



# Optical Tachometer Calibration Option

For the 2000 Series Calibrators

## Optical Tachometer Calibration Option

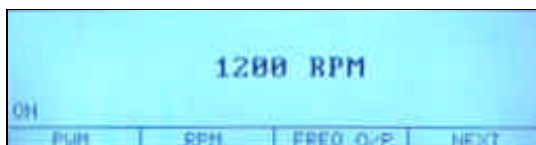
EA TACH



- Complete solution calibrates optical tachometers up to 60,000 RPM
- Complete with adapter unit incorporating high intensity LED
- Easy to use
- Works with ProCal & 2000 Series Virtual Front Panel Software

Simply connect the adapter to the feature connector on the 2000 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



The 2000 Series calibrators incorporate a dedicated RPM mode to control the optical tachometer adaptor

### External Adapter to provide optical triggering of tachometer instruments



Connects directly to the 'feature' connector on the 2000 series calibrator. Incorporates high intensity LED.

### Specifications - For full details see extended specifications

General Specifications	
Adapter connection	Connects to male 'D' type feature connector on 2000 Series front panel
Indicators	Incorporates red 8mm 20° Spread Ultra bright LED mounted in the adaptor case
Brightness	1000mcd (wavelength 660nm)
Duty cycle	20% (5:1)
Adaptor Dimensions	12.5cm x 6.5cm x 2.5cm
Connections	1 x 9 way male 'D' type connector
Connection to Calibrator	Via supplied 9 Way male to female serial lead (straight through connection)

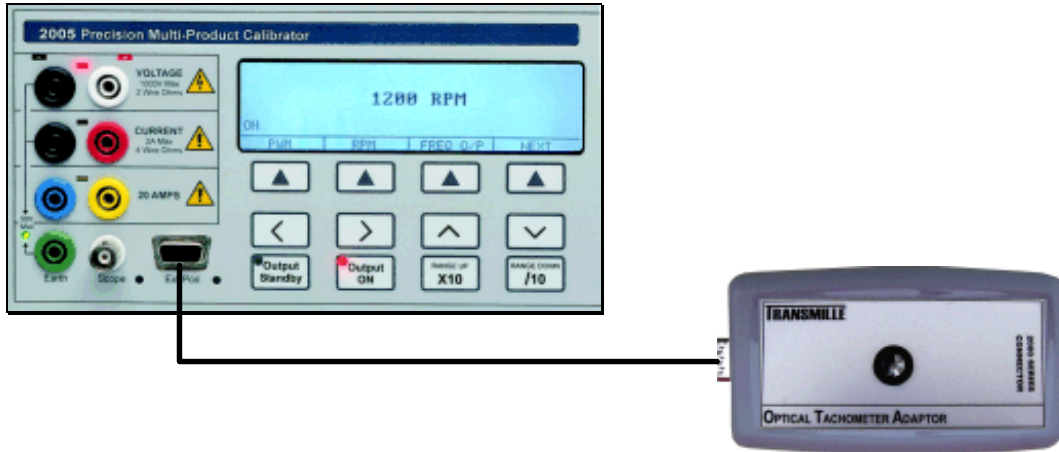
Optical Tachometer Adaptor Accuracy				
Range	Resolution	180 Day Rel. %	1 Year Rel. %	2 Year Rel. %
240 to 60,000 RPM	6 RPM	0.002 9	0.0030	0.003 6



## Optical Tachometer Calibration Option - Operation

### Optical Tachometer Calibration Adapter Connection

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 2000 series calibrator.



### Starting the Optical Tachometer Calibration Option

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

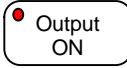
The optical tachometer calibration option allows the user to enter a value *directly in RPM* and use the calibrator to control the optical tachometer adapter. The integrated LED is pulsed at the required frequency to simulate the RPM value entered.



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

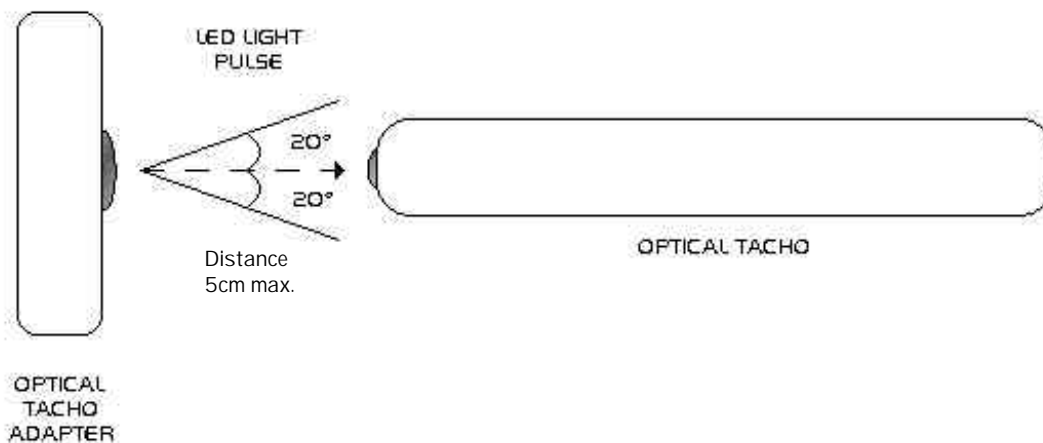


**Note :** Valid RPM settings are from 240 RPM to 60,000 RPM

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.

# 2000 Series Optical Tachometer Adaptor Specifications

General Specifications	
Adaptor connection	Connects to male 'D' type feature connector on 2000 Series front panel
Indicators	Incorporates red 8mm 20° Spread Ultra bright LED mounted in the adaptor case
Brightness	1000mcd (wavelength 660nm)
Duty cycle	20% (5:1)
Adaptor Dimensions	12.5cm x 6.5cm x 2.5cm
Connections	1 x 9 way male 'D' type connector
Connection to Calibrator	Via supplied 9 Way male to female serial lead (straight through connection)

Optical Tachometer Adaptor Accuracy				
Range	Resolution	180 Day Rel. %	1 Year Rel. %	2 Year Rel. %
240 to 60,000 RPM	6 RPM	0.0029	0.0030	0.0036

Frequency Input	RPM Simulation
40	240
100	600
200	1200
400	2400
600	3600
800	4800
1000	6000
2000	12000
4000	24000
8000	32000
10000	60000

Specifications apply between 17°C and 27°C.

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

Due to continuous development specifications may be subject to change.

