

### SeL electronic deflection monitoring sensor

The SeL electronic deflection sensors provide accurate real-time visibility of structural displacement. Safe Roof Systems has updated the SeL series with touch pad functionality and 4core processing.

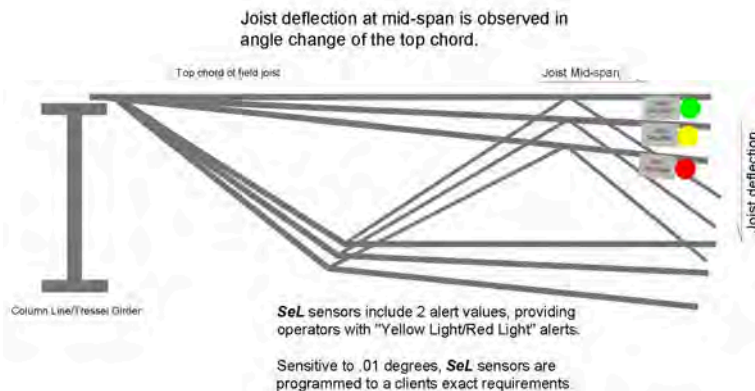
- 2 stage programmed alerts
- X & Y axis measurement
- Download data in .csv format
- Extreme environment tested
- .01 degree sensitivity



### Electronic deflection measurement

The SeL detects joist deflection by continuously measuring the top chord of a roof supporting member.

With measurement sensitivity to .01 degrees, each sensor can be programmed with 2 pre-set alarm values. This functionality provides "Yellow Light" and "Red Light" load alert notifications for each sensor location.



### SRS control panel – design functionality

The flexible design of the SRS system architecture allows the control panel to host a number of specialized monitoring devices. Our proprietary sensors are powered & supervised directly on the control panel; providing operators a single source for all event data & notifications.

Our systems continuously supervise each sensor device for functionality and alert status. The control panel reports all changes automatically and maintains an on-board data log.

*Safe Roof Systems has been installing Deflection Monitoring systems since the early 2000's. Our specialized technologies give facility managers real-time notification when roof loading requires action. SRS tells you when and precisely where snow removal is needed.*

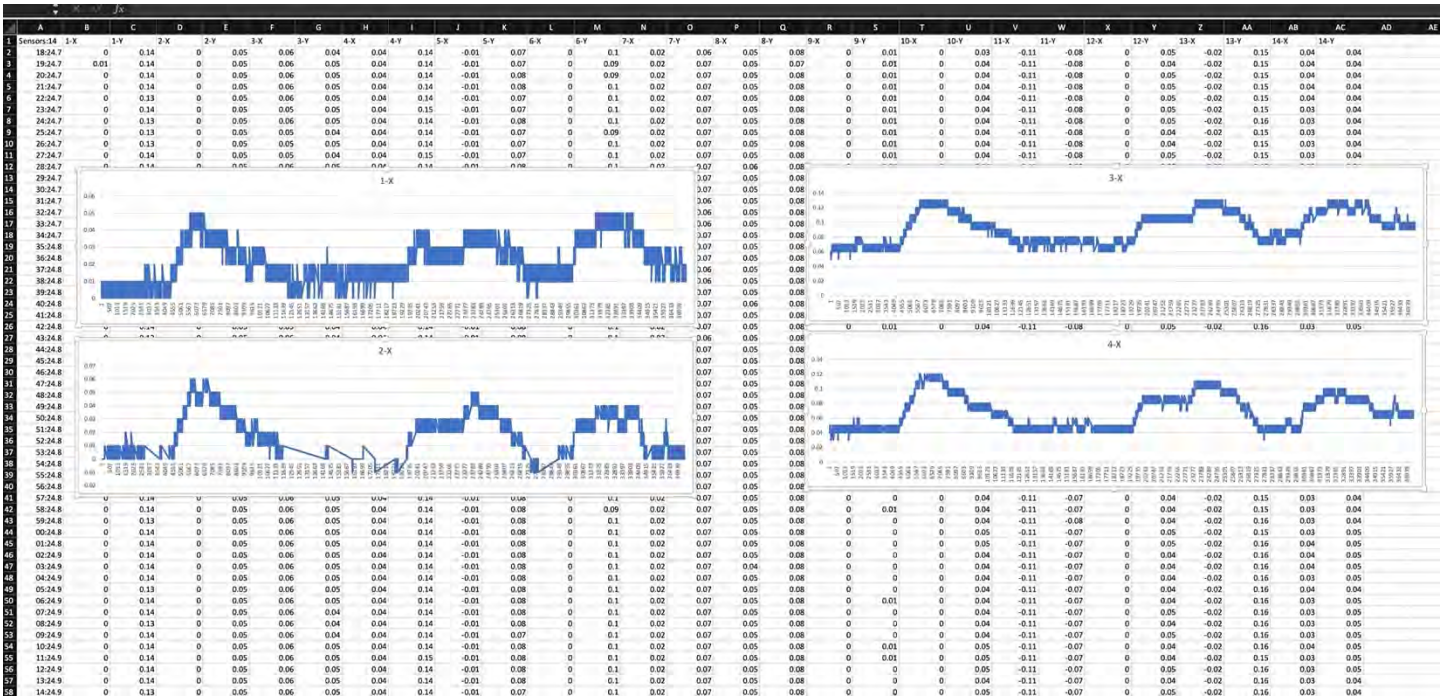
Predictive monitoring with **SRS** saves time & money every year

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# Log & graph roof performance

Know where and when Live Load mitigation is needed and scale actions safely to save time and reduce costs



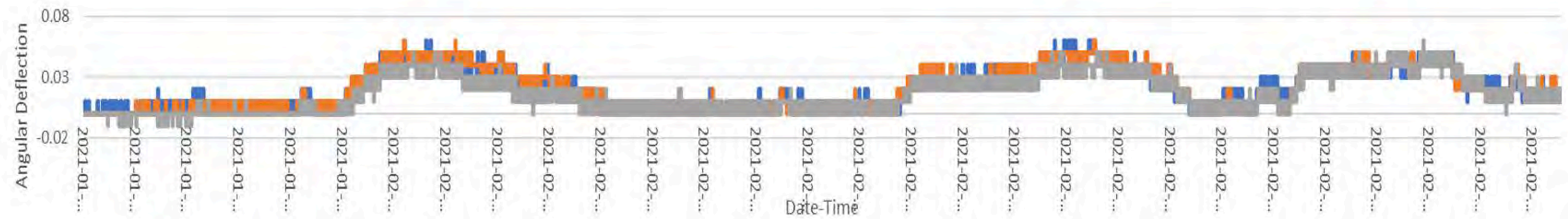
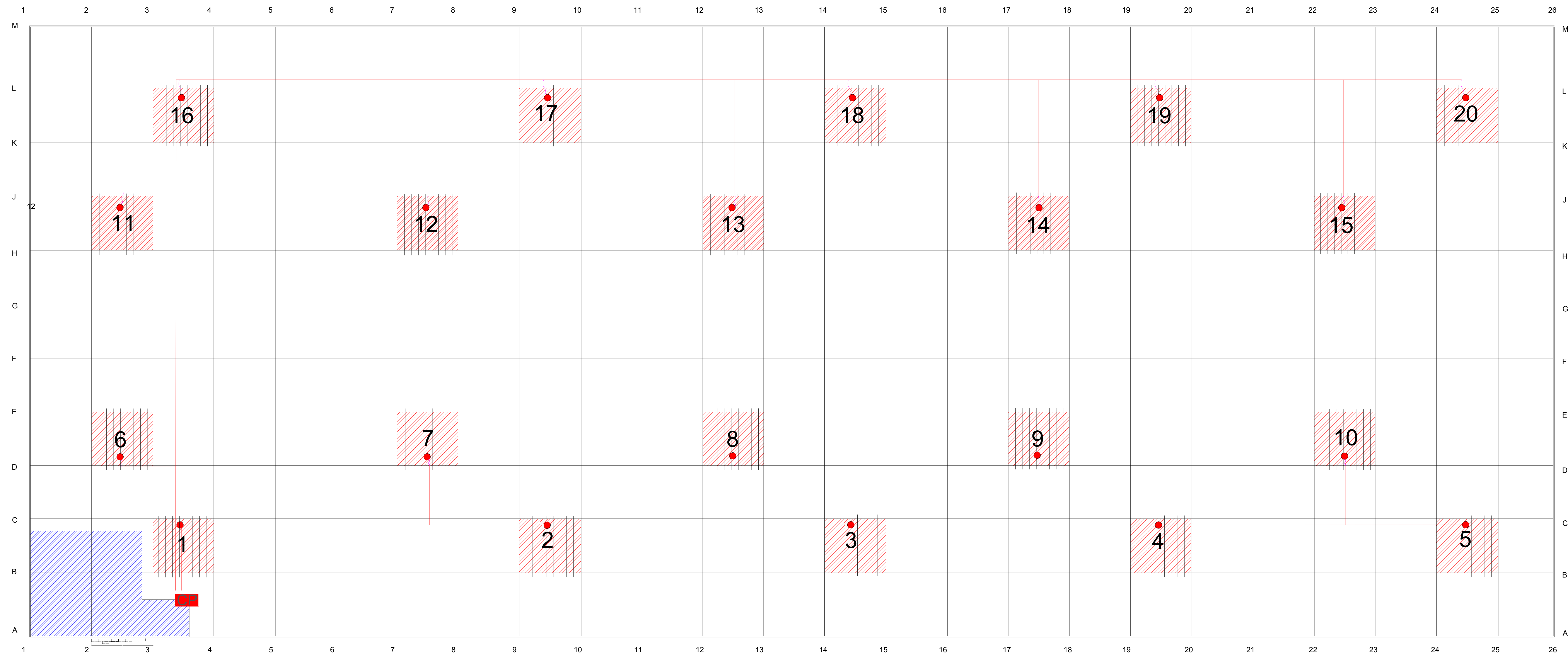
Actual data record from large scale DC during February 2021

Measuring roof deflection is the preferred method for evaluating roof performance and snow/ice burden. Engineers and experts measure joint deflection to determine how much load is on a roof. SRS roof sensors perform this automatically and continuously, providing property owners and facility managers year round visibility of changing conditions.



# See electronic roof deflection monitoring from Safe Roof Systems

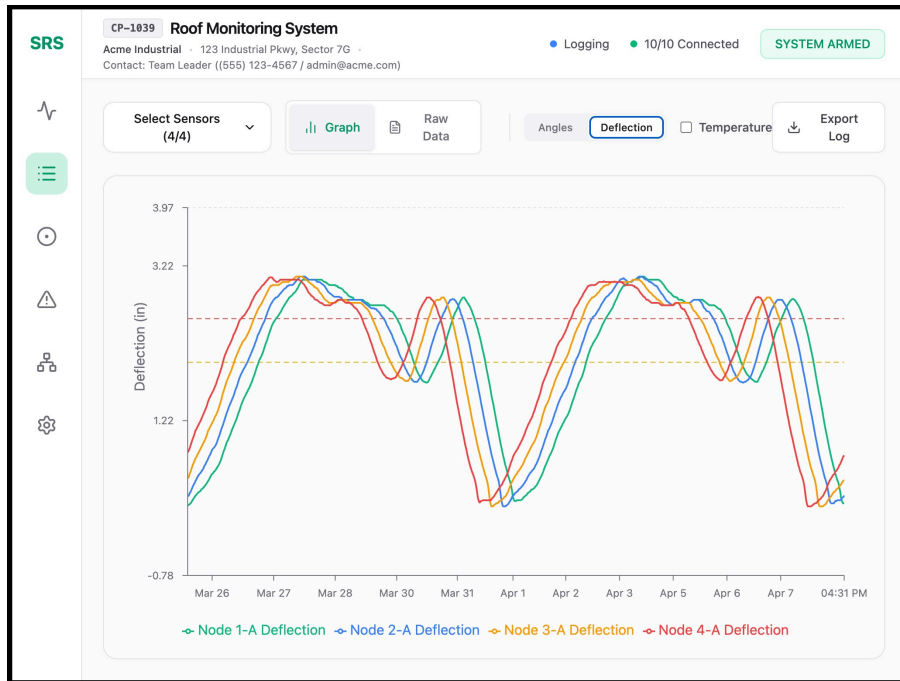
Example of system installation in a large scale building



Log deflection data over time for comprehensive visibility of roof loading

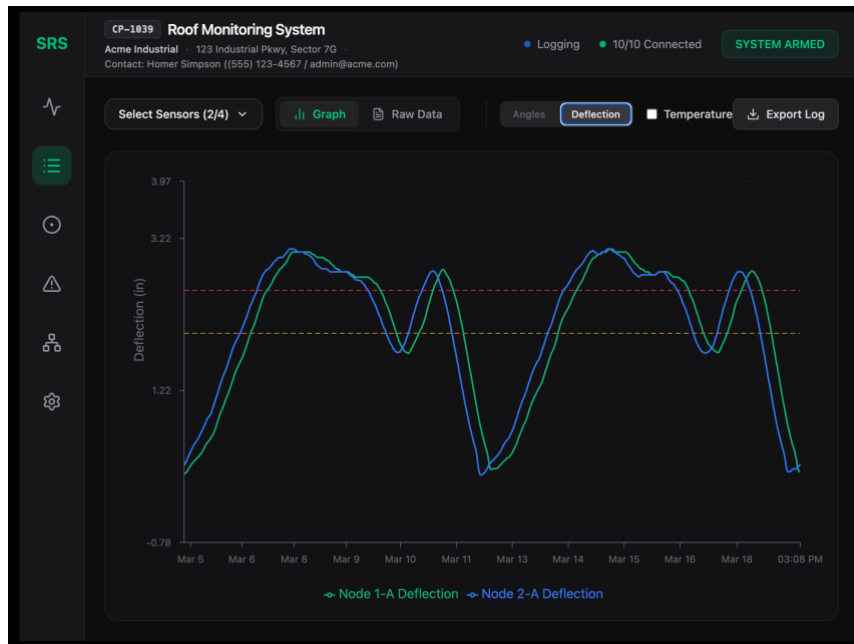
## Control panel HMI touch display

SeL electronic deflection sensors are continuously monitored at our control panel. The HMI displays the active X and Y axis and mid-span deflection reading for each sensor.



- Joist rotation and deflection values display on-screen in real time
- Sensor readings change color as alert trip values are reached.
- Know where and when to remove snow burden.
- Save time & money on snow removal & resulting roof repairs.

## SRS – HMI G5 on-screen data graphing



Real time on-screen data graphing

- Load progression graphing helps facility teams forecast roof load conditions and identify when and where snow removal is required
- Easily track load history





INSTALLATION OF DISPLAY TO BRACKET:  
(2) 10-32 X 5/8" SOCKET HEAD BOLTS

REMOVABLE MAGNETIC  
PLATE FOR TERMINAL  
ACCESS



**PORT A**

VS=24VDC OUTPUT  
2A MAX CURRENT DRAW  
  
GND  
  
C+ = CAN HIGH  
  
C- = CAN LOW

**PORT B**

VS=24VDC OUTPUT  
2A MAX CURRENT DRAW  
  
GND  
  
C+ = CAN HIGH  
  
C- = CAN LOW

**RELAY SPECIFICATIONS:**

FORM C RELAY WITH:  

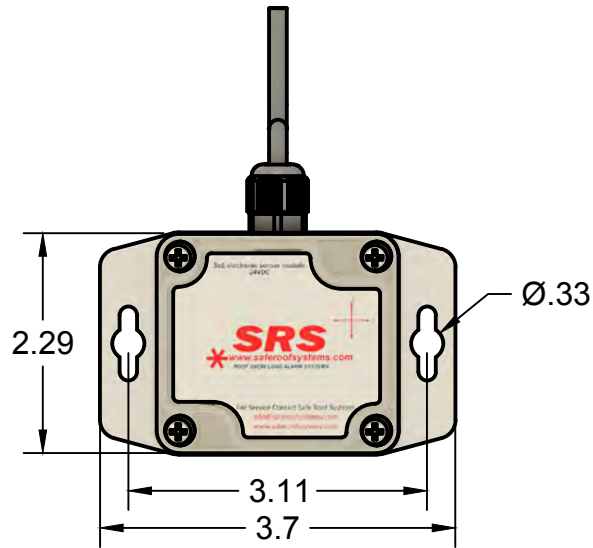
- NORMALLY OPEN
- NORMALLY CLOSED
- COMMON CONTACT

 MAX SWITCHING VOLTAGE: 220VDC, 250VAC  
 RATED CONTINUOUS CURRENT: 5A (AC/DC)  
 SWITCHING POWER: 60W, 62.5VA  
 MECHANICAL ENDURANCE: 10<sup>8</sup> OPERATIONS  
 OPERATE TIME: 1MS TYPICAL, 3MS MAX

		Safe Roof Systems 13 Industrial Drive Mattapoisett, MA.	DWG NO <b>AS2-01125</b>	REV <b>00</b>
			SHEET <b>2/2</b>	SCALE <b>1:2</b>
		TITLE <b>DISPLAY; SRS 8" HMI</b>		
DRAFTSMAN <b>JDM</b>	CHECK <b>JGS</b>	ENGINEER <b>JRK</b>	DATE <b>01/27/2025</b>	

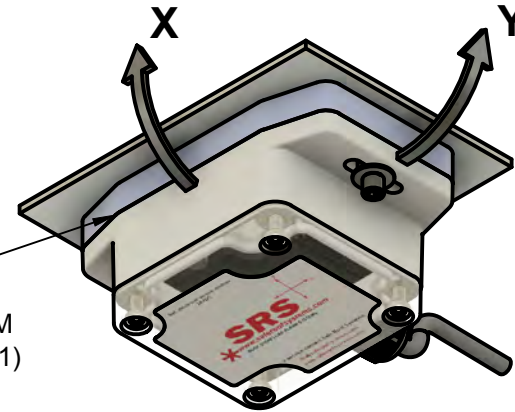
SAFE ROOF SYSTEMS INCLINOMETER - DAISY CHAIN PACKAGE

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	JRK



TYPICAL ROOFTOP MOUNTING

PMB-27971-001  
 SHOWN WITH ALUMINUM  
 MAGNETIC BASE - STD (1)  
 55LB MAGNET



OPERATING TEMP. -40 TO 85°C  
 TEMPERATURE COMPENSATED  
 ACCURACY : +/- 0.05° TYPICAL  
 MAX +/- 0.1° FULL TEMP RANGE  
 RESOLUTION: 0.01°  
 UPDATE RATE: 1HZ OR 1/SEC

REVERSE POLARITY PROTECTED  
 SHORT CIRCUIT PROTECTED TO GND  
 OVER VOLTAGE PROTECTED UP TO 60V  
 EPOXY ENCAPSULATED CIRCUIT  
 CURRENT DRAW: 25MA @24V  
 CE CERTIFIED / ROHS COMPLIANT

POLYCARBONATE ENCLOSURE:  
 IP67  
 IMPACT RESISTANT, UV STABILIZED  
 DESIGNED TO NEMA 1,2,4,4X,12,13  
 UL LISTED TO UL508-4X (UL FILE E194432)  
 FLAME RATING UL94-HB(UL FILE E41613)



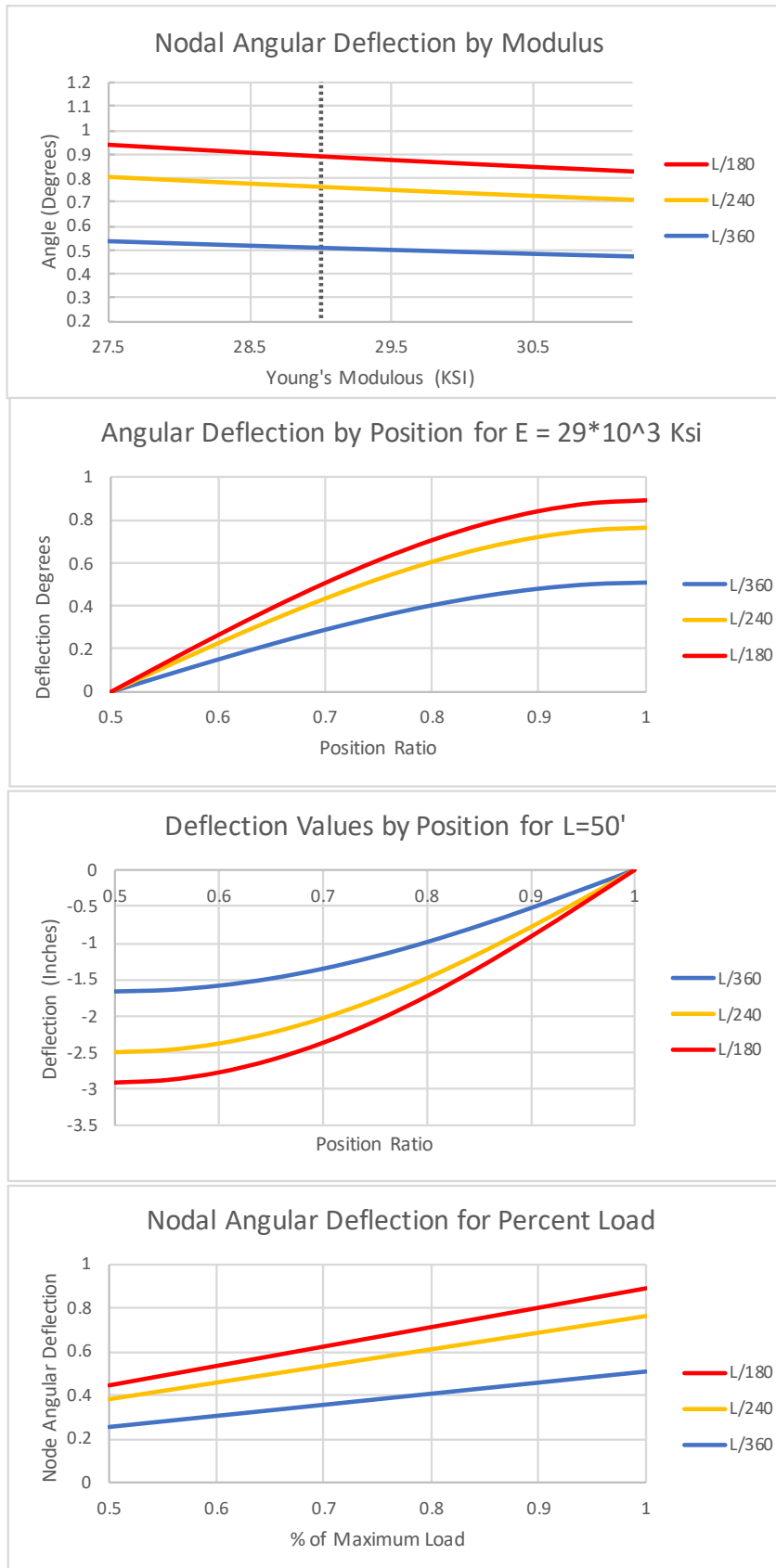
BELDEN 8444  
 22AWG - 20FT WHIP  
 BARE ENDS

WIRE CALLOUT

RED:6-40VDC      WHT:CAN\_H  
 BLK:GND          GRN:CAN\_L

MATERIAL	Polycarbonate	DO NOT SCALE DRAWING		TITLE SAFE ROOF SYSTEMS - HORIZONTAL / ROOFTOP MOUNT DUAL AXIS INCLINOMETER		
FINISH	N/A	SCALE 1:2				
TOLERANCE UNLESS OTHERWISE SPECIFIED		DRAWN JRK	DATE	CODE IDENT	DRAWING NUMBER CH-27971-012	REV A
DECIMAL .XX±.02		CHECKED				
DECIMAL .XXX±.005		SIZE A				
ANGLE±0°30'		SHEET 1 OF 1				

## Joist Deflection and associated Nodal angular deflection



example data: SJI 44th edition Standard Specifications, Load & Weight tables