

Optical Belt Tensionmeter OTM-1

OTM-1 is a precise instrument for contactless measuring of the belt tension in power transmission drives, like toothed belts or V-belts. The use of OTM-1 enables an optimal function and maximum lifetime of belt drives.

The measuring results are reliable, recordable and documentable dates, for calculation-based check of the strand force and bearing load of the belt drive application.

The OTM-1 is specially useful for mounting and maintenance. It is also a helpful equipment in the quality assurance and at the final inspection of belt drives.



Ordering Details: Product No. 140 888 00 Optical Belt Tensionmeter OTM-1

Product Description

- For power transmission belts which can swing freely; not able for transportation belts lying on a slide rail.
- Non-contact, optical measuring with pulsed light.
- Measuring at non-running machine, tapping the belt to swing.
- Exactly measuring of belt frequency and strand force.
- Exactly calculation of the set points.
- Needed for protocolling according to DIN EN ISO 9001ff.
- User guidance and displaying the measuring results in 10 languages: English, German, French, Spain, Portugese, Swedish, Norwegian, Finnish, Danish.
- Displaying the measuring results on choice as natural belt frequency in Hz or as strand force in Newton or Pound.
- Easy and save operation.
- Compact and handy device.
- Device testing / re-calibrating can be done by the customer with a 250 Hz tuning fork.
- Versatile use for different materials: All mechanical pre-tensioned parts can be measured, which are able to swing freely, for example belts, robes, wires, films, cables, tapes, and sheets.

Determinating the Set Point

Possibilities to determinate the set point (examples):

1. The machine designer calculates the needed strand force and will define the set point, based on the belt drive calculation and the bearing dimensioning.
2. Empirical: This is a good way, if you have a proven construction. The installer mounts the belt with an appropriate tensioning, based on his experience. Then the tensioning can get measured and the result is the set point for future installations.
3. Calculation of the set point at the PC: Included in delivery, there is a document with the download link for a PC calculation software in English and German. This software can be installed on the customer's computer. After input the belt drive dates, the software calculates the optimal frequency in Newton or Pound. Measuring the belt, the instrument can show the actual strand force directly in Newton or Pound, if the belt length and belt mass have been put in before.

Technical Data

Measuring range:	10 - 800 Hz
Digital sampling error:	< 1 %
Indication error:	+/- 1 Hz
Total error:	< 5 %
Nominal temperature:	+ 20° C
Operating temperature:	-10° up to + 50° C
Shipping temperature:	-5° up to + 50° C
Casing:	Plastic ABS
Display:	2-line LCD, 16 characters/line
Languages:	10
Input strand length :	max. 9,99 m
Input belt mass:	max. 9,999 kg/m
Power supply:	9 V battery, optionally accumulator
Dimension of unit:	80 x 37 x 162 mm (with plug-in probe)
Dimension of case:	230 x 200 x 70 mm
Weight, including case:	672 g

Scope of Delivery

- Measuring instrument.
- Plug-in probe for one-hand operation.
- Measuring probe with cable for limited access space.
- 9 V battery (9 V accumulator and charger on request).
- Document with the download link for a PC calculation software in English and German, to calculate the frequency set point.
- Test certificate.
- Transport case from shock-resistant, durable ABS.

Operation manual in English and German as PDF-file at www.maedler.de