

# Certificate of Calibration



Illiana Instrumentation Service LLC  
1831 Govert Drive  
Scherverville, IN 46375



Cert #: 3195 Rev. 1 Item # 1228 Certificate Date: 6/14/2022

## CUSTOMER

ILLIANA INSTRUMENTATION SERVICE LLC  
1831 GOVERT DRIVE  
SCHERERVILLE, IN 46375

Purchase Order:

## EQUIPMENT INFORMATION

Item # 1228 Calibration Result: PASS  
Manufacturer FLUKE  
Model Number 744  
Serial Number 7607012  
Equip. Location MOBILE  
Description PROCESS CALIBRATOR



## CALIBRATION INFORMATION

Date received: 6/14/2022 Cal Date: 6/14/2022 Cal. Interval 3 MONTHS Cal. Due Date: 9/14/2022  
Technician: PAUL GROLLA Temperature: 71 F Humidity 53 Cal location LAB  
Tag

Department: LAB

Notes:

Problems: None

Adjustments None

Sensitivity OKAY  
Initial modification offset 0  
Final modification offset 0  
Note: If the modification offset is not zero, readings reflect zero.  
Limitations NONE  
Accuracy VARIES BY POINT

## Quality and traceability statements

This certifies that the above equipment was calibrated using appropriate Illiana Instrumentation technical procedures. At planned intervals, Illiana Instrumentation standards are calibrated by comparison to or measurement against standards which are traceable to the SI units through the NIST or other recognized national measurement institutes or international standard bodies. The results in this report relate only to the item(s) calibrated. If so indicated above, detailed calibration results are attached to this certificate. These results are part of this certificate and this certificate shall not be reproduced except in full, without the written approval of Illiana Instrumentation. Any number of factors not under the control of the calibration laboratory may cause the calibration of the above item(s) to drift before the recommended recalibration date. Supporting documentation relative to traceability and technical procedures used is on file and is available for examination upon request and approval of our quality assurance manager. The above uncertainties represent an expanded uncertainty expressed at approximately 95% confidence level using a coverage factor of k=2. The certificate date on this report constitutes the issue date. Pass/Fail criteria does not take into account measurement uncertainty.

Calibrated By:

*Paul Grolla*

Approved By:

*Laura Grolla*

Customer Approval \_\_\_\_\_



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**Calibration Data**

Values found OOT and adjusted are indicated by "A" and items left OOT are indicated by "F"

Group	Description	Nominal	Lower Tol.	Upper Tol.	As Found	As Left	Units	Uncert.	OOT
MEASURE	TYPE K	-180.0	-180.6	-179.4	-179.8	-179.8	°C	0.19	
MEASURE	TYPE K	0.0	-0.6	0.6	0.0	0.0	°C	0.19	
MEASURE	TYPE K	400.0	399.4	400.6	400.0	400.0	°C	0.19	
MEASURE	TYPE K	800.0	799.2	800.8	799.9	799.9	°C	0.19	
MEASURE	TYPE K	1000.0	999.0	1001.0	999.9	999.9	°C	0.19	
MEASURE	TYPE K	1300.0	1298.7	1301.3	1299.8	1299.8	°C	0.19	
SIMULATE	TYPE K	-180.00	-180.60	-179.40	-180.03	-180.03	°C	0.16	
SIMULATE	TYPE K	0.00	-0.60	0.60	0.02	0.02	°C	0.16	
SIMULATE	TYPE K	400.00	399.40	400.60	400.03	400.03	°C	0.16	
SIMULATE	TYPE K	800.00	799.20	800.80	800.05	800.05	°C	0.16	
SIMULATE	TYPE K	1000.00	999.00	1001.00	1000.03	1000.03	°C	0.16	
SIMULATE	TYPE K	1300.00	1298.70	1301.30	1300.07	1300.07	°C	0.16	
MEASURE	TYPE J	-210.0	-210.6	-209.4	-209.9	-209.9	°C	0.17	
MEASURE	TYPE J	0.0	-0.6	0.6	0.0	0.0	°C	0.17	
MEASURE	TYPE J	300.0	299.4	300.6	300.0	300.0	°C	0.17	
MEASURE	TYPE J	600.0	599.4	600.6	599.9	599.9	°C	0.17	
MEASURE	TYPE J	900.0	899.1	900.9	899.9	899.9	°C	0.17	
MEASURE	TYPE J	1200.0	1198.8	1201.2	1199.9	1199.9	°C	0.17	
SIMULATE	TYPE J	-210.00	-210.60	-209.40	-209.78	-209.78	°C	0.13	
SIMULATE	TYPE J	0.00	-0.60	0.60	0.11	0.11	°C	0.13	
SIMULATE	TYPE J	300.00	299.40	300.60	300.13	300.13	°C	0.13	
SIMULATE	TYPE J	600.00	599.40	600.60	600.15	600.15	°C	0.13	
SIMULATE	TYPE J	900.00	899.10	900.90	900.12	900.12	°C	0.13	
SIMULATE	TYPE J	1200.00	1198.80	1201.20	1200.14	1200.14	°C	0.13	
MEASURE	TYPE S	0.0	-0.6	0.6	0.0	0.0	°C	0.67	
MEASURE	TYPE S	400.0	399.4	400.6	399.8	399.8	°C	0.58	
MEASURE	TYPE S	800.0	799.2	800.8	799.9	799.9	°C	0.58	
MEASURE	TYPE S	1200.0	1198.8	1201.2	1199.9	1199.9	°C	0.58	
MEASURE	TYPE S	1600.0	1598.4	1601.6	1600.1	1600.1	°C	0.58	
MEASURE	TYPE S	1767.0	1765.2	1768.8	1766.7	1766.7	°C	0.58	



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Group	Description	Nominal	Lower Tol.	Upper Tol.	As Found	As Left	Units	Uncert.	OOT
SIMULATE	TYPE S	0.00	-0.60	0.60	0.17	0.17	°C	0.66	
SIMULATE	TYPE S	400.00	399.40	400.60	399.92	399.92	°C	0.55	
SIMULATE	TYPE S	800.00	799.20	800.80	799.96	799.96	°C	0.55	
SIMULATE	TYPE S	1200.00	1198.80	1201.20	1200.17	1200.17	°C	0.55	
SIMULATE	TYPE S	1600.00	1598.40	1601.60	1600.01	1600.01	°C	0.55	
SIMULATE	TYPE S	1767.00	1765.20	1768.80	1766.99	1766.99	°C	0.55	
MEASURE	TYPE N	-100.0	-100.6	-99.4	-100.3	-100.3	°C	0.2	
MEASURE	TYPE N	0.0	-0.6	0.6	-0.3	-0.3	°C	0.2	
MEASURE	TYPE N	300.0	299.4	300.6	299.8	299.8	°C	0.2	
MEASURE	TYPE N	600.0	599.4	600.6	599.7	599.7	°C	0.2	
MEASURE	TYPE N	900.0	899.1	900.9	899.8	899.8	°C	0.2	
MEASURE	TYPE N	1300.0	1298.7	1301.3	1299.7	1299.7	°C	0.2	
SIMULATE	TYPE N	-100.00	-100.60	-99.40	-99.60	-99.60	°C	0.18	
SIMULATE	TYPE N	0.00	-0.60	0.60	0.33	0.33	°C	0.18	
SIMULATE	TYPE N	300.00	299.40	300.60	300.23	300.23	°C	0.18	
SIMULATE	TYPE N	600.00	599.40	600.60	600.25	600.25	°C	0.18	
SIMULATE	TYPE N	900.00	899.10	900.90	900.24	900.24	°C	0.18	
SIMULATE	TYPE N	1300.00	1298.70	1301.30	1300.34	1300.34	°C	0.18	
MEASURE	TYPE T	-200.0	-200.6	-199.4	-200	-200	°C	0.74	
MEASURE	TYPE T	0.0	-0.6	0.6	0.0	0.0	°C	0.73	
MEASURE	TYPE T	100.0	99.4	100.6	99.9	99.9	°C	0.73	
MEASURE	TYPE T	200.0	199.4	200.6	200	200	°C	0.73	
MEASURE	TYPE T	300.0	299.4	300.6	299.9	299.9	°C	0.73	
MEASURE	TYPE T	400.0	399.4	400.6	399.9	399.9	°C	0.73	
SIMULATE	TYPE T	-200.00	-200.60	-199.40	-199.98	-199.98	°C	0.73	
SIMULATE	TYPE T	0.00	-0.60	0.60	0.02	0.02	°C	0.33	
SIMULATE	TYPE T	100.00	99.40	100.60	100.03	100.03	°C	0.33	
SIMULATE	TYPE T	200.00	199.40	200.60	200.00	200.00	°C	0.33	
SIMULATE	TYPE T	300.00	299.40	300.60	300.03	300.03	°C	0.33	
SIMULATE	TYPE T	400.00	399.40	400.60	400.06	400.06	°C	0.33	
					0	0			



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MEASURE	mVDC 110 RANGE	0.000	-0.017	0.017	-0.002	-0.002	mVDC	0.0033	
MEASURE	mVDC	100.000	99.959	100.042	100.020	100.020	mVDC	0.0033	
MEASURE	mVDC	-100.000	-100.042	-99.959	-100.002	-100.002	mVDC	0.0033	
MEASURE	VDC 1.1 RANGE	0.00000	-0.00006	0.00006	0.00000	0.00000	VDC	0.000033	
MEASURE	VDC	1.00000	0.99970	1.00081	1.00060	1.00060	VDC	0.00045	
MEASURE	VDC 11 RANGE	0.0000	-0.0006	0.0006	0.0000	0.0000	VDC	0.000033	
MEASURE	VDC	10.0000	9.9970	10.0031	10.0007	10.0007	VDC	0.005	
MEASURE	MADC 30 mA RANC	4.0000	3.9963	4.0037	4.0000	4.0000	maDC	0.0016	
MEASURE	MADC	20.0000	19.9947	20.0053	19.9980	19.9980	maDC	0.0016	
MEASURE	OHMS 11 RANGE	0.000	-0.050	0.050	-0.001	-0.001	Ohm	0.042	
MEASURE	OHMS 11 RANGE	10.000	9.945	10.055	10.047	10.047	Ohm	0.025	
MEASURE	OHMS 110 RANGE	0.00	-0.05	0.05	0.00	0.00	Ohm	0.042	
MEASURE	OHMS 110 RANGE	100.00	99.90	100.10	100.05	100.05	Ohm	0.025	
MEASURE	OHMS 1100 RANGI	0.00	-0.50	0.50	0.00	0.00	Ohm	0.042	
MEASURE	OHMS 1100 RANGI	1000	999	1001	1000	1000	Ohm	0.34	
SOURCE	MVDC	100.000	99.985	100.016	100.004	100.004	mVDC	0.01	
SOURCE	MVDC	120.000	119.933	120.067	120.000	120.000	mVDC	0.062	
SOURCE	MVDC	1000.00	999.85	1000.16	1000.04	1000.04	mVDC	0.53	
SOURCE	MVDC	14000.0	13997.9	14002.2	14000.0	14000.0	mVDC	5.8	
SOURCE	MADC	2.0000	1.9965	2.0035	2.0011	2.0011	maDC	0.01	
SOURCE	MADC	4.0000	3.9963	4.0037	4.0021	4.0021	maDC	0.01	
SOURCE	MADC	22.0000	21.9945	22.0055	22.0020	22.0020	maDC	0.012	
SOURCE	OHMS 11 RANGE	0.100	0.080	0.120	0.100	0.100	Ohm	0.02	
SOURCE	OHMS 11 RANGE	1.000	0.980	1.020	1.000	1.000	Ohm	0.02	
SOURCE	OHMS 11 RANGE	10.000	9.979	10.021	10.000	10.000	Ohm	0.02	
SOURCE	OHMS 110 RANGE	20.000	19.958	20.042	20.000	20.000	Ohm	0.02	
SOURCE	OHMS 110 RANGE	100.000	99.950	100.050	100.000	100.000	Ohm	0.02	
SOURCE	OHMS 1100 RANGI	200.000	199.460	200.540	200.009	200.009	Ohm	0.11	
SOURCE	OHMS 1100 RANGI	1000.00	999.30	1000.70	1000.08	1000.08	Ohm	0.11	



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SOURCE	K OHMS 11K RANG	2.0000	1.9944	2.0056	1.9995	1.9995	kOhm	0.0011	
MEASURE	RTD PLT 100 OHM	-180.0	-180.3	-179.7	-180.1	-180.1	DEG C.	0.63	
MEASURE	385 CURVE	100.0	99.5	100.5	100.0	100.0	DEG C.	0.049	
SOURCE	RTD OHMS 385	100.0	99.5	100.5	100.0	100.0	DEG C.	0.049	

Standards Used

I.D.	Model	Description	Manufacturer	Serial No.
1546	525B	TEMPERATURE/PRESSURE CAL	FLUKE	2041092
1731	34401A	DIGITAL MULTIMETER	HEWLETT PACKARD/AGILENT	3146A27542

Procedures Used

Name	Description
WI-523 CALIBRATORS	WI-523 CALIBRATORS