

CERTIFICATE OF CALIBRATION ISSUED BY SERVICECAL LTD

DATE OF ISSUE 12th April 2023

CERTIFICATE NUMBER

DATE OF RECEIPT 6th April 2023

U367568



0152



UKAS Accredited Laboratory (0152)
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Approved By **Martin Ashworth**

Signatory *M. Ashworth*

INSTRUMENT DESCRIPTION	Counter Timer	✓
MANUFACTURER	Rs Components	
MODEL NUMBER	APOLLO 100 (612-445)	
SERIAL NUMBER	43260	✓
CUSTOMER REFERENCE NUMBER		
CUSTOMER	Gjc Instruments Ltd	
ADDRESS	North West House, Near Brook Hall, Off Chester Road, Tattenhall, Cheshire, CH3 9AH	
ORDER NUMBER	2023LAB002	
REMARKS	The instrument was externally cleaned prior to calibration	

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service, and is subject to our standard terms and conditions. The certificate and results apply only to the item above that has been calibrated. It provides traceability of measurement to recognised National Standards, and to units realised at the National Physical Laboratory or other recognised National Standards Laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory - Servicecal Ltd.

✓ checked @
GJC
A day

CUSTOMER GJC Instruments Ltd
ADDRESS North West House, Chester Road, Tattenhall, Cheshire. CH3 9AH
JOB NUMBER 367568
DESCRIPTION Counter Timer
MANUFACTURER RS Components
MODEL NUMBER Apollo 100 (612-445)
SERIAL NUMBER 43260
CUSTOMER REFERENCE None
PREVIOUS CERTIFICATE U347334 ISSUED BY 0152

CALIBRATION INFORMATION.

The instrument was calibrated against the laboratory's standards which are traceable to UK National Standards or are derived by approved ratio techniques. The ambient temperature and relative humidity during the tests were $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and $50\% \pm 20\%$ RH respectively. The uncertainty limits quoted refer to the measured values only, with no account being taken of the instrument's ability to maintain its calibration. The limits have been derived in accordance with UKAS requirements and are for a confidence level of approximately 95% using a coverage factor of $k=2$. The instrument was allowed to stabilise in the laboratory for 24 hours prior to measurement being performed.

SPECIFICATION USED OR EXTENT OF CALIBRATION PERFORMED.

The instrument was calibrated using laboratory measurement procedures:
UKASP020
Measurement of timbase by application of known frequencies.
Manufacturer's specification better than ± 5 ppm /year.

SUMMARY

The calibration results are recorded as found on receipt of the instrument.
At the points tested the instrument was found to meet specification, due allowance having been made for the uncertainty of measurement.
The Decision Rule : ILAC-G8:09/2019 4.2.3 Non Binary Statement with Guard Band has been applied. See Appendix A attached.
The instrument was externally cleaned prior to calibration.
Measured mains voltage = 235V.

CALIBRATED BY M.Ashworth Date 12th April 2023
CHECKED BY M.Ashworth  Date 12th April 2023

checked @ GJC
12/4/23 Adan

CALIBRATION RESULTS

Timebase	Range	Applied Frequency	Instrument Reading
10 S	10 kHz	1.00000000 kHz	1.000002 kHz
10 S	10 kHz	10.00000000 kHz	10.000024 kHz
10 S	100 kHz	100.00000000 kHz	100.000024 kHz
10 S	10 MHz	1000.00000000 kHz	1000.0024 kHz
10 S	10 MHz	10000.00000000 kHz	0000.0240 kHz *

* Overspill Indicated

UNCERTAINTY OF MEASUREMENT:

Frequency ± 5 parts in 10^8

1 LSD must be added to the above uncertainties to allow for the resolution of the instrument under test.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95%, the uncertainty evaluation has been carried out with UKAS requirements.

CALIBRATED BY M.Ashworth Date 12th April 2023
CHECKED BY M.Ashworth M. Ashworth Date 12th April 2023

✓ checked @
GOC today
12/4/22