



Certificate of Calibration

Date of Issue 25 May 2021

Certificate No. 3568960001

Page 1 of 5



Issued by
Trescal Ltd
Park Gate Close, Bredbury Park Way
Bredbury, Stockport
SK6 2SL, UK
Tel: +44 (0)161 4067878

APPROVED SIGNATORY

Grant Mitchell (053)
(Signed electronically)

Customer:

Mecmesin Ltd, Spring Copse Business Park
Slinfold, West Sussex, RH20 3LZ

Location of calibration:

Trescal Ltd, Park Gate Close, Bredbury Park Way
Bredbury, Stockport, SK6 2SL, UK

Equipment Details:

Description:	Speed Verification Tool	Customer Ref:	TM0400
Manufacturer:	ELV	Date of Receipt:	12 May 2021
Type No:	LSU 100	Order No:	
Serial No:	PEQ0115626	Our Reference:	00517782
Calibrated By:	Afonso Achas	Date of Calibration:	19 May 2021

Calibration Summary

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. Assessment of conformance has been undertaken in accordance with the agreed decision rule detailed within this certificate.

Status on Receipt: Measured Values Only

No assessment of conformance has been undertaken.

Status on Despatch: Measured Values Only

No assessment of conformance has been undertaken.

Action(s) Taken: Full Calibration

Ambient Conditions: Temperature: 20 ±2 °C

Date of next calibration:

The results given within this certificate only relate to the item calibrated. The expanded uncertainties quoted refer to the measured values only, with no account being taken of the instruments ability to maintain its calibration. The reported expanded uncertainty is based upon a standard uncertainty multiplied by a coverage factor $k = 2$ providing a confidence level of approximately 95%. The uncertainty evaluation has been derived from EA-4/02 M:2013 "Evaluation of the Uncertainty of Measurement In Calibration".

Agreed and applied Decision Rule used to determine conformance:

It has been stipulated by the customer that assessment of conformance is not required. (Trescal Rule 0)
Reference: Trescal document TRE/DEC/004 Issue 1

Safety Test:

The equipment was tested for safety, using the mains lead supplied (where applicable), according to current Trescal procedure and was found to be compliant.

Calibration Equipment Used

Asset No	Due Date	Asset No	Due Date
120500	31/12/2021	121843	31/01/2022
FC160	30/11/2021	FC552	31/10/2021

The following information and any identified symbols are used by Trescal in determining the conformance of the device at each measurement point, which is then evaluated in line with the requested decision rule. Where this decision rule is of a "Binary Rule" type then the "Conditional Pass & Fail" statuses are treated as specified by the chosen decision rule. The overall conformance statement determined is given on page one of this certificate.

Key to results annotations, where applicable

* The measurements marked thus have been determined to be outside the specification, due allowance having been made for the expanded uncertainty.

! The measurements marked thus are within the specification by a margin less than the expanded uncertainty.

^ The measurements marked thus are outside the specification by a margin less than the expanded uncertainty.

@ The expanded uncertainty is significant in relation to the unit specification and it is therefore not possible to demonstrate conformance unambiguously.

\$ The measurements marked thus do not lie within the scope of the Laboratory's prevailing UKAS accreditation but are reported herein for completeness.

Certificate of Calibration

Issued By TRESICAL Ltd

Certificate Number:

3568960001

UKAS Accredited Calibration Laboratory 0013

Page 3 of 5

Basis of Test: Measured Results

This speed verification instrument has been measured using laboratory standards for the distance between the laser sensors operating the stopwatch, with the datum laser being at the bottom of the column . Repeat readings were taken to determine the accuracy and the measured results reported in the following tables:

Reading Ref	Nominal Length (mm)	Start Position (mm)	Stop Position (mm)	Measured Length (mm)
1	21.00	136.2177	157.0091	20.7914
2	21.00	136.2161	157.0088	20.7927
3	21.00	136.2158	157.0103	20.7945
4	21.00	136.2179	157.0079	20.7900
5	21.00	136.2180	157.0095	20.7915
Mean	21.00	136.2171	157.0091	20.7920
Maximum variation	21.00	.0022	0.0024	0.0045

Reading Ref	Nominal Length (mm)	Start Position (mm)	Stop Position (mm)	Measured Length (mm)
1	100.00	136.2138	236.0586	99.8448
2	100.00	136.2127	236.0589	99.8462
3	100.00	136.2133	236.0557	99.8424
4	100.00	136.2139	236.0563	99.8424
5	100.00	136.2124	236.0570	99.8443
Mean	100.00	136.2132	236.0573	99.8441
Maximum variation	100.00	0.0015	0.0032	0.0038

Certificate of Calibration

Issued By TRESKAL Ltd

Certificate Number:

3568960001

UKAS Accredited Calibration Laboratory 0013

Page 4 of 5

The dovetail bracket was measured for the distance between faces with the following results:

Feature	Position	Nominal Distance (mm)	Measured Results (mm)	Mean Value (mm)	Parallelism (mm)
Upwards Distance	1	20	19.9965	19.9950	0.010
	2		19.9938		
	3		19.9895		
	4		19.9995		
	5		19.9957		

Feature	Position	Nominal Distance (mm)	Measured Results (mm)	Mean Value (mm)	Parallelism (mm)
Downwards Distance	1	20	19.9971	19.9955	0.011
	2		19.9936		
	3		19.9899		
	4		20.0012		
	5		19.9959		

Uncertainty of measurement : ± 0.003 mm Linear
 ± 0.005 mm Laser Displacement

Calibration Procedure : QCD/CALP/18

Our Reference : AA356896

Certificate of Calibration

Issued By TRESICAL Ltd

Trescal

UKAS Accredited Calibration Laboratory No. 0013

Certificate Number:

3568960001

Page 5 of 5

Calibration Procedure: The instrument was placed in the Laboratory for 24 hours prior to calibration for stabilisation purposes. Tests were made by comparison with a standard counter at the given indications. The equipment was calibrated in a controlled environment using devices having known and traceable values. The uncertainties reported refer to the measured values only with no account being taken of the instrument ability to maintain its calibration.

Equipment Calibrated - Refer to Results

Time Checks

<u>UUT Indication</u>	<u>Standard Indication</u>	<u>Standard Equivalent</u>
00 hr 00 min 05.174 sec	5.173 sec	0 min 05.173 sec
00 hr 00 min 10.048 sec	10.049 sec	0 min 10.049 sec
00 hr 00 min 30.071 sec	30.067 sec	0 min 30.067 sec
00 hr 01 min 00.131 sec	60.124 sec	1 min 00.124 sec
00 hr 04 min 59.528 sec	299.503 sec	4 min 59.503 sec
00 hr 09 min 59.862 sec	599.847 sec	9 min 59.847 sec

The overall uncertainty in the measurement was:

± (0.011 seconds of indication)

Specification taken from:

No specification available, results as found.

End of Results