

Sunrise Instruments Calibration Report

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

Calibration No.	SRI-V-260114-ZB	Cal Date	2026/1/14
Model No.	M4347BC	Serial No.	22842
Technician	Wei Jing Xian	Temp(C)/Hum.(%).	20/54
Customer		Excitation(V)	5.7000
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>	<u>Change</u>
	N/Nm	V	%FS	%FS	V	V/EU	%
FX	4000	0.0000	0.24	0.44			
FY	-4000	0.0000	0.23	0.33			
FZ	-4000	0.0000	0.17	0.25			
MX	800	0.0000	0.08	0.15		DECOUPLE	
MY	800	0.0000	0.07	0.21			
MZ	800	0.0000	0.10	0.25			

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	SRI_4500N	3097	2026.04.14

Calibrated by

Wei Jing xian

Approved by

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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	4000	0.00	0.04	0.03	0.00	0.03	0.03
FY	-4000	0.03	0.00	0.02	0.01	0.00	0.03
FZ	-4000	0.01	0.01	0.00	0.00	0.01	0.02
MX	800	0.06	0.08	0.05	0.00	0.02	0.06
MY	800	0.05	0.02	0.06	0.01	0.00	0.02
MZ	800	0.12	0.03	0.07	0.08	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] =	6452.78834	15.64196	-22.70395	100.12822	-13.80028	-27.43909
	-6.77232	6423.62963	49.10792	-10.95060	-116.38368	58.13271
	-56.90177	0.36301	6264.67303	5.31351	9.51179	-10.12163
	-0.60578	-2.31175	2.44682	333.55954	-1.01103	11.33930
	-5.77132	-0.70250	-4.40441	-1.35701	-336.54071	-6.89947
	-6.09721	5.93178	-28.43561	0.16878	2.04334	1098.47629

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