



TRUE COPY

CALIBRATION CERTIFICATE



CC-2287

Work Order No. : WO/ECL/353/23-24
Work Order Date : 11/09/2023
Date Of Receipt : 11/09/2023
ULR No. : CC228723100001453F
Discipline : Mechanical Calibration (Group : Acceleration and Speed)
Certificate No. : CC/ECL/0771/23-24
Date of Calibration : 16/09/2023
Amendment Certificate No. : CC/ECL/0771A/23-24
Date of Amendment : 15/02/2024
Page No. : 1 of 3
Date of Issue : 15/02/2024

Calibrated for : M/s. National Centre for Quality Calibration, 4, Abhishree Corporate Park, Near Swagat Bungalow BRTS, Iskcon-Ambli Road, Ambli, Ahmedabad, Gujarat - 380 058.

Calibrated at : IDEMI, Mumbai.

Description and Identification of Device Under Calibration	Standards Used for Calibration
Name : Digital Tachometer Manufacturer : M/s. Line Seiki Condition on receipt : No visible damage Range of Instrument : 6.0 to 15000.0 RPM (Contact Mode) 6.0 to 99999.9 RPM (Non-Contact Mode) Sr. No. : 184-0004 Model : TM-7010 ID No. : NCQC/M-154 Accuracy : $\pm 0.01\% \pm 1$ Digit	Digital Tachometer with RPM Source ID No. : IDEMI/ECL/TACHO/01 Calibration Certificate No. : HT/CC/230131-10/001 Calibration Valid up to 31/01/2024 All measurement results are traceable to the International system of units (SI), ensured by comparison, directly or indirectly with National or International standards through unbroken chain of calibration

Ambient Conditions :

Temperature : 24.6 °C

Relative Humidity : 58 %

Remarks : Please refer page 2 to 3 for Calibration Results.

- 1) Procedure of Calibration : Above mentioned item is calibrated as per operating procedure : OP-S&R-01
- 2) The reported expanded uncertainty in measurement is stated as the combined standard uncertainty in measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95 %.
- 3) Calibration Status : Sticker No. 771 indicating 'CAL STATUS' is affixed on instrument.
- 4) Our NABL Accreditation Certificate No. is CC - 2287, Valid up to 30/08/2025.
- 5) Next Calibration Due on : 15/09/2024
- 6) This is Amendment Certificate of CC/ECL/0771/23-24 issued on 04/10/2023
- 7) ILAC/MRA Mark is removed

Digitally signed
by NISHANT
NARESH
PAWASKAR
Date: 2024.02.15
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AUTHORISED SIGNATORY

Note:

1. This certificate refers only to the particular item(s), submitted for calibration. The certificate should not be reproduced except in full without the prior permission from the Principal Director, IDEMI, Mumbai - 400 022.
2. This is computer generated certificate and may not contain signature. Where send by email, this is signed with digital signature of authorized signatory, approved by NABL. For any queries, please quote work order number mentioned in this certificate



वैद्युतिक मापन उपयंत्र अभिकल्प संस्थान, मुंबई
INSTITUTE FOR DESIGN OF ELECTRICAL MEASURING INSTRUMENTS, MUMBAI

भारत सरकार की सोसायटी
सूक्ष्म लघु एवं मध्यम उद्यम मंत्रालय
Government of India Society

Ministry of Micro Small & medium Enterprises

स्वातंत्र्यवीर तात्या टोपे मार्ग चुनाबट्टी सायन झकधर मुंबई

Swatantryaveer Tatyta Tope Marg, Chunarhatti, Sion, P.O. Mumbai - 400 022



FF-LAB-003 Rev. 01

NCQC System Certificate No. 55

NCQC

Valid up to 15-09-2024

Reviewed *[Signature]*



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**INSTITUTE FOR DESIGN OF ELECTRICAL
MEASURING INSTRUMENTS, MUMBAI - 400 022**



Instrument Sr. No. : 184-0004
Date of Calibration : 16/09/2023
ULR No. : CC228723100001453F

Page No. : 2 of 3
Certificate No. : CC/ECL/0771/23-24
Amendment Certificate No.: CC/ECL/0771A/23-24
Date of Amendment : 15/02/2024

Calibration Results :

NON CONTACT MODE

Calibration Standard		Device Under Calibration		Error		Expanded Uncertainty (\pm) in RPM
Range	Reading	Range	Reading	Units	% of Rdg.	
	RPM		RPM			
5 RPM to 200000 RPM	6.025	6.0 RPM to 99999.9 RPM	6.0	-0.025	-0.415	0.6
	50.010		49.9	-0.110	-0.220	1
	100.00		100.0	0.02	0.020	1
	500.02		500.0	-0.02	-0.004	1
	1000.1		1000.0	-0.1	-0.010	2
	5000.1		5000.0	-0.1	-0.002	2
	10001		9999.9	-1.1	-0.011	3
	30000		30000.3	0.3	0.001	15
	40000		40000.0	0.0	0.000	15
	74999		74997.1	-1.9	-0.003	15
	99949		99946.1	-2.9	-0.003	15

Note : Value mentioned above is mean of 5 readings.

NISHANT
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PAWASKAR

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Authorised Signatory



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FF-INS-09



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बहुमूलक मापन उपकरण अभिकल्प संस्थान, मुंबई ४०००२२

INSTITUTE FOR DESIGN OF ELECTRICAL

MEASURING INSTRUMENTS, MUMBAI - 400 022



Instrument Sr. No. : 184-0004

Page No. : 3 of 3

Date of Calibration: 16/09/2023

Certificate No. : CC/ECL/0771/23-24

ULR No. : CC228723100001453F

Amendment Certificate No.: CC/ECL/0771A/23-24

Date of Amendment : 15/02/2024

Calibration Results :

CONTACT MODE

Calibration Standard		Device Under Calibration		Error		Expanded Uncertainty (±) in RPM
Range	Reading	Range	Reading	Units	% of Rdg.	
	RPM		RPM	RPM		
5 RPM to 200000 RPM	6.026	6.0 RPM to 15000.0 RPM	6.0	-0.026	-0.431	0.7
	50.009		50.0	-0.009	-0.018	1
	100.06		100.1	0.04	0.040	1
	499.99		500.0	0.01	0.002	1
	5000.0		4999.8	-0.2	-0.004	2
	8000.0		7999.8	-0.2	-0.002	2
	10000.0		9999.7	-0.3	-0.003	3
	12000.0		11999.6	-0.4	-0.003	3

Note : 1) Value mentioned above is mean of 5 readings.

2) Calibration is carried out as per customer's requirement.

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PAWASKAR
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Authorised Signatory

CC-2287

FF-INS-09

END OF CALIBRATION CERTIFICATE