



**Starrett**® 121 Crescent Street  
Athol, MA 01331  
www.starrett.com

MODEL	MLC-50K	S/N:	459447A
CAPACITY	50 kN	OUTPUT:	4.227 mV/V

**LOAD CELL SENSORS**

## LOAD CELL SENSORS

Starrett offers a full range of precision load cell sensors for material testing, force analysis and force measurement applications. Starrett load cells are compliant with IEEE 1451.4 and meet or exceed ASTM E4, BS 1610, ISO 7500-1 and EN 10002-2.

Measurement accuracies of  $\pm 0.05\%$  of reading down to 1/100 of sensor capacity may be achieved. Sensors are supplied with a NIST-traceable Certificate of Calibration.

### BLC LOAD CELL SENSORS

Starrett BLC load cell sensors are full-bridge, temperature compensated, strain gage instruments designed and optimized for basic force testing applications. These S-beam sensors feature high axial stiffness and minimal deflection at full capacity which leads to improved measurement accuracy.

The BLC sensors are general purpose sensors available in capacities from 2lbf to 500lbf (10 to 2500N). These sensors are used exclusively with FMM motorized test frames.



**BLC - Basic Force Measurement S-beam Sensors**

Model No.	Load Capacity			Safe Overload % Full Scale	Full Scale Deflection		Height		Width		Thread mm
	N	KGF	LBF		in	mm	in	mm	in	mm	
BLC-2	10	1	2	150	0.009	0.22	3.0	76.2	3.0	76.2	M6 x 1-6H
BLC-5	20	2	5	150	0.008	0.21	3.0	76.2	3.0	76.2	M6 x 1-6H
BLC-10	50	5	10	150	0.007	0.18	3.0	76.2	3.0	76.2	M6 x 1-6H
BLC-20	100	10	20	150	0.007	0.18	2.0	50.8	2.0	50.8	M6 x 1-6H
BLC-50	250	25	50	150	0.006	0.15	2.0	50.8	2.0	50.8	M6 x 1-6H
BLC-100	500	50	110	150	0.003	0.08	2.0	50.8	2.0	50.8	M6 x 1-6H
BLC-200	1000	100	225	150	0.003	0.08	2.0	50.8	2.0	50.8	M6 x 1-6H
BLC-500	2500	250	550	150	0.005	0.13	2.0	50.8	2.0	50.8	M12 x 1.75-5H

#### NOTES

Load measurement accuracy is  $\pm 0.1\%$  of load cell capacity. Display resolution is 10,000:1.

Starrett recommends on-site verification of accuracy during installation. Sensor calibration should be performed at least annually.



### MLC LOAD CELL SENSORS

The Starrett MLC load cell sensors are full-bridge, temperature compensated, strain gage instruments designed and optimized for material testing applications. These low profile sensors feature high axial stiffness and minimal deflection at full capacity which leads to improved measurement accuracy.

The MLC are general purpose sensors available in capacities from 125N to 50kN. For FMS, MMS, FMD, or MMD test frames.

**MLC Series - Low Profile Sensors**

Model Number	Load Capacity			Safe Overload % Full Scale	Full Scale Deflection		Height <sup>1</sup>		Width		Thread mm
	N	KGF	LBF		mm	inch	mm	inch	mm	inch	
MLC-125	125	12.5	28	150	0.08	0.003	38.1	1.5	69.8	2.75	M6 x 1-6H
MLC-250	250	25	56	150	0.08	0.003	38.1	1.5	69.8	2.75	M6 x 1-6H
MLC-500	500	50	112	150	0.08	0.003	38.1	1.5	69.8	2.75	M6 x 1-6H
MLC-1000	1000	100	225	150	0.08	0.003	38.1	1.5	69.8	2.75	M6 x 1-6H
MLC-1500	1500	150	337	150	0.03	0.001	63.51	2.51	104.8	4.13	M16 x 2-4H
MLC-2500	2500	250	562	150	0.03	0.001	63.51	2.51	104.8	4.13	M16 x 2-4H
MLC-5K	5000	500	1124	150	0.03	0.001	63.51	2.51	104.8	4.13	M16 x 2-4H
MLC-10K	10,000	1000	2248	150	0.03	0.001	63.51	2.51	104.8	4.13	M16 x 2-4H
MLC-25K	25,000	2500	5620	150	0.05	0.002	63.51	2.51	104.8	4.13	M16 x 2-4H
MLC-50K	50,000	5000	11,250	150	0.05	0.002	63.51	2.51	104.8	4.13	M16 x 2-4H

#### NOTES

<sup>1</sup> Dimension includes the base adapter. These MLC sensors are supplied with the base adapter standard. Base adapters are recommended for any MLC sensor.

Load measurement accuracy is  $\pm 0.05\%$  of reading down to 1/100 of load cell capacity. Display resolution is 10,000:1.

Starrett recommends on-site verification of accuracy during installation. Sensor calibration should be performed at least annually.

# LOAD CELL SENSORS

## FLC LOAD CELL SENSORS

Three models of s-beam load cell sensors are also available. These are all full bridge, temperature compensated strain gage instruments, designed for force measurement applications, but suitable for some material testing applications. For FMS, MMS, FMD, or MMD test frames.

### PREMIUM MODELS

Ideal for low load applications, these sensors have a safe overload rating of 1000% of the sensor's load capacity.

### SEALED MODELS

These models are suitable for applications in non-laboratory environments where dirt, oil, dust and debris may be present.

### ECONOMY MODELS

When price is an issue, these general purpose load cell sensors are economical and suitable for most general purpose force measurement applications.



FLC-P Series - "Premium" S-beam Sensors												
Model Number	Load Capacity			Safe Overload % Full Scale	Full Scale Deflection		Height		Width		Thread mm	
	N	KGf	LBF		mm	inch	mm	inch	mm	inch		
FLC-5P	5	0.5	1	1000	0.4	0.014	63.0	2.48	59.2	2.33	M6 x 1-6H	
FLC-10P	10	1	2	1000	0.3	0.012	63.0	2.48	59.2	2.33	M6 x 1-6H	
FLC-25P	25	2.5	5	1000	0.3	0.012	63.0	2.48	59.2	2.33	M6 x 1-6H	
FLC-50P	50	5	11	1000	0.2	0.009	63.0	2.48	59.2	2.33	M6 x 1-6H	
FLC-100P	100	10	22	1000	0.2	0.009	63.0	2.48	59.2	2.33	M6 x 1-6H	
FLC-250P	250	25	56	1000	0.2	0.009	63.0	2.48	59.2	2.33	M6 x 1-6H	

**NOTES**  
Load measurement accuracy is  $\pm 0.1\%$  of load cell capacity. Display resolution is 10,000:1.  
Starrett recommends on-site verification of accuracy during installation. Sensor calibration should be performed at least annually.

FLC Series - "Sealed" S-beam Sensors												
Model Number	Load Capacity			Safe Overload % Full Scale	Full Scale Deflection		Height		Width		Thread mm	
	N	KGf	LBF		mm	inch	mm	inch	mm	inch		
FLC-500	500	50	112	150	0.10	0.004	63.0	2.5	50.8	2.0	M6 x 1-6H	
FLC-1000	1000	100	225	150	0.15	0.006	63.0	2.5	50.8	2.0	M6 x 1-6H	
FLC-2000	2000	200	450	150	0.13	0.005	76.2	3.0	50.8	2.0	M12 x 1.75-5H	
FLC-2500	2500	250	562	150	0.13	0.005	76.2	3.0	50.8	2.0	M12 x 1.75-5H	
FLC-5KN	5000	500	1124	150	0.13	0.005	76.2	3.0	50.8	2.0	M12 x 1.75-5H	

**NOTES**  
Load measurement accuracy is  $\pm 0.1\%$  of load cell capacity. Display resolution is 10,000:1.  
Starrett recommends on-site verification of accuracy during installation. Sensor calibration should be performed at least annually.

FLC-E Series - "Economy" S-beam Sensors												
Model Number	Load Capacity			Safe Overload % Full Scale	Full Scale Deflection		Height		Width		Thread mm	
	N	KGf	LBF		mm	inch	mm	inch	mm	inch		
FLC-50E	50	5	11	150	0.08	0.003	63.5	2.5	50.8	2.0	M6 x 1-6H	
FLC-100E	100	10	22	150	0.08	0.003	63.5	2.5	50.8	2.0	M6 x 1-6H	
FLC-200E	200	20	45	150	0.08	0.003	63.5	2.5	50.8	2.0	M6 x 1-6H	
FLC-500E	500	50	112	150	0.10	0.004	63.5	2.5	50.8	2.0	M6 x 1-6H	
FLC-1000E	1000	100	225	150	0.15	0.006	63.5	2.5	50.8	2.0	M6 x 1-6H	
FLC-2000E	2000	200	450	150	0.15	0.006	76.2	3.0	50.8	2.0	M12 x 1.75-5H	
FLC-2500E	2500	250	562	150	0.13	0.005	76.2	3.0	50.8	2.0	M12 x 1.75-5H	
FLC-5000E	5000	500	1124	150	0.13	0.005	76.2	3.0	50.8	2.0	M12 x 1.75-5H	

**NOTES**  
Load measurement accuracy is  $\pm 0.1\%$  of load cell capacity. Display resolution is 10,000:1.  
Starrett recommends on-site verification of accuracy during installation. Sensor calibration should be performed at least annually.