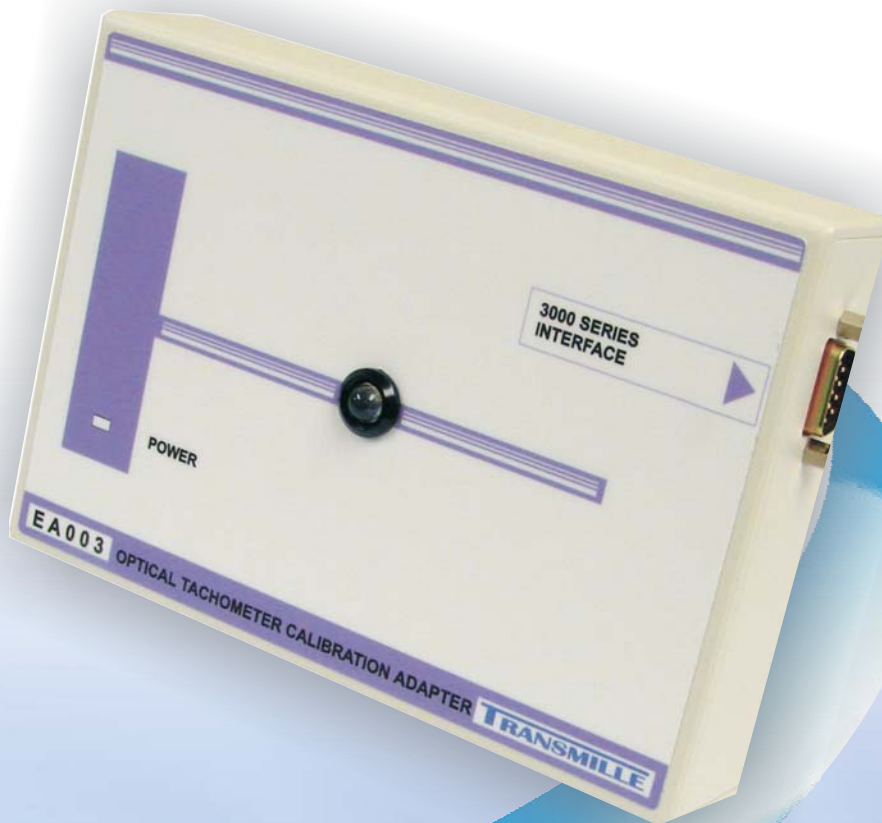


# EA003

OPTICAL TACHOMETER CALIBRATION ADAPTER



**OPERATION MANUAL**

# **EA003**

## **Optical Tachometer Calibration Adapter**

### **Operation Manual**

## Guarantee and service

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Transmille Ltd. guarantees this instrument to be free from defects under normal use and service for a period of 1 years from purchase. This guarantee applies only to the original purchaser and does not cover fuses, or any instrument which, in Transmille's opinion, has been modified, misused or subjected to abnormal handling or operating conditions.

Transmille's obligation under this guarantee is limited to replacement or repair of an instrument which is returned to Transmille within the warranty period. If Transmille determines that the fault has been caused by the purchaser, Transmille will contact the purchaser before proceeding with any repair.

To obtain repair under this guarantee the purchaser must send the instrument in its original packaging (carriage prepaid) and a description of the fault to Transmille at the address shown below. The instrument will be repaired at the factory and returned to the purchaser, carriage prepaid.

Note :

**TRANSMILLE ASSUMES NO RESPONSIBILITY FOR DAMAGE IN TRANSIT**

**THIS GUARANTEE IS THE PURCHASER'S SOLE AND EXCLUSIVE GUARANTEE AND IS IN LEIU OF ANY OTHER GUARANTEE, EXPRESSED OR IMPLIED.**

**TRANSMILLE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS.**



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# EA003 Optical Tachometer Calibration Adapter

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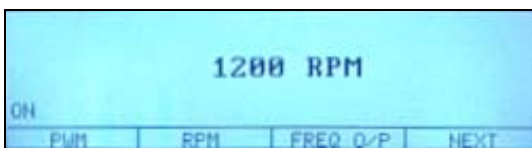


- Complete solution calibrates optical tachometers up to 60,000 RPM
- Complete with adapter unit incorporating high intensity LED
- Easy to use
- Works with ProCal & 3000 Series Virtual Front Panel Software

Simply connect the adapter to the feature connector on the 3000 series calibrator, select the RPM mode and value and point the tachometer at the high intensity LED to perform accurate and repeatable calibration, removing the need for ad-hoc setups and de-skilling calibration of these instrument types.

## Integrated RPM Mode for direct control

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The 3000 Series calibrators incorporate a dedicated RPM mode to control the optical tachometer adapter

## External Adapter to provide optical triggering of tachometer instruments

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Connects directly to the adapter interface connector on the 3000 series calibrator. Incorporates high intensity LED.

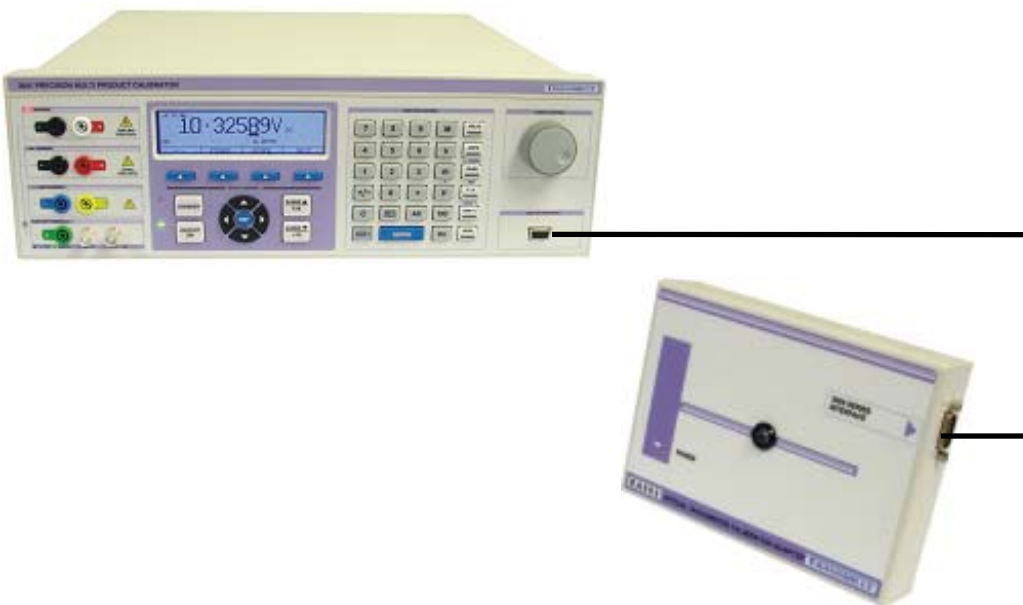
# Optical Tachometer Calibration Adapter - Operation

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## Optical Tachometer Calibration Adapter Connection

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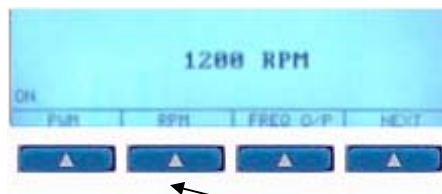
Using the supplied adapter connection lead (9 way 'D' type to 9 way 'D' type), connect the optical tachometer calibration adapter to the feature connection on the front panel of the 3000 series calibrator.



## Starting the Optical Tachometer Calibration Option

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To start the oscilloscope calibration option, press the softkey below the menu item



Thermocouple simulation mode softkey

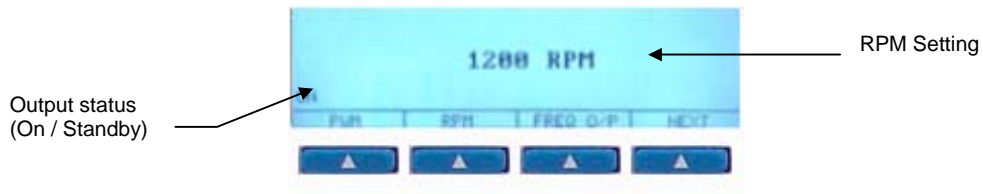


**TIP** : If the  menu item is not displayed, press the  softkey to go to the next menu level.

## **Optical Tachometer Calibration Option Operation**

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The optical tachometer calibration option allows the user to enter a value *directly in RPM* and use the calibrator to control the optical tachometer adapter. The integrated LED is pulsed at the required frequency to simulate the RPM value entered.

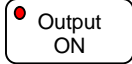


1. Use the calibrator keypad to key in the required RPM, for example 3500 :

3 5 0 0 ENTER



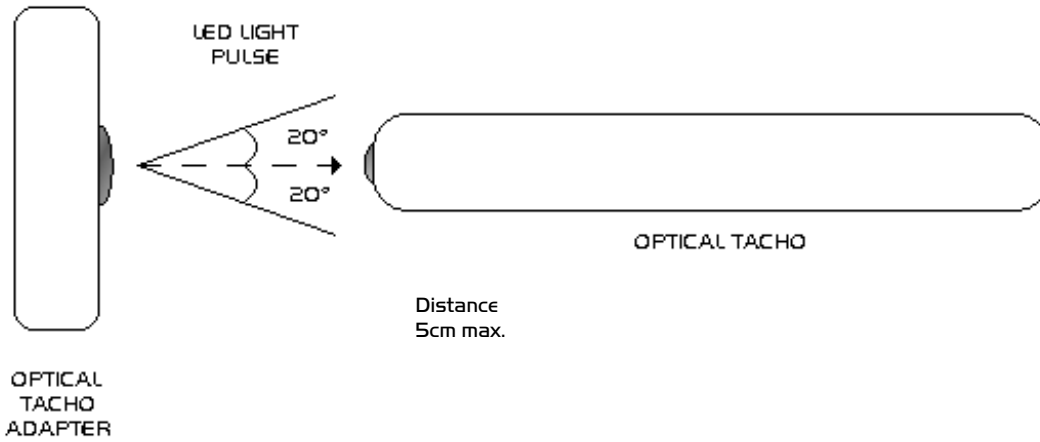
**Note** : Valid RPM settings are from 240 RPM to 60,000 RPM

Ensure the calibrator output is turned ON by pressing the  key.



**Note** : The LED in the top left hand corner of the Output ON key will illuminate and the display will indicate **ON** in the left hand corner.

2. The optical tachometer should be pointed at the LED on the adapter with no more than 20° angle to ensure consistent detection by the tachometer. Distance from the LED should also be restricted to within 5cm, again, for consistent detection.



Optical tachometer calibration times can be significantly reduced by using the ProCal calibration software available from Transmille which allows a pre-defined sequence of tests (known as a procedure) to be set up. This allows the computer to automatically step through these tests, control the calibrator, set the correct outputs and record the amount of deviation in relation to the instrument's specifications.



## Care & Maintenance

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The only maintenance instructions for the adapter is periodic cleaning.  
See below for details on the cleaning procedure and precautions for handling.

### Cleaning the Adapter

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To keep the external enclosure of the adapter in good condition, clean the outer case with a soft cloth. Do not use any liquids in cleaning the enclosure – removal of surface dust is all that is recommended.



#### CAUTION

Do not use cleaning fluids or solvents for cleaning as these may damage the enclosure and affect the plastic materials used in the adapter.

### Handling Precautions

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The adapter is designed for mechanical stability, but should not be subjected to excessive shock or be dropped. Transportation is recommended using the original packaging with avoidance of extreme changes of temperature.

### Servicing Information

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The adapter is provided certified from the factory, and uses precision components and are not user repairable. If the adapter is damaged it should be returned to the factory for repair and recalibration.

# **EA003**

## **Optical Tachometer Calibration Adapter**

### **Appendix A** Specifications

Warm Up Time	Double the time since last used up to 20 minutes maximum
Standard Interface	Transmille Adapter Interface (9 Pin Female 'D' Type connector)
Temperature Performance	Storage : -5°C to +60°C Operation : 0°C to +50°C
Relative Humidity	Operation : <80% to 30°C, <70% to 40°C, <40% to 50°C Storage : <95%, non-condensing
Altitude	Operation : 3000m (10,000ft) Maximum Transit : 12000m (40,000ft) Maximum
Brightness	1000mcd (wavelength 660nm)
Duty Cycle	20% (5:1)
Connections	Voltage 1x BNC connector Current 1x BNC connector Earth Connection 1x Green 4mm Safety Socket
Indicators	Red LED 8mm 20° Spread Ultra bright LED mounted in the adaptor case
Dimensions	17cm x 12cm x 3.5cm
Warranty Period	1 Year (Parts & Labour)
Recommended Service Interval	1 Year
Supplied Connections	1x Adapter Connection Lead

Range	Resolution	1 Year Rel. %
60 to 60,000 RPM	6 RPM	0.0030

Specifications apply at TCal  $\pm$  5°C

Outside this range an allowance of 0.18 x 1 Year Spec. per °C should be added.