KMT - Kraus Messtechnik GmbH

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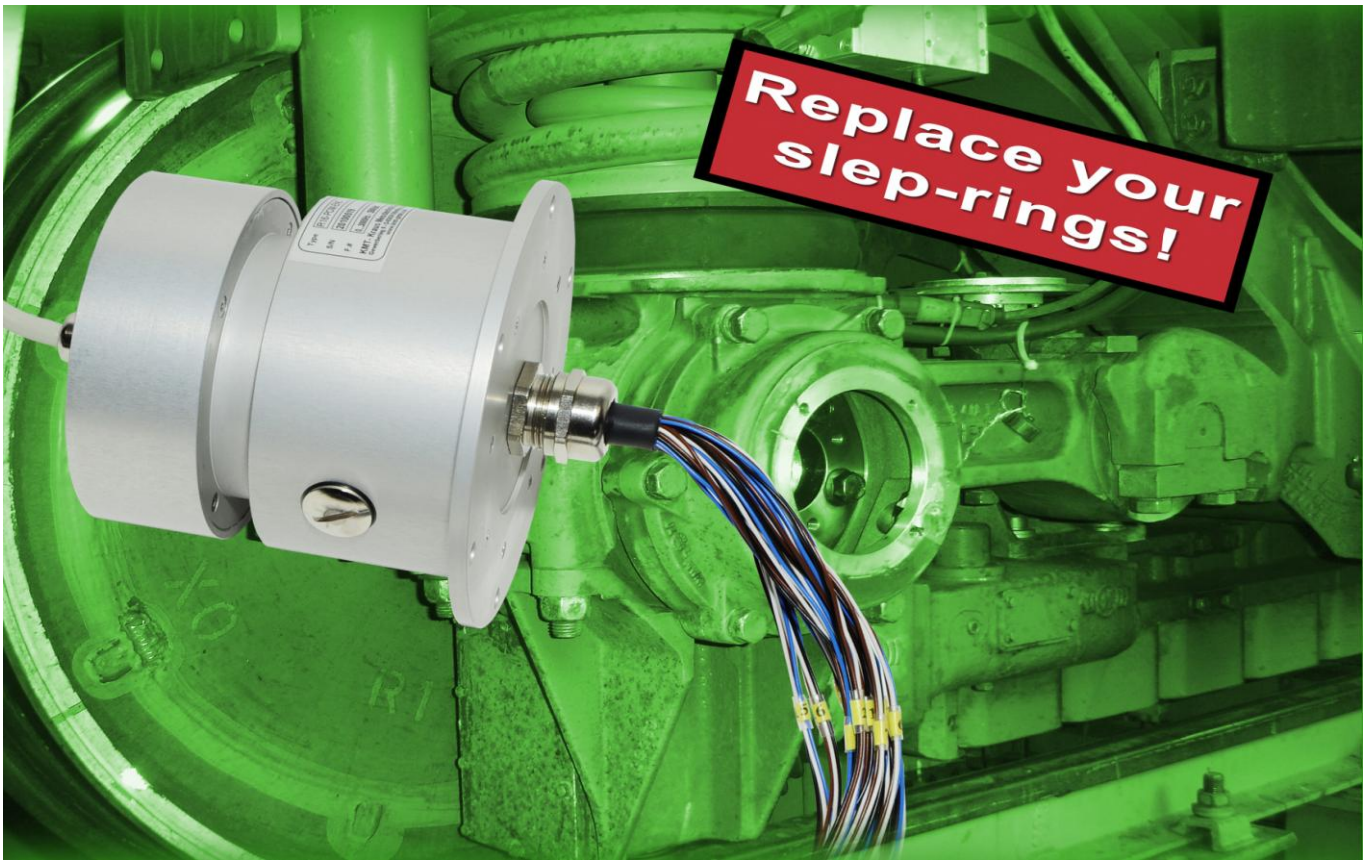
R16-PCM

16 Channel Telemetry for rotating applications incl. signal conditioning for strain gages signal bandwidth 16x 3000Hz with inductive powering

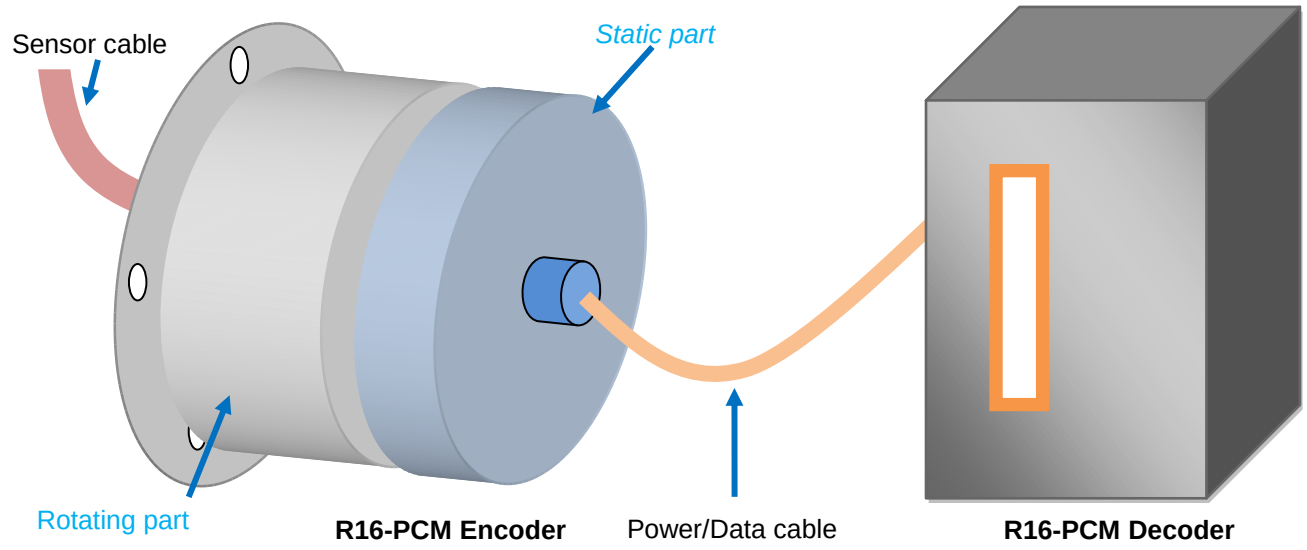
User Manual – DEMO

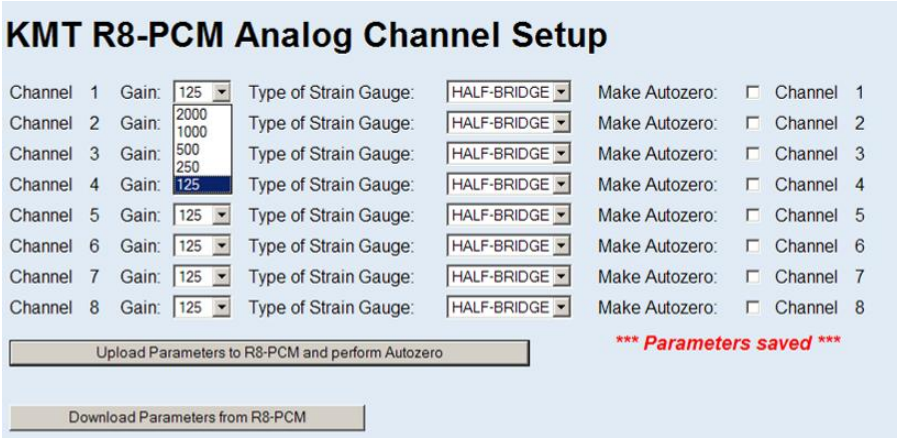


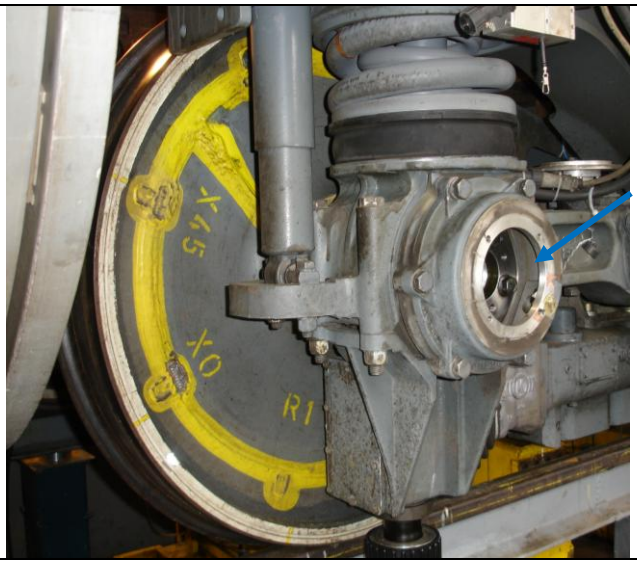
- Full- and half bridge
- Auto Zero Offset calibration
- 4V bridge Excitation
- 16 bit resolution
- Simultaneous sampling
- Sampling rate 16x 9500Hz
- Signal bandwidth: 16 x 0-3000Hz
- Software programmable
- Gain 125-250-500-1000-2000
- Inductive power transfer
- Wireless digital data transmission
- Output analog +/- 10V
- Digital data interface to PC (option)
- Waterproofed housing (IP65)

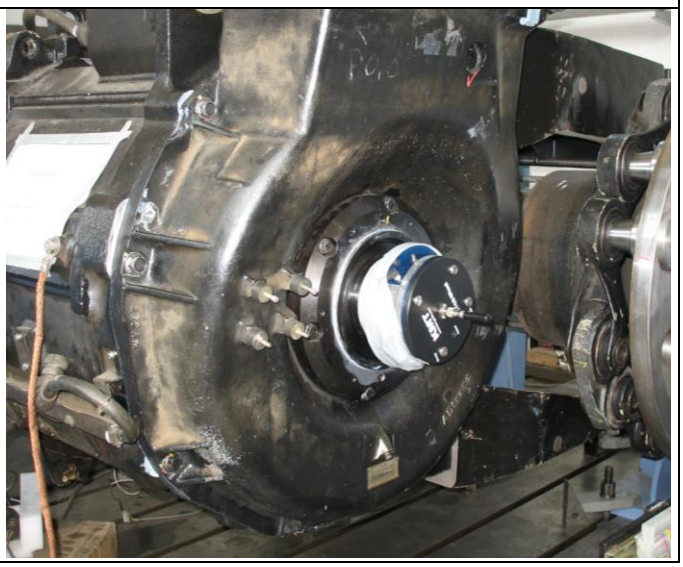
R16-PCM - Technical Data:

Encoder (Rotor Electronic)		Decoder / IND-PWR	
Number of channels:	16	Number of channels:	16
Sensor support	Strain gages full and half bridge **≥ 350Ω**	Analog Output	+/-10V via 37-Sub-D connector
Excitation	4V for all channels	Digital Output	PCM serial (optional PCM interface for PC)
Gain	125-250-500-1000-2000 **(selectable by software)**		
Offset calibration	Automatically (Auto Zero)		
Anti-aliasing filter	5-pole Butterworth and 2-stages digital down sampling filter		
Band width	3000 Hz per channel	Band width	3000 Hz per channel
Sampling rate	9500 Hz per channel		
Resolution	16 bit ADC	DAC (digital to analog converting)	16 bit
Powering	Inductive	Powering	10-30V, 50 Watt
Data transmission	PCM digital infrared link	Data receiving	PCM digital twisted pair
Operating temperatures	-30 … 80°C	Operating temperatures	-20 … 70°C
RPM	Max. 3000		
Dimensions	100 diameter, 110 Lengths (mm)	Dimensions	2x 205 x 105 x 120 (mm)
Weight	1.2 kg	Weight	total 2.5 kg
Housing protection type	IP65	Housing protection type	IP54
Housing material	Aluminum anodized	Housing material	Aluminum anodized
Humidity	20…100%	Humidity	20 ... 80% (not condensing)
Shock	1000g	Shock	100g
Vibration	+/- 10g	Vibration	5g
Power/Data cable	Length up to 50m, 10m is standard (between Encoder /Decoder)	System accuracy	±0.25% (without sensor)

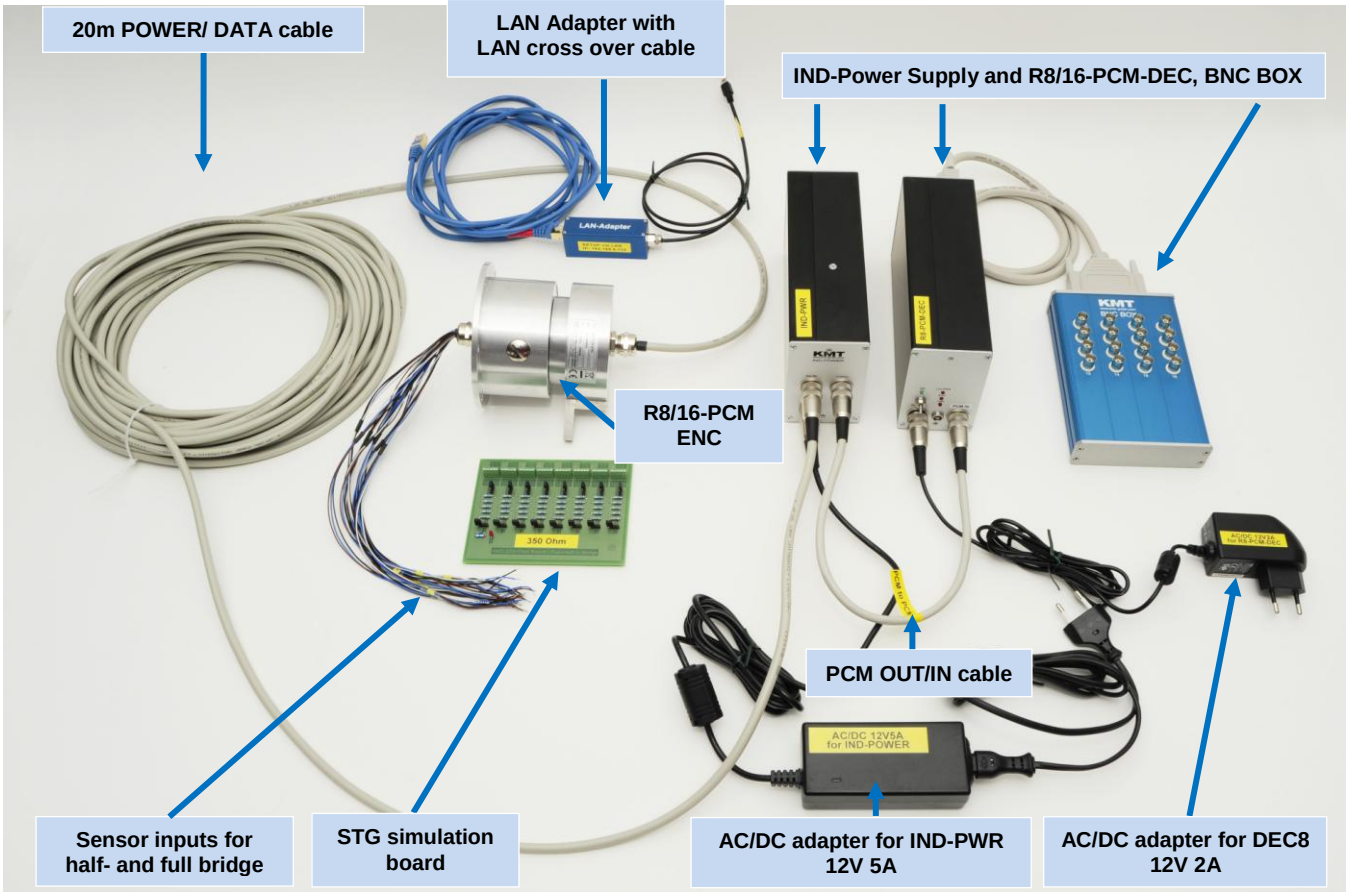


Settings	Programmable via web interface
Web interface address: **IP 192.168.0.110** <u>Settings:</u> Gain 125-250-500-1000-2000 Half- and full bridge Make Auto Zero YES/NO **All selectable for each channel!**	

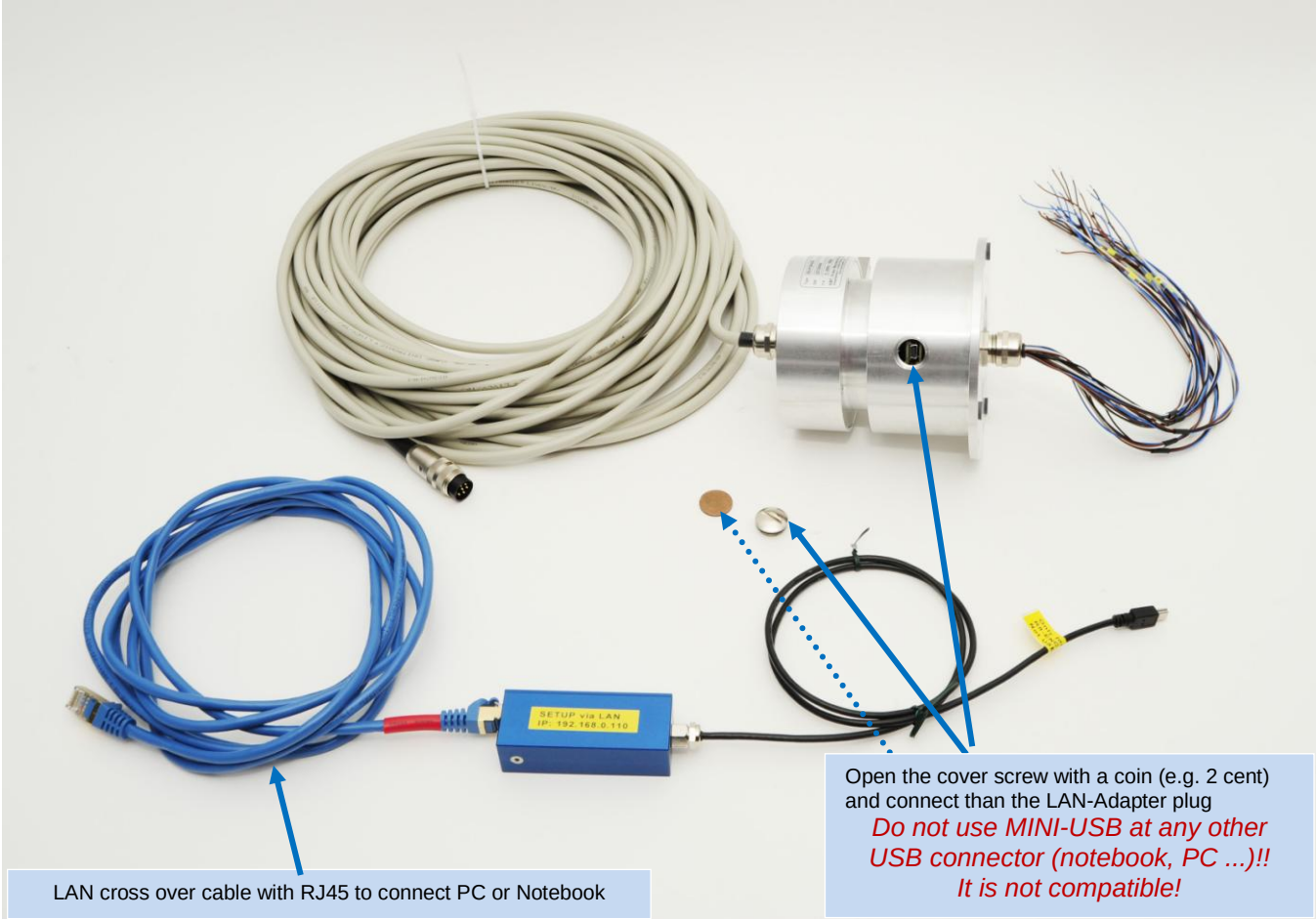




SET and cable connection of R8/16-PCM-ENC



Settings of R8/16-PCM-ENC
Programmable via web interface



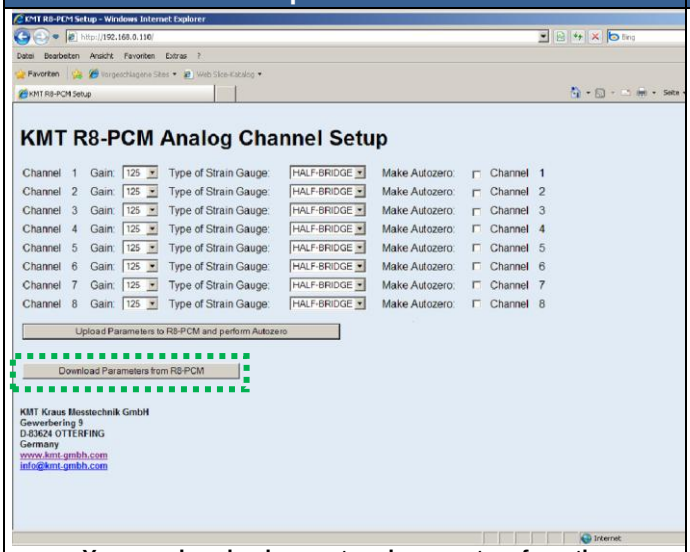
Web interface address of LAN-Adapter = IP **192.168.0.110**

Make sure, that's all sensor input cables before power on the R8/16-PCM-ENC are isolated or connected on strain gages or simulation board to avoid short cuts!!

1) Power the R16-PCM-ENC with power
2) Connect the LAN-Adapter with the R8/16-PCM-ENC
3) Adjust your notebook to manual on e.g. IP 192.168.0.1000
4) Connect LAN-Adapter with your notebook via cross-over LAN cable
5) Open Microsoft Internet Browser and enter IP address **192.168.0.110** of LAN-Adapter
6) Now you get access on the web-interface and can adjust the R8/16-PCM-ENC

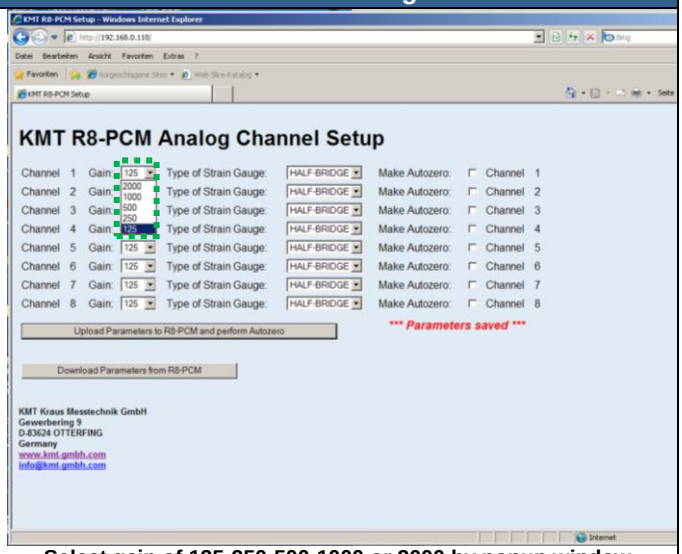
R8/16-PCM
Software setup

DOWNLOAD parameters for device



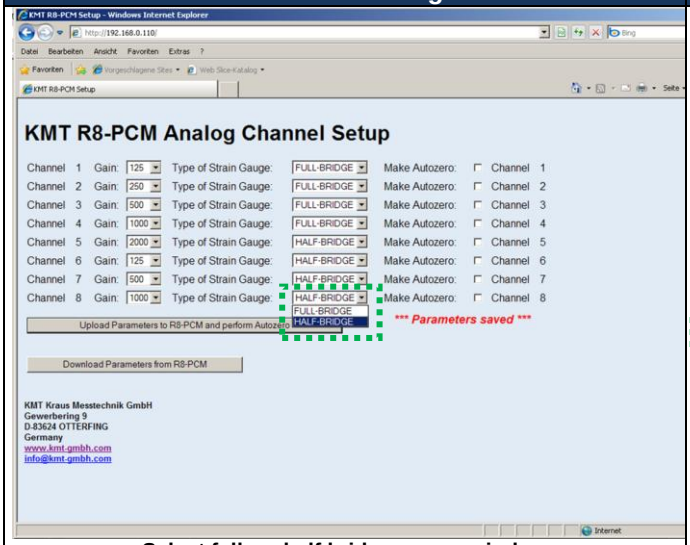
You can download your stored parameters from the R8/16-PCM-ENC

GAIN setting



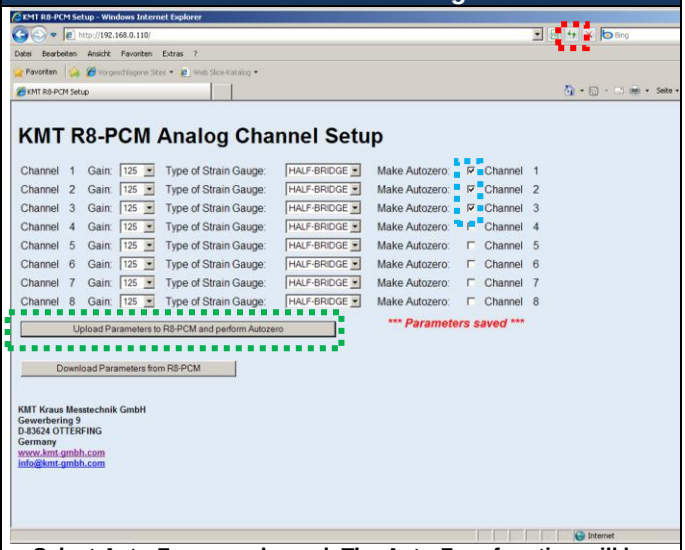
Select gain of 125-250-500-1000 or 2000 by popup window

BRIDGE setting



Select full- or half bridge popup window

AUTO-ZERO setting



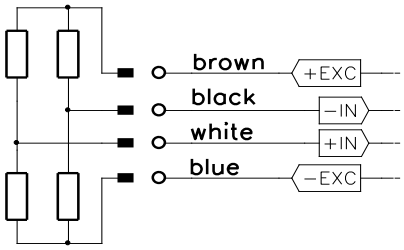
Select Auto-Zero per channel. The Auto-Zero function will be executed only <u>one time</u> per upload the parameters to R8/16-PCM-ENC! It will be stored also after power off in the R8/16-PCM-ENC until you make a <u>new</u> Auto-Zero on this channel!

Don't use the refresh button  **on your Brower; otherwise the parameters of you Brower cash will upload to the R8/16-PCM-ENC!**

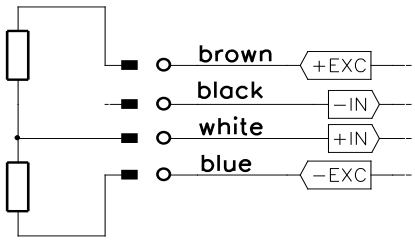
Sensor connection of R8/16-PCM-ENC

Sensor cable input (e.g. shows a 8 CH. version)

Make sure, that's all sensor input cables before power on the R8/16-PCM-ENC are isolated or connected on strain gages or simulation board to avoid short cuts!!

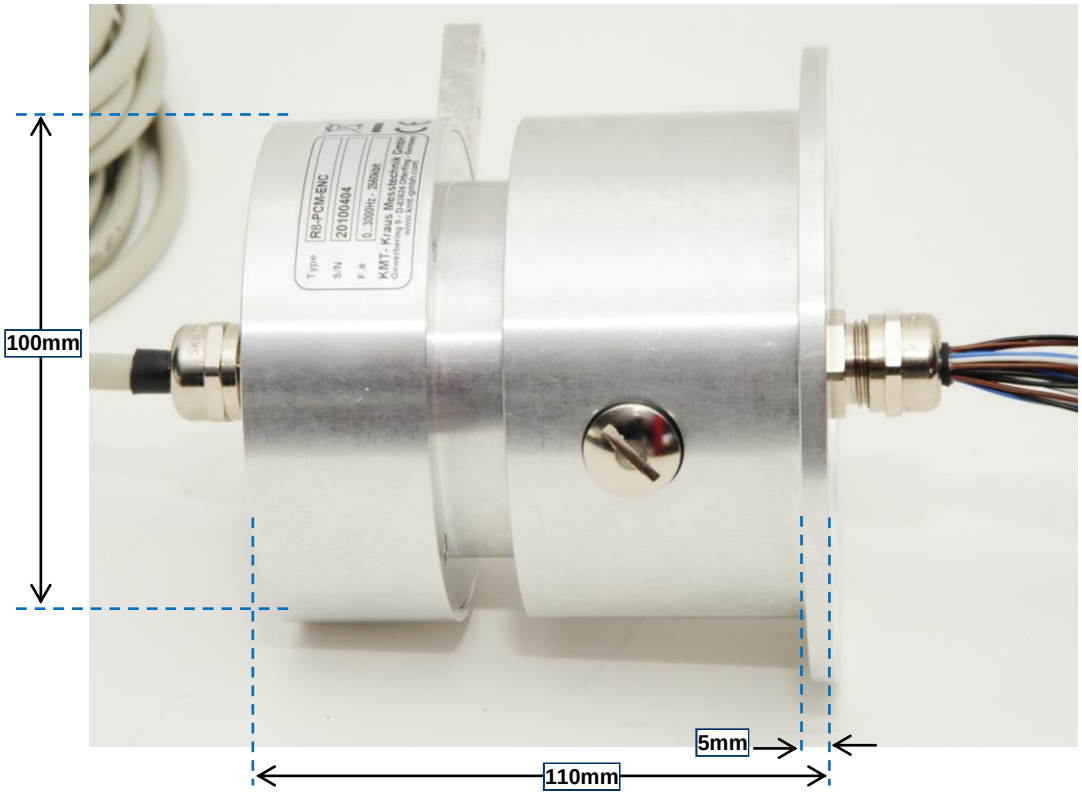


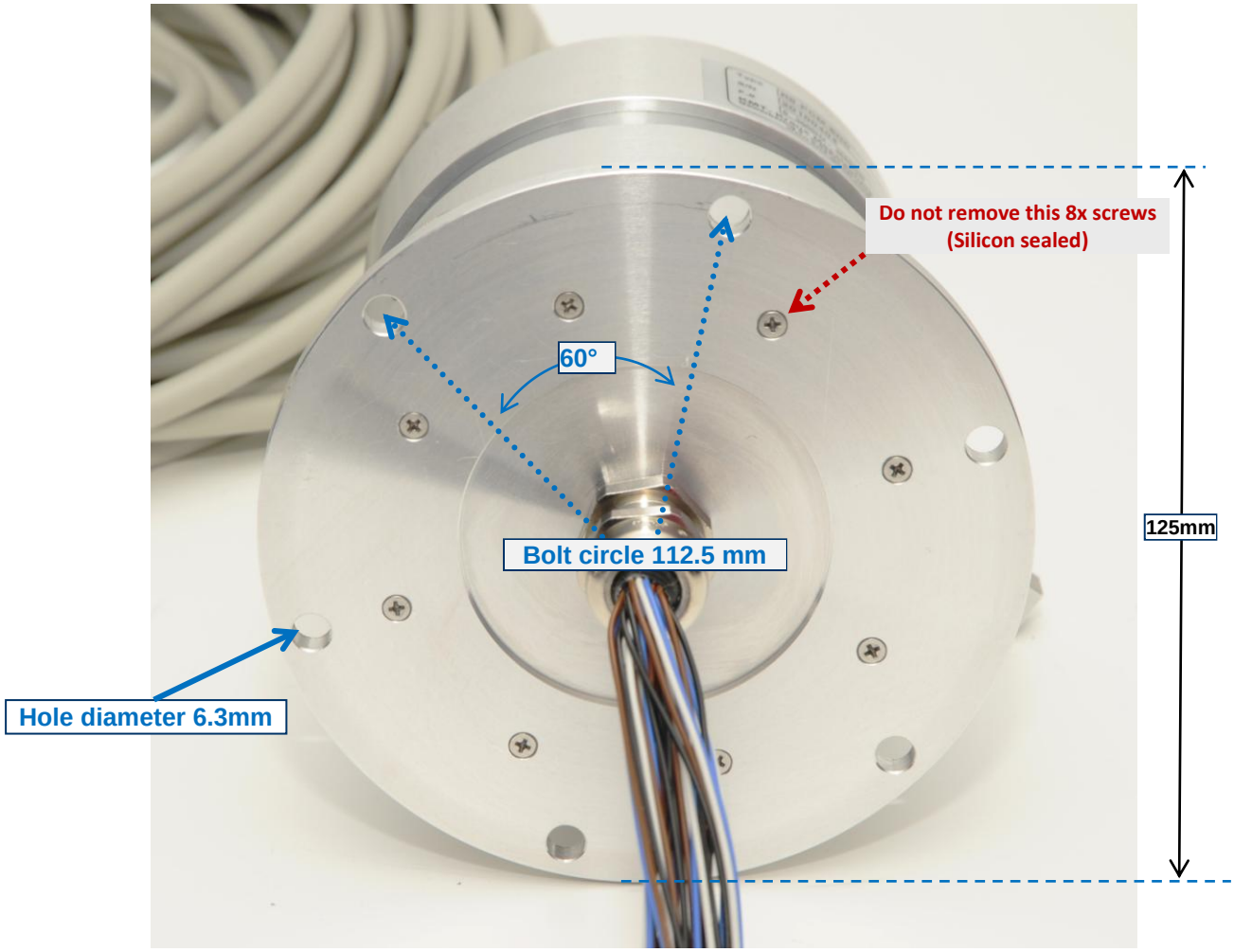
Full bridge



Half bridge

Dimensions of R8/16-PCM-ENC





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