

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-251201-ZD	Cal Date	2025/12/1
Model No.	M3552C	Serial No.	25678
Technician	Wei Jing Xian	Temp(C)/Hum.(%).	25/70
Customer	搭配M8134B SN0015	Excitation(V)	5.0000
Description	6 AXIS FORCE SENSOR	Cable Length	80mm
Comments	搭配M8134B SN0015		

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>	<u>Change</u>
	N/Nm	V	%FS	%FS	V	V/EU	%
FX	-300	0.0000	0.17	0.47			
FY	300	0.0000	0.14	0.54			
FZ	-500	0.0000	0.14	0.40			
MX	-4.5	0.0000	0.20	0.53		DECOUPLE	
MY	-4.5	0.0000	0.13	0.74			
MZ	4.5	0.0000	0.29	0.34			

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	2026/7/20

Calibrated by

Approved by

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Technician	Wei Jing Xian	Temp(C)/Hum.(%).	25/70
Customer	深圳康诺思腾科技有限公司	Excitation(V)	5.0000
Description	6 AXIS FORCE SENSOR	Cable Length	80mm
Comments			

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	-300	0.00	0.14	0.08	0.01	0.46	0.14
FY	300	0.04	0.00	0.05	0.15	0.01	0.17
FZ	-500	0.13	0.15	0.00	0.31	0.27	0.02
MX	-4.5	0.06	0.06	0.10	0.00	0.04	0.04
MY	-4.5	0.15	0.12	0.13	0.11	0.00	0.15
MZ	4.5	0.08	0.11	0.01	0.02	0.06	0.00

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

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SENSOR TYPE A ----- OUTPUT RELATED TO EXCITATION VOLTAGE.

Decoupled Matrix

[DECOUPLED] =

-194.37980	-4.57578	1.88000	0.71547	193.80100	8.29252
110.47185	3.01377	-231.00000	-5.80611	115.01907	2.79921
0.06933	127.07846	-4.02100	128.50526	2.35292	127.37379
0.02660	-1.21000	-0.03942	-0.08350	0.04170	1.15000
-0.05767	0.68900	0.01867	-1.44000	0.03738	0.69900
-2.18000	-0.03146	-1.94000	-0.06183	-1.97000	-0.07505

The six axis loads can be decoupled as follows:

Step 1: Obtain the raw data of Channels 1 through 6 into Volt

[RAW] = {rawchn1, rawchn2, rawchn3, rawchn4, rawchn5, rawchn6}

where rawchn1, rawchn2, rawchn3, rawchn4, rawchn5 and rawchn6 are in V

Step 2: Convert the raw data into mV/V

Assume the raw data output in Volt, Excitation voltage = EXC, Amplifier gain = GAIN

[DAT] = {chn1, chn2, chn3, chn4, chn5, chn6} * 1000 / (EXC * GAIN)

where chn1, chn2, chn3, chn4, chn5 and chn6 are in mV/V

Step 3: 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