

Sunrise Instruments Calibration Report

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

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Email: sri@srisensor.com



Calibration Report

Calibration No.	SRI-V-251109-A	Cal Date	2025/11/9
Model No.	M3552D1	Serial No.	33689
Technician	Wei Jing Xian	Temp(C)/Hum.(%).	24/63
Customer	钛虎机器人科技 (上海)	Excitation(V)	5.0000
Description	6 AXIS FORCE SENSOR	Cable Length	1.4 m
Comments	搭配M8123B2 SN0536		

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	-600	0.0000	0.05	0.15			
FY	600	0.0000	0.06	0.21			
FZ	-1000	0.0000	0.03	0.13			
MX	-9	0.0000	0.15	0.14		DECOUPLE	
MY	-9	0.0000	0.08	0.20			
MZ	9	0.0000	0.11	0.12			

Wire Color Codes

FUNCTION

+EXC

+SIG

-EXC

-SIG

CONNECTOR

Sensor ID

ID Return

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_1000N-1	30727	2026/6/30

Calibrated by

Wei Jing xian

Approved by

Zhou

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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	-600	0.00	0.16	0.07	0.02	0.29	0.58
FY	600	0.05	0.00	0.04	0.20	0.02	0.18
FZ	-1000	0.05	0.05	0.00	0.15	0.08	0.03
MX	-9	0.12	0.10	0.03	0.00	0.21	0.14
MY	-9	0.11	0.03	0.04	0.06	0.00	0.06
MZ	9	0.11	0.09	0.05	0.18	0.30	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] =

-396.26189	20.71612	2.90876	-3.88907	396.37185	11.60364
224.41013	-9.35548	-467.73137	4.31633	230.90796	8.33857
-0.96900	242.90284	-0.30532	248.86542	-0.02103	243.77251
0.05552	-2.08623	-0.09082	0.13260	0.02919	2.34208
-0.10220	1.12348	-0.08234	-2.67674	-0.02419	1.27942
-3.77956	0.11793	-3.66710	0.00731	-3.90548	-0.06551

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