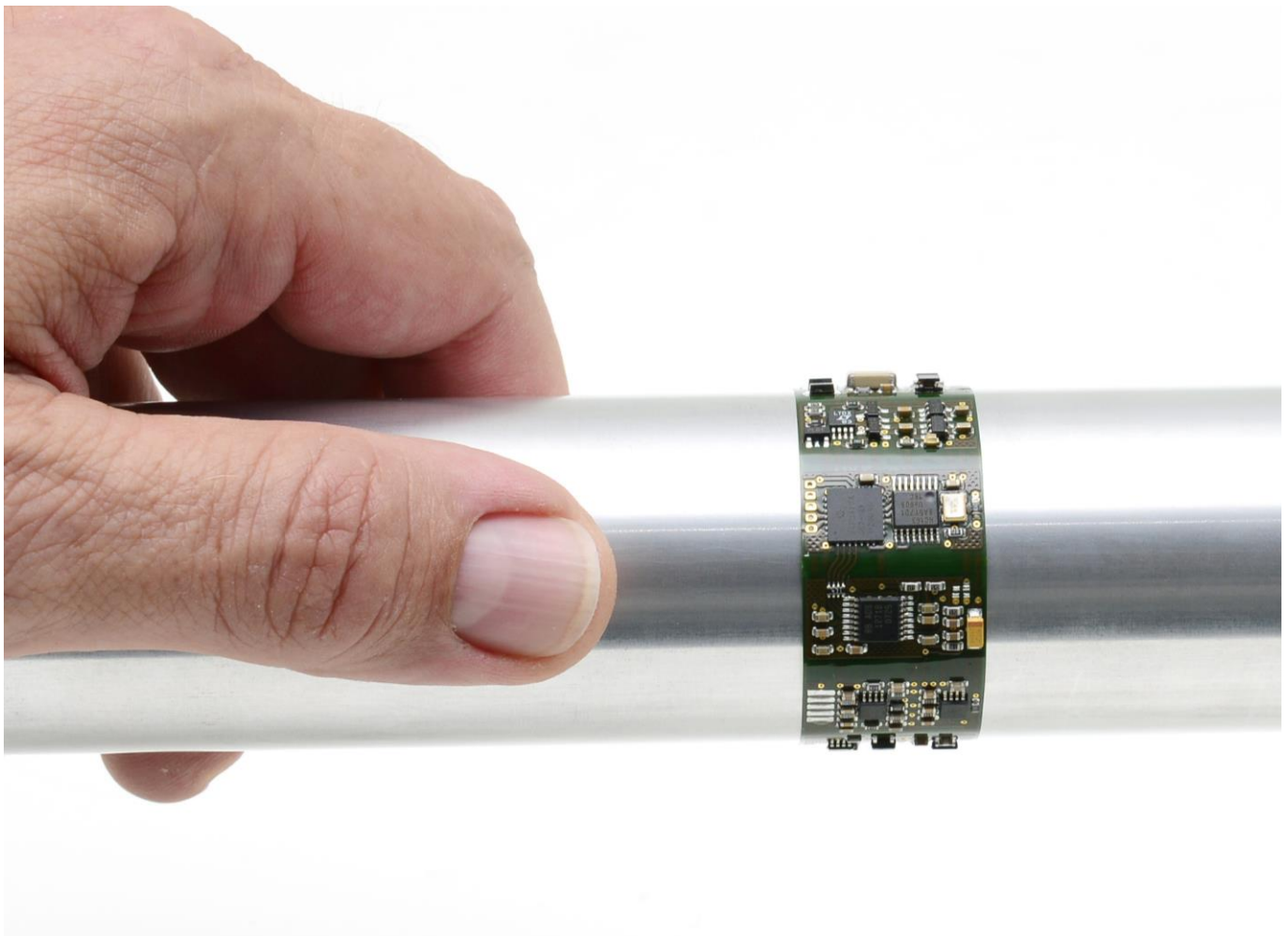


TEL1-PCM Flex

Flat & Flexible Transmitter for Torque Measurement



- Torque measurement in restricted spaces
- Suitable for high rpm shafts
- Strain gage sensors ($\geq 350 \text{ Ohm}$)
- Full- and half bridge configuration
- Excitation fixed 4 Volt DC
- Digital transmission realized inductively
- No influence through radio frequency
- Many systems can operated at the same time
- Signal bandwidth 0...1200Hz (-3dB)
- Inductive power supply – no batteries

General Description

Torque now measured in confined spaces: The new TEL1-PCM Flex

The new transmitter electronics TEL1-PCM Flex couples the efficiency of the existing TEL1-PCM transmitter with new flexibility. With a maximum overall height of less than 2 mm, the rotor electronics unit is extremely flat. Mounted on a flexible, foil substrate its space-saving design enables it be easily applied to rotating shafts or similar machine parts. The rotor electronic includes the sensor supply, signal processing and the transmitter for the contact less data transmission of the measured signal.

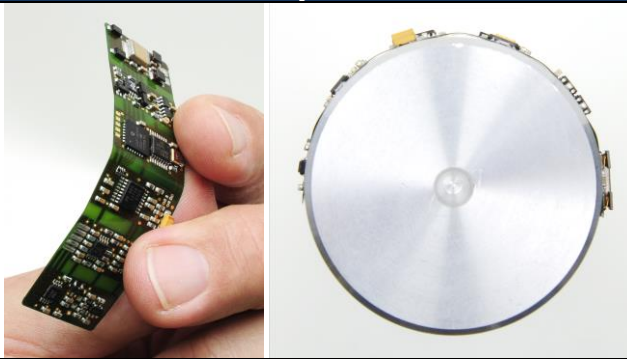
The low-profile TEL1-PCM Flex is also ideally suited for applications involving high rotational speeds. Supplementary the on-board inductive power supply ensures continuous and reliable measurements from the rotating shaft.

TEL1-PCM Flex Rotor Electronics

Today it's more important than ever to have reliable, detailed information about torque, vibration or other feedback signals by metering the different types of applications. The telemetry system TEL1-PCM Flex helps you to capture this data even from rotating applications. A very small rotor electronic, installed directly on the shaft captures, conditions and transmits the measuring data to an inductive Powerhead (Pickup). After this the information can be reproduced on the output of a stationary Decoder. Because it's easy to install and it can be powered inductively or with battery, it's a real all-rounder for measurements on rotating machinery.

There's no easier way to run wireless data transmission!

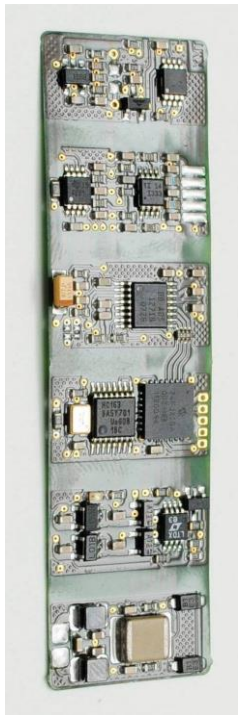
Extremely flat & flexible



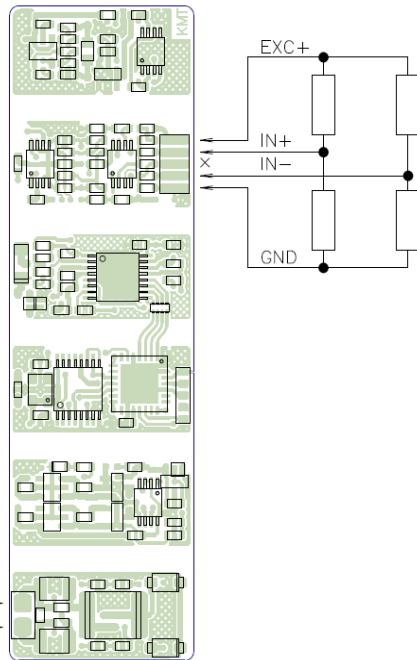
Technical Data

| | |
|------------------------|--|
| Standard Temperature | Range -40°C to +85°C Optional -40°C to 125°C |
| Sensor Input | Strain gage 350 Ω to 1 kΩ |
| Measurement Accuracy | 0.2 % |
| Amplifier Gain Range | 250-500-1000-2000-4000-8000 |
| Sensor Supply | +4 V |
| Signal Bandwidth | 0-1200 Hz (-3 dB) |
| Sampling rate: | 6.944kHz |
| Transmission | inductive |
| Powering | inductive |
| Dimensions (l x w x h) | 70 mm x 20 mm x 2 mm (incl. solder pads) |
| Minimum Bending Radius | 12.5 mm (diameter 25mm) |
| Weight | <2 grams |

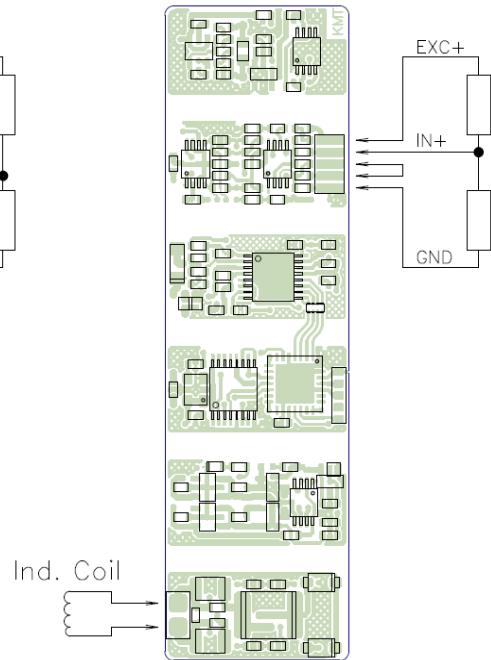
TEL1-PCM-FLEX BRIDGE CONNECTIONS



Full Bridge



Half Bridge



Technical Data Receiving Part



Front

Rear

TEL1-PCM-DEC

Front side:

Analogue output: +/-10V via BNC (**Optional 4-20mA output**)
(**delay between analog IN/OUT 15mS constant!!**)

Gain setting : via screw switch

Auto Zero setting: via micro switch

Overload LED's (Red ON) reset: via micro switch

Green LED's: Bargraph +/-

Autozero LED:

Yellow ON- successful AZ

Yellow OFF- not successful AZ

if flashing, call support of KMT, error in EPROM

Green LED's: Bargraph +/-

SL LED: Red ON = if error of data transmitting

SL LED: Red Flashing = distance to far

Power ON LED: Red ON = if power switch on

Rear side:

Output to Powerhead: via 6pol. Tuchel

Fuse LED: Flashing if fuse is defect

Powering: 10-30V DC (**min. 24Watt**), Input via 7pol. Tuchel

Switch: ON/OFF

Operating temperature: - 10 to +70 °C

Dimensions: 200 x 105 x 44 (without connectors!)

Weight 950 grams

Static acceleration: up to 200g

System accuracy*: +/- 0.2 %

*<*measure with gain 1000, 350ohm (0.1%) full bridge - test bridge!>*



TEL1-PCM-Powerhead/Pickup (standard version)

Function: Inductive powering of the TEL1-PCM-STG unit and receiving PCM magnetic field in PCM modulated code

Distance between the transmitter coil and the pickup is 25mm

(25mm at diameter <300mm with 5m cable, 15mm with 10m cable)

(Optional 35mm at diameter <300mm - see table)

Output to TEL1-PCM-Decoder: Via 6pol. Tuchel Plug incl. 5m cable

Operating temperature: - 40 to +85°C

Optional -40°C to 125°C

Dimensions: 53x66x30mm (without cable)

Weight: 200 grams (without cable!)

Housing: splash-water resistant IP65 (except connector).

Cable length standard 5m! 10m optional!

Block diagram

