

Customer: ILLIANA INSTRUMENT
1831 Govert Drive
Scherverville, IN 46375

PO Number: 4090



ANAB AC-2489.06

Certificate/SO Number: 15-C8N5U-40-1 Revision 0

Manufacturer: Hart Scientific/Fluke
Model Number: 2562
Description: PRT Scanner Module
Serial Number: A88930
ID: ITEM 1429

As-Found: In Tolerance
As-Left: In Tolerance

Issue Date: Jun 08, 2020
Calibration Date: Jun 05, 2020
Due Date: Jun 05, 2022

Calibrated To: Manufacturer Specification
Calibration Procedure: 1-AC12472-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO /IEC 17025:2017. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number. Any measurements on an accredited calibration not covered by that Lab's Scope of Accreditation are listed in the notes section of the certificate. SCC, NRC, CLAS or ANAB do not guarantee the accuracy of an individual calibration by accredited laboratories.

Transcat calibrations, as applicable, are performed in compliance with the requirements of the Transcat Quality Manual QAC -P01-000, the customer's Purchase Order and/or Quality Agreement requirements, ISO 9001:2015, ANSI/NCSL Z540.1-1994 (R2002) or NQA-1, as applicable. Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are listed on this certificate.

Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST), or the National Research Council of Canada (NRC), or other national measurement institutes (NMI) that are signatories to the CIPM Mutual Recognition Arrangement, or accepted fundamental and/or natural physical constants, or by the use of specified methods, consensus standards or ratio type measurements. Documentation supporting traceability information is available for review upon written request at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of traceability.

A binary decision rule, utilizing simple acceptance, and simple rejection criteria is used for the determination of compliance. When compliance statements are present, they are reported without factoring in the effects of uncertainty and comply with the guidelines established by ASME B89.7.3.1-2001 (R2011) as follows:

- The acceptance zone is defined as: less than or equal to the high limit, and/or greater than or equal to the low limit. The rejection zones are defined as greater than the high limit and/or less than the low limit.
- Single measurement results in the acceptance zone are identified as in-tolerance. Single measurement results in the rejection zone are identified as out-of-tolerance (OOT).
- When all measurement results are in the acceptance zone for repeated measurements, for the same characteristic, the test is identified as in-tolerance. For repeated characteristic measurements, a single measurement result in the rejection zone, will cause the test to be identified as out-of-tolerance (OOT).

Uncertainties are reported with a coverage factor k=2, providing a level of confidence of approximately 95%. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP -18. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

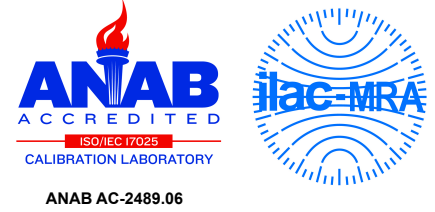
The results in this report relate only to the item calibrated or tested. Recorded calibration data is valid at the time of calibration within the stated uncertainties at the environmental conditions noted. The determination of compliance to the specification is specific to the model/serial no./ID no. referenced above based on the tolerances shown; these tolerances are either the original equipment manufacturers (OEM's) warranted specifications or the client's requested specifications. This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

Notes:

As-Found/As-Left
Module Calibration Constants:
0 ADJ: 0.00090

Date Received: June 04, 2020
Service Level: R9

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100 ADJ: 0.03060
400 ADJ: 0.00001

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	O O T	Cal Process Uncertainty (k=2; ±)	Measurement Uncertainty (k=2; ±)	Units	TUR
Resistance Accuracy										
CH #1 Resistance Accuracy	0.00000Ohm	±(0.001 Ohm)	-0.00100	0.00100	0.00010 Ohm		5.6e-005	5.7e-005	Ohm	17.9 : 1
	20.00000Ohm	±(0.001 Ohm)	19.99900	20.00100	19.99990 Ohm		5.6e-005	5.7e-005	Ohm	17.9 : 1
	100.00000Ohm	±(40 PPM Rdg)	99.9960	100.0040	99.9998 Ohm		2.1e-004	2.4e-004	Ohm	19.0 : 1
	200.00000Ohm	±(40 PPM Rdg)	199.9920	200.0080	200.0002 Ohm		4.2e-004	4.4e-004	Ohm	19.0 : 1
	400.00000Ohm	±(40 PPM Rdg)	399.9840	400.0160	400.0001 Ohm		8.4e-004	8.5e-004	Ohm	19.0 : 1
CH #2	100.00000Ohm	±(40 PPM Rdg)	99.9960	100.0040	99.9999 Ohm		2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #3	100.00000Ohm	±(40 PPM Rdg)	99.9960	100.0040	99.9999 Ohm		2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #4	100.00000Ohm	±(40 PPM Rdg)	99.9960	100.0040	99.9999 Ohm		2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #5	100.00000Ohm	±(40 PPM Rdg)	99.9960	100.0040	100.0011 Ohm		2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #6	100.00000Ohm	±(40 PPM Rdg)	99.9960	100.0040	100.0026 Ohm		2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #7	100.00000Ohm	±(40 PPM Rdg)	99.9960	100.0040	100.0019 Ohm		2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #8	100.00000Ohm	±(40 PPM Rdg)	99.9960	100.0040	100.0026 Ohm		2.1e-004	2.4e-004	Ohm	19.0 : 1

Field not applicable.

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Traceable Standards

Asset	Manufacturer	Model Number	Description	Cal Date	Due Date	Traceability Number	Use
H1108	Guildline Instruments Inc.	9334A-100	Precision Resistor	7-Apr-20	31-Oct-20	CAL222672	AF/AL
M4000	Hart Scientific	1595A	Super-Thermometer	13-Apr-20	30-Apr-21	C0416032	AF/AL

The use of the standard is defined as: AF - used for as-found readings, AL - used for as-left readings.

Environmental Data

Temperature	Relative Humidity	Temp / RH Asset
69.98°F /21.10°C	43.00%	M1581

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Legend

Topic	Description
Accuracy	UUT specification that establishes expected tolerances and a time limit (calibration interval) over which the instrument is expected to hold these tolerances
As Found	Initial measurement results
As Left	Measurement results after adjustment and/or repair
Blank Data Field	Test is not applicable for the UUT
Cal Process Uncertainty (CPU)	The uncertainty of calibration process for the reported measurement result
Cover Factor (k)	A measure of uncertainty that defines an interval about the measurement result
Low / High Limits	Establishes UUT acceptable performance limits for the test measurement
Measurement Uncertainty	The dispersion of the values attributed to a measured quantity
OOT	Out of Tolerance
Setpoints	Measurement target values
Traceability	Unbroken chain of comparisons relating an instrument's measurements to a known standard(s)
Traceability Number	Unique identifier(s) used to document traceability of calibration standards
TUR	Test Uncertainty Ratio, ratio of the tolerance or specification of the test measurement in relation to the uncertainty in measurement results
UUT	Unit Under test

Calibrated At:
2056 S. Alex Road
West Carrollton, OH 45449

Facility Responsible:
2056 S. Alex Road
West Carrollton, OH 45449
800-828-1470

Calibrated By:
 **Electronically Signed By:**
Marc Rhoades

Reviewed By:
 **Electronically Signed By:**
Shane Smith for

Marc Rhoades Jun 05, 2020
Calibration Technician 11:27:23 -04:00

Derek Atkinson Jun 08, 2020
Lab Manager 07:01:52 -04:00



Date Received: June 04, 2020
Service Level: R9