

# TRANSCAT® CERTIFICATE OF CALIBRATION

Trust in every measure

Customer: ILLIANA INSTRUMENT  
1831 Govert Drive  
Scherverville, IN 46375



NVLAP LAB CODE  
200867-0

PO Number: 3624

## Certificate/SO Number: 15-A7Q2N-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

Calibration Date: June 22, 2016

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

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope of Accreditation are listed in the notes section of the certificate. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, SCC, NRC, CLAS, ANAB or any agency of the Federal Government. NVLAP, NIST, 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 Revision I, ISO 9001:2008, ANSI/NCSL Z540.1-1994 (R2002), and ISO 10012:2003. When specified contractually, the requirements of ISO TS16949:2009, 10CFR21, 10CFR50 App. B and ASME NQA-1:2012 are also covered. Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown on the Supplemental Report.

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 recognized 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 at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of traceability.

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 on the Supplemental Report. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP-18. For mass calibrations: Conventional mass referenced to 8.0 g/cm<sup>3</sup>.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the tolerances shown on the supplemental report; these tolerances are either the original equipment manufacturer's (OEM's) warranted specifications or the client's requested specifications. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. Limitations on the uses of this instrument are detailed in the OEM's operating instructions. 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

100 ADJ: 0.03060

400 ADJ: 0.00001


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:  
 Digitally Signed By  
Martha Lis

Date: June 22, 2016

Martha Lis  
Calibration Technician

Reviewed By:  
 Digitally Signed By  
Marc Rhoades for

Date: June 22, 2016

Derek Atkinson  
Lab Manager

Unit Barcode:   
901B0077895

Date Received: June 21, 2016

Customer: ILLIANA INSTRUMENT

PO Number: 3624

**Certificate/SO Number: 15-A7Q2N-40-1 Revision 0**

<b>Manufacturer:</b> Hart Scientific/Fluke	<b>Service Type:</b> R9
<b>Model Number:</b> 2562	
<b>Description:</b> PRT Scanner Module	
<b>Serial Number:</b> A88930	<b>Calibration Date:</b> Jun 22, 2016
<b>ID:</b> ITEM 1429	<b>Date Due:</b>
	<b>Calibration Procedure:</b> 1-AC12472-1

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	Cal Process Uncertainty (k=2; ±)	Measurement Uncertainty (k=2; ±)	Units	TUR
<b>Resistance Accuracy</b>									
CH #1 Resistance Accuracy	0.00000Ohm	±( 0.001 Ohm)	-0.00100	0.00100	-0.00004 Ohm	5.6e-005	1.3e-004	Ohm	17.9 : 1
	20.00000Ohm	±( 0.001 Ohm)	19.99900	20.00100	20.00005 Ohm	5.6e-005	1.3e-004	Ohm	17.9 : 1
	100.00000Ohm	±( 40 PPM Rdg)	99.9960	100.0040	100.0011 Ohm	2.1e-004	2.4e-004	Ohm	19.0 : 1
	200.00000Ohm	±( 40 PPM Rdg)	199.9920	200.0080	200.0005 Ohm	4.2e-004	4.4e-004	Ohm	19.0 : 1
	400.00000Ohm	±( 40 PPM Rdg)	399.9840	400.0160	400.0013 Ohm	8.4e-004	8.5e-004	Ohm	19.0 : 1
CH #2	100.00000Ohm	±( 40 PPM Rdg)	99.9960	100.0040	100.0010 Ohm	2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #3	100.00000Ohm	±( 40 PPM Rdg)	99.9960	100.0040	100.0008 Ohm	2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #4	100.00000Ohm	±( 40 PPM Rdg)	99.9960	100.0040	100.0010 Ohm	2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #5	100.00000Ohm	±( 40 PPM Rdg)	99.9960	100.0040	100.0013 Ohm	2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #6	100.00000Ohm	±( 40 PPM Rdg)	99.9960	100.0040	100.0014 Ohm	2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #7	100.00000Ohm	±( 40 PPM Rdg)	99.9960	100.0040	100.0013 Ohm	2.1e-004	2.4e-004	Ohm	19.0 : 1
CH #8	100.00000Ohm	±( 40 PPM Rdg)	99.9960	100.0040	100.0013 Ohm	2.1e-004	2.4e-004	Ohm	19.0 : 1

The column labeled Cal Process Uncertainty (CPU) does not include the short term component of the UUT. The column labeled Measurement Uncertainty includes both CPU and the short term component of the UUT. TUR is calculated using CPU.

Note: Reported resolution of the UUT does not represent calibration uncertainty or accuracy of the UUT.

Revision 0

Field not applicable. (P = Pass, F = Fail)

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**Certificate/SO Number: 15-A7Q2N-40-1 Revision 0**

As Found and As Left Data recorded on June 22, 2016

Temperature 68.9°F / 20.5°C

Relative Humidity 43%

Temp/RH Asset M1319

Asset	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
M1190	Fluke Corporation	742A-100	Resistance Standard, 100 Ohm	Aug 26, 2015	Aug 31, 2016	5-&M1190-25-1
M5000	Hart Scientific/Fluke	1590	Superthermometer	Jul 01, 2015	Jul 31, 2016	5-&M5000-2-1

**Remarks**

As-Found/As-Left

Module Calibration Constants:

0 ADJ: 0.00090

100 ADJ: 0.03060

400 ADJ: 0.00001

The column labeled Cal Process Uncertainty (CPU) does not include the short term component of the UUT. The column labeled Measurement Uncertainty includes both CPU and the short term component of the UUT. TUR is calculated using CPU.

Note: Reported resolution of the UUT does not represent calibration uncertainty or accuracy of the UUT.

**Revision 0**
 Field not applicable. (P = Pass, F = Fail)