# KMT - Kraus Messtechnik GmbH

**Gewerbering 9, D-83624 Otterfing, Germany, ☎ 08024-48737, Fax. 08024-5532**
**Home Page http://www.kmt-telemetry.com, Email: info@kmt-telemetry.com**


# T1-PCM

## Half-ring housing on shaft

## Operating Instructions

Picture show two set's as example

**INSTRUCTIONS FOR QUALIFIED PERSONNEL ONLY!**

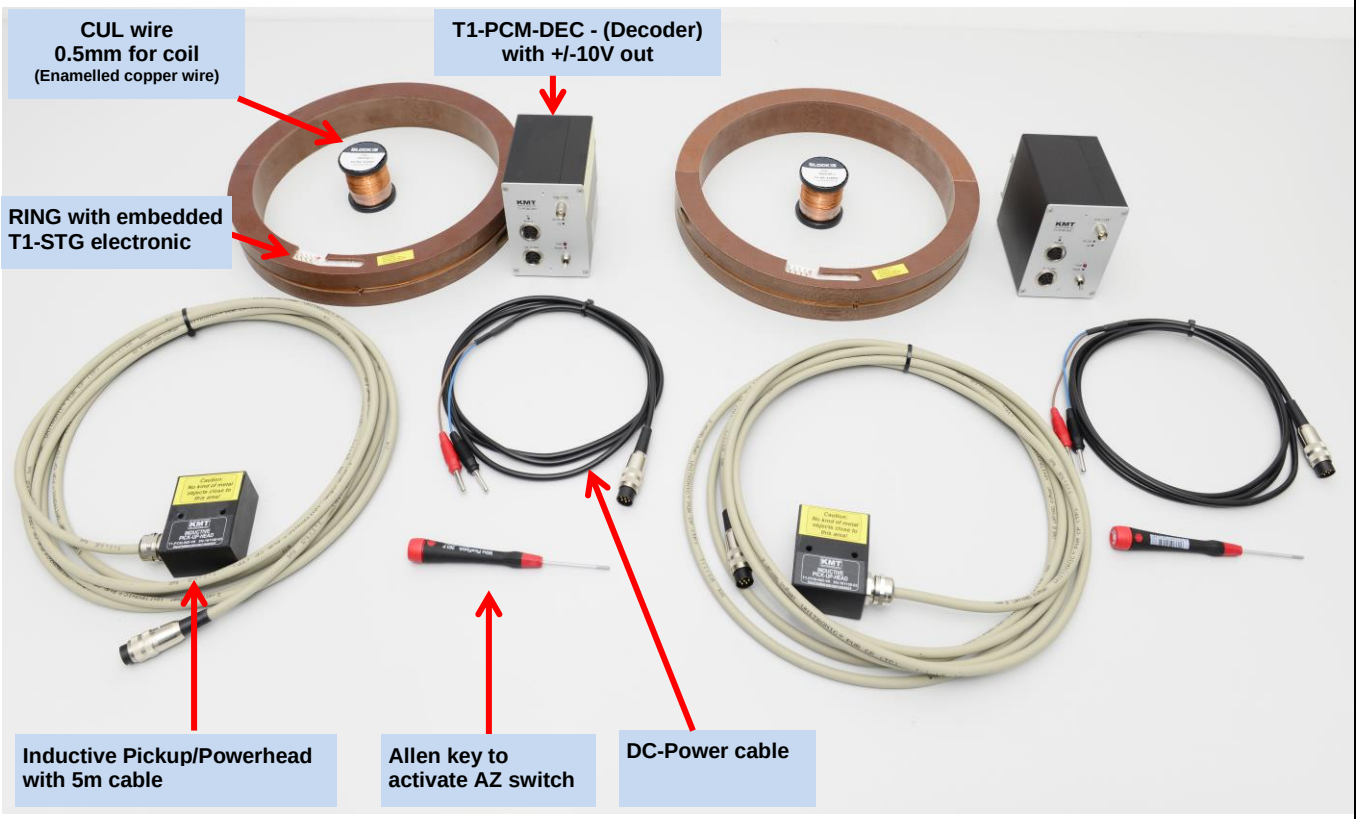
## Attention

- **Please note the general danger notes at rotating machines before use!**
- Use only shielded sensor cable
- When used on rotating shafts, all connections must be soldered.

## Safety notes for inductive powering

- The device should only applied by instructed personnel.
- The power head emits strong magnetic radiation at 60 kHz to a distance of 20 cm. Therefore persons with cardiac pacemakers should not work with this device!
- Magnetic data storage media should be kept in a distance of at least 3m from the power head to avoid data loss. The same is valid for electromagnetic sensitive parts, devices and systems.
- Do not place the power head in the switched-on state on metallic objects, because this results in eddy currents, which could overload the device and strongly heat up small objects. In addition, the probe could be destroyed!
- No metallic objects, other than the disc-type coil, should be located in the air gap of the power head. The same applies to metallic parts within a radius of up to 15–20 mm in all directions.
- Do not use damaged or faulty cables!
- Never touch in the area between shaft and inductive head, the rotating shaft itself or rotor electronic contacts during operation!
- This is a “Class A” system suitable for operation in a laboratory or industrial environment. The system can cause electromagnetic interference when used in residential areas or environments. In this case the operator is responsible for establishing protective procedures.

# T1-PCM-SET- RING:




Picture show two set's as example

# Technical Data Transmitting Part RING - STG:

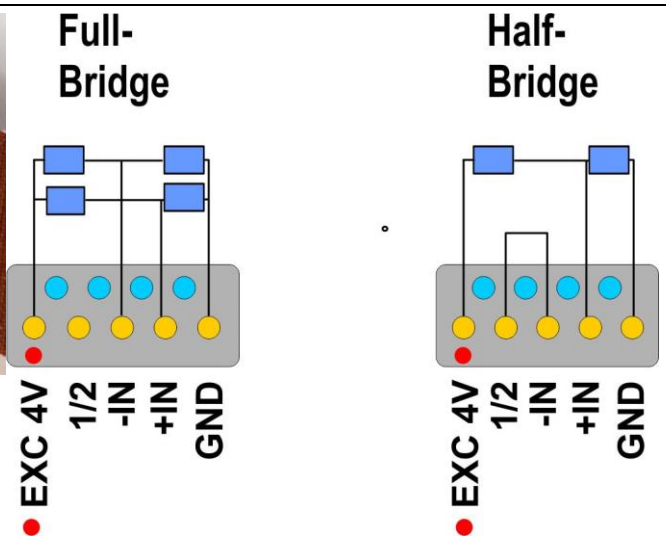
**T1-PCM-STG**

Strain gage: Full and half bridge >=350 Ohm,
Excitation: 4 VDC (fixed)
Gain: **250-500-1000-2000 standard**
500-1000-2000-4000 or
1000-2000-4000-8000 **on request!**

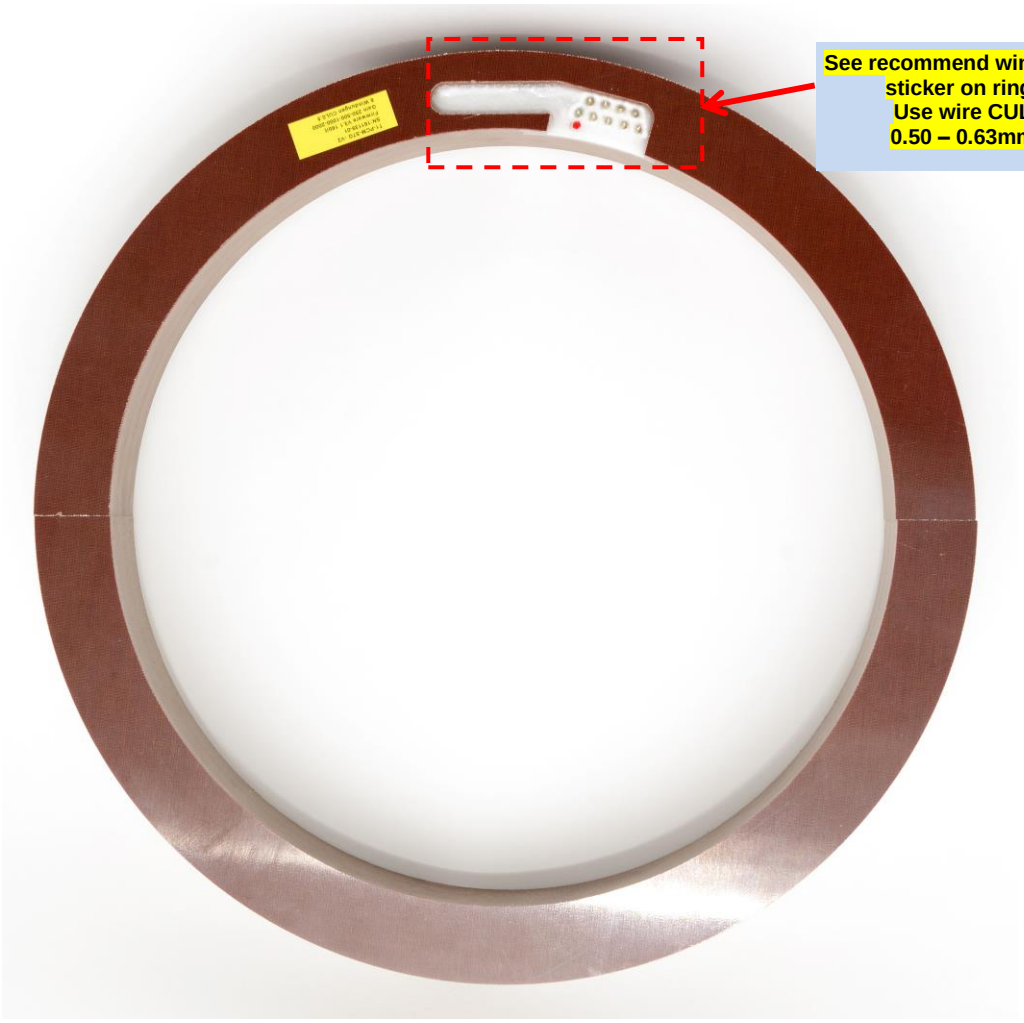
| Gain and Sensitivity | |
|---|---|
| Gain 250 = +/-10mV/V | Gain 2000 = +/-1.250mV/V |
| Gain 500 = +/-5mV/V | Gain 4000 = +/-0.625mV/V |
| Gain 1000 = +/-2.5mV/V | Gain 8000 = +/-0.3125mV/V |

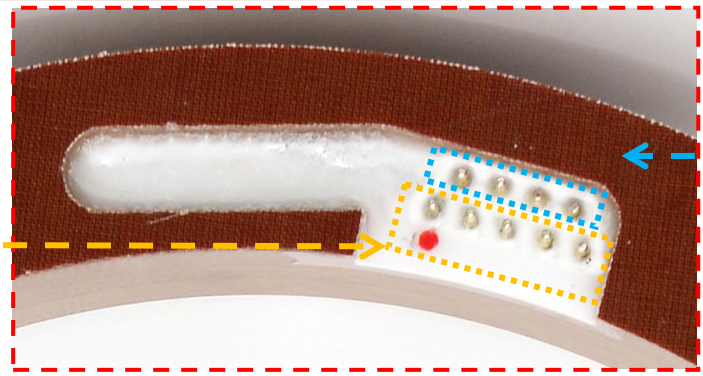
AZ: Auto Zero calibration (via AZ button from receiver side)
Analog signal bandwidth: 0 - 1200 Hz (-3 dB)
Operating temperature: - 40 to + 85 °C
Resolution 16bit
Scanning rate 6.41 kHz
Powering: inductive

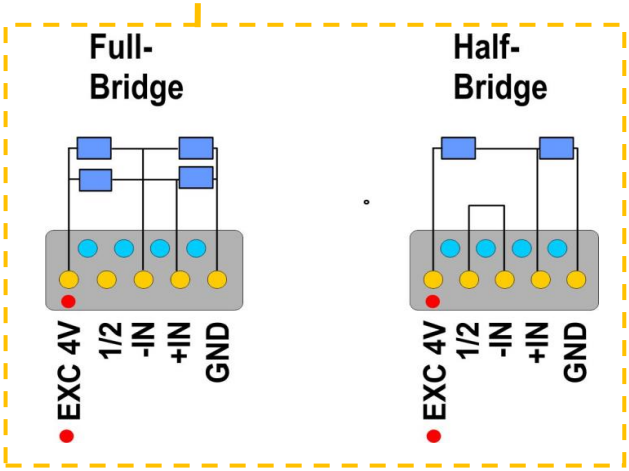
Housing: splash-water resistant IP65 (except the connector pins)



# Transmitting RING pin connection STG:

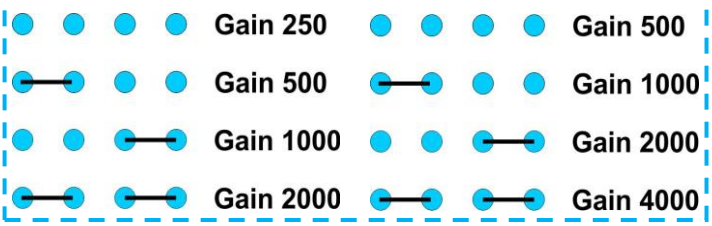




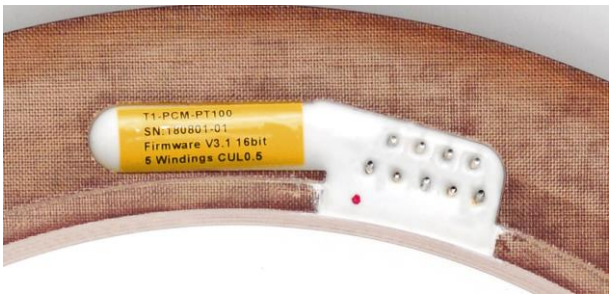

Make a wire bridge and final solder it together!
Restart the system after gain setting!!!
(Power OFF/ON)
A new Auto Zero at the decoder is requirement!

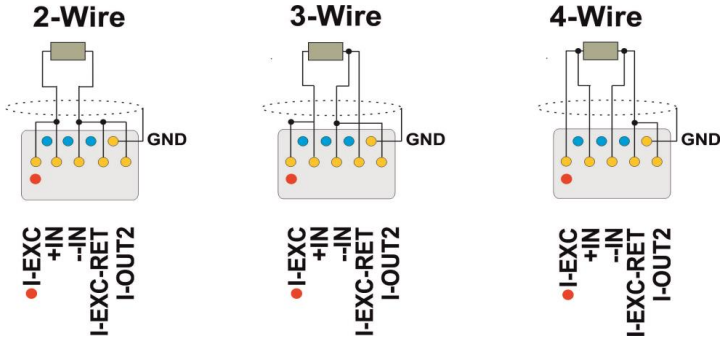
Gain 250-2000 or optional Gain 500-4000

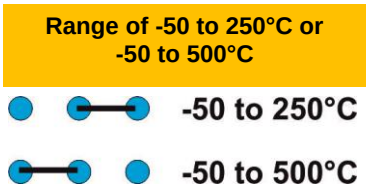


# Technical Data Transmitting Part RING – Pt100:

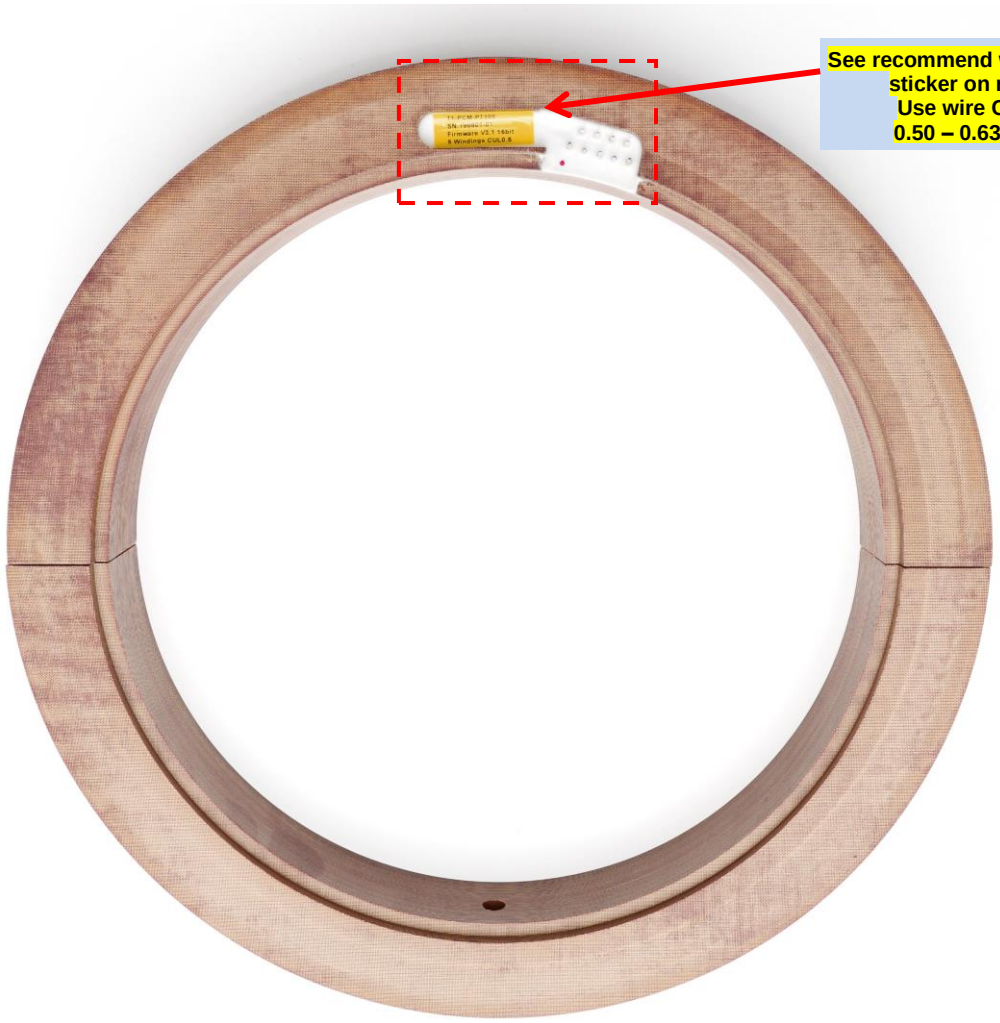
**T1-PCM-Pt100**
Pt100 thermo sensor
Measurement range -50 to 250°C or -50 to 500°C
(selectable by solder bridge!)
Analog signal bandwidth: 0 - 10 Hz (-3 dB)
Operating temperature: - 45 to + 85 °C
Resolution 16bit
Scanning rate 6.41 kHz
Static acceleration: up to 3000g
Powering: inductive
Housing: splash-water resistant IP65 (except the connector pins)

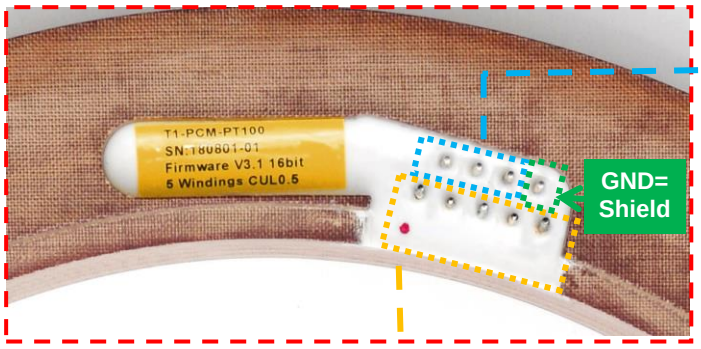


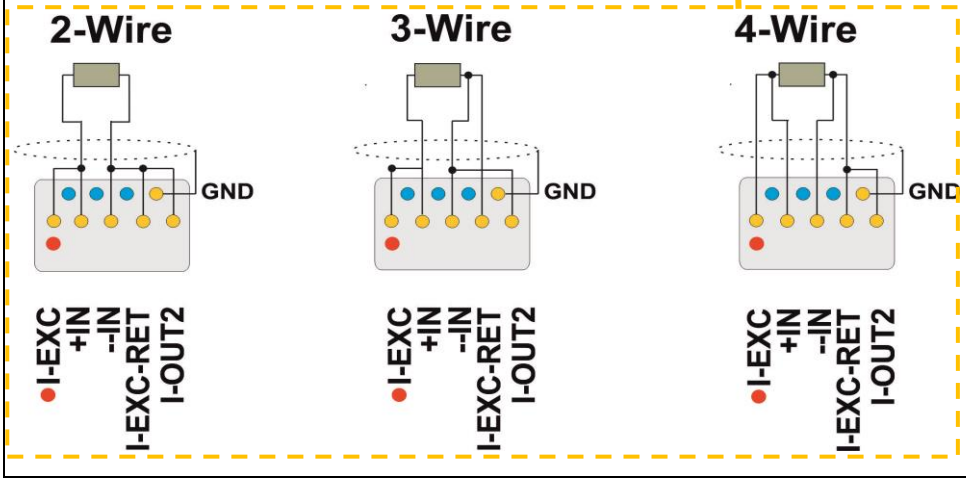



# Transmitting RING pin connection Pt100:



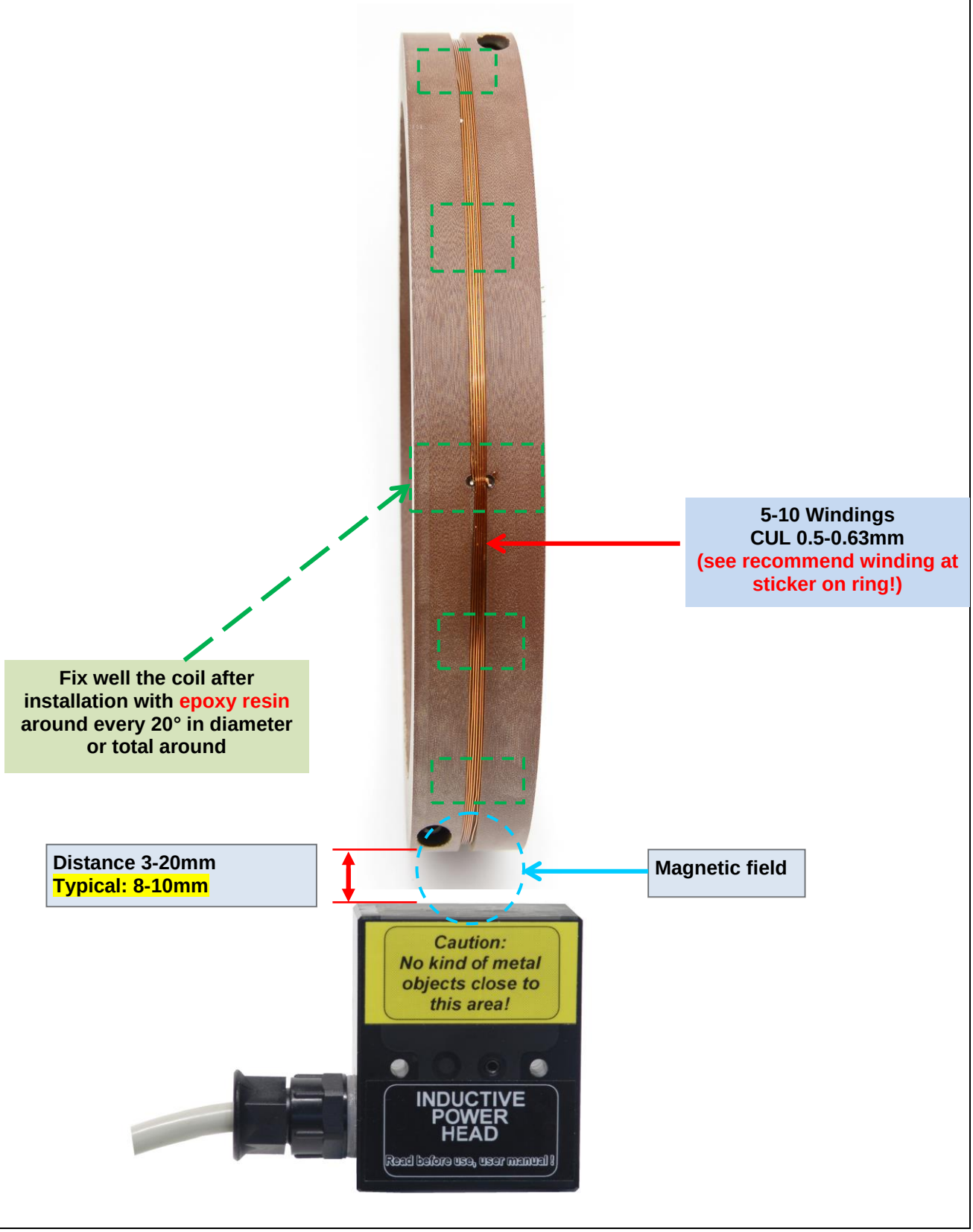



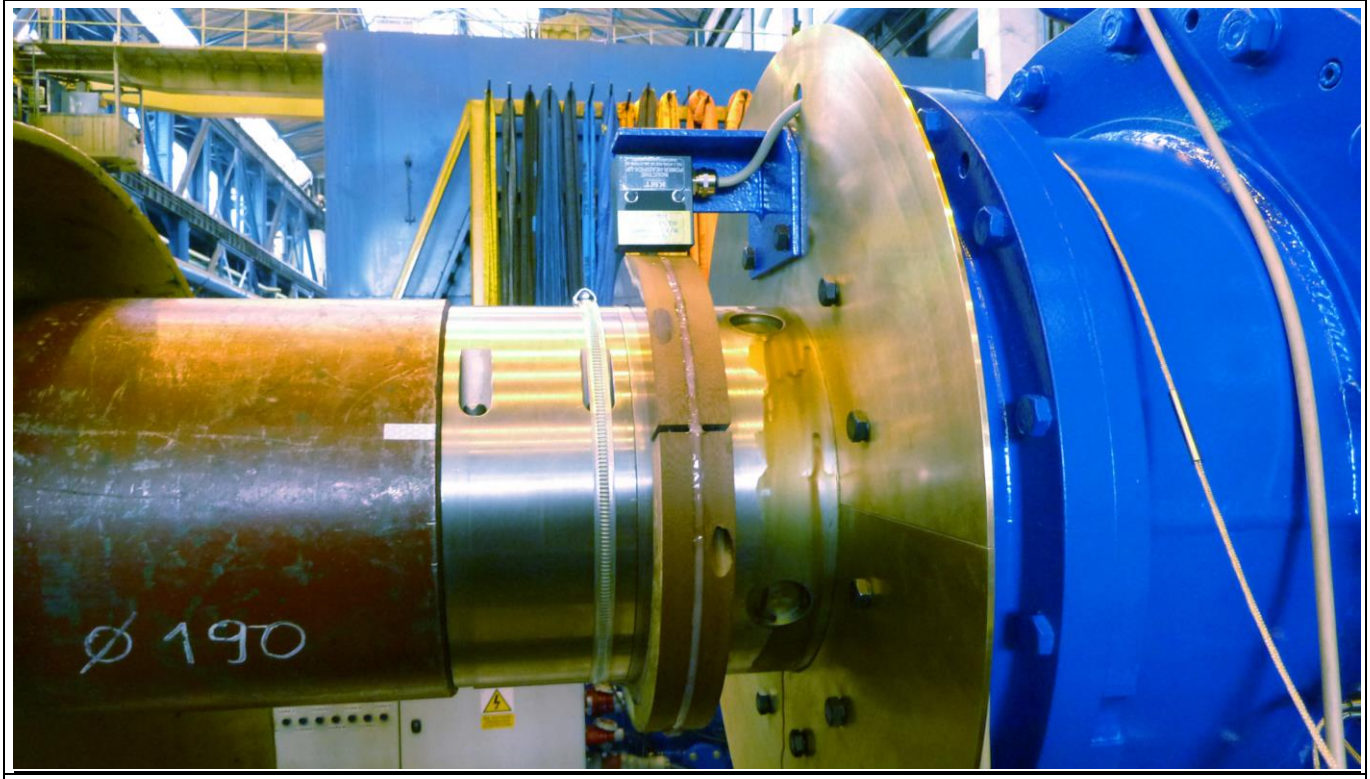

Make a wire bridge and final solder it together!
Restart the system after gain setting!!!
(Power OFF/ON

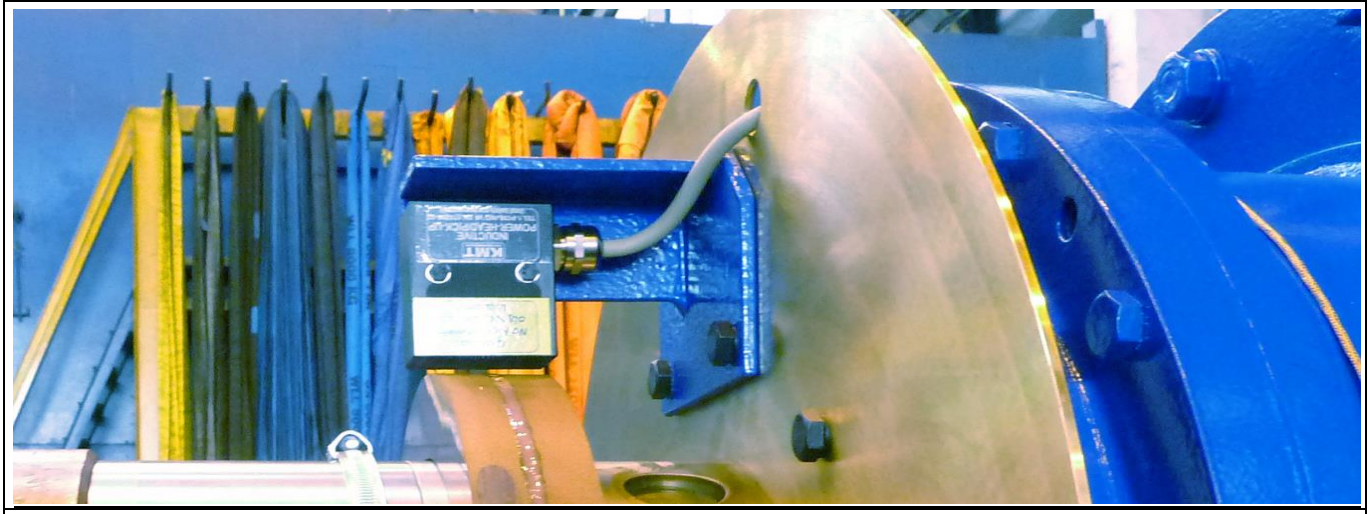
Range of -50 to 250°C or
-50 to 500°C

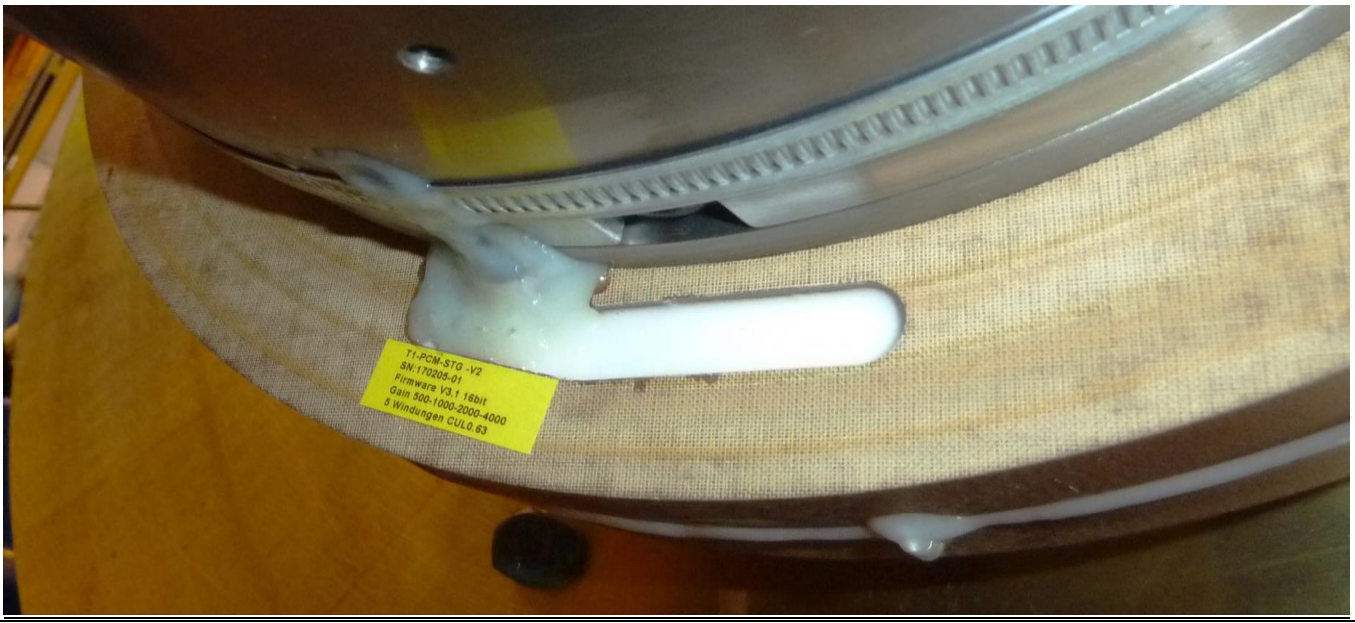
# Transmitting RING:



# Example of installation:

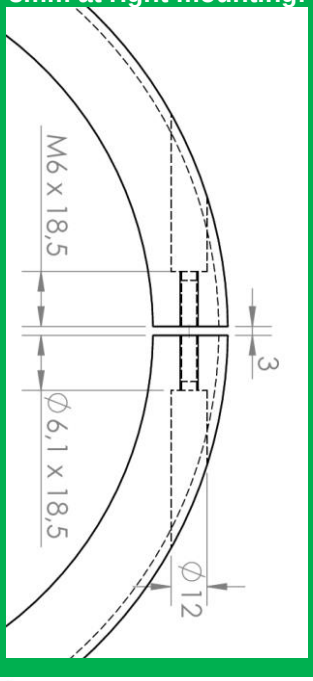


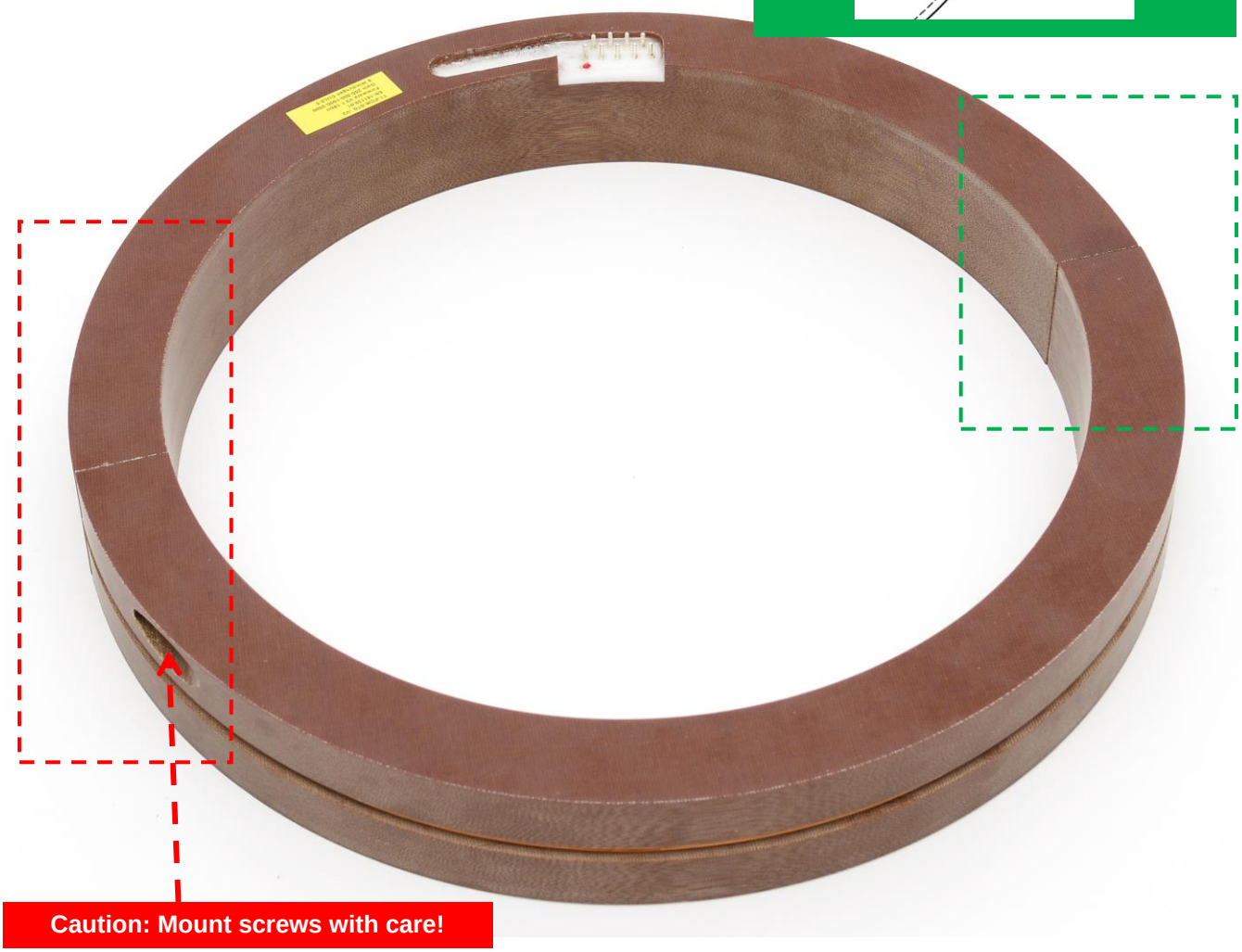



# Transmitting RING:

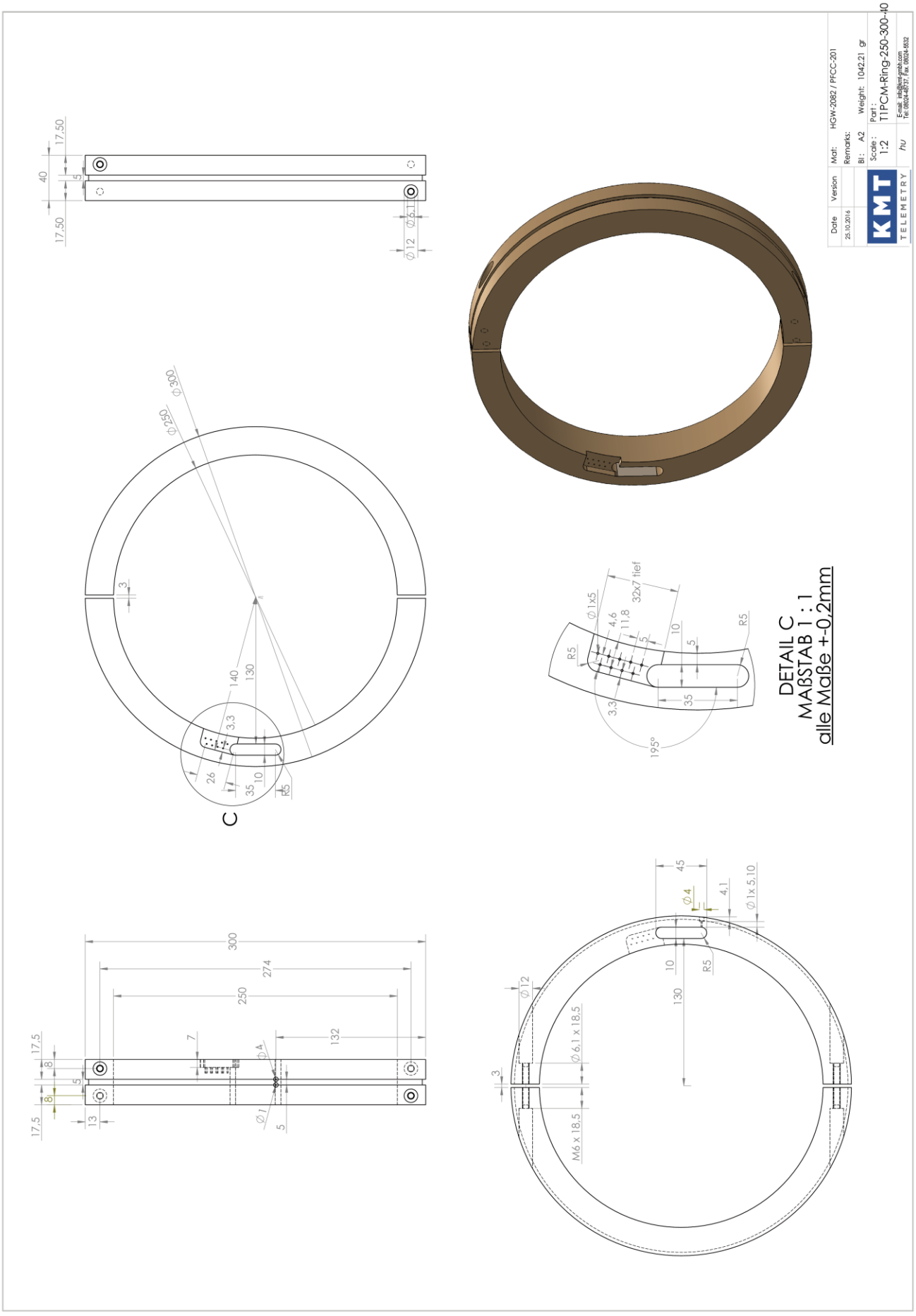
**On shaft you will get a gab of about 3mm at right mounting!**



**Caution: Mount screws with care!**

# Example draw of a transmitting RING for shaft 250mm:



# Technical data receiving part


Front

Rear

**Optional top-hat rail clip**

T1-PCM-DEC

Analogue output: +/-10V via BNC output 1200Hz
***(delay between analog IN/OUT 1.8mS constant!!)***
**Optional add. 4-20mA output to the analog output**
Auto Zero setting: via AZ button
Autozero LED:
Yellow ON- successful AZ
Yellow OFF- not successful AZ
*if flashing, call support of KMT, error in EPROM*
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
Output to Powerhead: via 6-pol. Tuchel
Fuse LED: Flashing if fuse is defect
Powering: 10-30V DC (min. 24Watt), Input via 7-pol. Tuchel
Switch: ON/OFF
Operating temperature: - 40 to +70 °C
Dimensions: 75 x 105 x 105 (without connectors!)
Weight 750 grams
Static acceleration: up to 200g
System accuracy*: +/- 0.2 %
<*measure with gain 1000, 350ohm (0.1%) full bridge - test bridge!!>


Standard PUPH cable right side out


PUPH cable rear side out (CRS option)

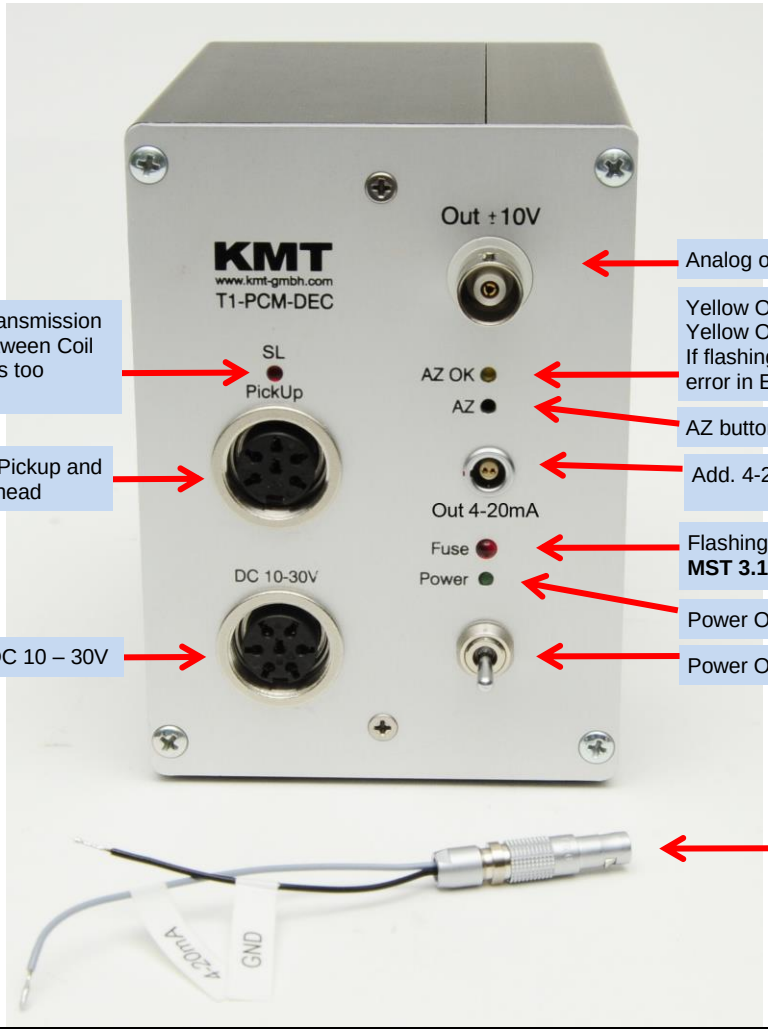
T1-PCM-Pickup/Powerhead (standard version)

Function: Receiving inductive PCM modulated data from the coil of the T1-PCM-STG unit
Distance between the transmitter coil and the pickup is 5-30*mm
Output to T1-PCM-Decoder: Via 6-pol. Tuchel plug incl. 5m cable
Operating temperature: - 10 to +80 °C
Dimensions: 53x66x30mm (without cable)
Weight: 200 grams (without cable!)
Housing: splash-water resistant IP65 (except connector).
Cable length standard 5m! Optional 10 or 15m

*(depend of shaft diameter!)

## Receiving part:

### Front




Analog output +/-10V

Yellow ON- successful AZ
Yellow OFF- not successful AZ
If flashing, call support of KMT, error in EPROM

AZ button

Add. 4-20mA output **(Option)**

Flashing if fuse damage:
**MST 3.15A 250V**

Power ON LED

Power ON/OFF switch

LED ON = Error data transmission
LED Flashing = Distance between Coil and Pickup is too far away

Data input from Pickup and output to Powerhead

Power IN DC 10 – 30V

LEMO Plug for 4-20mA
(at 4-20mA option only!)

Pin 1= grey = 4-20mA
Pin 2 = black = GND

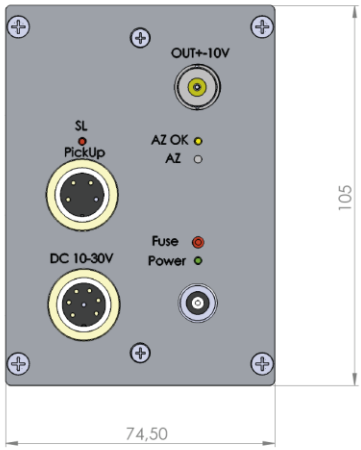
+10V = 20mA
0V = 12mA
-10V = 4mA

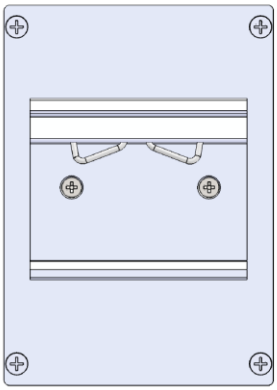
LEMO Type:
**FGG.00.302.CLAD30**

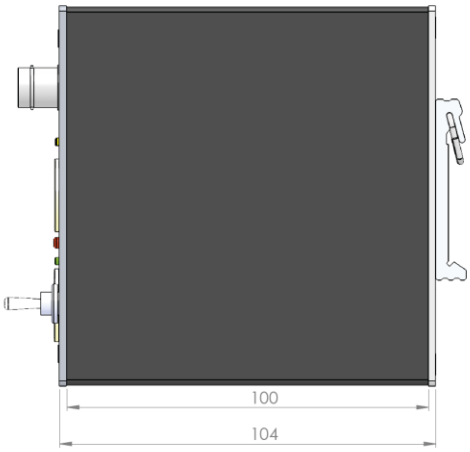
### Rear

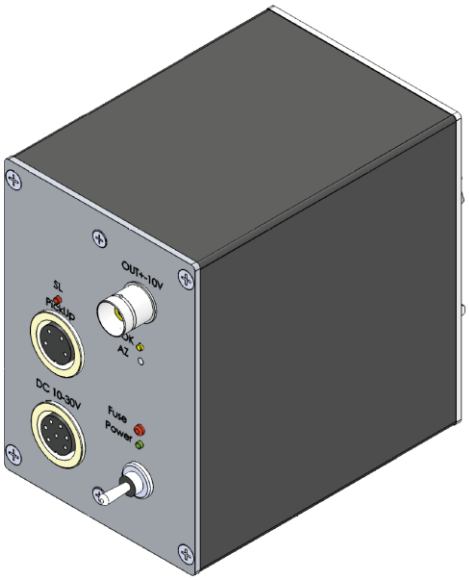
Top-hat rail mounting clip (Option!)

## Receiving part - dimensions:



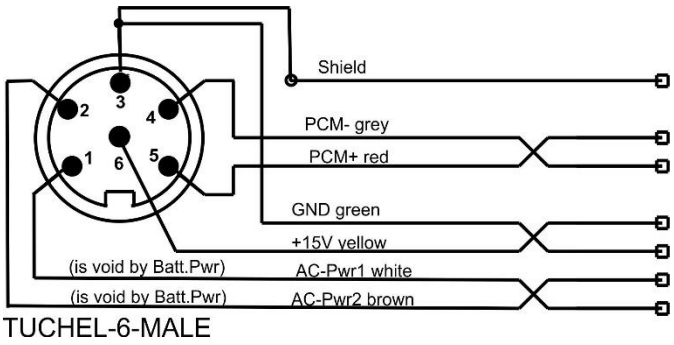



Weight: 0.750 kg

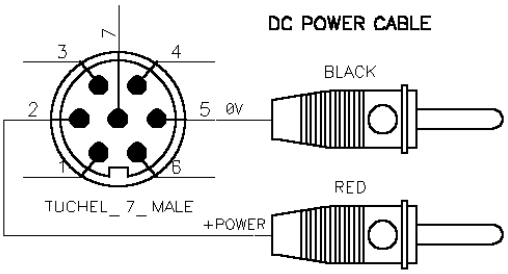
# Pin connection:

**Powerhead / Pickup**
Standard version for distance of 5-25mm
(Optional 5-35mm)

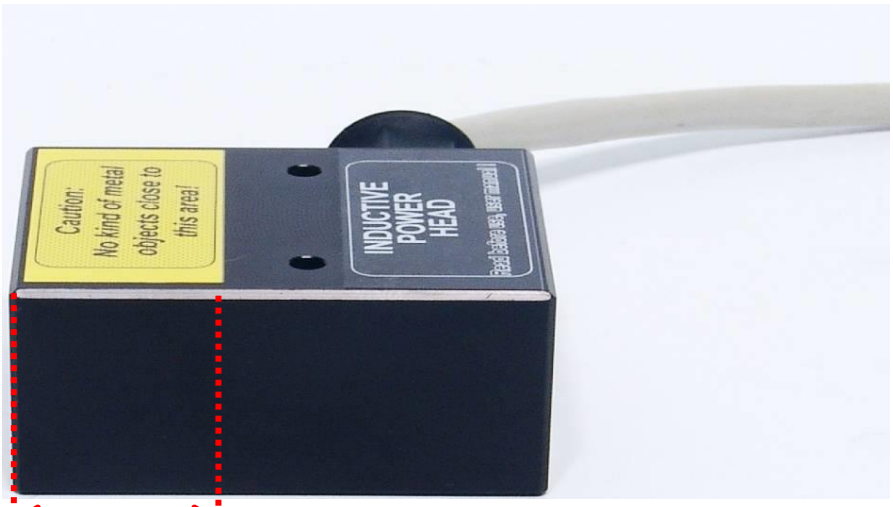




TUCHEL-6-MALE

DC-Power cable

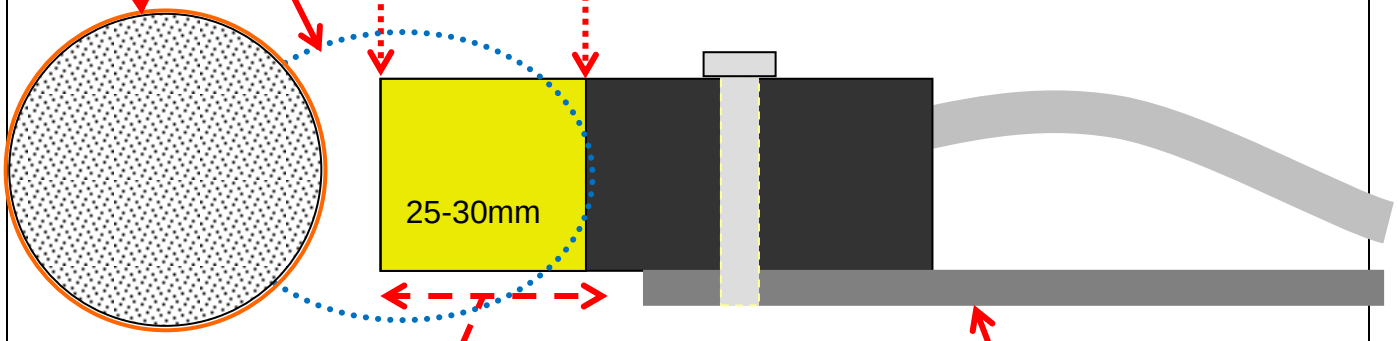


## Following must be considered at the mounting of the inductive power head at T1-PCM



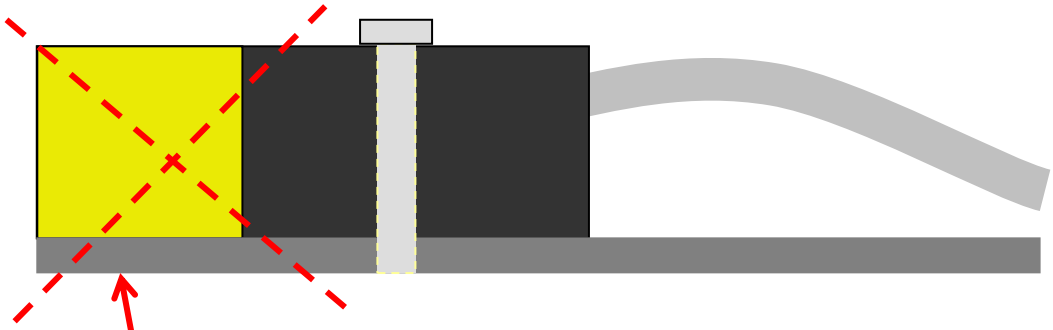

Shaft with Cu wire Coil

Magnetic field



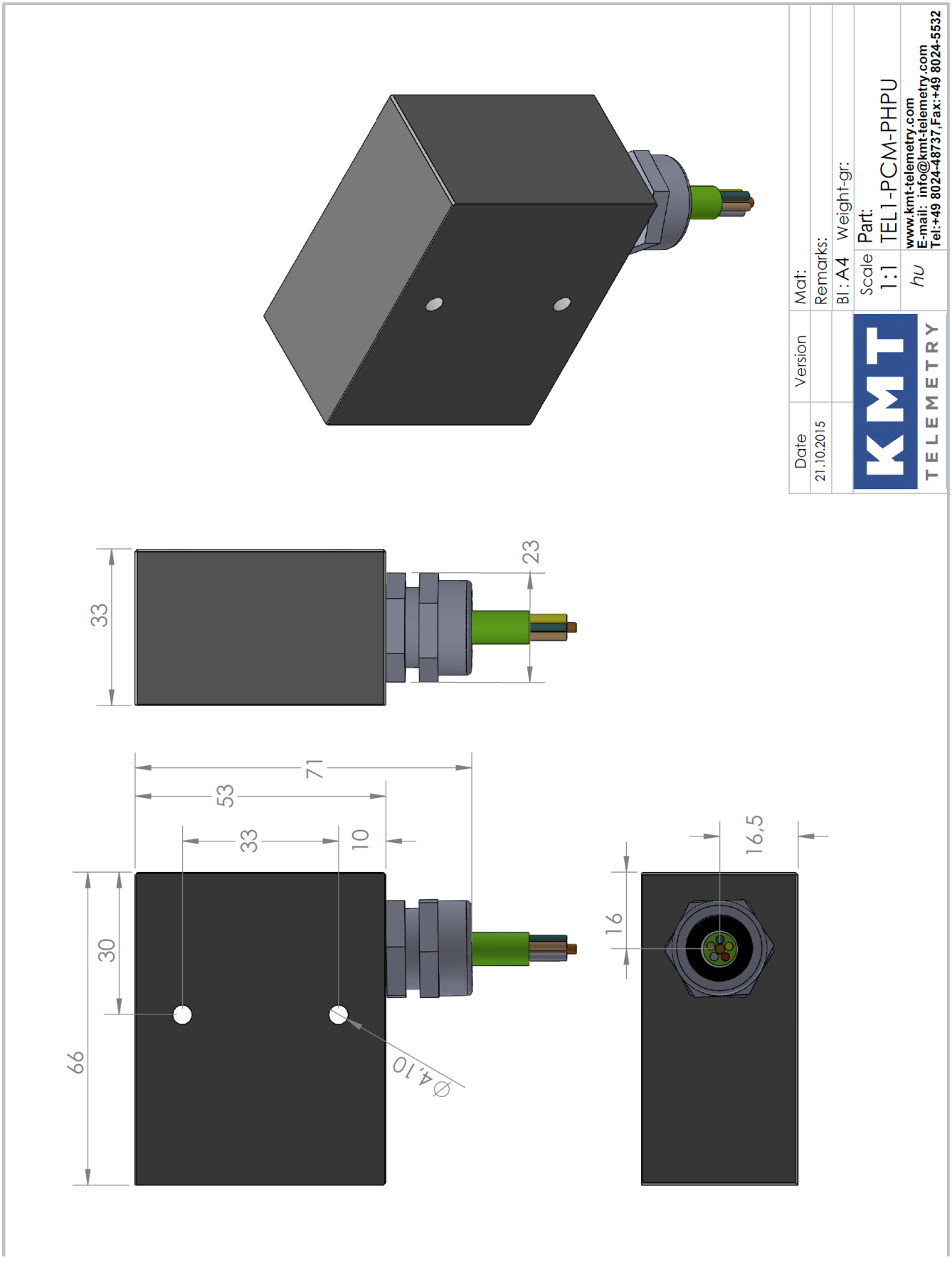

**Don’t use for mounting any kind metal in this area (25-30mm)! Otherwise flow magnetic energy in the metal also and decrease the distance between power head and coil (on shaft)!**

Example of mounting plate

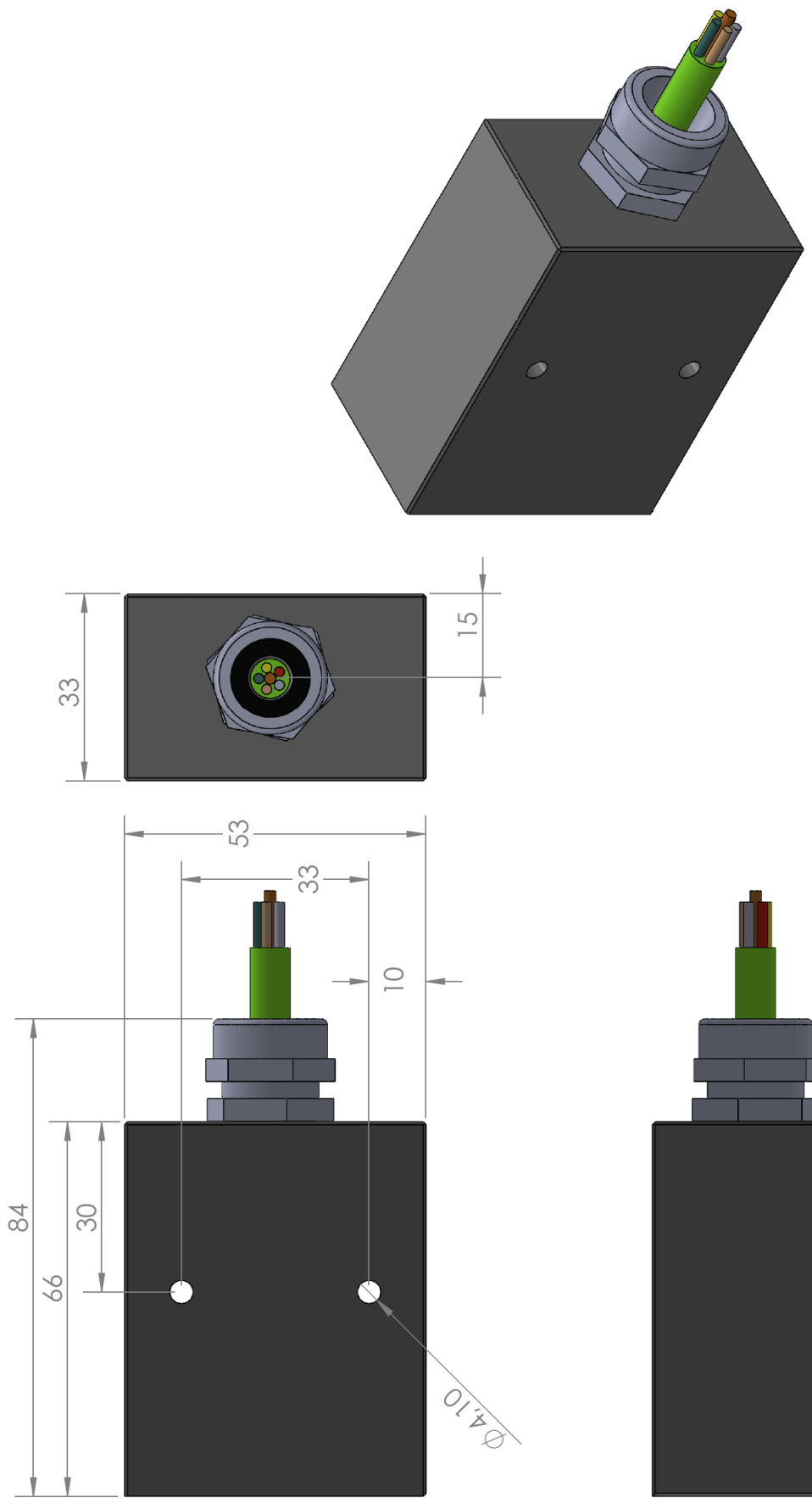


Wrong!!! Mounting plate cover the active area of inductive head

# Dimensions Powerhead / Pickup standard cable right side out



# Dimensions Powerhead / Pickup (CRS at standard and XL) draw




| Mat: | | | |
|---|---|---|---|
| Remarks: | | | |
| Bl: A4 | Weight-gr: | | |
| Scale 1:1 | Part: Tel1-PCM-PHPU-CRS | | |
| hu | www.kmt-telemetry.com<br>E-mail: info@kmt-telemetry.com<br>Tel:+49 8024-48737,Fax:+49 8024-5532 | | |
| Date | Version | KMT TELEMETRY | |
| 21.10.2015 | | | |

**CRS = cable rear side out!**

# Kraus Messtechnik GmbH

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**Home Page http://www.kmt-gmbh.com Email: info@kmt-gmbh.com**


## Konformitätserklärung

**Declaration of Conformity**
**Declaration de Conformité**

| | |
|---|---|
| Wir<br>We<br>Nous | **KMT - Kraus Messtechnik GmbH** |
| Anschrift<br>Address<br>Adress | **Gewerbering 9, D-83624 Otterfing, Germany** |

erklären in alleiniger Verantwortung, daß das Produkt
declare under our sole responsibility, that the product
declarons sous notre seule responsibilité, que le produit

| | |
|---|---|
| Bezeichnung<br>Name<br>Nom | **Messdatenübertragungssystem** |
| Typ,Modell,Artikel-Nr., Größe<br>Type,Model, Article No.,Taille<br>Type, Modèle, Mo.d'Article,Taille | **T1-PCM-IND, T1-PCM-BATT** |

mit den Anforderungen der Normen und Richtlinien
fulfills the requirements of the standard and regulations of the Directive
satisfait aux exigences des normes et directives

| | |
|---|---|
| **108/2004/EG** | **Elektromagnetische Verträglichkeit EMV / EMC**<br><br>DIN EN 61000-6-3 Ausgabe 2002-8 Elektromagnetische Verträglichkeit EMV Teil 6-3 Fachgrundnorm Störaussendung<br><br>DIN EN 61000-6-1 Ausgabe 2002-8 Elektromagnetische Verträglichkeit EMV Teil 6-1 Fachgrundnorm Störfestigkeit |

und den angezogenen Prüfberichten übereinstimmt und damit den Bestimmungen entspricht.
and the taken test reports und therefore corresponds to the regulations of the Directive
et les rapports d'essais notifiés et, ainsi, correspond aux règlement de la Directive.

**Otterfing, 27.04.2008** **Martin Kraus**

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| | |
|---|---|
| Ort und Datum der Ausstellung<br>Place and Date of Issua<br>Lieu et date d'établissement | Name und Unterschrift des Befugten<br>Name and Signature of authorized person<br>Nom et signature de la personne autorisée |