

Sunrise Instruments Calibration Report

Address: 2nd Floor Building B2 19#Keyuan Xishi Road Nanning Guangxi Province China 530007

Phone: +86 771-389-9499 Fax: +86 771-389-9497

Email: sri@srisensor.com



Calibration Report

Calibration No.	SRI-V-260123-Y	Cal Date	2026/1/23
Model No.	M4313M2B	Serial No.	32653
Technician	Wei jing xian	Temp(C)/Hum.(%).	22.0 / 65.0
Customer	北京易如精智医学技术有限公司	Excitation(V)	5.0000
Description	6 AXIS FORCE SENSOR	Cable Length	
Comments			

Voltage Calibration

<u>Bridge</u>	<u>Capacity</u>	<u>Zero Offset</u>	<u>Nonlinearity</u>	<u>Hysteresis</u>	<u>Output @ Capacity</u>	<u>Sensitivity</u>
	N/Nm	N	%FS	%FS	V	V/EU
FX	100	-3.3465	0.32	0.34	DECOUPLE	
FY	100	2.7166	0.36	0.32		
FZ	-100	-1.0008	0.23	0.45		
MX	-8	-0.0217	0.20	0.21		
MY	8	0.0482	0.37	0.34		
MZ	8	0.1514	0.33	0.37		

Wire Color Codes

FUNCTION

+EXC

+SIG

-EXC

-SIG

Sensor ID

ID Return

CONNECTOR

Reference Load Cell

<u>Manufacturer</u>	<u>Model Type</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Cal Due Date</u>
SUNRISE	GOLDEN TYPE	M3001	121	2026/8/6

Calibrated by

Approved by

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Model No.	M4313M2B	Serial No.	32653
Technician	Chen Feng Sheng	Temp(C)/Hum.(%).	22.0 / 65.0
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Description	6 AXIS FORCE SENSOR	Cable Length	
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CROSSTALK

<u>Bridge</u>	<u>Load</u>	<u>FX</u>	<u>FY</u>	<u>FZ</u>	<u>MX</u>	<u>MY</u>	<u>MZ</u>
	N/Nm	% FS	% FS	% FS	% FS	% FS	% FS
FX	100	0.00	0.36	0.16	0.13	0.30	0.89
FY	100	0.60	0.00	0.27	0.15	0.41	0.36
FZ	-100	0.60	0.32	0.00	0.18	0.41	1.03
MX	-8	0.84	0.51	0.51	0.00	0.73	0.34
MY	8	1.18	0.40	0.54	0.30	0.00	1.91
MZ	8	0.60	0.38	0.41	0.17	0.64	0.00

Bridge to Transducer body resistance greater than 5G Ohm when measured with 50V excitation

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SENSOR TYPE B ----- OUTPUT UNRELATED TO EXCITATION VOLTAGE.

Decoupled Matrix

[DECOUPLED] =

0.00169	0.26133	0.00493	0.12589	-0.00706	-0.13458	-0.00134	-0.25512
-0.02790	-0.22835	0.03383	0.22302	-0.02185	0.16140	0.02438	-0.15911
0.22616	0.00258	0.15915	-0.00471	0.22500	0.00404	0.16077	-0.00243
-0.00488	0.00259	-0.00416	-0.00155	0.00428	0.00298	0.00453	-0.00389
0.00514	-0.00408	-0.00510	0.00261	-0.00365	-0.00176	0.00389	0.00323
0.00287	-0.00682	-0.00246	0.01365	0.00268	-0.00717	-0.00276	0.01372

The six axis loads can be decoupled as follows:

Step 1: Obtain the raw data of Channels 1 through 8 into mV
[DAT] = {rawchn1, rawchn2, rawchn3, rawchn4, rawchn5, rawchn6, rawchn7, rawchn8}
where rawchn1, rawchn2, rawchn3, rawchn4, rawchn5, rawchn6 , rawchn7 and rawchn8 are in mV

Step 2: To calculate decoupled loads
[RESULT]T = [DECOUPLED]*[DAT]T
where [RESULT] = {FX,FY,FZ,MX,MY,MZ}. Force Unit: N. Moment Unit: Nm
[DECOUPLED] is the above decoupled matrix