

## Calibration Certificate

**UNIT DESCRIPTION:**  **MODEL NO.:**

**SR. NO.:**  **CERTIFICATE NO.:**

**NAME OF CUSTOMER:**

**ADDRESS OF CUSTOMER:**

**CALIBRATION DATE:**  **CAL. VALIDITY:**

**DETAILS OF EQUIPMENT USED FOR CALIBRATION**  
 NOTE: Tick  mark where as applicable.

Digital Lab Thermometer  LCD Tachometer  Digital Stop Watch

Auto Ranging R.P.M. Meter  Digital Strobe  Weight Set

Digital Temperature Indicator

Sr. No.	Description	Certified By	Instrument Id. No.	Certificate No.	Calibration Date	Validity
01	Digi. Strobe	Autocal	MSM 01	C2341730/P/1	07.04.2023	06.04.2024

**OBSERVATIONS:**

Sr. No.	Instrument Speed Displayed (RPM)	Speed Reading on Strobe Meter (RPM)	Diff. In Actual and Strobe Meter RPM	Remarks
01	6000	6030	30	OK
02	3000	3010	10	OK
03	1000	990	10	OK

- NOTE:**
1. Calibration done with A 24-15 Rotor head at 6000 rpm.
  2. Calibration Traceable to national standards.
  3. Overall deviation is within specified accuracy.
  4. Result is related only to the item calibrated.
  5. Maximum tolerance permissible is  $\pm 1^\circ\text{C}$  &  $\pm 5^\circ\text{C}$  whichever is applicable and RPM  $\pm 2\%$  FSD and  $\pm 5\text{gm}$  to set weight.

**REMARKS: ACCEPTED**



**CALIBRATED BY: VIJAY KADAM**

**APPROVED BY: Manager Q. A.**

## AUTOCAL SOLUTIONS PVT. LTD.

Regd. Office & Laboratory: Unit No 4 Ruby Industrial Estate PCS Ltd. Navghar  
Vasai Road (E), Dist. Palghar - 401 210, Maharashtra, India  
CIN No U72200MH2008PTC178118  
Email -Id - sales@autocal.net Web Address - www.autocal.net  
Phone No. (0250) 2393460

### CALIBRATION CERTIFICATE MECHANICAL DISCIPLINE

FF/31-E-C

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Certificate No.	C2341730/P/1	Issue Date	10/04/2023
Date of Calibration	07/04/2023	Next Calibration Date	06/04/2024

Service Request Form No.		C2341730	
Calibrated for		Rami Elektrotechnik Ltd Bldg. B, Survey No.65/1, Village Valiv, Vasai (East), Dist. Palghar Maharashtra 401208, India	
Date of Receipt of Instrument		07/04/2023	
Condition of Instrument on Receipt		Working	Calibrated at Lab
Environmental Conditions	Temperature	24.3 °C	Relative Humidity 56.4 %RH

Details of Unit Under Calibration (UUC)			
Instrument	Digital Strobemeter	Equipment	NA
Make	TEST TECHNICS PVT LTD	Equipment Id	NA
Model	TT-5100	Department	NA
Sr. No.	1551	Section	NA
Tag/ID No.	MSM-01	Location	NA
Procedure No.	WI/ASPL/CAL/PR/07	Ref.Used	--

Range / Size	Resolution / Least Count	Accuracy / Acceptance Criteria
150 to 20000 RPM	1 RPM	Not Specified

Details of Standard(s) used for Calibration (Traceable to National & International Standards)				
Description	Make & Model	Serial No.& Id. No.	Traceability (Certificate No.)	Valid upto
DIGITAL TACHOMETER	Monarch / PLT 200	1856742 / STD/P/PR/07	Hi Tech, Chennai HT/CC/220617-06/003	29/06/2023

**Measurement Result**

Group : Acceleration , Speed

**Observation Table**

Sr. No.	Calibration Point	Reading On Standard	Reading On UUC	Error	(±) Expanded Uncertainty
	RPM	RPM	RPM	RPM	RPM
1	150	149.70	150	0.30	1.740
2	1000	1000.3	1000	-0.3	1.740
3	5000	5000.3	5000	-0.3	2.160
4	10000	10002	10000	-2	2.160
5	20000	20003	20000	-3	15.370

**Remarks:**

- The reported expanded uncertainty of measurement is stated as a standard uncertainty of measurement multiplied, by a coverage factor "k", such that the coverage probability corresponds to approximately 95% confidence level.
- The measured values mentioned are the average of 5 readings.

**Notes:**

- This certificate refers only to the particular item Calibrated at site / laboratory.
- The calibration results reported are valid at the time of and under the stated conditions of measurement.
- Any correction in this certificate invalidates this certificate.
- This certificate shall not be reproduced except, in full without the written approval from the Laboratory.
- Calibration of UUC done by any accredited laboratory is meant for scientific and industrial purpose only however, if used for commercial trading additional recognition / approval shall be compiled as a required by department of legal metrology, regulatory bodies, etc.



Authorised Signatory	Jyotindra Mehta Calibration Engineer
Calibrated By	Nilesh Khade Calibration Engineer

*(Signature)*  
10/04/23  
Authorised Signatory

\*\*\*\*\* End of Certificate \*\*\*\*\*





### CALIBRATION CERTIFICATE

<b>Certificate No.</b>	HT/CC/220617-06/003	<b>ULR No.</b>	ULR - CC215122000023255F
<b>CUSTOMER DETAILS</b>		<b>DEVICE UNDER CALIBRATION DETAILS</b>	
<b>Name</b>	M/s. Autocal Solutions Pvt. Ltd.,	<b>Description</b>	Digital Tachometer
<b>Address</b>	Unit - 4, Ruby Industrial Estate PCS Ltd., Navghar, Vasal East, Thane - 401 210.	<b>Make</b>	Monarch
		<b>Model</b>	PLT 200
		<b>Range</b>	As Per Manual
<b>Job No.</b>	220617-06	<b>Least Count</b>	0.001/0.01/0.1/1 RPM
<b>Job Receipt Date</b>	17-Jun-2022	<b>Accuracy</b>	± 0.01 % rdg or Least count (Whichever is greater)
<b>Issue Date</b>	08-July-2022	<b>Serial No.</b>	1856742
<b>Received Condition of DUC</b>	Satisfactory	<b>Identification</b>	STD/P/PR/07
<b>ENVIRONMENTAL CONDITION</b>		<b>Calibration On</b>	30-Jun-2022
<b>Temperature</b>	25 °C ± 2 °C	<b>Due On</b>	29-Jun-2023
<b>Humidity</b>	30 % RH to 75 % RH	<b>Calibrated By</b>	P. Bharathi Priya
<b>Discipline &amp; Group</b>	Mechanical Calibration & Acceleration, Speed and Acoustics		
<b>Calibration Procedure</b>	HT/WI/M/AS (Section 01) & SANAS TR 45-02 by Comparison Method		
<b>STANDARD DETAILS</b>			
<b>Description</b>	Digital Tachometer		
<b>Identification No.</b>	M/AS/TACHO/08 & M/AS/TACHO/04		
<b>Certificate No.</b>	SALPR/1215/1/21 & HT/CC/211012-06/001 & FCRI/EQL/21-22/185		
<b>Valid Till</b>	02-Dec-2022 & 11-Oct-2022 & 22-Sept-2022		

**Refer Next Page for Result**

*D. Jayakumar*  
Checked By  
D. JAYAKUMAR - CALIBRATION ENGINEER  
Apprentice G - 7B - PI

**CERTIFIED TRUE COPY**  
**AUTOCAL SOLUTIONS PVT. LTD.**  
*[Signature]* 10/04/23  
Authorised Signatory

*[Signature]*  
Approved By  
R.R. HARIJARAM - TECHNICAL MANAGER  
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# HI TECH

## CALIBRATION SERVICES



### CALIBRATION CERTIFICATE

Certificate No. HT/CC/220617-06/003      ULR No.      ULR - CC215122000023255F

### CALIBRATION RESULT

Mode : Non - Contact

DUC Reading in RPM	Standard Reading in RPM	Error in RPM	Expanded Uncertainty in $\pm$ RPM
6.096	6.096	0.000	0.18
49.893	49.897	-0.004	0.18
100.11	100.12	-0.01	0.28
500.51	500.49	0.02	0.29
1000.0	1000.0	0.0	0.35
10004	10004.3	-0.3	1.44
50003	50003.6	-0.6	2.77
99946	99948.7	-2.7	3.42

Mode : Contact

DUC Reading in RPM	Standard Reading in RPM	Error in RPM	Expanded Uncertainty in $\pm$ RPM
6.102	6.102	0.000	0.19
49.782	49.785	-0.003	0.17
100.24	100.23	0.01	0.26
1000.0	1000.1	-0.1	0.37
5004.3	5004.7	-0.4	0.42

#### Remarks:

- The Calibration is performed at Permanent Facility.
- The Calibration Certificate is valid for scientific & industrial purpose only.
- The Expanded uncertainty is expressed at 95.45 % confidence level with coverage factor k=2.
- Calibration Points are taken as per Customer's Request

*D. Jayakumar*  
Checked By

D. JAYAKUMAR - CALIBRATION ENGINEER  
Annexure G - 7.B - FI

End of Certificate

*R. Harijaram*  
Approved By  
R.J. HARIJARAM - TECHNICAL MANAGER