



The S401 In-Line Load Cell is a strong and reliable bi-directional single-point OEM load cell.

Designed and built for in-line force measurement and press control applications using our 'Thin-Film' technology combined with a 5K Ω wheatstone bridge, the S401 provides extremely low power consumption and unmatched long term stability.

Available in 7 standard ranges from 25N up to 2000N. If your application requires a force sensor outside these parameters, please contact us and our engineering team will work to design a custom solution to meet your requirements.

PRODUCT SPECIFICATION*							
RANGES [N]	25	50	100	200	500	1000	2000
MAXIMUM SAFE LOAD [N]	50	100	200	400	750	1400	2500
DEFLECTION [μm]^[1]	11.234	9.271	9.513	8.379	10.242	11.996	14.288
NATURAL FREQUENCY [kHz]^[1]	12.431	19.260	18.130	27.419	39.348	51.911	63.440
BRIDGE CONFIGURATION	4-WIRE FULL BRIDGE						
BRIDGE RESISTANCE	5000 Ω NOMINAL						
RECOMMENDED EXCITATION VOLTAGE	10 V DC/AC [20 V MAX]						
INSULATION RESISTANCE	>1000 M Ω @ 50 V DC						
FULL SCALE OUTPUT [FSO]	2 MV/V NOMINAL						
ZERO BALANCE	\pm 0.3 MV/V [TIGHTER TOLERANCES AVAILABLE]						
REPEATABILITY	\pm 0.01% FSO						
LINEARITY	\pm 0.03% FSO						
HYSTERESIS	\pm 0.03% FSO						
TEMPERATURE EFFECT ON ZERO	\pm 0.6 μ V/V/ $^{\circ}$ C [TIGHTER TOLERANCES AVAILABLE]						
TEMPERATURE EFFECT ON SPAN	\pm 0.03% READING/ $^{\circ}$ C [TIGHTER TOLERANCES AVAILABLE]						
OPERATING TEMPERATURE	-40 $^{\circ}$ C TO +140 $^{\circ}$ C						
SUBSTRATE MATERIAL	15-5PH STAINLESS STEEL [25N & 50N ALSO AVAILABLE IN ALUMINIUM – PLEASE SEE ALUMINIUM SPECIFIC DATASHEET]						
CABLE	CUSTOMER SPECIFIC						

*Strain Measurement Devices adopts a continuous development program which can result in specification.
 [1] Theoretical nominal values

SPECIAL FEATURES

- **LOW PROFILE**
- **LOW POWER CONSUMPTION**
- **LOW HYSTERESIS**
- **LONG TERM STABILITY**

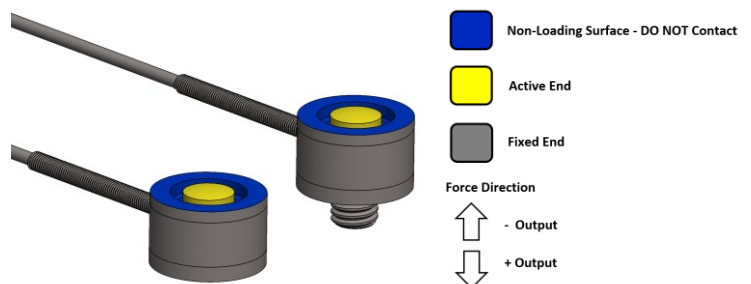
KEY SPECIFICATIONS

- **5K Ω BRIDGE**
- **0.01% REPEATABILITY**
- **UPTO 200% SAFE OVERLOAD**
- **0.08%/YEAR DRIFT**

APPLICATIONS

- **ORTHOOPAEDIC INSTRUMENTS**
- **HYDRAULIC FORCE CONTROL**
- **PRESS TOOL**
- **PRINTING**
- **PROCESS CONTROL**

Please observe the diagram below when considering fitment into your application.



Europe:
 Strain Measurement Devices Ltd
 Bury Road, Chedburgh
 Bury St. Edmunds
 IP29 4UQ
 United Kingdom
 Email: sales@smdsensors.co.uk
 P: +44 (0) 1284 852 000
 F: +44 (0) 1284 852 371

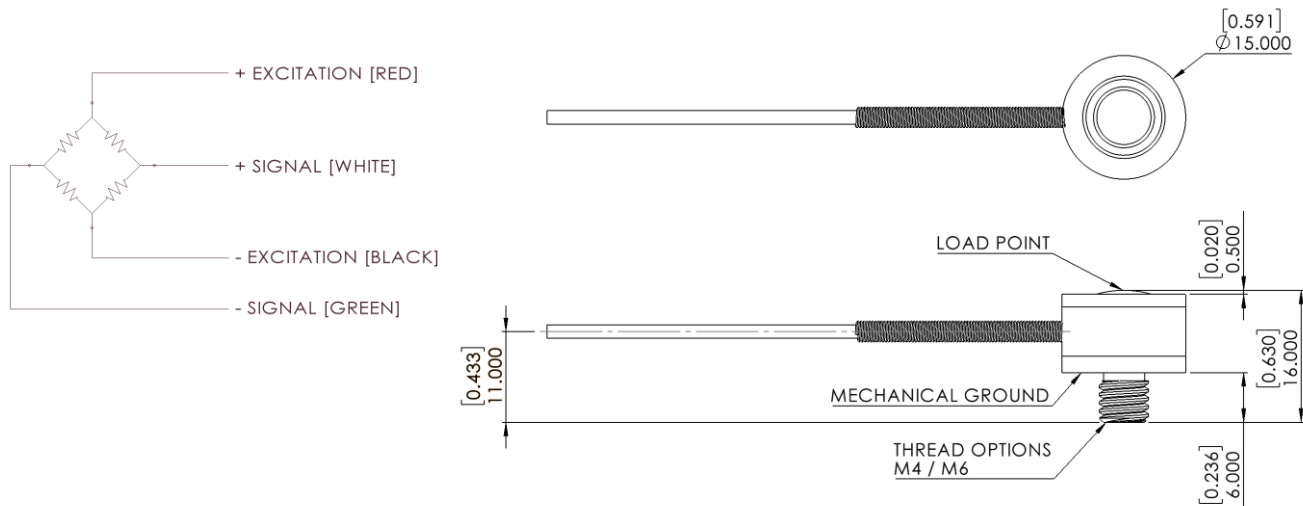
USA:
 Strain Measurement Devices Inc
 55 Barnes Park North
 Wallingford
 CT 06492
 USA
 Email: askus@smdsensors.com
 P: +1 (0) 203 294 5800
 F: +1 (0) 203 265 0544



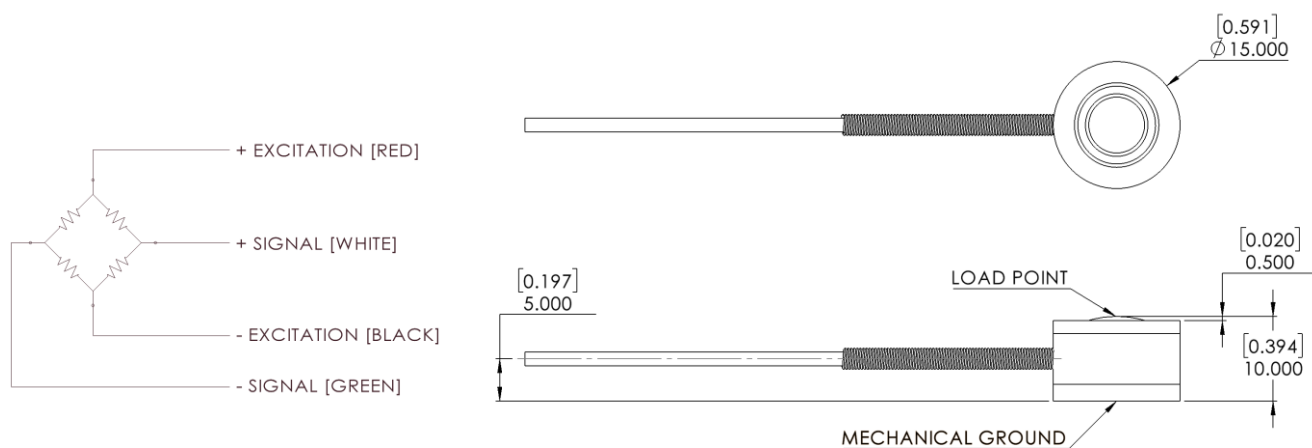
SCHEMATICS

DIMENSIONS IN [INCHES]
MM

THREADED HOUSING OPTION



PLAIN NON-THREADED HOUSING OPTION



Europe:
 Strain Measurement Devices Ltd
 Bury Road, Chedburgh
 Bury St. Edmunds
 IP29 4UQ
 United Kingdom
 Email: sales@smdsensors.co.uk
 P: +44 (0) 1284 852 000
 F: +44 (0) 1284 852 371

USA:
 Strain Measurement Devices Inc
 55 Barnes Park North
 Wallingford
 CT 06492
 USA
 Email: askus@smdsensors.com
 P: +1 (0) 203 294 5800
 F: +1 (0) 203 265 0544



PART NUMBER GENERATOR	122-6604-1	X	X
	PRODUCT NUMBER 122-6604-1 = S401		
RANGE [N]			
1 = 100			
2 = 200			
3 = 500			
4 = 1000			
5 = 2000			
6 = 25			
7 = 50			
FIXED END CONFIGURATION CODE			
1 = UNTHREADED [PLAIN HOUSING]			
2 = M4 [25N - 500N RANGES ONLY]			
4 = M6			

Example : A **1000N** Load Cell with an **M6** Housing

Part Number : 122-6604-144

Europe:
 Strain Measurement Devices Ltd
 Bury Road, Chedburgh
 Bury St. Edmunds
 IP29 4UQ
 United Kingdom
 Email: sales@smdsensors.co.uk
 P: +44 (0) 1284 852 000
 F: +44 (0) 1284 852 371

USA:
 Strain Measurement Devices Inc
 55 Barnes Park North
 Wallingford
 CT 06492
 USA
 Email: askus@smdsensors.com
 P: +1 (0) 203 294 5800
 F: +1 (0) 203 265 0544

