Application note

Fluke Calibration Certificates of Calibration

At Fluke, operational excellence is more than a goal—it's a commitment. Through continuous improvement and rigorous process control, we ensure that every step in our service delivers precision and reliability. This commitment is upheld by our dedicated metrology associates, who play a vital role in validating the accuracy and consistency of calibration results. Their expertise, combined with automated certificate evaluation, minimizes risk reporting results and enhances operational efficiency.

In this application note, you'll find a sample of the Fluke certificate, key elements evaluated, the data reported, and the advanced technologies that support this format.

Standard Certificate Format

Fluke has expanded its operations across multiple regions around the world with a clear mission: to ensure that quality and service are consistently efficient, standardized, and easy for customers to engage with, no matter where they are.

The Metrology Team plays a key role in this mission by continuously working to maintain and improve standardized practices that deliver reliable results, regardless of the service location.

As part of these efforts, Fluke has unified its calibration certificates and labels, allowing each lab to deliver high-quality products and services more efficiently.

This global standardization not only enhances operational performance but also ensures a consistent and seamless experience for customers who interact with more than one lab.

Certificate of Calibration
Fluke Park Laboratory

Certificate Number:	Sample : Do Not Ship		
Status:	As-Left : Pass	**Date of Calibration:**	14 May 2024
		Date Due:	
Manufacturer:	Fluke	**Temperature:**	20.0 to 26.0 °C
Model:	5560A	**Relative Humidity:**	10 to 70 %RH
Serial Number:	Sample	**Pressure:**	95 to 103 kPa
Options:		**Issue Date:**	17 Jul 2025
Description:	Multiproduct Calibrator		
Procedure:	PLM D2187763 Rev 3		
Customer:	NEW PRODUCT		
Location:			
PO Number:			
RMA/SO Number:			

This calibration is traceable to the International System of Units (SI) through recognized national metrology institutes (NIST, NRC, PTB, NPL, etc.), ratiometric techniques, or natural physical constants and is in conformance with ISO/IEC 17025:2017. Calibration certificates without identification of the authorizing person are not valid. This certificate applies to only the item identified and shall not be reproduced except in full, without the specific written approval by Fluke Corporation. The calibration interval (date due) is the responsibility of the end user.

This certificate of calibration may contain data that is not covered by the Scope of Accreditation. The unaccredited measurement points are indicated by the # symbol or confined to clearly marked sections.

Measurement uncertainties at the time of calibration are given where applicable. They are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor *k* such that the coverage probability corresponds to approximately 95 % and k=2.

Comments:

Cert #:111111111
Date Cal: 7 Jul 2025
Date Due:
S/N: 11112025

Authorized By
Sample Signatory

Fluke Corporation		Telephone	Internet
6920 Seaway Blvd	Everett, WA 98203 USA	877.355.3225	www.flukecal.com

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Figure 1. Example of the new calibration certificate, page 1.

The Calibration Certificate

A sample of page 1 of the certificate is presented in Figure 1. The remainder of this application note describes the various components of the certificate and offers insights into the rationale behind certain content, format, and technology decisions.

Product group:

- Electrical
- RF
- Temperature
- Humidity
- Pressure
- Flow
- Software

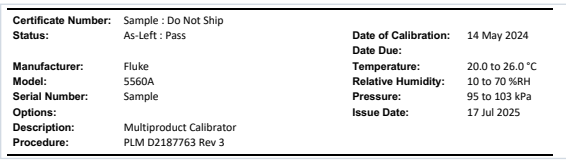
Figure 2. The certificate header contains logos for the company, accreditation body, and ILAC MRA, the report title, and the laboratory location.

Header Information

The certificate's header contains

- The **company logo** is in its position on the upper right of the page as specified by corporate brand standards. Since the company logo is placed on the right, the laboratory accreditation body logo and ILAC MRA are placed on the left, directly opposite. The size of the accreditation body logo and ILAC MRA appears proportionally the same size as the company logo, no bigger, no smaller, no higher, no lower, to communicate the balance between accreditation responsibility and corporate responsibility.

  The ILAC MRA logo is used only for the accredited level of service that falls within the scope of accreditation.
- The **report's title**. Fluke has selected "Certificate of Calibration" because some countries prefer this title, rather than "report of calibration" or some other description
- The **laboratory location name**. The location name is placed immediately under the title, so customers can quickly determine which Fluke facility performed the calibration.



Certificate Number:	Sample : Do Not Ship		
Status:	As-Left : Pass	**Date of Calibration:**	14 May 2024
		Date Due:	
Manufacturer:	Fluke	**Temperature:**	20.0 to 26.0 °C
Model:	5560A	**Relative Humidity:**	10 to 70 %RH
Serial Number:	Sample	**Pressure:**	95 to 103 kPa
Options:		**Issue Date:**	17 Jul 2025
Description:	Multiproduct Calibrator		
Procedure:	PLM D2187763 Rev 3		

Figure 3. DUT Information.

Customer:	NEW PRODUCT
Location:	
PO Number:	
RMA/SO Number:	

Figure 4. Customer Information.

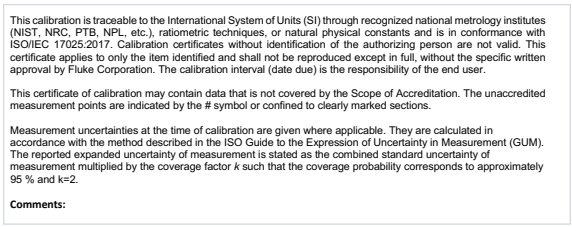
Device Under Test Information

This section of the certificate uniquely identifies the device under test (DUT) and provides the information related to the calibration event.

- A unique **certificate number**
- **Status**: As-Found, As-left, or Found-left allows the customer to know if the DUT was adjusted.
- **Manufacturer** (as identified in the instrument)
- **Model number**
- **Serial number**
- **Options:** If the DUT has additional options and needs to be calibrated
- **Description**
- **Procedure:** Fluke's calibration procedure
- **Date of calibration.** The date format was selected to be internationally recognizable.
- **Date due.** This date can be printed at the customer's request. If a calibration due date is not provided, it is left blank. This is done as a convenience for the customer so that they may enter their calibration due date.
- **Environmental conditions** of the calibration laboratory at the time of instrument calibration are expressed in SI units and can be suppressed if not relevant to the calibration.
- An **issue date**, which will change if the customer requests a reprint of the calibration certificate.

Customer Information

- This section contains the **customer's** name (NEW PRODUCT when a specific name has not been requested for a newly manufactured product) and the customer's location. In the United States, the location is the city and state. International customers have similar appropriate information. Additional information was not included due to the complexity of some addresses, as well as the potential for discrepancies between shipping and billing locations.
- Return Material Authorization Number **(RMA)**, purchase order (PO) Number, and the customer's asset number are printed if the customer provides them. For the nuclear utility industry, most require the PO number on the calibration certificate.



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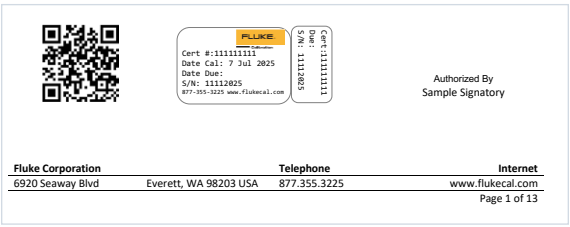
Comments:

Figure 5. Calibration statements.



FLUKE
Cert #:111111111
Date Cal: 7 Jul 2025
Date Due:
S/N: 11112025
877-355-3225 www.flukecal.com

Cert:111111111
Date:
S/N: 11112025

Authorized By
Sample Signatory

Fluke Corporation		Telephone	Internet
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Figure 6. Final page 1 data.

Calibration Statements

This section contains a statement of traceability and identifies the quality systems with which Fluke presently complies. In the traceability statement, you may notice that the certificate of calibration does not explicitly state that Fluke is traceable to NIST. ISO 17025 requires laboratories to be traceable to the SI, which stands for the International System of Units. Traceability to the SI can be realized through an appropriately recognized National Measurement Institute (NMI) such as NIST in the United States, PTB in Germany, or NIM in China. Traceability may also be realized through ratiometric techniques or the unit of natural physical constants, which are under stringent metrological control.

In some cases, Fluke can achieve direct traceability to SI by using reference standards based on fundamental physical constants.

Fluke is an international corporation, and we obtain our measurement traceability from many different NMIs, depending on the locality and capability. Often, due to the level of accuracy associated with our products, we are required to use the NMI that can provide the world's best uncertainty for the particular parameter.

It may even be a good idea for you to review your purchasing documentation and update the language to require traceability to the SI. Other statements in the first paragraph are a supplemental requirement by the identified quality standards and/or most accreditation bodies. Paragraphs two and three contain information specific to the accredited test data and its associated uncertainty.

Finally, there is a comments section for any other specific information that needs to be communicated to the customer on the certificate page.

Final Page 1 Data

The remaining data on page 1 of the calibration certificate contains the following:

The QR barcode is on the left.

This two-dimensional barcode can be read very easily by items such as cell phone cameras. The barcode is intentionally low resolution so that it will remain readable after being photocopied. It contains information on the laboratory location where the calibration was performed, and the information contained on the calibration label.

The calibration label is in the center of the page. This is an adhesive label that can be either left on the calibration certificate or removed and placed on the instrument in a location that is most convenient. There is no longer a risk that the certificate and label will become separated. The calibration label also has a special coating on it that is resistant to smearing of the information printed.

- The signature area is for the person who is accepting responsibility for the certificate's contents. This may or may not be the technician who performed the work. While ISO 17025 does not require the technician's signature on the calibration certificate, Fluke maintains the servicing technician's identity in our laboratory management system in case there are any questions about the calibration.
- The servicing laboratory's address and phone number.
- Page number and total number of pages
- Revision date of the calibration certificate

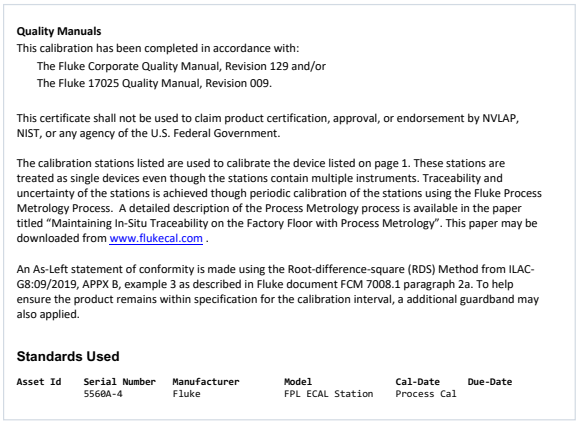
Pages Two and Three

Page two contains information on quality manuals, compliance, and the standards used during the calibration. Information is provided to identify.

- The specific standards used
- Description of the device (i.e., S/N, manufacturer, and model number).
- Date of calibration
- The firmware version of the Device Under Test
- The calibration due date of the standard. For some facilities, this date is not reported due to the Fluke Process metrology. The certificate includes a technical explanation and references a Fluke paper that defines the traceability achievement.

Fluke provides evidence of traceability through the certificates of calibration for each standard used, which contain both the subsequent path of traceability and the uncertainty of measurements for the particular step.

It is at this point that the calibration certificates must diverge based on the technical disciplines. It is essential to balance the needs of delivering a consistent calibration certificate across Fluke with the necessity of providing technical information and data that is similar to that offered by National Metrology Institutes. Data supplied for a pressure balance (piston gauge), standard platinum resistance thermometer, or a Zener reference standard will all, therefore, have a different format appropriate to the technical requirements of the calibration



Quality Manuals

This calibration has been completed in accordance with:
The Fluke Corporate Quality Manual, Revision 129 and/or
The Fluke 17025 Quality Manual, Revision 009.

This certificate shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Federal Government.

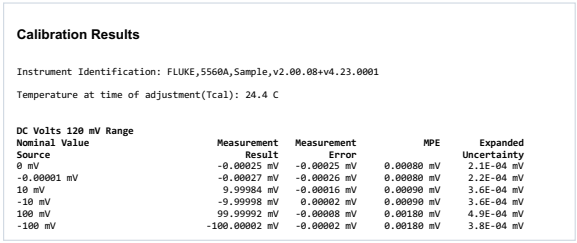
The calibration stations listed are used to calibrate the device listed on page 1. These stations are treated as single devices even though the stations contain multiple instruments. Traceability and uncertainty of the stations is achieved though periodic calibration of the stations using the Fluke Process Metrology Process. A detailed description of the Process Metrology process is available in the paper titled "Maintaining In-Situ Traceability on the Factory Floor with Process Metrology". This paper may be downloaded from www.flukecal.com .

An As-Left statement of conformity is made using the Root-difference-square (RDS) Method from ILAC-G8:09/2019, APPX B, example 3 as described in Fluke document FCM 7008.1 paragraph 2a. To help ensure the product remains within specification for the calibration interval, a additional guardband may also applied.

Standards Used

Asset Id	Serial Number	Manufacturer	Model	Cal-Date	Due-Date
	5560A-4	Fluke	FPL ECAL Station	Process Cal	

Figure 7. Standards Information.



Calibration Results

Instrument Identification: FLUKE,5560A,Sample,v2.00.08+v4.23.0001

Temperature at time of adjustment(Tcal): 24.4 C

DC Volts 120 mV Range

Nominal Value Source	Measurement Result	Measurement Error	MPE	Expanded Uncertainty
0 mV	-0.00025 mV	-0.00025 mV	0.00080 mV	2.1E-04 mV
-0.00001 mV	-0.00027 mV	-0.00026 mV	0.00080 mV	2.2E-04 mV
10 mV	9.99984 mV	-0.00016 mV	0.00090 mV	3.6E-04 mV
-10 mV	-9.99998 mV	0.00002 mV	0.00090 mV	3.6E-04 mV
100 mV	99.99992 mV	-0.00008 mV	0.00180 mV	4.9E-04 mV
-100 mV	-100.00002 mV	-0.00002 mV	0.00180 mV	3.8E-04 mV

Figure 8. Calibration data.

```
<certificateXml xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 <laboratoryInfo>
    <name>Fluke Park Laboratory</name>
    <location>Everett, WA</location>
    <accreditationNumber>105016-0</accreditationNumber>
    <accreditationBody>NVLAP</accreditationBody>
  </laboratoryInfo>
 <calibrationSummary>
    <certificateNumber [redacted]</certificateNumber>
    <calStatus>5560A</calStatus>
    <procedure>Teamcenter D2187763 Rev 3</procedure>
    <dateCalibration>05 Aug 2024</dateCalibration>
    <dateDue/>
    <dateIssued>08 Aug 2024</dateIssued>
    <temperature>20.0 to 26.0 °C</temperature>
    <humidity>20 to 70 %RH</humidity>
    <pressure>95 to 103 kPa</pressure>
    <accredited>Accredited</accredited>
    <comment/>
  </calibrationSummary>
 <dutInfo>
    <serialNumber [redacted]</serialNumber>
    <manufacturer>Fluke </manufacturer>
    <model>5550A</model>
    <option/>
    <description>Multiproduct Calibrator</description>
  </dutInfo>
 <customerInfo>
    <name>NEW PRODUCT</name>
    <location/>
    <poNumber/>
    <salesOrder/>
  </customerInfo>
 <measurementResults>
  <certificateResults>
    <testDescription>DC Volts 120 mV Range</testDescription>
    <nominal/>
```

Figure 9. Digital certificate.

Progress towards a digital SI

Fluke can also, in some cases, provide calibration certificates in PDF format and as a digital certificate that meets the requirements of the PTB schema. These digital formats are available through the Fluke customer portal.

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