inch	Order No.	Accuracy	Remarks
0 - 1"	<b>111-166*</b>	±.00015"	Type A
1" - 2"	<b>111-142</b>	±.00015"	Type A
2" - 3"	<b>111-143</b>	±.00015"	Type A

\*.0001" reading is obtained with vernier.

### DIMENSION

**Digital model**

Range	L	a	b	c
0 - 25mm*	58.2	17.5	7.3	32
25 - 50mm*	83.2	17.5	10.1	47
50 - 75mm*	108.2	17.5	11.5	60
0 - 25mm	55.3	17.8	10	38
25 - 50mm	80.3	17.8	12	49
50 - 75mm	105.3	17.8	14	60

\*Digital models

**Digital model**

Range	L	a	b	c
75 - 100mm*	132.8	17.5	16.7	76.5
75 - 100mm	132.8	20.3	17	79
100 - 125mm	158.2	20.7	19	94
125 - 150mm	183.6	21.1	20	106
150 - 175mm	208.8	21.3	19	118
175 - 200mm	234.2	21.7	18	130

\*Digital models