

Certificate of Calibration

Model: CR1000

Serial Number: 19457

Temperature Option: Extended Temperature Tested

Test Panel Location: 1

CSI Calibration Number: 210517477

Calibration Procedures: TST12215A R14 TST12215C R21 PRC33A R24

Instrument Calibration Condition

Received Disposition: In Tolerance

Returned Disposition: In Tolerance

Recommended Calibration Schedule

If the customer has not requested a calibration interval, a non-mandatory recommended interval is provided. Based on past experience and assumed normal usage, it is recommended that this instrument be calibrated in accordance with the interval stated below to insure sustained accuracy and reliable performance.

Calibration Date: 17-May-21

Recommended Interval: 3 Years of Service

Report of Calibration Standards Used

Make/Model	Serial Number	Cal. Due Date	Trace Number
Krohn Hite 523	AF50066	24-Feb-22	AF50066
CSI Oscillator	08/20/24	12-Feb-22	08/20/24

Calibration Procedures

Voltage Excitation

Analog Input Ranges

Pulse Counters

System Power

Period Averaging

Control Ports

CSI certifies the above instrument meets or exceeds published specifications and has been calibrated using standards and instruments whose accuracies are traceable to the National Institute of Standards and Technology, an accepted value of a natural physical constant or a ratio calibration technique. The collective measurement uncertainty of the calibration process exceeds a 4:1 accuracy ratio. Policies and procedures at this facility comply with ISO-9001.

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Instrument Data Report

Analog Input Accuracy

S/N: 19457

Datalogger Option: Extended Temperature Tested

Range	Input (mV)	*Tolerance (mV)	Single-Ended (Full Scale)		Differential		Temp. (°C)
			As Received (mV)	As Returned (mV)	As Received (mV)	As Returned (mV)	
6	5000	±3	4999.26	4998.71	5000.00	4998.99	23.3
6	-5000	±3	-5000.07	-4999.44	-5000.00	-4998.99	23.3
5	2500	±1.5	N/A	N/A	2499.79	2499.91	23.3
4	250	±0.15	N/A	N/A	249.987	250.010	23.3
3	25	±0.015	N/A	N/A	25.000	25.001	23.3
2	7.5	±0.0045	N/A	N/A	7.500	7.498	23.3
1	2.5	±0.0015	N/A	N/A	2.499	2.499	23.3
1	-2.5	±0.0015	N/A	N/A	-2.499	-2.499	23.3
6	5000	±6	N/A	5001.60	N/A	5001.86	-25
6	5000	±6	N/A	4998.33	N/A	4999.50	50
6	5000	±9	N/A	5005.76	N/A	5004.75	-55
6	5000	±9	N/A	4995.12	N/A	4998.33	85

*Tolerance values are specified accuracy not including offset. Offset voltages are not included because an offset removal procedure is used to account for calibrator offset. Refer to CSI Process Control Document PRC7A.

Quiescent System Power

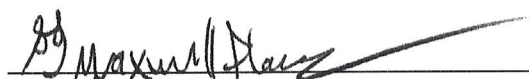
Typical (mA)	As Received (mA)	As Returned (mA)	Temp. (°C)
<1.0	0.53	0.65	23.3

Real-Time Clock

Tolerance (min/year)	As Returned (min/year)	Temp. (°C)
± 3 minutes	Within Tolerance	-55 to +85

Laboratory Environment

Temperature (°C)	Relative Humidity (%)
23.3	34.


Calibration Technician

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Certificate of Calibration

Model: CR1000

Serial Number: 80355

Temperature Option: Extended Temperature Tested

Test Panel Location: 3

CSI Calibration Number: 210517479

Calibration Procedures: TST12215A R14 TST12215C R21 PRC33A R24

Instrument Calibration Condition

Received Disposition: In Tolerance

Returned Disposition: In Tolerance

Recommended Calibration Schedule

If the customer has not requested a calibration interval, a non-mandatory recommended interval is provided. Based on past experience and assumed normal usage, it is recommended that this instrument be calibrated in accordance with the interval stated below to insure sustained accuracy and reliable performance.

Calibration Date: 17-May-21

Recommended Interval: 3 Years of Service

Report of Calibration Standards Used

Make/Model	Serial Number	Cal. Due Date	Trace Number
Krohn Hite 523	AF50066	24-Feb-22	AF50066
CSI Oscillator	08/20/24	12-Feb-22	08/20/24

Calibration Procedures

Voltage Excitation

Analog Input Ranges

Pulse Counters

System Power

Period Averaging

Control Ports

CSI certifies the above instrument meets or exceeds published specifications and has been calibrated using standards and instruments whose accuracies are traceable to the National Institute of Standards and Technology, an accepted value of a natural physical constant or a ratio calibration technique. The collective measurement uncertainty of the calibration process exceeds a 4:1 accuracy ratio. Policies and procedures at this facility comply with ISO-9001.

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Instrument Data Report

Analog Input Accuracy

S/N: 80355

Datalogger Option: Extended Temperature Tested

Range	Input (mV)	*Tolerance (mV)	Single-Ended (Full Scale)		Differential		Temp. (°C)
			As Received (mV)	As Returned (mV)	As Received (mV)	As Returned (mV)	
6	5000	±3	5000.49	5000.51	5000.00	5000.00	23.3
6	-5000	±3	-5000.87	-4999.49	-5000.00	-5000.00	23.3
5	2500	±1.5	N/A	N/A	2500.04	2500.34	23.3
4	250	±0.15	N/A	N/A	250.014	249.988	23.3
3	25	±0.015	N/A	N/A	25.002	25.002	23.3
2	7.5	±0.0045	N/A	N/A	7.498	7.500	23.3
1	2.5	±0.0015	N/A	N/A	2.500	2.500	23.3
1	-2.5	±0.0015	N/A	N/A	-2.500	-2.500	23.3
6	5000	±6	N/A	4997.66	N/A	4998.63	-25
6	5000	±6	N/A	5003.32	N/A	5003.42	50
6	5000	±9	N/A	4996.92	N/A	4996.22	-55
6	5000	±9	N/A	5002.72	N/A	5002.05	85

*Tolerance values are specified accuracy not including offset. Offset voltages are not included because an offset removal procedure is used to account for calibrator offset. Refer to CSI Process Control Document PRC7A.

Quiescent System Power

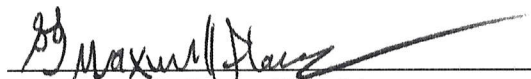
Typical (mA)	As Received (mA)	As Returned (mA)	Temp. (°C)
<1.0	0.49	0.55	23.3

Real-Time Clock

Tolerance (min/year)	As Returned (min/year)	Temp. (°C)
± 3 minutes	Within Tolerance	-55 to +85

Laboratory Environment

Temperature (°C)	Relative Humidity (%)
23.3	34.


Calibration Technician

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Certificate of Calibration

Model: CR1000

Serial Number: 35781

Temperature Option: Extended Temperature Tested

Test Panel Location: 2

CSI Calibration Number: 210517478

Calibration Procedures: TST12215A R14 TST12215C R21 PRC33A R24

Instrument Calibration Condition

Received Disposition: In Tolerance

Returned Disposition: In Tolerance

Recommended Calibration Schedule

If the customer has not requested a calibration interval, a non-mandatory recommended interval is provided. Based on past experience and assumed normal usage, it is recommended that this instrument be calibrated in accordance with the interval stated below to insure sustained accuracy and reliable performance.

Calibration Date: 17-May-21

Recommended Interval: 3 Years of Service

Report of Calibration Standards Used

Make/Model	Serial Number	Cal. Due Date	Trace Number
Krohn Hite 523	AF50066	24-Feb-22	AF50066
CSI Oscillator	08/20/24	12-Feb-22	08/20/24

Calibration Procedures

Voltage Excitation

Analog Input Ranges

Pulse Counters

System Power

Period Averaging

Control Ports

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Instrument Data Report

Analog Input Accuracy

S/N: 35781

Datalogger Option: Extended Temperature Tested

Range	Input (mV)	*Tolerance (mV)	Single-Ended (Full Scale)		Differential		Temp. (°C)
			As Received (mV)	As Returned (mV)	As Received (mV)	As Returned (mV)	
6	5000	±3	4999.03	5000.40	4997.99	4998.82	23.3
6	-5000	±3	-4998.28	-4998.58	-4998.66	-4999.33	23.3
5	2500	±1.5	N/A	N/A	2499.58	2499.74	23.3
4	250	±0.15	N/A	N/A	249.960	249.975	23.3
3	25	±0.015	N/A	N/A	24.998	24.999	23.3
2	7.5	±0.0045	N/A	N/A	7.500	7.502	23.3
1	2.5	±0.0015	N/A	N/A	2.500	2.499	23.3
1	-2.5	±0.0015	N/A	N/A	-2.499	-2.499	23.3
6	5000	±6	N/A	5000.98	N/A	5000.51	-25
6	5000	±6	N/A	4998.77	N/A	4998.33	50
6	5000	±9	N/A	5000.47	N/A	5002.04	-55
6	5000	±9	N/A	4997.77	N/A	4997.66	85

*Tolerance values are specified accuracy not including offset. Offset voltages are not included because an offset removal procedure is used to account for calibrator offset. Refer to CSI Process Control Document PRC7A.

Quiescent System Power

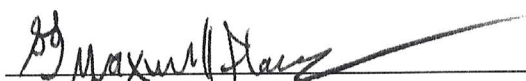
Typical (mA)	As Received (mA)	As Returned (mA)	Temp. (°C)
<1.0	0.58	0.64	23.3

Real-Time Clock

Tolerance (min/year)	As Returned (min/year)	Temp. (°C)
± 3 minutes	Within Tolerance	-55 to +85

Laboratory Environment

Temperature (°C)	Relative Humidity (%)
23.3	34.


Calibration Technician

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721 West 1800 North
Logan, UT 84321

Certificate of Calibration

LI-COR Pyranometer

Model LI-200R

Customer Name : Andrew Bliss
Serial Number : LI200R_PY100799
Calibration Date : 27-May-2021
Previous Calibration Date : 29-Jun-2017
Recommended Recalibration Date : 27-May-2023
Calibration Factor : 197.09 W m^{-2} per mV
Output : 71.1 μA per 1000 W m^{-2}
Calibration Factor as Received : 198.94 W m^{-2} per mV
Output as Received : 70.4 μA per 1000 W m^{-2}
Resistance (Measured) : 71.4 Ω
Change in Output : 0.9 %
Change in Output per Year : 0.2 %

Calibration Procedure

Calibration is based on a side-by-side comparison under high intensity discharge metal halide lamps using the mean of (4) LI-COR transfer standard pyranometers. LI-COR transfer standards are calibrated to the mean of at least (2) ISO-classified reference pyranometers under sunlight (clear sky conditions) in Logan, Utah. Each of the four ISO-classified reference pyranometers are recalibrated on an alternating year schedule (two instruments per year) at the National Renewable Energy Laboratory (NREL) in Golden, Colorado. NREL reference standards are calibrated to the World Radiometric Reference (WRR) in Davos, Switzerland.

Traceability

Reference Instrument	Serial Number	ISO 9060 Classification
EKO Instruments MS80*	S16088044	Spectrally Flat Class A
Kipp & Zonen CM11	060089	Spectrally Flat Class A
Kipp & Zonen CMP11	101625	Spectrally Flat Class A
Hukseflux SR20	2497	Spectrally Flat Class A
Li-Cor LI-200R	PY1002026	Fast Response Class C
Li-Cor LI-200R	PY1002027	Fast Response Class C
Li-Cor LI-200R	PY1002028	Fast Response Class C
Li-Cor LI-200R	PY1002029	Fast Response Class C

*MS80 purchased new in 2017. Initial calibration conducted by EKO Instruments with traceability to the World Radiometric Reference.

Technical Manager :

Jacob Bingham

Date : 27-May-2021

Please keep this document for your records

Certificate of Calibration

Model: 109

Serial Number: WO 272884

CSI Calibration Number: 673851

Calibration Date: 24-May-21

Instrument Data Report

Measurement Point #1

PRT Temperature	19.999 °C
Sensor Measurement	19.96 °C
Sensor Offset	-0.04 °C

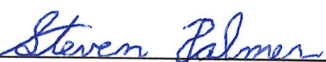
Measurement Point #2

PRT Temperature	-0.003 °C
Sensor Measurement	-0.05 °C
Sensor Offset	-0.04 °C

Report of Calibration Standards Used

Make/Model	Serial Number	Cal. Due Date	Trace Number
Fluke 1502	A67376	13-May-22	162N2623
CR1000	10142	26-Mar-24	010142

CSI certifies the above instrument meets or exceeds published specifications and has been calibrated using standards and instruments whose accuracies are traceable to the National Institute of Standards and Technology, an accepted value of a natural physical constant or a ratio calibration technique. The collective measurement uncertainty of the calibration process exceeds a 4:1 accuracy ratio. Policies and procedures at this facility comply with ISO-9001.



Calibration Technician

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Certificate of Calibration

Model: 109

Serial Number: WO 287964

CSI Calibration Number: 673852

Calibration Date: 24-May-21

Instrument Data Report

Measurement Point #1

PRT Temperature	19.999 °C
Sensor Measurement	20.00 °C
Sensor Offset	0.00 °C

Measurement Point #2

PRT Temperature	-0.003 °C
Sensor Measurement	-0.02 °C
Sensor Offset	-0.02 °C

Report of Calibration Standards Used

Make/Model	Serial Number	Cal. Due Date	Trace Number
Fluke 1502	A67376	13-May-22	162N2623
CR1000	10142	26-Mar-24	010142

CSI certifies the above instrument meets or exceeds published specifications and has been calibrated using standards and instruments whose accuracies are traceable to the National Institute of Standards and Technology, an accepted value of a natural physical constant or a ratio calibration technique. The collective measurement uncertainty of the calibration process exceeds a 4:1 accuracy ratio. Policies and procedures at this facility comply with ISO-9001.


 Calibration Technician

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TE525 CALIBRATION SHEET

RMA: 33572

Technician: Carlos Santos

Serial Number: 60613-714

Checkout Date: 5/19/2021

Funnel Size 8.00 in.

As Received Measurements

Tips Per 473mL Reservoir				
Nozzle #	1 st	2 nd	3 rd	Average
NB-4	56	58	59	57.67
Balance Error %	11.03	10.81	10.15	10.66

As Returned; Repair/Calibration Measurements

Tips Per 473mL Reservoir				
Nozzle #	1 st	2 nd	3 rd	Average
NB-6	57	57	57	57
Balance Error %	0.93	0.71	0.12	0.59

The average flow rate for the testing above is just under 2 in/hr or (50 mm/hr)



Calibration Technician

Funnel Inner Diameter	Funnel Area	Bucket Capacity	Rainfall Per Tip	Optimal Tips Per 473mL Reservoir	Acceptable Tips Per 473mL Reservoir (±1%) up to 1 in/hr	Acceptable Tips Per 473mL Reservoir (±3%) 1-2 in/hr
5.94 in.	27.71 in ²	4.54 mL	0.01 in.	104.2	103.1-105.5	101.1-107.3
6.064 in.	28.88 in ²	4.73 mL	0.01 in.	100.0	99.0-101.0	97.0-103.0
8.00 in.	50.27 in ²	8.25 mL	0.01 in.	57.3	56.8-57.9	55.6-59.1
9.664 in.	73.35 in ²	4.73 mL	0.1 mm.	100.0	99.0-101.0	97.0-103.0



RM Young Service Model 05103-L

RMA: 33572

Technician: Carlos Santos

Serial Number: 148016

Checkout Date: 5/20/2021

Accessories Received: Cable ☐ Vane ☒ Propeller ☐ Propeller Nut ☒ Mount Clamp ☐

Condition as received:	Bad potentiometer, worn/corroded propeller bearings and vertical bearings.
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Repairs		Additional Repair Notes
Replaced Prop Bearings... ☒	Replaced Propeller Nut... ☐	Accuracy: Wind Speed: ± 0.3 m/s (0.6 mph) or 1% of reading Wind Direction: $\pm 3^\circ$
Replaced Vertical Bearings ☒	Replaced Prop. Shaft w/Hub ☐	
Replaced Coil..... ☐	Replaced Nose Cone..... ☐	
Replaced Potentiometer... ☒	Replaced Lower Housing. ☐	
Aligned Potentiometer.... ☒	Replaced Circuit Board.... ☐	
Replaced Vane..... ☐	Repaired Cable..... ☐	
Replaced Propeller..... ☐	Replaced Cable..... ☐	
No Repairs Needed..... ☐		

Wind Direction Linearity Test						Wind Speed Output Test	
*Reference Point	30	90	180	270	350	300 ☒	Pass ☒
Measured	32	91	180	270	353	1500 ☒	
						1800 ☒	

* Reference is not traceable to a standard. It is used for checkout purposes only.

*Wind Vane Torque Test		**Propeller Torque Test	
Vane Torque:	Pass ☒	Propeller Torque:	Pass ☒

*Measured with RM Young Torque Gauge and fixture in CW&CCW at four locations.

**Measured with RM Young Torque Disk.



RM Young Service Model 05103-L

RMA: 33572

Technician: Carlos Santos

Serial Number: 87980

Checkout Date: 5/21/2021

Accessories Received: Cable ☒ Vane ☒ Propeller ☒ Propeller Nut ☒ Mount Clamp ☒

Condition as received:	Worn propeller bearings.
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Repairs		Additional Repair Notes
Replaced Prop Bearings... ☒	Replaced Propeller Nut... ☐	Accuracy: Wind Speed: ± 0.3 m/s (0.6 mph) or 1% of reading Wind Direction: $\pm 3^\circ$
Replaced Vertical Bearings ☐	Replaced Prop. Shaft w/Hub ☐	
Replaced Coil..... ☐	Replaced Nose Cone..... ☐	
Replaced Potentiometer... ☐	Replaced Lower Housing. ☐	
Aligned Potentiometer.... ☒	Replaced Circuit Board.... ☐	
Replaced Vane..... ☐	Repaired Cable..... ☐	
Replaced Propeller..... ☐	Replaced Cable..... ☐	
No Repairs Needed..... ☐		

Wind Direction Linearity Test						Wind Speed Output Test	
*Reference Point	30	90	180	270	350	300 ☒	Pass ☒
Measured	30	89	180	270	351	1500 ☒	
						1800 ☒	

* Reference is not traceable to a standard. It is used for checkout purposes only.

*Wind Vane Torque Test		**Propeller Torque Test	
Vane Torque:	Pass ☒	Propeller Torque:	Pass ☒

*Measured with RM Young Torque Gauge and fixture in CW&CCW at four locations.

**Measured with RM Young Torque Disk.



RM Young Service Model 05103-L

RMA: 33572

Technician: Carlos Santos

Serial Number: 77143

Checkout Date: 5/21/2021

Accessories Received: Cable ☒ Vane ☒ Propeller ☒ Propeller Nut ☒ Mount Clamp ☒

Condition as received:	Worn propeller bearings.
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Repairs		Additional Repair Notes
Replaced Prop Bearings... ☒	Replaced Propeller Nut.... ☐	Accuracy: Wind Speed: ± 0.3 m/s (0.6 mph) or 1% of reading Wind Direction: $\pm 3^\circ$
Replaced Vertical Bearings ☐	Replaced Prop. Shaft w/Hub ☐	
Replaced Coil..... ☐	Replaced Nose Cone..... ☐	
Replaced Potentiometer... ☐	Replaced Lower Housing. ☐	
Aligned Potentiometer.... ☒	Replaced Circuit Board.... ☐	
Replaced Vane..... ☐	Repaired Cable..... ☐	
Replaced Propeller..... ☐	Replaced Cable..... ☐	
No Repairs Needed..... ☐		

Wind Direction Linearity Test						Wind Speed Output Test	
*Reference Point	30	90	180	270	350	300 ☒	Pass ☒
Measured	33	93	180	270	331	1500 ☒	
						1800 ☒	

* Reference is not traceable to a standard. It is used for checkout purposes only.

*Wind Vane Torque Test		**Propeller Torque Test	
Vane Torque:	Pass ☒	Propeller Torque:	Pass ☒

*Measured with RM Young Torque Gauge and fixture in CW&CCW at four locations.

**Measured with RM Young Torque Disk.



RM Young Service Model 05103-L

RMA: 33472

Technician: Carlos Santos

Serial Number: 148034

Checkout Date: 5/21/2021

Accessories Received: Cable ☒ Vane ☒ Propeller ☐ Propeller Nut ☒ Mount Clamp ☒

Condition as received: Worn propeller bearings and bad potentiometer.

Repairs		Additional Repair Notes
Replaced Prop Bearings... ☒	Replaced Propeller Nut.... ☐	Accuracy: Wind Speed: ± 0.3 m/s (0.6 mph) or 1% of reading Wind Direction: $\pm 3^\circ$
Replaced Vertical Bearings ☐	Replaced Prop. Shaft w/Hub ☐	
Replaced Coil..... ☐	Replaced Nose Cone..... ☐	
Replaced Potentiometer... ☒	Replaced Lower Housing. ☐	
Aligned Potentiometer.... ☒	Replaced Circuit Board.... ☐	
Replaced Vane..... ☐	Repaired Cable..... ☐	
Replaced Propeller..... ☐	Replaced Cable..... ☐	
No Repairs Needed..... ☐		

Wind Direction Linearity Test						Wind Speed Output Test	
*Reference Point	30	90	180	270	350	300 ☒	Pass ☒
Measured	32	91	180	269	350	1500 ☒	
						1800 ☒	

* Reference is not traceable to a standard. It is used for checkout purposes only.

*Wind Vane Torque Test		**Propeller Torque Test	
Vane Torque:	Pass ☒	Propeller Torque:	Pass ☒

*Measured with RM Young Torque Gauge and fixture in CW&CCW at four locations.

**Measured with RM Young Torque Disk.

Model 525 Series Certification/Calibration Information

(form PR-TRL-AL-02.docx)

The sensors go through the certified calibration process to document for record with $\pm 1\%$ accuracy.

The recorded error readings for this sensor was: -92 -47

Calibration Date: 5-11-20 S/N: 83448-0520

BY: VR

NOTICE!!!

During Shipment the tipping assembly has been secured to avoid possible damage to the pivot assembly. Lift off collection and remove rubber band from inside to release tipping mechanism before installation.

Model 525 Series Certification/Calibration Information

(form PR-TRL-AL-02.docx)

The sensors go through the certified calibration process to document for record with $\pm 1\%$ accuracy.

The recorded error readings for this sensor was: .27 .38

Calibration Date: 5-11-20 S/N: 83441-0520

BY: VR

NOTICE!!!

During Shipment the tipping assembly has been secured to avoid possible damage to the pivot assembly. Lift off collection and remove rubber band from inside to release tipping mechanism before installation.

CERTIFICATE of CALIBRATION for LI-COR SENSOR

Pyranometer
Model Number: LI-200/R

Serial Number: **PY110848**

Calibration Date: **September 24, 2020**
Manufacture Date: **September 05, 2019**

Calibration Constant:

Output: **69.26** microamps per 1000 watts m^{-2}

For use with LI-COR handheld meters and loggers:

Multiplier: **-14.44** watts m^{-2} per microamp

If this is an LI-200R-BL (3-wire bare leads):

Multiplier: **14.44** watts m^{-2} per microamp

For use with LI-COR 2220 (147 ohm) Millivolt Adapter:

Multiplier: **-98.22** watts m^{-2} per millivolt

If this is an SL or SMV sensor:

Multiplier: **-100.0** watts m^{-2} per millivolt

IMPORTANT: Read the appropriate instruction manual (www.licor.com/200-manual) before using this sensor.

IMPORTANT: It is recommended that sensors be recalibrated every two years after field deployment.

Calibration Technician: John Brooks

Calibrations are traceable to the World Radiometric Reference through Secondary Standard Thermopile radiometers, which are calibrated annually by the National Renewable Energy Laboratory.



LI-COR Biosciences, Global Headquarters • 4647 Superior Street • Lincoln, NE 68504 USA
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envsales@licor.com • envsupport@licor.com • www.licor.com
Manual: www.licor.com/200-manual

Model 525 Series Certification/Calibration Information

(form PR-TRL-AL-02.docx)

The sensors go through the certified calibration process to document for record with $\pm 1\%$ accuracy.

The recorded error readings for this sensor was: .48 .36

Calibration Date: 8-16-21 S/N: 87706-0821

BY: VR

NOTICE!!!

During Shipment the tipping assembly has been secured to avoid possible damage to the pivot assembly. Lift off collection and remove rubber band from inside to release tipping mechanism before installation.



CALIBRATION CERTIFICATE

R.M. Young Company certifies that the following sensor

Serial Number WM 176690

was inspected and calibrated prior to shipment in accordance with established manufacturing and testing procedures. Standards established by R.M. Young Company for calibrating measuring and test equipment used in controlling product quality are traceable to the National Institute of Standards and Technology.

To maintain published specifications, regular maintenance intervals are required.

Date: 5/18/20

By:


Insp. By

R.M. YOUNG COMPANY 2801 Aero Park Drive, Traverse City, Michigan 49686 U.S.A.

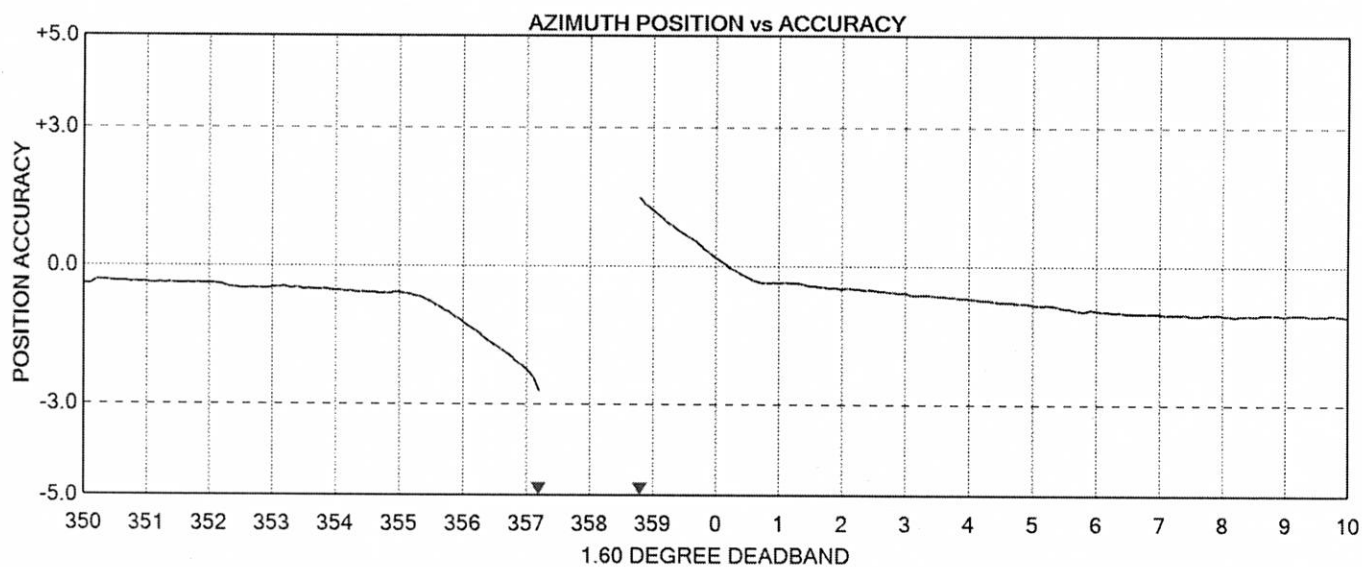
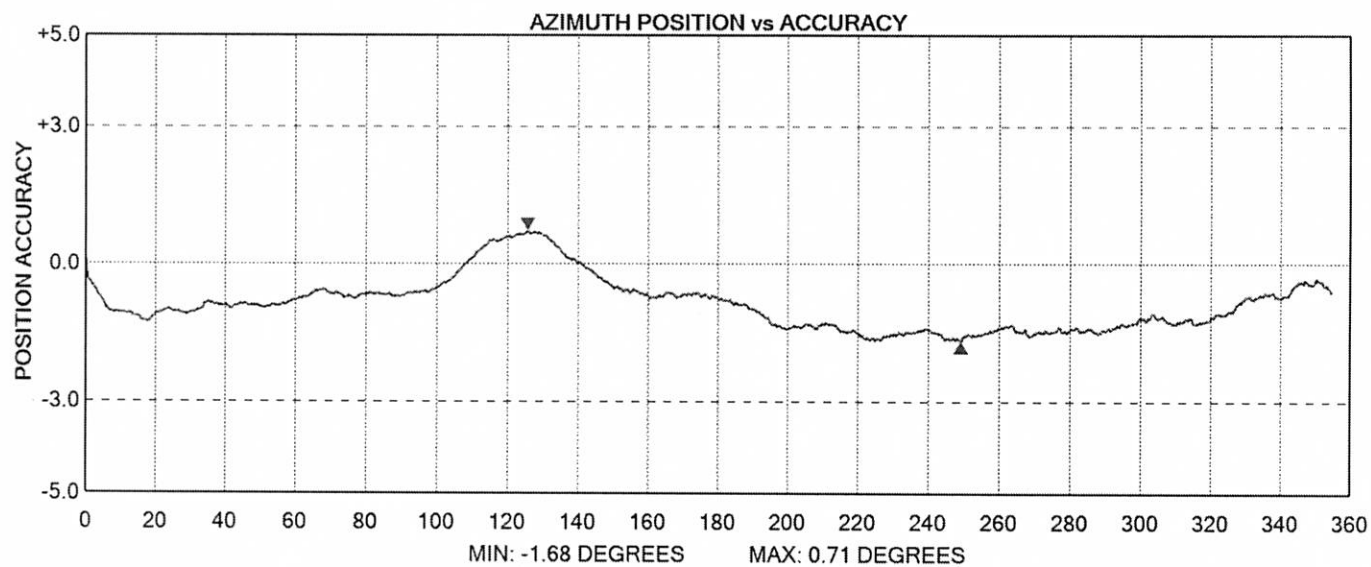
Tel: (231) 946-3980 Fax: (231) 946-4772 Email: met.sales@youngusa.com



R. M. YOUNG COMPANY WIND SENSOR CALIBRATION CERTIFICATE

SENSOR: 05108-45-5A WIND MONITOR
SENSOR SERIAL NUMBER: WM176690
BEARINGS: CERAMIC
DATE: MAY 18, 2020
WIND SPEED THRESHOLD: PASS
LOW WIND SPEED AMPLITUDE/FREQUENCY TEST: PASS
HIGH WIND SPEED AMPLITUDE/FREQUENCY TEST: PASS
VANE TORQUE TEST: PASS
SPECIAL NOTES:

Inspected By: TH



NOTE: Azimuth Position vs Accuracy graphs are accurate to within 0.5 degrees. The accuracy shown in the potentiometer deadband region between 355 and 0 degrees is the result of no resistance change while position changes. The gap represents the actual deadband (open circuit).

R.M. YOUNG COMPANY 2801 Aero Park Dr, Traverse City, MI 49686 USA
Tel: 231-946-3980 Fax: 231-946-4772 Email: met.sales@youngusa.com Website: www.youngusa.com



CALIBRATION CERTIFICATE

R.M. Young Company certifies that the following sensor

Serial Number WM 176691

was inspected and calibrated prior to shipment in accordance with established manufacturing and testing procedures. Standards established by R.M. Young Company for calibrating measuring and test equipment used in controlling product quality are traceable to the National Institute of Standards and Technology.

To maintain published specifications, regular maintenance intervals are required.

Date: 5/18/20

By:


Insp. By

R.M. YOUNG COMPANY 2801 Aero Park Drive, Traverse City, Michigan 49686 U.S.A.

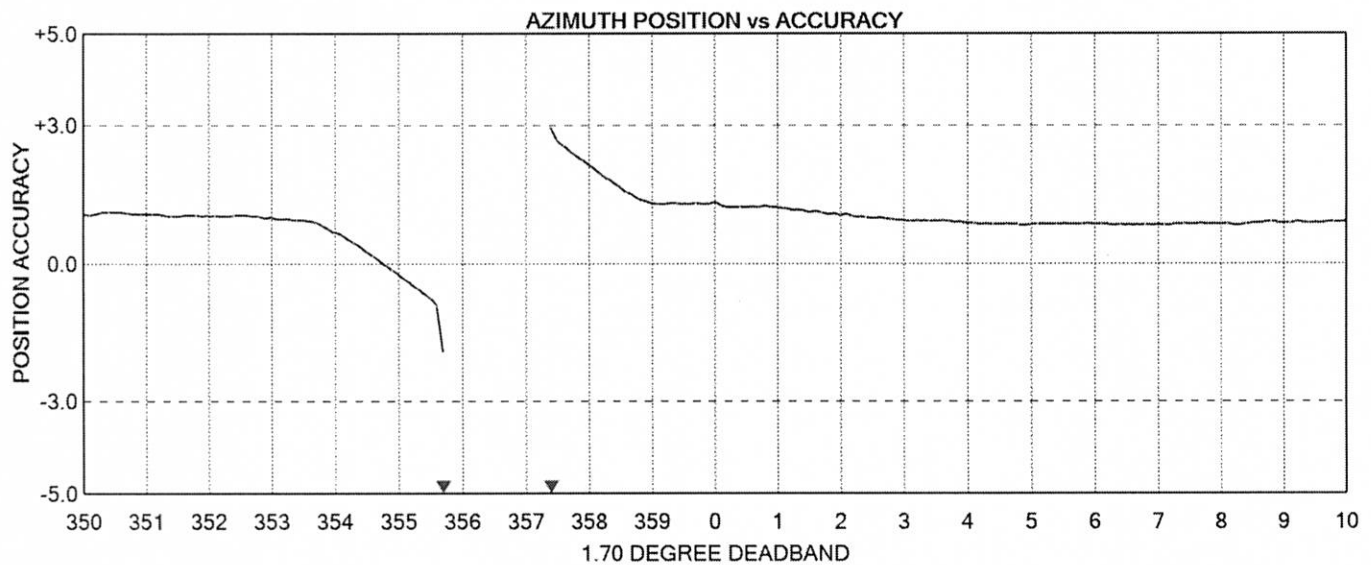
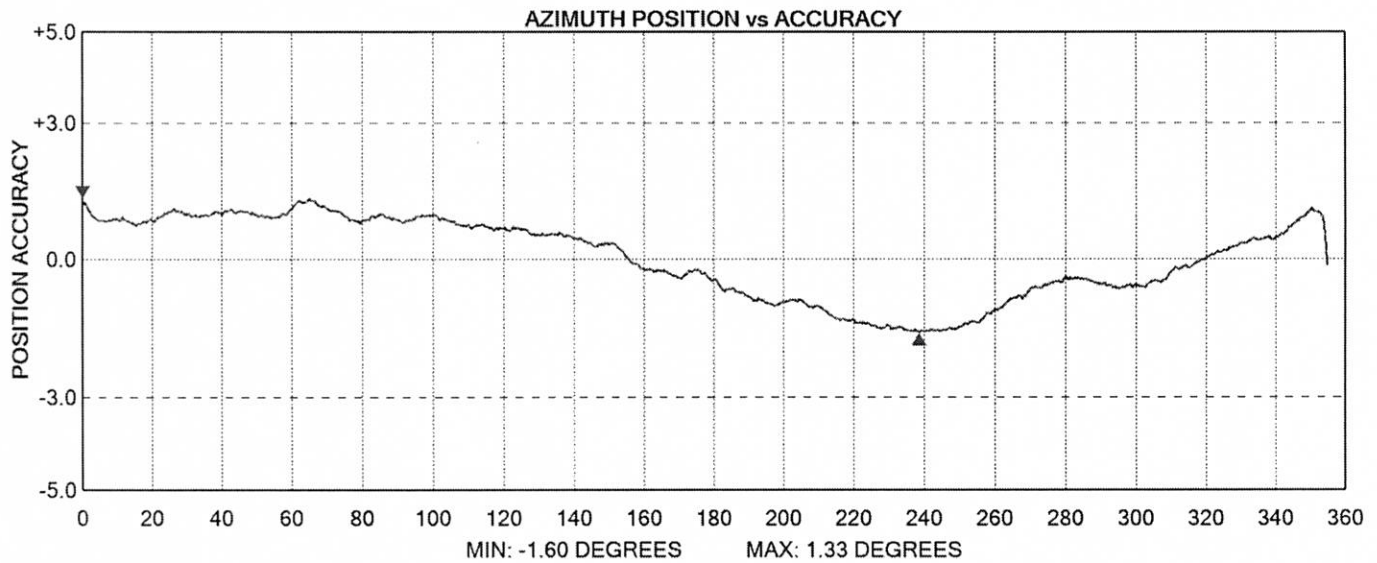
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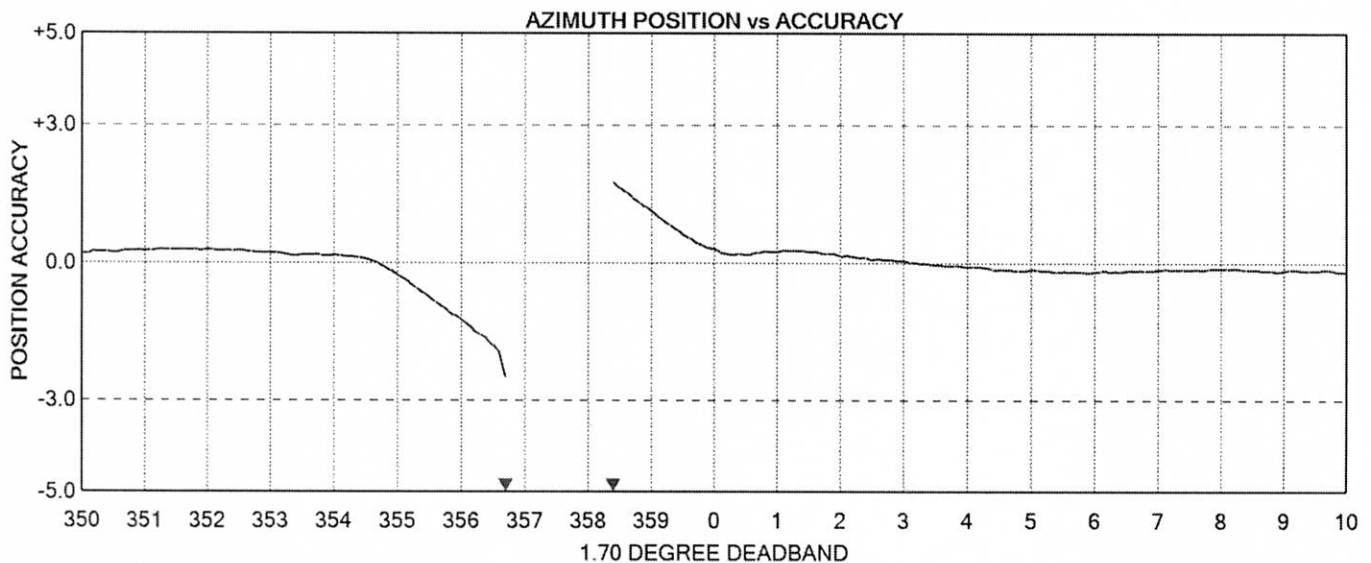
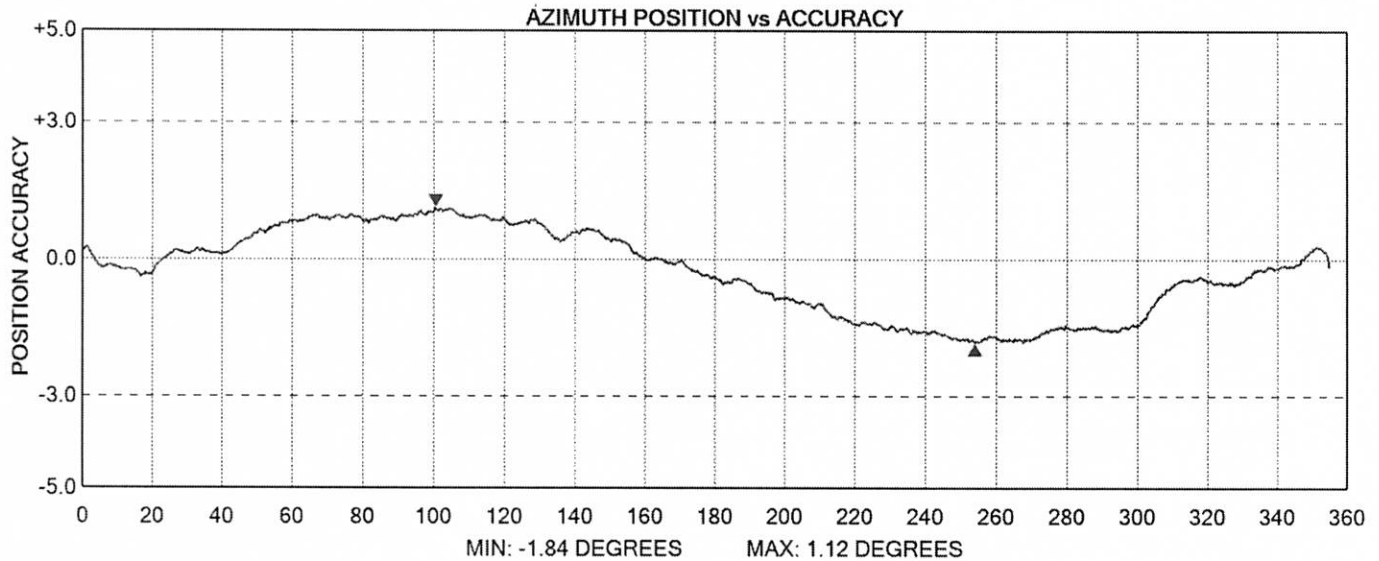
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