



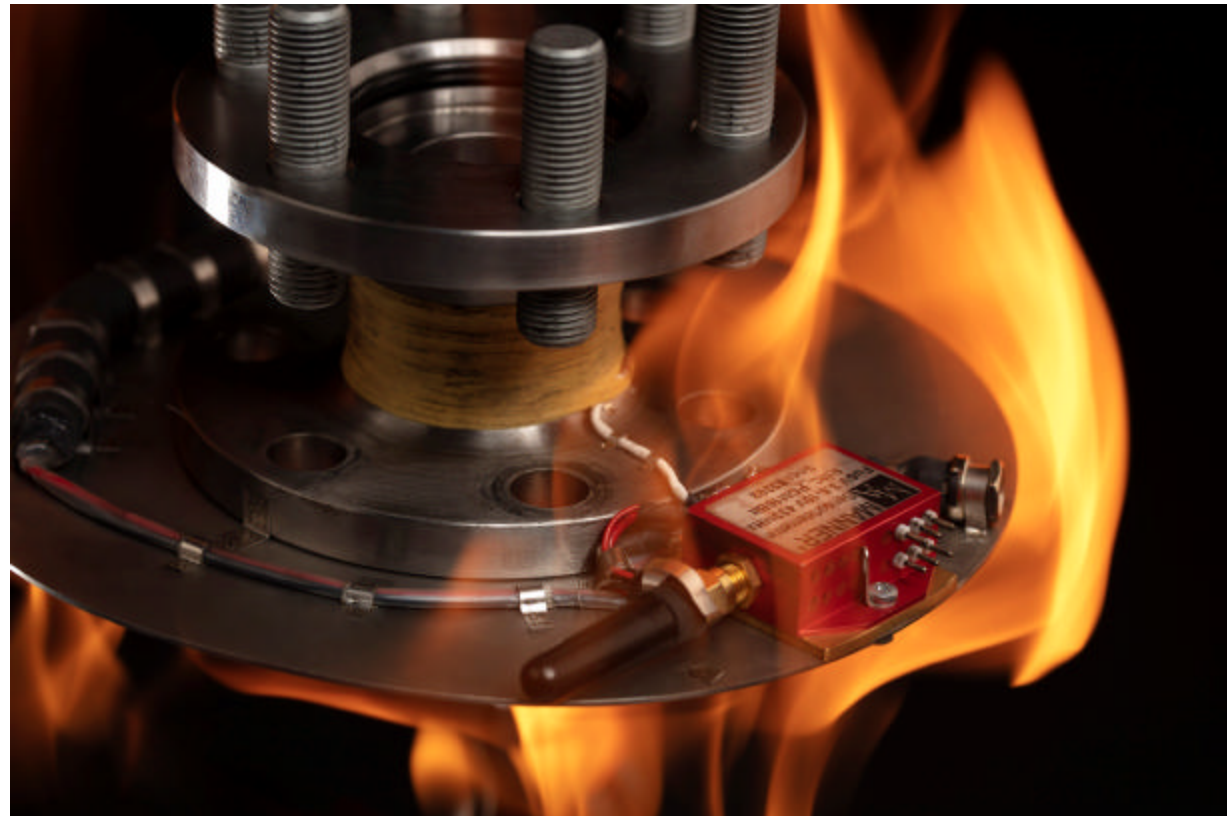
Radio Sensortelemetrie

for Testing and Monitoring



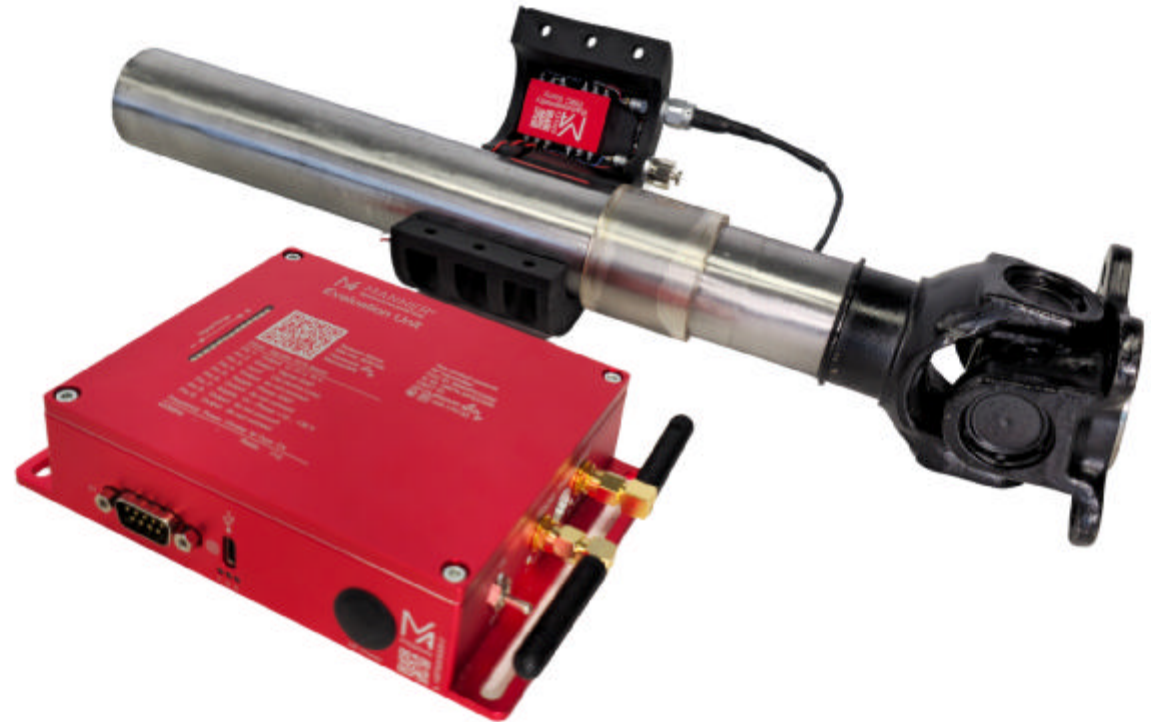
Why Radiotelemetry?

- Fast operational readiness
- Flexible in use
- High transmission range
- Reliable data transmission
- Robust
- Remotely configurable
- High number of channels with high signal bandwidth (standard sampling rate: 5000 per second, optional 80 000 per sec)
- Miniaturized
- Customized housing variants available

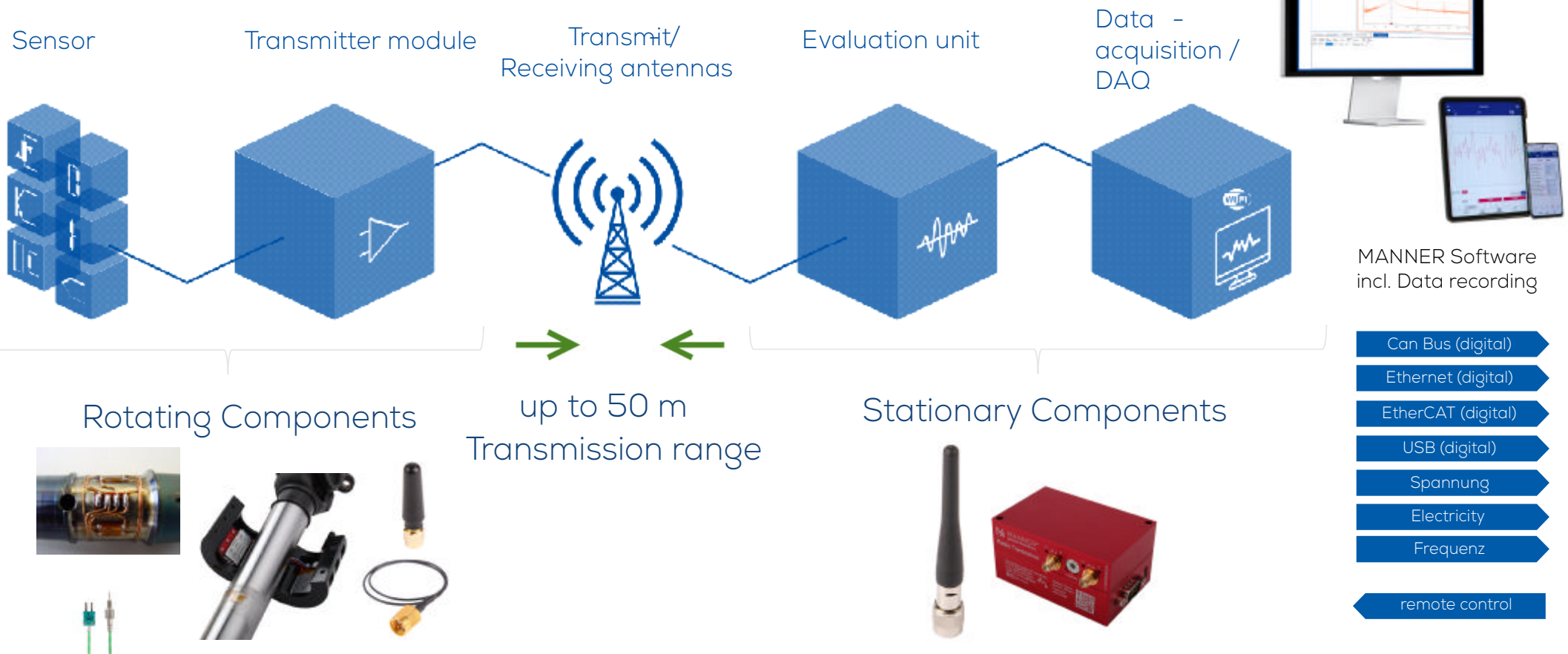


What does a Radiotelemetry system consist of?

- Sensor(s)
- Sensor signal amplifier
- Antenna(s)
- Power supply
 - Battery / rechargeable battery
 - Inductive
- Evaluation unit / receiver
- Optional:
 - Software / Manner app
 - Accessories
 - Installation service / support
 - Calibration service



How does Radiotelemetry works



Maximum application flexibility thanks to battery / rechargeable battery supply
(alternative extension by inductive supply possible)

Software & App with innovative features

Switch on/ Switch off via - No Rotor contact required

- Via Smartphone
- Via Switch Stator
- Via Software

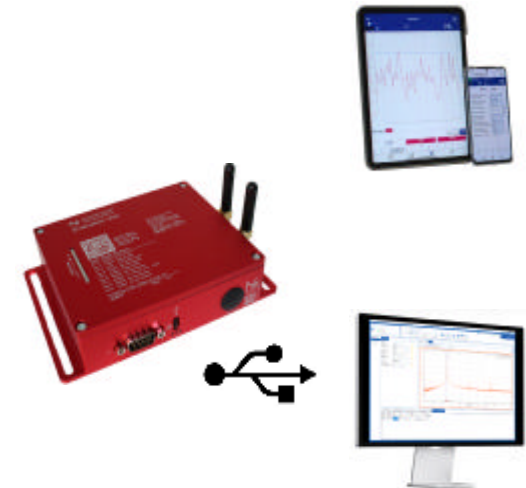
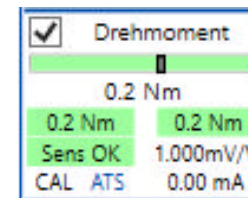
Sensor Check function

Review Data/ Signal

Review Battery Status

Change of offset/gain

Opt.: Threshold definition
& Incident Log



MANNER Software
Opt., Data/Incident recording &
Analysis (e.g. FFT)

Gain-Adjust window showing Offset and Sensitivity settings. Offset is set to -0,4896 mV and Sensitivity is set to 2,500 mV/V. Buttons for 'Set Offset Temporary', 'Set Sensitivity Temporary', 'Store', 'Reset Temporary', and 'Auto-Set Sensitivity' are visible.

Thresholds window showing various monitoring parameters and their status (OK, Warn, Error). Parameters include Signal Quality, Raw Voltage, Module Temperature, and Ambient Temperature.

Event - List window showing a table of recorded events. The table includes columns for Timestamp (PC), Type, Level, Value, and SourceText.

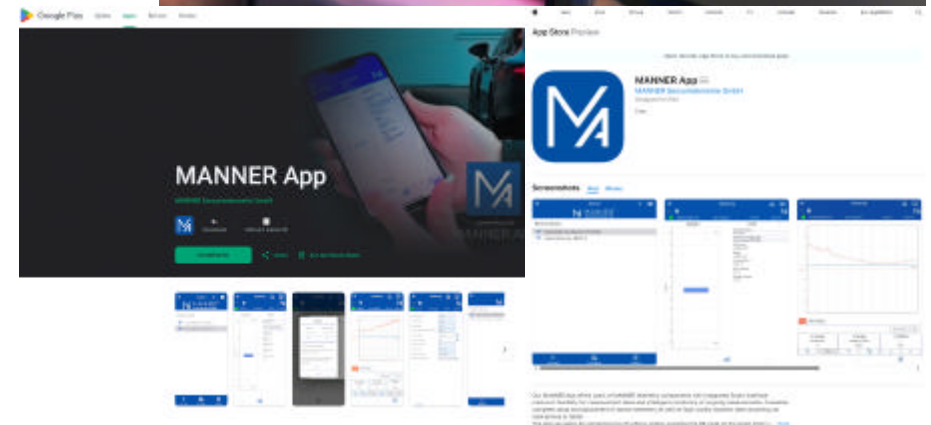
	Timestamp (PC)	Type	Level	Value	SourceText
1	2023-05-26 16:23:00.627	Info			LOG-File recording started!
2	2023-05-26 16:23:13.791	Range	Warn	10512 mV	V23 Line / V23 Module / V23 Channel 01
3	2023-05-26 16:23:13.796	Range	Warn	10512 mV	V23 Line / V23 Module / V23 Channel 03
4	2023-05-26 16:23:13.796	Range	Warn	10529 mV	V23 Line / V23 Module / V23 Channel 01
5	2023-05-26 16:23:13.796	Range	Warn	10529 mV	V23 Line / V23 Module / V23 Channel 03
6	2023-05-26 16:23:13.941	Range	Error	-10534 mV	V23 Line / V23 Module / V23 Channel 01
7	2023-05-26 16:23:13.941	Range	Error	-10534 mV	V23 Line / V23 Module / V23 Channel 03
8	2023-05-26 16:23:13.941	Range	Error	-10572 mV	V23 Line / V23 Module / V23 Channel 01
9	2023-05-26 16:23:13.941	Range	Error	-10572 mV	V23 Line / V23 Module / V23 Channel 03
10	2023-05-26 16:23:13.941	Range	Error	-10552 mV	V23 Line / V23 Module / V23 Channel 01
11	2023-05-26 16:23:13.941	Range	Error	-10552 mV	V23 Line / V23 Module / V23 Channel 03
12	2023-05-26 16:23:13.941	Range	Warn	-10537 mV	V23 Line / V23 Module / V23 Channel 01
13	2023-05-26 16:23:13.941	Range	Warn	-10537 mV	V23 Line / V23 Module / V23 Channel 03
14	2023-05-26 16:23:13.941	Range	Error	-10519 mV	V23 Line / V23 Module / V23 Channel 01
15	2023-05-26 16:23:13.941	Range	Error	-10519 mV	V23 Line / V23 Module / V23 Channel 03
16	2023-05-26 16:23:13.941	Range	Error	-10512 mV	V23 Line / V23 Module / V23 Channel 01
17	2023-05-26 16:23:13.941	Range	Error	-10512 mV	V23 Line / V23 Module / V23 Channel 03
18	2023-05-26 16:23:13.958	Range	Error	-10561 mV	V23 Line / V23 Module / V23 Channel 01
19	2023-05-26 16:23:13.958	Range	Error	-10561 mV	V23 Line / V23 Module / V23 Channel 03

Remote Trouble shooting

- Requirement: MANNER Wireless Interface
- MANNER App is for free downloadable at Android & Apple App store
- Via QR Code any person can connect to the system to review health data and send it to you worldwide
- Total Ease of you – everyone is comfortable with!

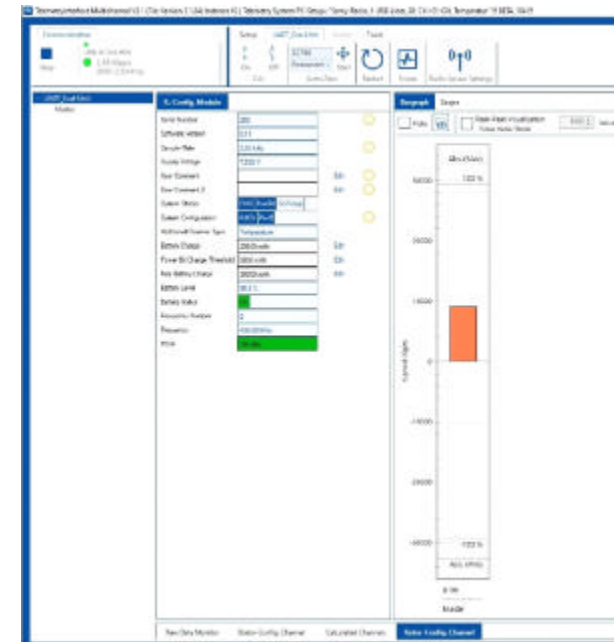


Troubleshooting your system was never so easy!



Battery low?

- System offers to set /configure individually with the battery used the capacity (mAh) and as partial charged (percentage)
- Battery status is shown as level as well as "OK" value (double check)
- Battery status is shown in the app & software for convenient check



Battery Level	93,8 %
Battery Status	Ok
Battery Charge	28131 mAh
Battery max. Charge	30000 mAh
Battery Charge Power-Bit Threshold	3000 mAh
Battery Charge-Meter Value	232308032
Battery Charge-Meter Status	UVLO VA CAL CAH TA Ch O/U CA GPIO

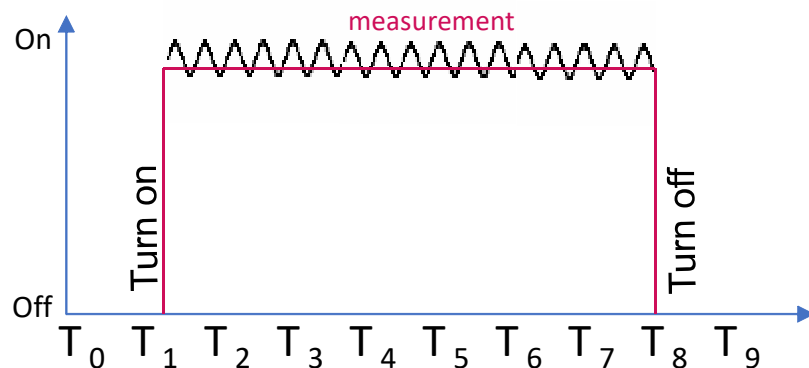
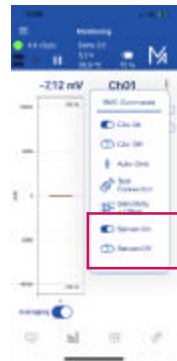


Test & Monitoring in Hardware solution

Permanent measurement – high frequency

Permanent measurement after turn on via
(until turn off):

Smartphone
Switch Stator
Software



Permanent measurement – Low frequency monitoring

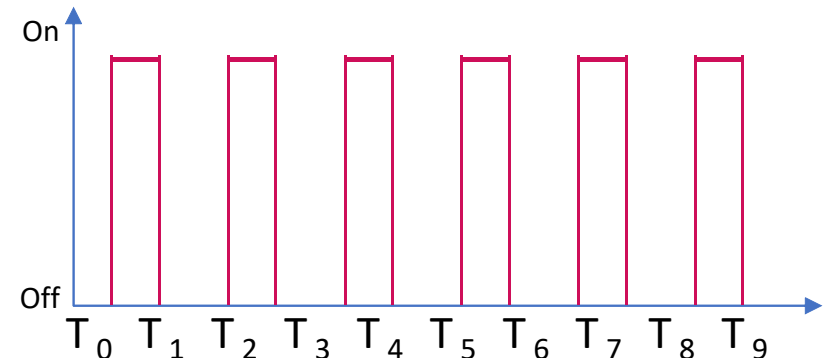
Spot measurement – low frequency

Flexible spot measurement 100 milli seconds to 10 minutes

Periodic measurement as configured

A 2 year measurement Scenario as 1 Channel system can be realized

Peak catch cannot be guaranteed

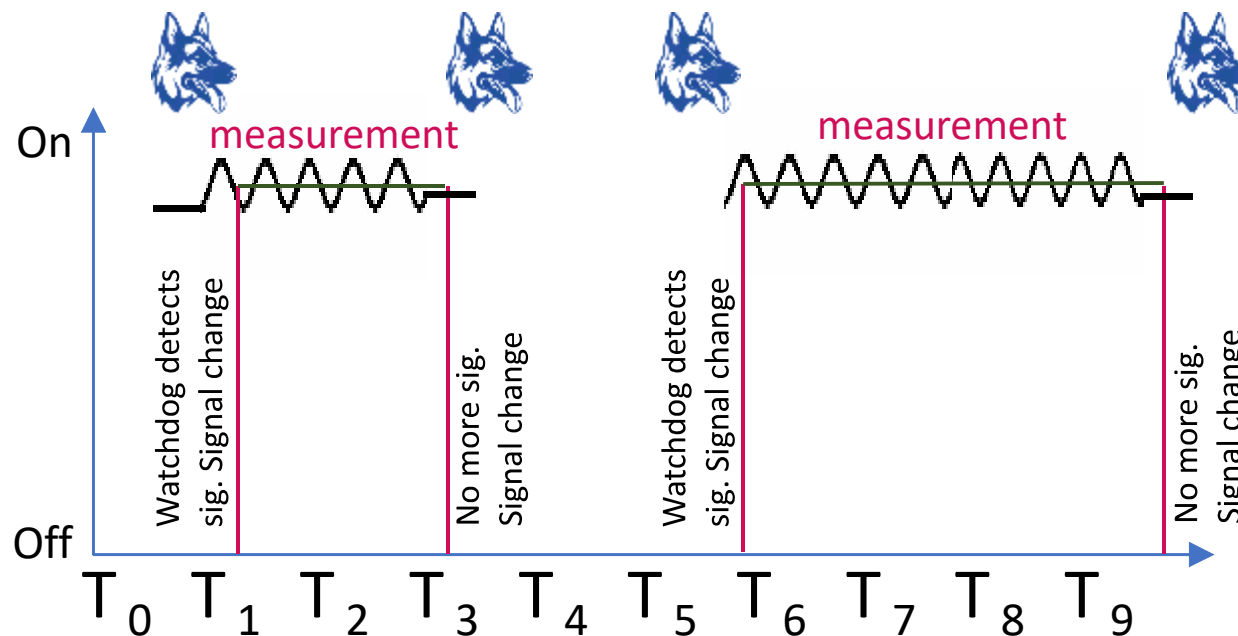


But there is even a simpler way

Activate MANNER Signal Watchdog

MANNER Signal Watchdog can be configured to detect changes in the signal and start up as well as shut down is managed by the watchdog

- Watchdog time freely configurable 0 - 255 Seconds
- Change threshold to start freely configurable e.g. 100 Nm or 5°C



What we did not neglect...

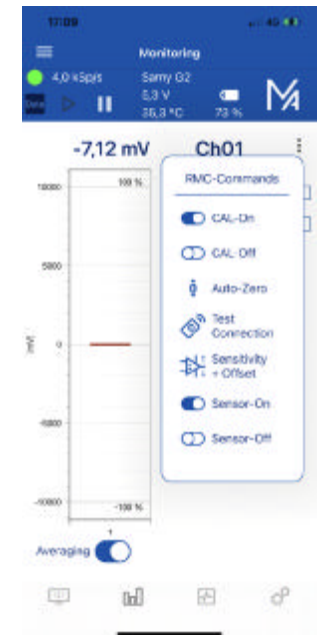
Our standard @ MANNER

- High ambient temperatures (up to 150°C)
- High precision of the measurement results >0.05%
- High speed stability > 30,000 rpm with customized solutions
- Withstand: Water resistant; Oil
- Miniaturization & Flexibility in Design
- Vibration robustness

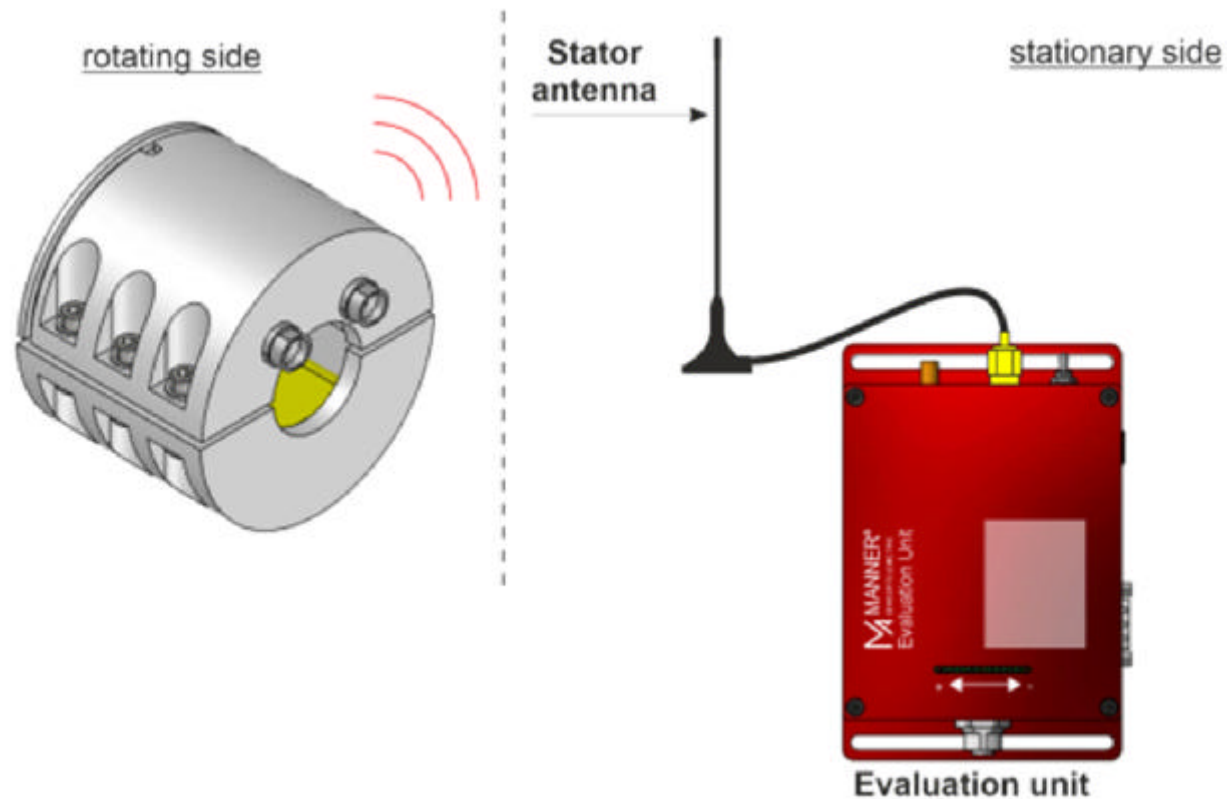


Our simplicity endeavour @ MANNER

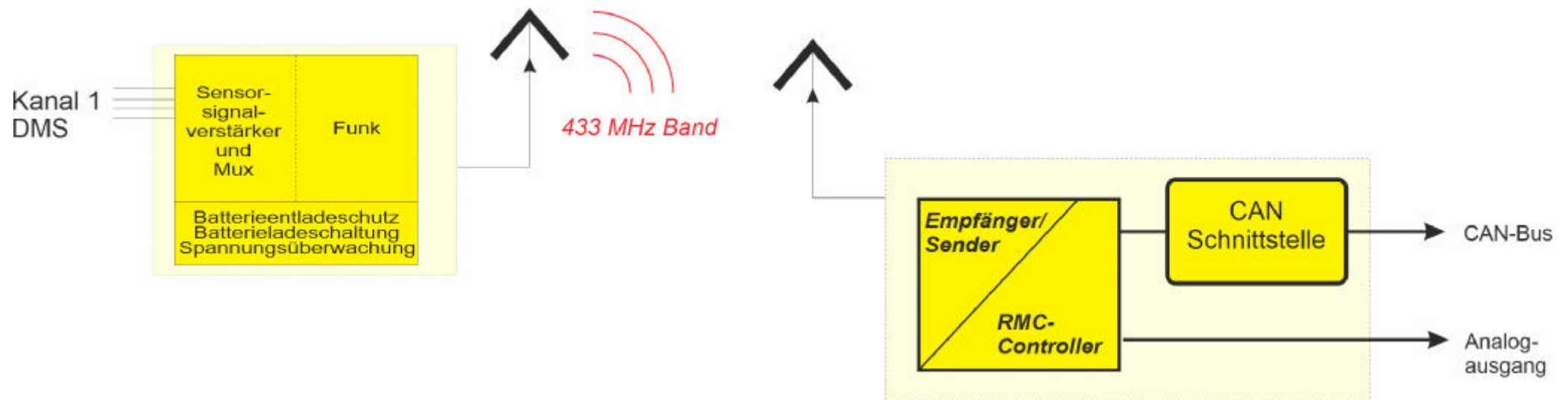
- Total ease of use with comfortable tools like your Smartphone
- New features like battery charge status
- No switch on at sensor or via infra-red with direct contact
- New features like the signal watchdog
- New Monitoring features e.g. incident Management



Transmission principle (example: side shaft)

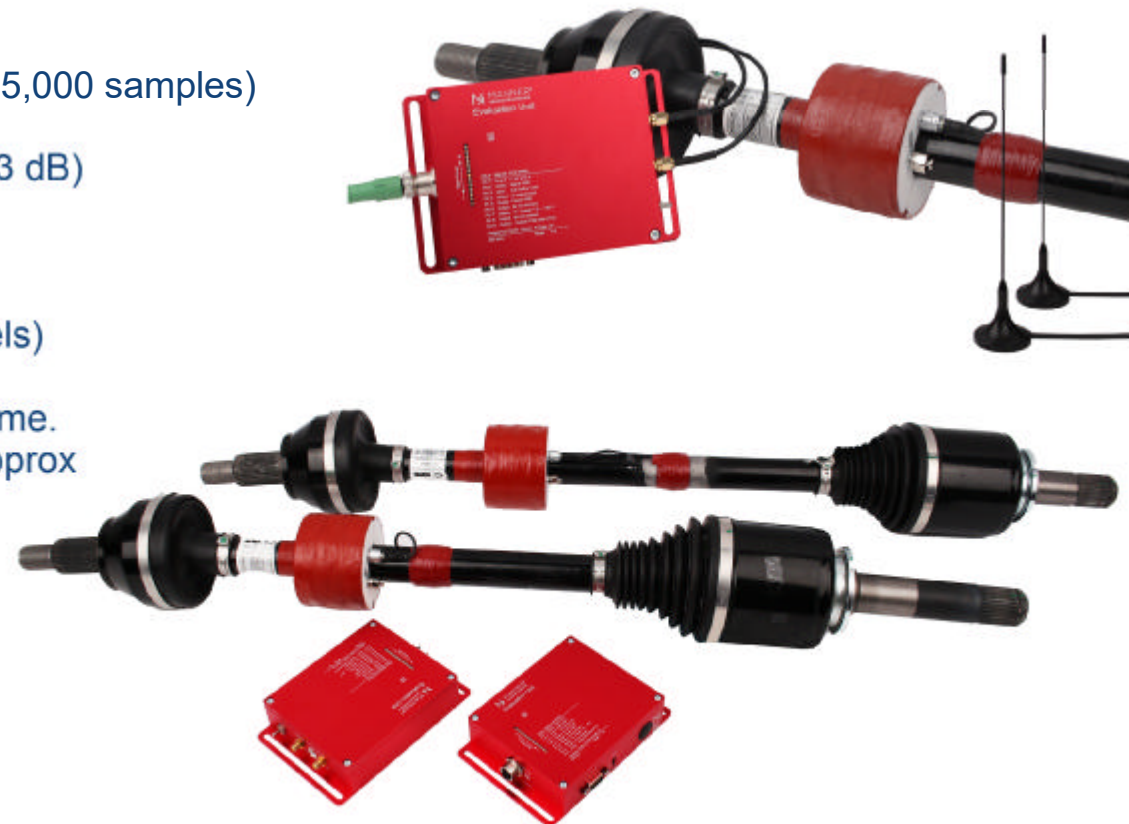


Block diagram example: 1 channel radio



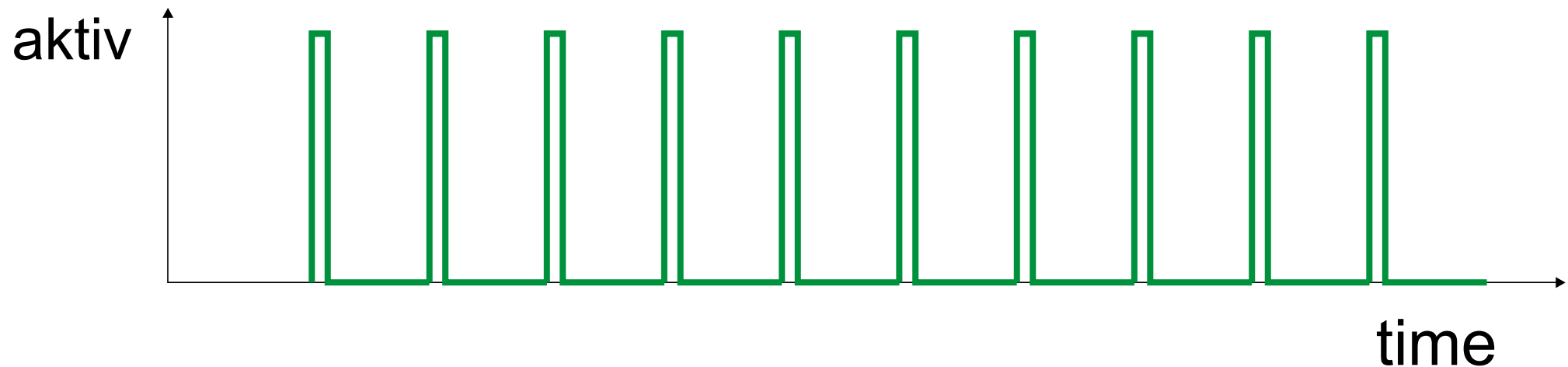
Important facts

- Transmission range (up to 40m)
- High environmental robustness (operating temperature up to 150°C with fatigue strength and use of high-temperature batteries)
- Configurable for various sensors (strain gages, thermocouples, PT100, acceleration sensors, etc.)
- High signal resolution with 16 bit
- High signal sampling rate/measurement channel (up to 5,000 samples)
- Signal bandwidth/measurement channel (up to 2 kHz, -3 dB)
- Measuring channels / module (1 to 14)
- Up to 16 modules in parallel (244 measurement channels)
- Low power consumption and therefore long operating time.
Continuous torsion measurement on drive shaft over approx 50h (before the battery has to be recharged).



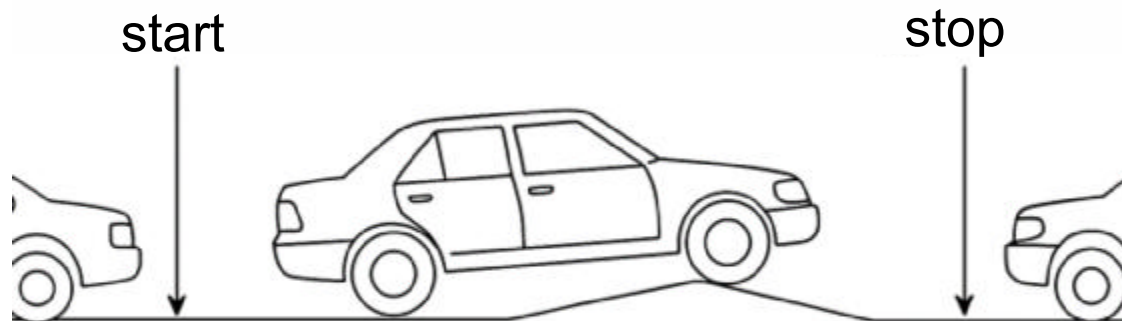
Scanning Mode

- The MANNER radio system can be individually parameterized for so-called scanning modes.
- Sensor signals are recorded and transmitted at intervals of between 50 milliseconds and 10 minutes.
- This significantly reduces energy consumption. Operating times of up to 2 years can be realized without changing the battery.



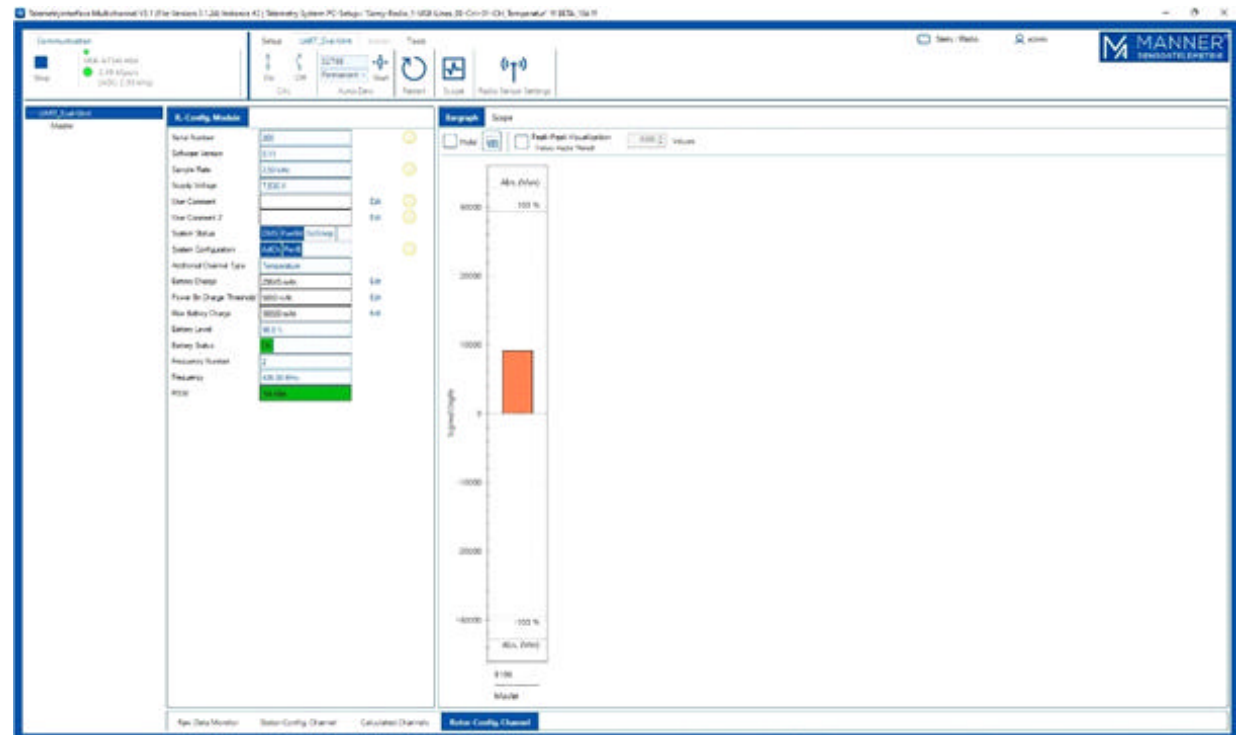
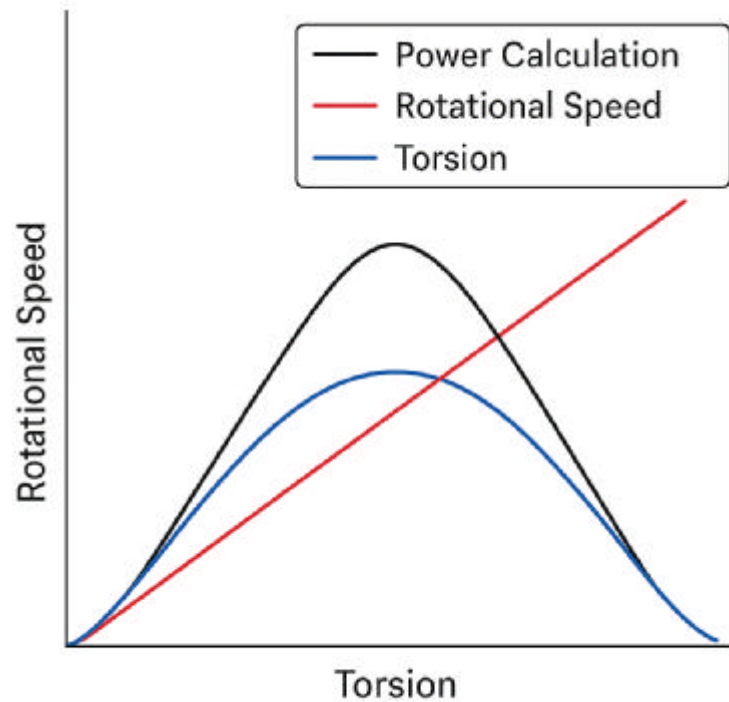
Sensorsignal acquisition signal trigger

- Another feature from Manner.
- The radio system monitors the sensor signal and starts transmission automatically when the sensor signal changes.
- At the end of the measurement run, for example, the radio system automatically ends the transmission and goes back into sleep mode. This so-called follow-up time can also be set from 0 - 255 seconds.
- This protects the battery, increases the service life and prevents the recording of unreleased data.



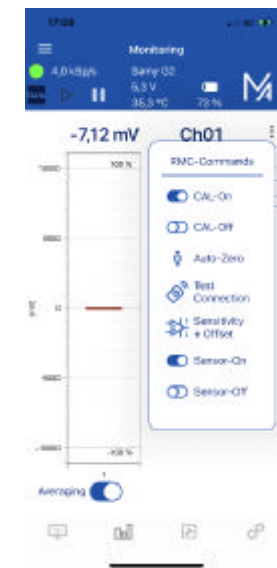
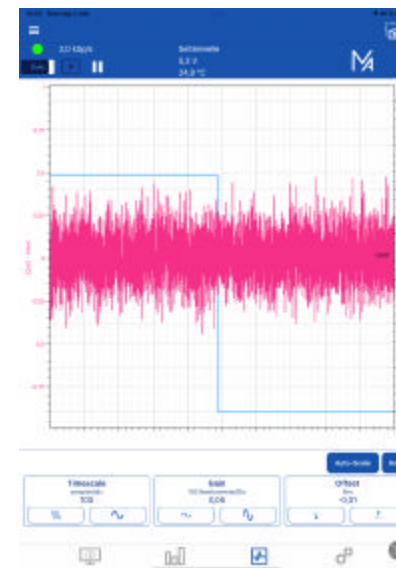
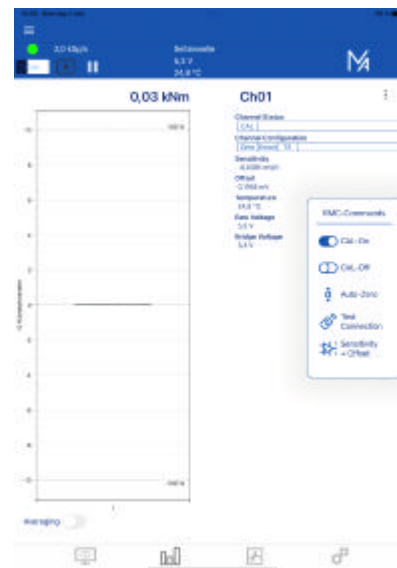
Realtime power measurement

- Integrated speed sensor. (optional)
- This enables the MANNER system to display the power directly in the event of a torsion measurement.



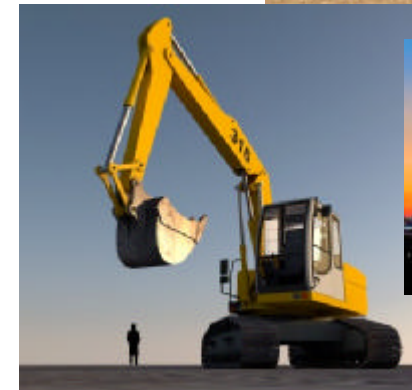
Advantages

- Remote control and setup via software or Manner app
- On / off, measuring range changeover, auto zero function,
- Condition monitoring (measurement signal displayed as a bar graph or oscilloscope)
- Display of signal quality, battery capacity and remaining operating time
- Digitized signal processing
- Analog or digital measurement signal available. (voltage, current, frequency, USB, CanBus, Ethercat, Ethernet, WLAN....)



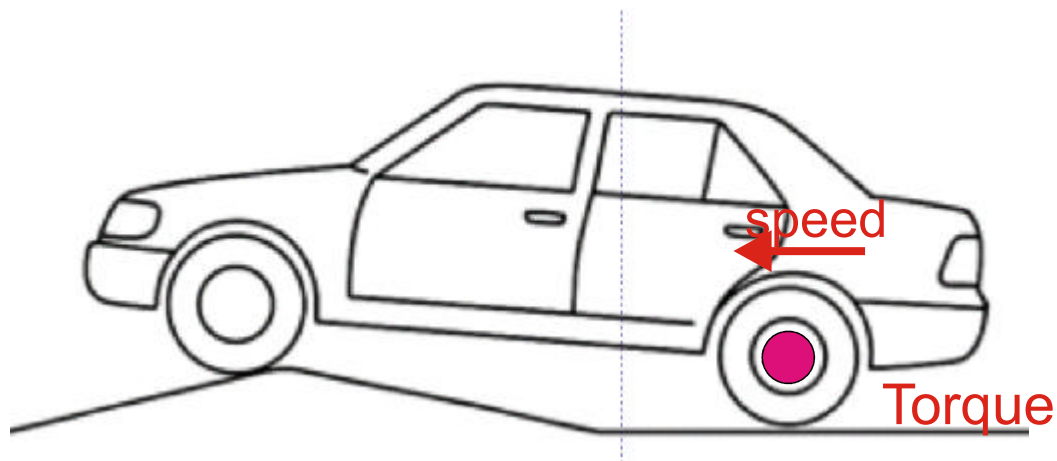
Application examples

- Automotive (torque on drive shafts / side shafts / side shafts / brake disk temperature,.....)
- Agricultural technology (PTO shafts / spreading disk / rotary harrow / cutter bar)
- Construction machinery (mining truck, wheel loader, forklift)
- Industry (stone mill, extruder shafts,....)
- Process monitoring (temperature, pressure/.....)
- Marine (ship propulsion shaft /.....)
- Aviation (propeller /.....)
- Medical technology
- Wind power (vibration measurement / torque / bending,.....)
- Wherever rotating sensor signals are measured.....



Sensorsignals plus speed signal

- A further Feature from Manner.
- The radio telemetry is able to aquisite the sensor signals and also to capture the rotations speed of the shaft .
- With addtional speed signal is real time power flow analysis available



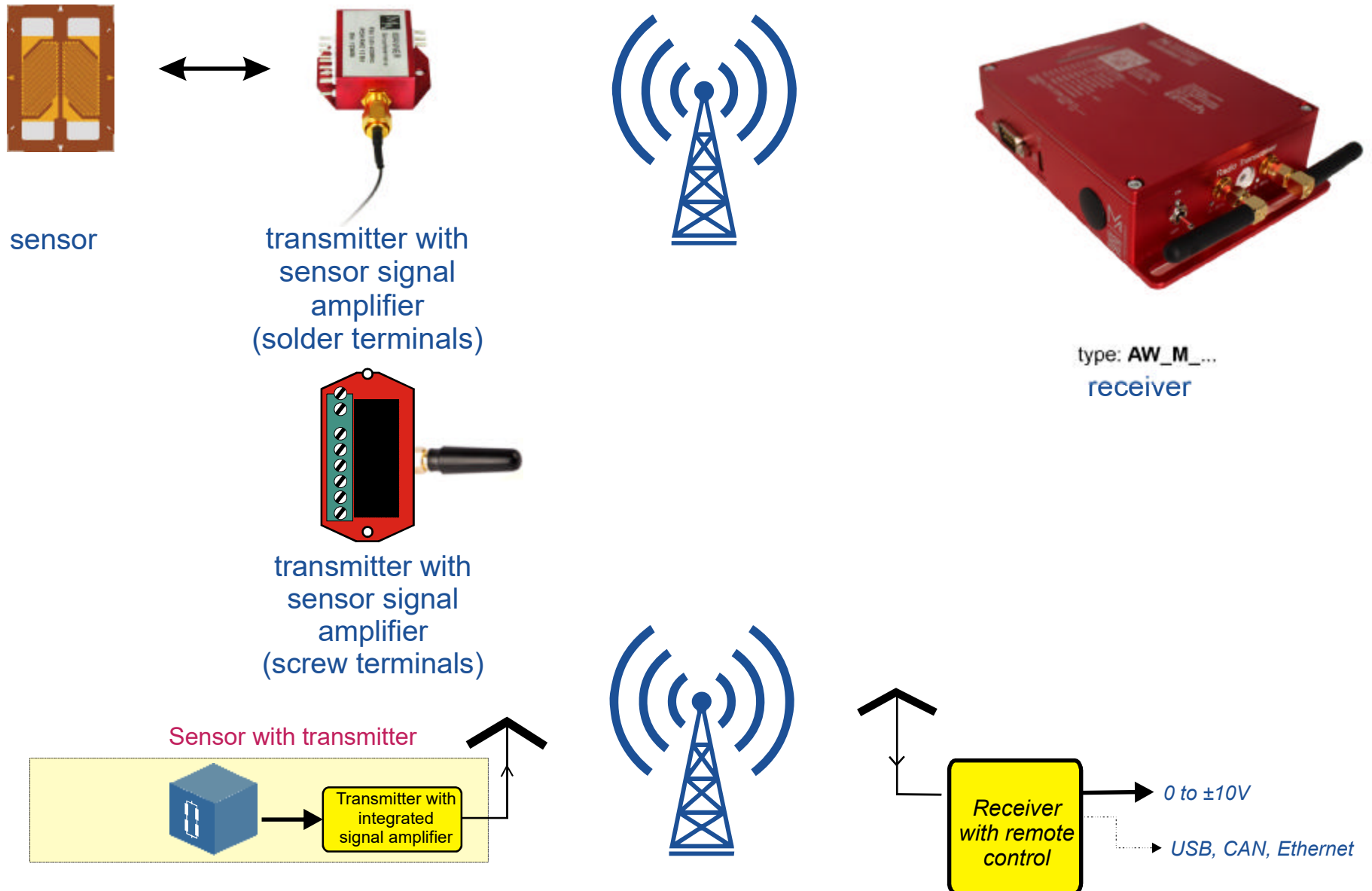
Radio telemetry overview



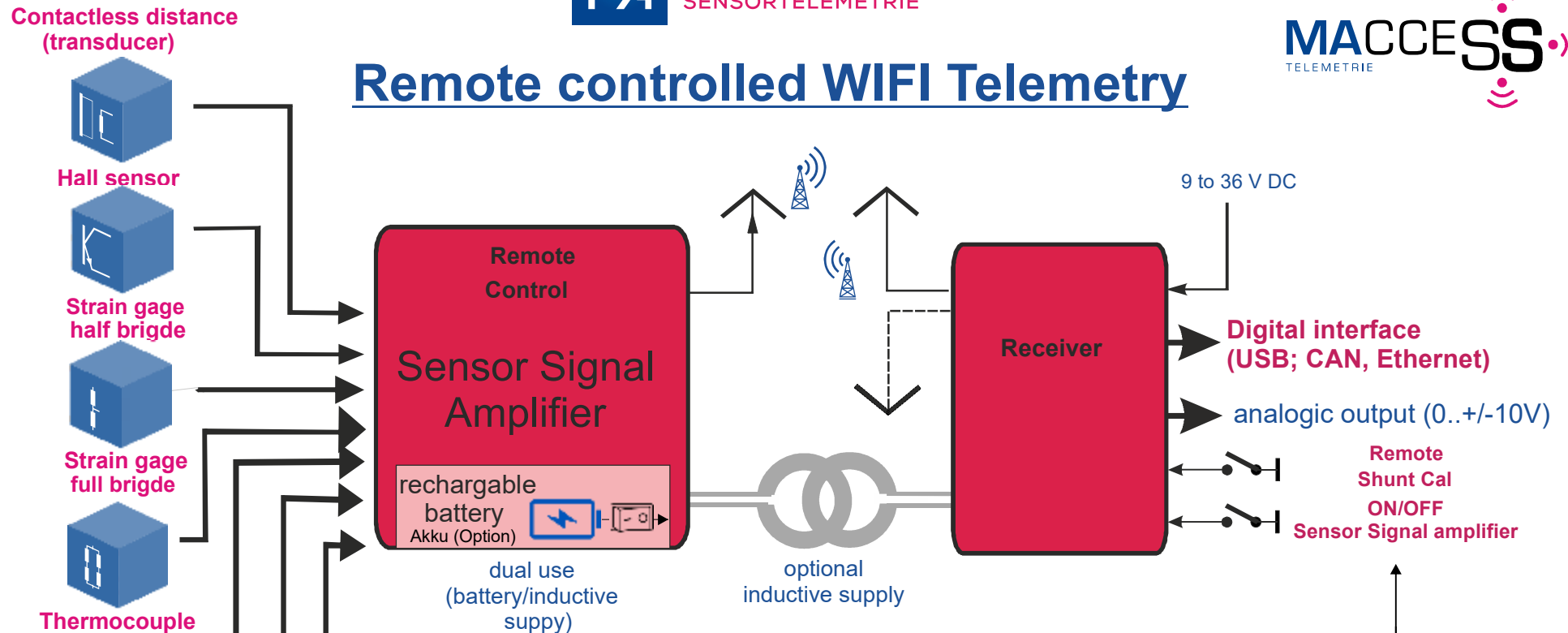
Technical data and Specific information



Configuration WIFI Telemetry



Remote controlled WIFI Telemetry



Highlights:

Signal transmission:

- * high signal bandwidth (2 kHz at 1 channel use)
- * max. signal drop in case of transmission failure 1 sample
- * digital transmission (16 Bit resolution)
- * big transmission range up to 50 m
- * integrated signal check CRC (no spikes)

Remote functions:

- * remote ON/OFF
- * 16 selectable RF- Channels
- * Amplifier Control (high resolution gain set and autozero)
- * polarity of signal

health monitoring:

- * battery status
- * sensor signal amplifier temperature
- * data transmission quality

Options:

- * two-way transmission via antennas
- * different digital interfaces (USB,CAN.Ethernet)



RMC Sensor Telemetry (Wireless)

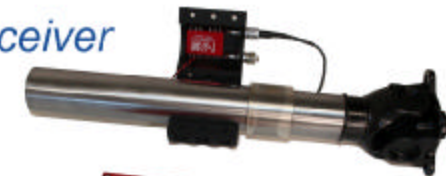
*For initial remote setup of the
of strain gage application
at installation*



remote Control
via Radio link



Receiver



USB - Bus

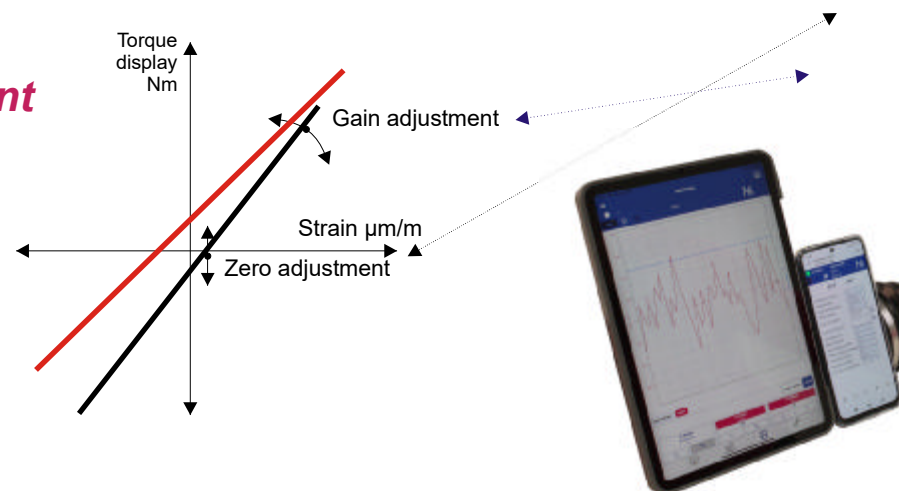
Supply 9 to 36 V DC

Output: 0 to $\pm 10V$

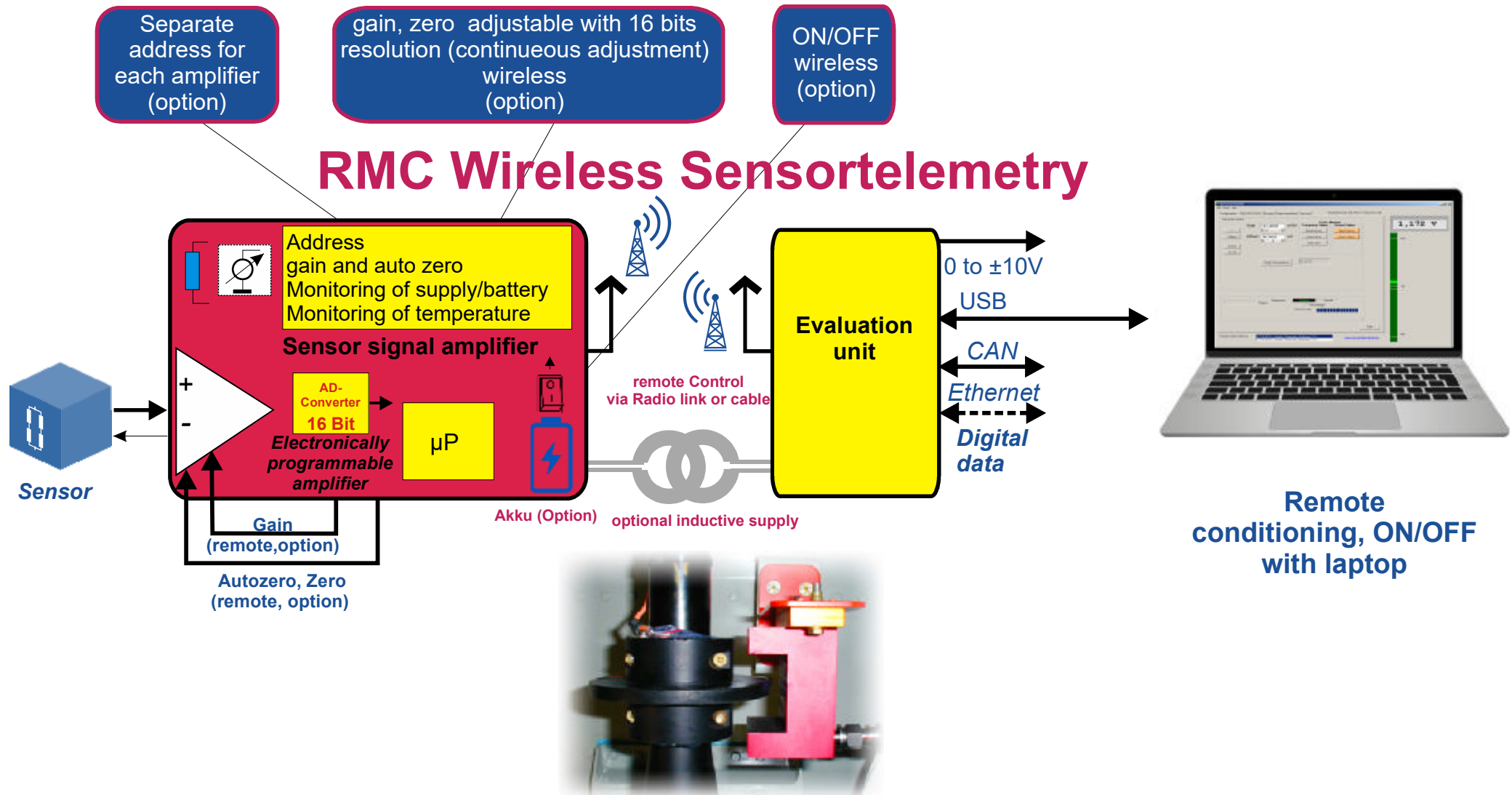


- * **Auto zero,**
- * **Adjusting tolerances in zero point**
- * **Adjusting tolerances in gain**
- * **Remote On/Off Transmitter**

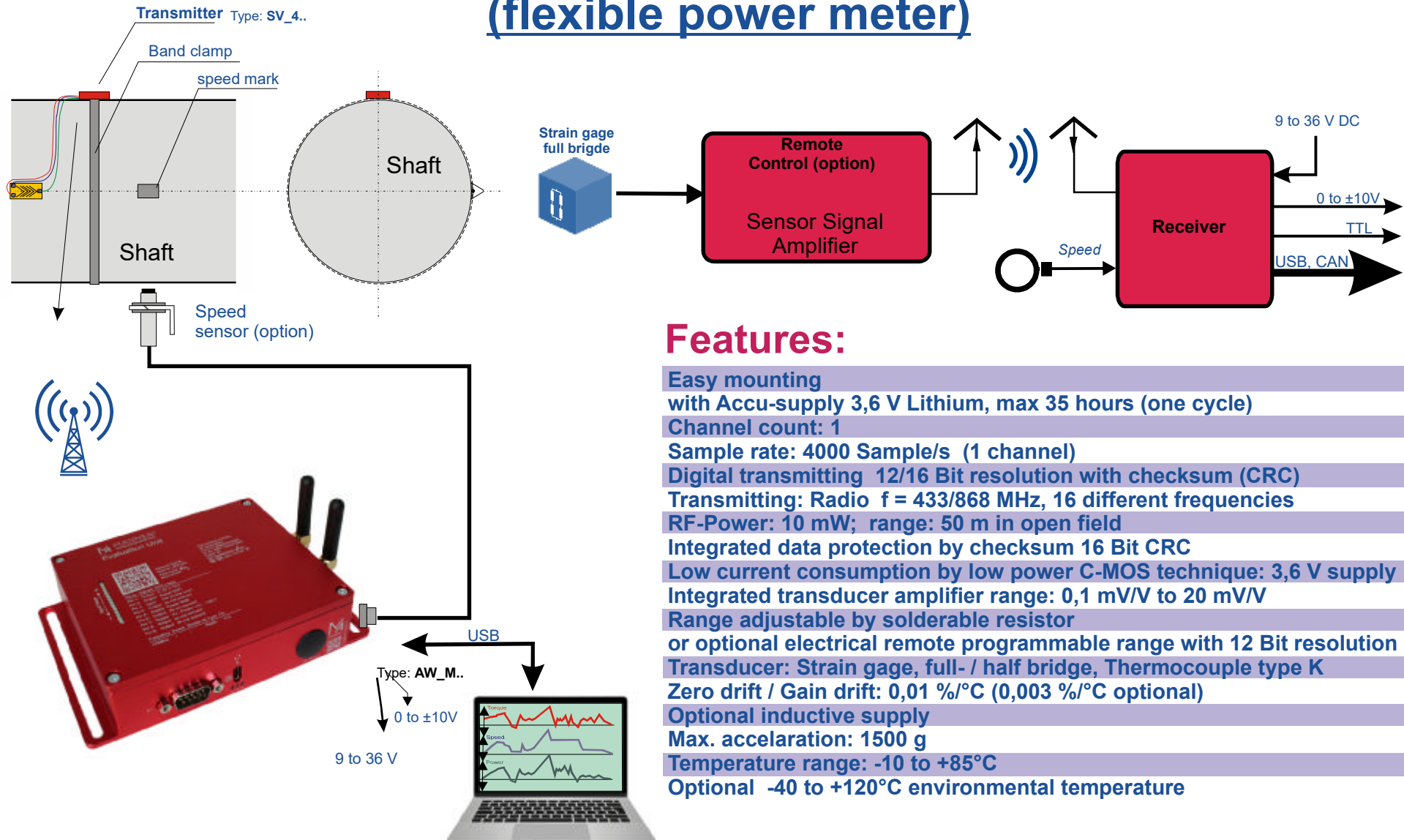
**Remote online re-conditioning
without opening of the
amplifier**



Short Description of Manner Wireless Sensortelemetry



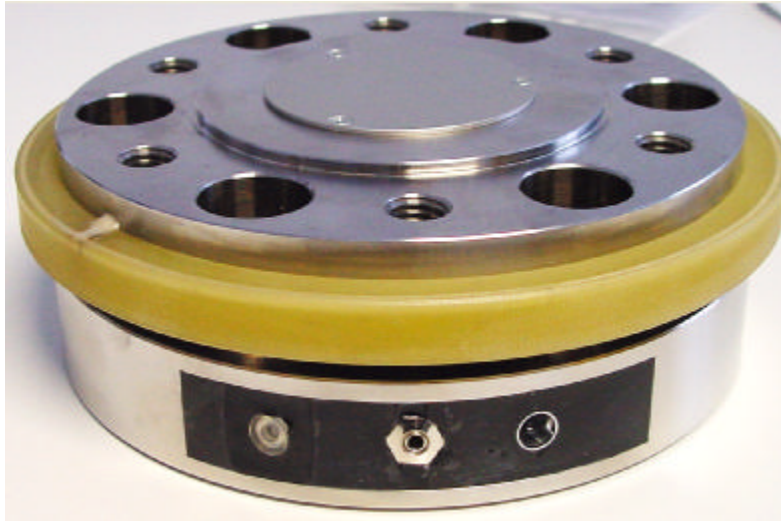
MANNER Radio Sensortelemetry (flexible power meter)



Features:

- Easy mounting with Accu-supply 3,6 V Lithium, max 35 hours (one cycle)
- Channel count: 1
- Sample rate: 4000 Sample/s (1 channel)
- Digital transmitting 12/16 Bit resolution with checksum (CRC)
- Transmitting: Radio $f = 433/868$ MHz, 16 different frequencies
- RF-Power: 10 mW; range: 50 m in open field
- Integrated data protection by checksum 16 Bit CRC
- Low current consumption by low power C-MOS technique: 3,6 V supply
- Integrated transducer amplifier range: 0,1 mV/V to 20 mV/V
- Range adjustable by solderable resistor or optional electrical remote programmable range with 12 Bit resolution
- Transducer: Strain gage, full- / half bridge, Thermocouple type K
- Zero drift / Gain drift: 0,01 %/°C (0,003 %/°C optional)
- Optional inductive supply
- Max. acceleration: 1500 g
- Temperature range: -10 to +85°C
- Optional -40 to +120°C environmental temperature

Torque Meter based on Radio Telemetry



Receiver

Features:

Universal torque meter for short term use

Ranges available: 10 Nm to 50 kNm

Linearity and hysteresis: 0,2 %

High bandwidth 0 to 1 kHz(-3 dB)

High reliable digital transmitting 16 Bit resolution

Zero drift / Gain drift: 0,01 %/°C (0,003 %/°C optional)

Easy mounting

Transmitting: Radio f = 433/868 MHz

RF-Power: 10 mW; range: 40 m in open field

Integrated data protection by checksum (16 Bit CRC)

Low current consumption by low power C-MOS technique: 3,6 V supply with Accu-supply 3,6 V Lithium, max 35 hours (one cycle)

Max. radial acceleration: 1500 g

Temperature range: -10 to +85°C

Optional -40 to +120°C environmental temperature

Supply receiver: 9 to 36 V DC, 100 mA

Output voltage: 0 to ±10 V, 0(4) to 20 mA, USB, CAN

Type system: type: MF_<range>_<precision>_<bandwidth>_<mod>_<AW>_F_<Inter>

10 Nm	0,25%	10 Hz	PCM12	AW_M	---
to	0,1%	100 Hz	PCM16	AW_T	USB
50 kNm	0,05%	1 kHz			CAN

Climate Compressor Torque Meter based on wireless Telemetry



Receiver

Features:

Climate compressor torque meter for short term use

Ranges available: 20 Nm to 50 kNm

Linearity and hysteresis: 0,25 %

High bandwidth 0 to 1 kHz(-3 dB)

High reliable digital transmitting 16 Bit resolution

Zerodrift / Gaindrift: 0,01 %/°C (0,003 %/°C optional)

Easy mounting

Transmitting: Radio f = 433/868 MHz

RF-Power: 10 mW; range: 40 m in open field

Integrated data protection by checksum (16 Bit CRC)

Low current consumption by low power C-MOS technique: 3,6 V supply with Accu-supply 3,6 V Lithium, max 25 hours (one cycle)

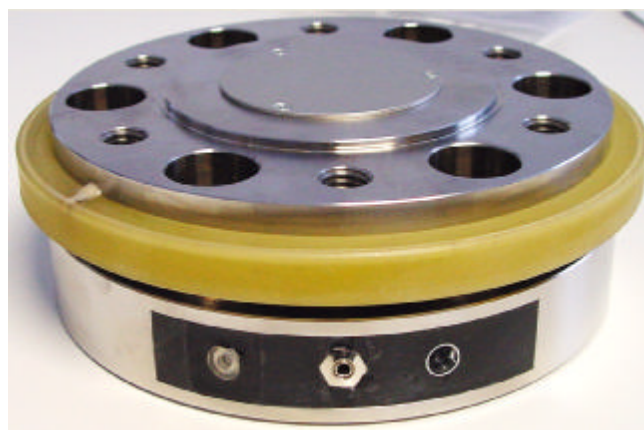
Max. radial acceleration: 1500 g

Temperature range: -10 to +85°C

Optional -40 to +120°C environmental temperature

Supply receiver: 9 to 36 V DC, 100 mA

Output voltage: 0 to ±10 V, 0(4) to 20 mA, USB, CAN



Type system: type: MFC_<range>_<precision>_<bandwidth>_<mod>_<AW>_F_<Inter>

20 Nm	0,25%	10 Hz	PCM16	AW_M	---
to	0,1%	100 Hz		AW_P	USB
50 Nm		1 kHz			CAN

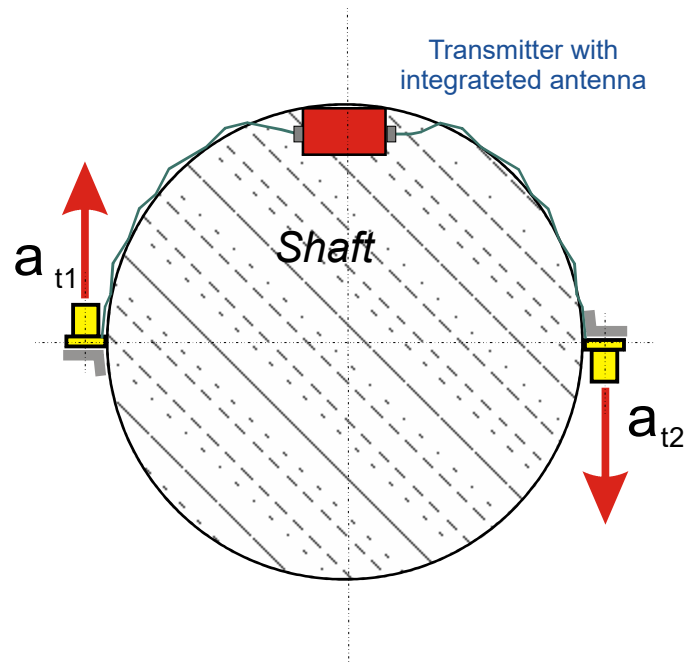
Aquisition of Torsional Acceleration Meter with Wireless Telemetry with ICP Sensors



for example
on crank shaft pulley



Receiver



Transmitter with
integrated antenna

Features:

Universal torsional acceleration meter for short term use

Ranges available: 1 g ... 100 g

Linearity and hysteresis: 0,2 %

High bandwidth 0 to 1 kHz (-3 dB)

Zero drift / Gain drift: 0,01 %/°C (0,003 %/°C optional)

Easy mounting (screw or clamping)

Transmitting: Radio f = 433/868 MHz

RF-Power: 10 mW; range: 40 m in open field

High reliable digital transmission, integrated data protection by checksum

low current consumption by low power C-MOS technique: 3,6 V supply

with Accu-supply 3,6 V Lithium, max 35 hours (one cycle)

Environmental temperature range: -10 to +85°C (-40..+125°C opt.)

Supply receiver: 9 to 36 V DC, 100 mA

Output voltage: 0 to ±10 V, 0(4) to 20 mA, USB, CAN, TCP/IP

Type system: type: MFB_<range>_<precision>_<bandwidth>_<mod>_<AW>_F_<Inter>

1 g	0,25%	10 Hz	PCM12	AW_M	---
to		100 Hz	PCM16	AW_T	USB
500 g	0,1%	1 kHz			CAN
		10 kHz			TCP/IP

Wheel Torque Meter based on Wireless Telemetry



Receiver

Features:

Wheel torque meter for cars

Ranges available: 500 Nm to 4 kNm

Linearity and hysteresis: 0,1 %

Based on titanium with overload protection

High bandwidth 0 to 1 kHz(-3 dB)

High reliable digital transmitting 16 Bit resolution

Zerodrift / Gain drift: 0,01 %/°C (0,003 %/°C optional)

Easy mounting

Transmitting: Radio f = 433/868 MHz, 16 different frequencies

Integrated transmitting antenna, waterproof

RF-Power: 10 mW; range: 20 m in open field

Integrated data protection by checksum (16 Bit CRC)

Low current consumption by low power C-MOS technique: 3,6 V supply
with Accu-supply 3,6 V Lithium, max 35 hours (one cycle)

Max. radial acceleration: 1500 g

Temperature range: -25 to +85°C

Optional -40 to +120°C environmental temperature

Supply receiver: 9 to 36 V DC, 100 mA

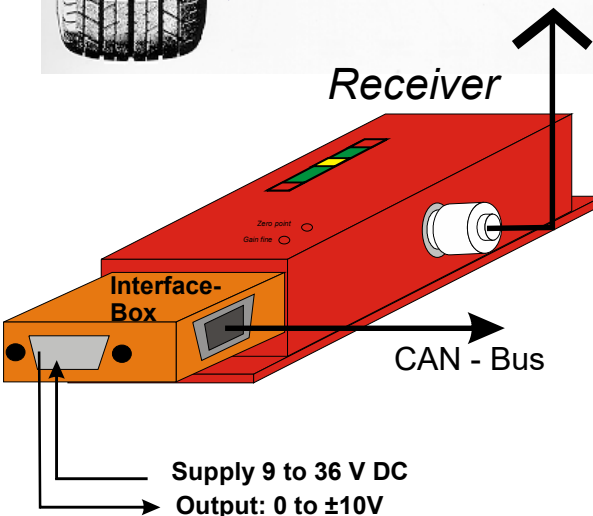
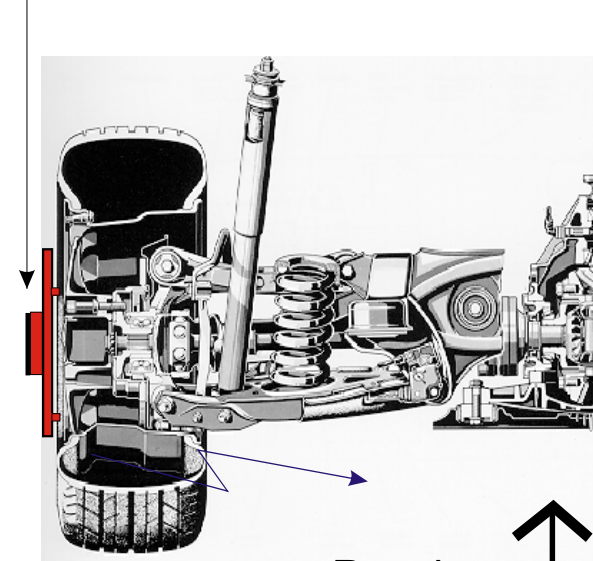
Output voltage: 0 to ± 10 V, 0(4) to 20 mA, USB, CAN

Type system: type: MFW_<range>_<precision>_<bandwidth>_<mod>_<AW>_F_<Inter>

500 Nm	0,1%	100 Hz	PCM16	AW_M	---
to		1 kHz		AW_P	USB
4 kNm					CAN

Wheel Wireless Telemetry with CAN-Bus Interface

Multichannel transmitter with
integrated strain gage amplifier
(with Accu)

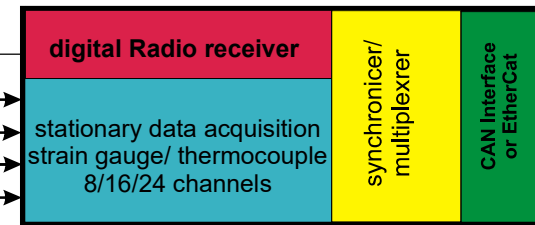


Receiver

Features:

- Easy mounting
- with Accu-supply 3,6 V Lithium, max 35 hours (one cycle)
- Channel count: 1 or multi channel (max. 16)
- Sample rate: 4000 Sample/s/channel
- Digital transmitting 12/16 Bit resolution with checksum (CRC)
- Transmitting: Radio $f = 433/868$ MHz, 16 different frequencies
- RF-Power: 10 mW; range: 30 m in open field
- Low current consumption by low power C-MOS technique: 3,6 V supply
- Integrated transducer amplifier range: 0,1 mV/V to 20 mV/V
- electrical remote programmable range with 12 Bit resolution
- Transducer: strain gage, full- / half bridge, Thermocouple type K
- Zerodrift / Gain drift: 0,01 %/°C (0,003 %/°C optional)
- Optional inductive supply
- Max. acceleration: 1500 g
- Optional -40 to +120°C environmental temperature

Type system: MSV_Rad_<channel>_<precision>_<temperature>_<mod>_F_<sample>_<Inter>						
	2	0,2	85	PCM12	1	USB
	to	0,1	125	PCM16	10	CAN
	32		150		1000	
					4000	



CAN-Bus,
EtherCAT,
USB

radio wheel transmitter

radio wheel transmitter

radio wheel transmitter

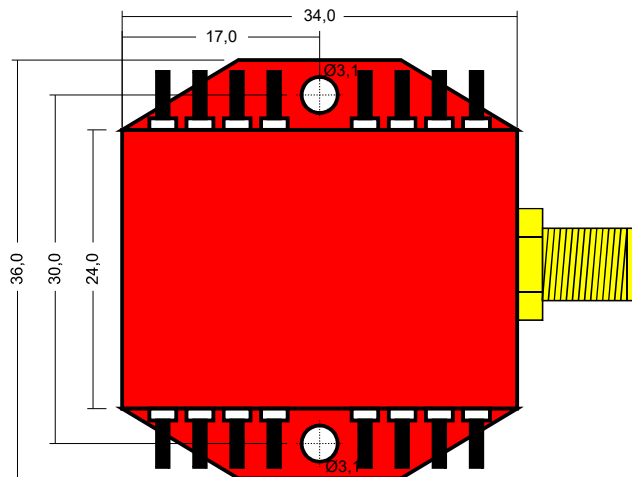
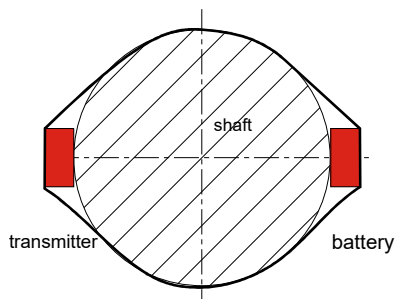
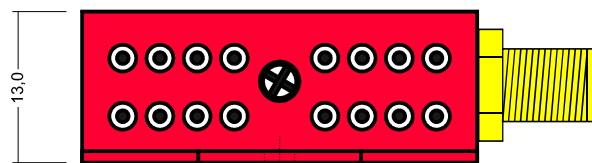
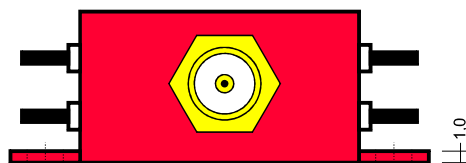
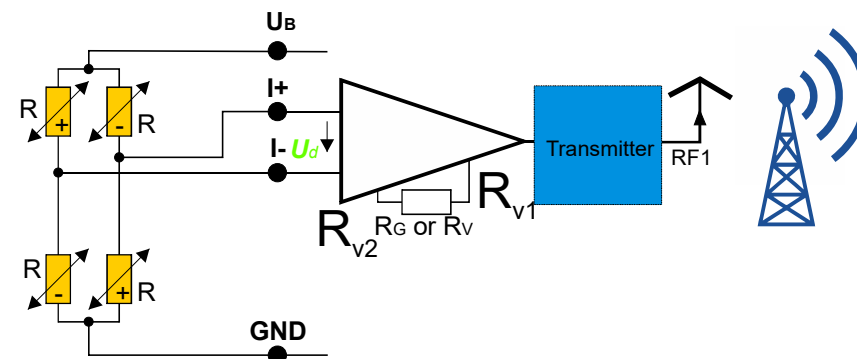
radio wheel transmitter



Radio-Sensortelemetry Components



Sensor Signal Amplifier Type 4a



1/2 Channel Radio Sensortelemetry transmitter

For strain gage, PT100, Thermocouple

Sensitivity: 0,02 to 20 mV/V

Bandwidth 10 Hz / 0 Hz to 1 kHz

Bridge supply: 3 V

Strain gage: 350 Ω

Transmission: Radio Sensortelemetry PCM

Integrated filter

Resolution: 14 Bit (16 Bit)

Drift zero: 0,02 (0,01, 0,005 option)

Supply: 3,3 to 12 V, 50 mA

Remote range control, auto zero (option)

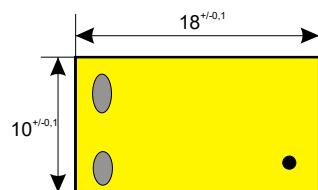
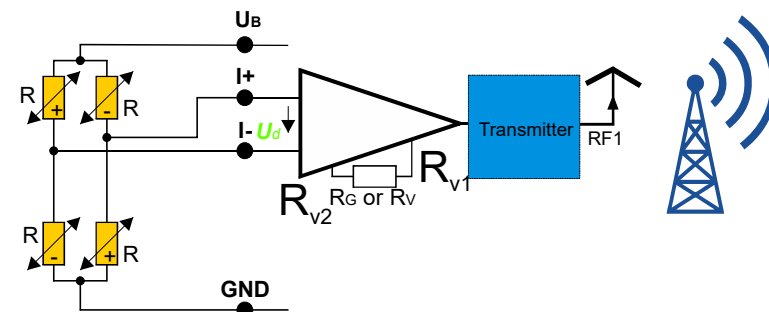
Environmental temperature: -25 to +85°C (120°C)

Max load: 1 000 g (depends on fixing)

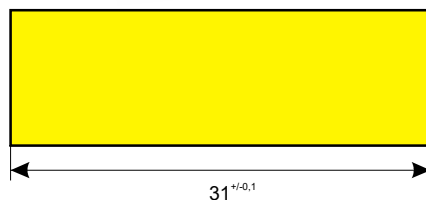
Type: SV_4a_<accuracy>_<temp>_Fu_<mod>_<bandwidth>_<rmc>_<TC>

0,02	85	PCM16	1 kHz	-	-
0,01	120		2 kHz	RC	TC
0,005			10 kHz		

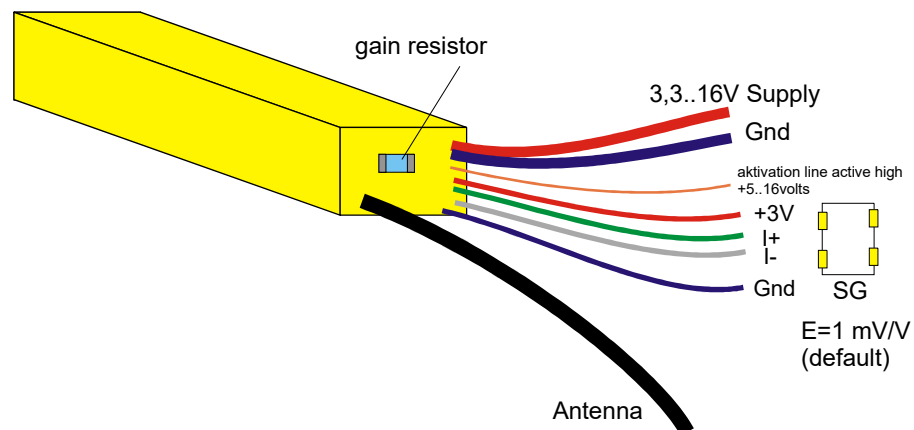
Miniature Sensor Signal Amplifier Type Epoxy



cable exits



31 +/- 0.1



1 Channel Radio Sensortelemetry transmitter

For strain gage, PT100, Thermocouple

Sensitivity: 0,02 to 20 mV/V

Bandwidth (10 Hz / 0 Hz to 1 kHz

Bridge supply: 3 V

Strain gage: 350 Ω (1000 Ω)

Transmission: Radio Sensortelemetry PCM, 433 MHz

Integrated filter

Resolution: 16 Bit

Drift zero: 0,02 (0,01, 0,005 option)

Supply: 3,3 to 16 V, 50 mA

Remote range control, auto zero (option)

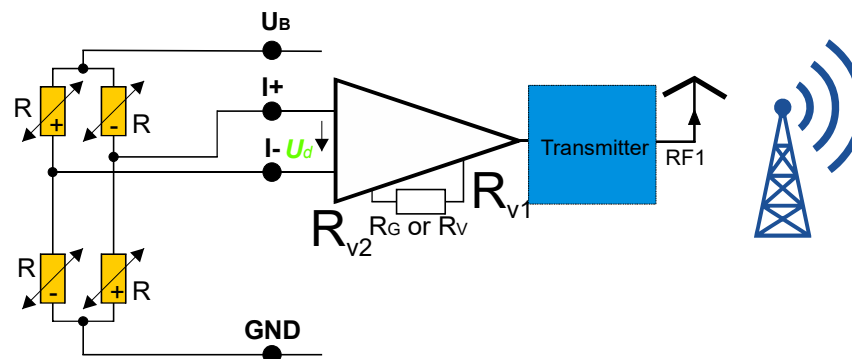
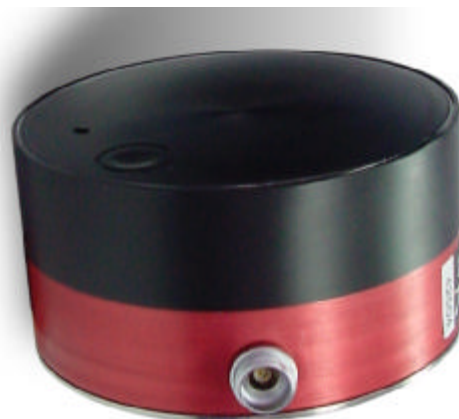
Environmental temperature: -25 to +85°C (120°C)

weight. 20 g, Max load: 3 000 g (depends on fixing)

Type: SV_7a <accuracy> <temp> Fu <mod> <bandwidth> <rmc> <TC>

1 kHz	0,02	85	PCM16	-	-
	0,01	120		RC	TC
	0,005				

Sensor Signal Amplifier Type SV_Rad



1 Channel Radio Sensortelemetry transmitter for wheels or shaft end applications

For strain gage, PT100, Thermocouple

Sensitivity: 0,02 to 20 mV/V

Bandwidth 10 Hz / 0 Hz to 1 kHz

Bridge supply: 3 V, battery or accu (rechargeable)

Strain gages: 350 Ω

Transmission: Radio Sensortelemetry PCM

Diameter: 80 mm, height: 43 mm

Resolution: 12 Bit (16 Bit)

Drift zero: 0,02 (0,01, 0,005 option)

Recharging by inductive recharging cap (contactless)

Operating time between recharging: 30 hours

Activating by switch

Remote range control, auto zero (option)

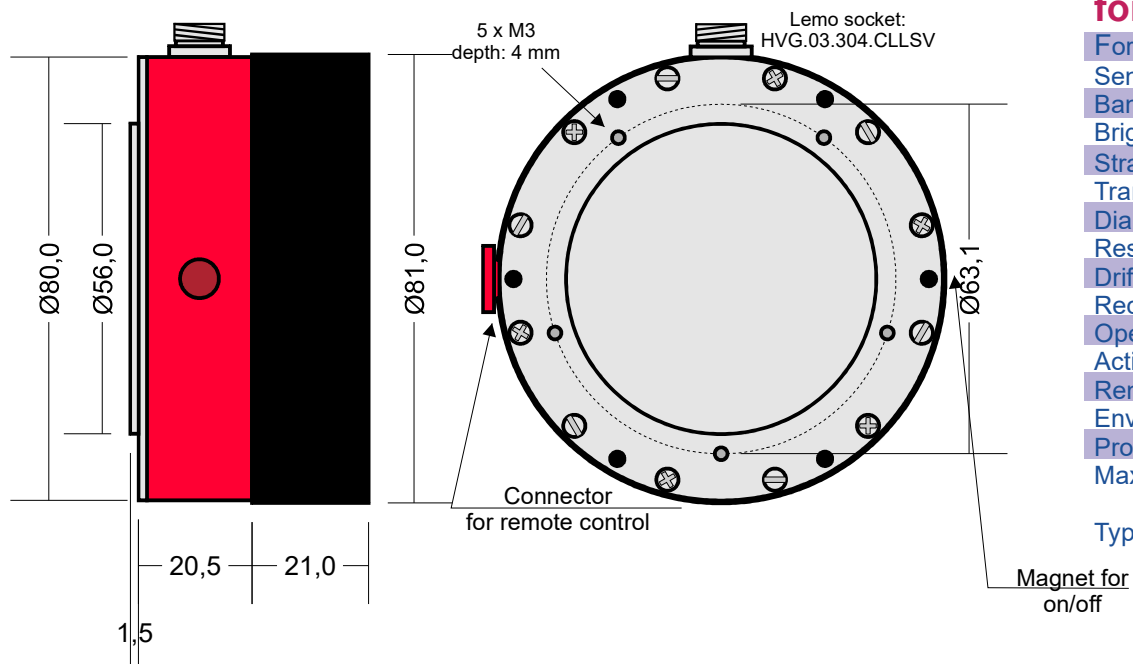
Environmental temperature: -25 to +85°C (120°C)

Protection: IP67

Max load: 1 000 g (depends on fixing)

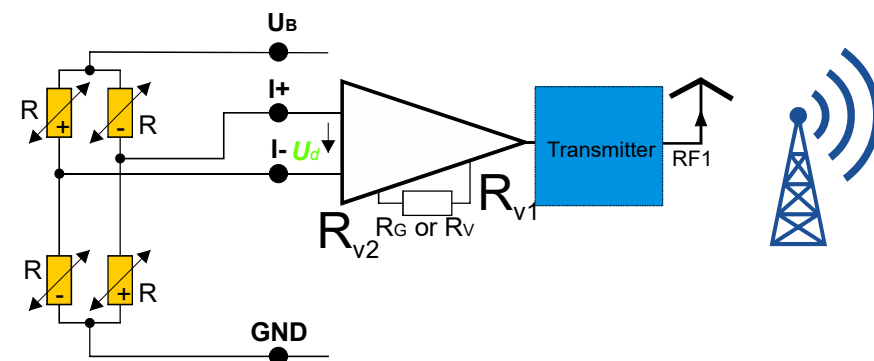
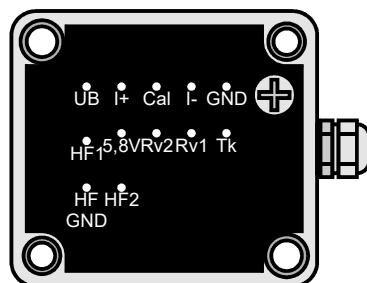
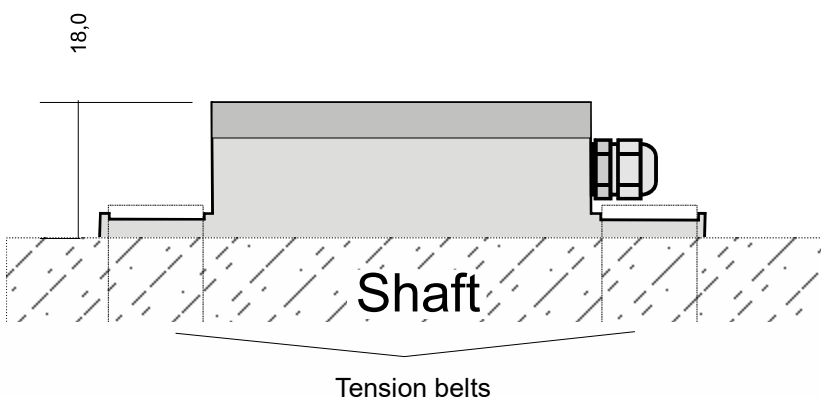
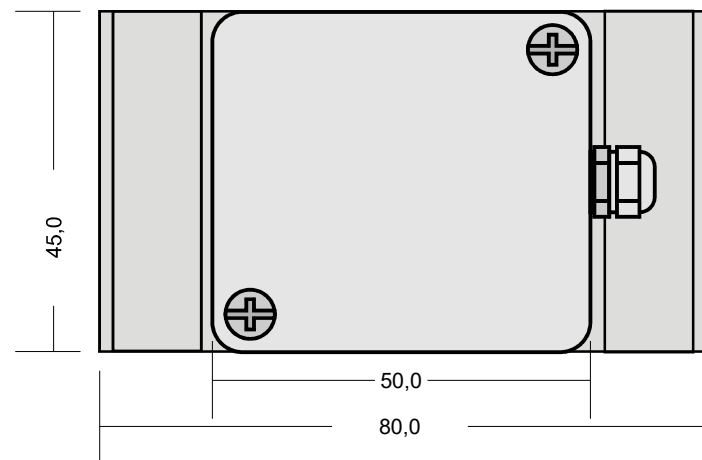
Type: SV_Rad_<accuracy>_<temp>_Fu_<mod>_<bandwidth>_<rmc>_IP67_<TC>

0,02	85	PCM16	1 kHz	-	-
0,01	120		2 kHz	RC	TC
0,005			10 kHz		



Sensor Signal Amplifier Type 8b

special for tension belt fixing (waterproof)



1 Channel Radio Sensortelemetry transmitter with integrated transmitting antenna and accu pack

For strain gage, PT100, Thermocouple

Sensitivity: 0,02 to 20 mV/V

Bandwidth 10 Hz / 0 Hz to 1 kHz

Bridge supply: 3 V

Strain gages: 350 Ω

Transmission: Radio Sensortelemetry PCM

Integrated filter

Resolution: 14 Bit (16 Bit)

Drift zero: 0,02 (0,01, 0,005 option)

Supply: 3,3 to 12 V, 50 mA,

operating with 1 accu charge 30 hours

Remote range control, auto zero (option)

Environmental temperature: -25 to +85°C (120°C)

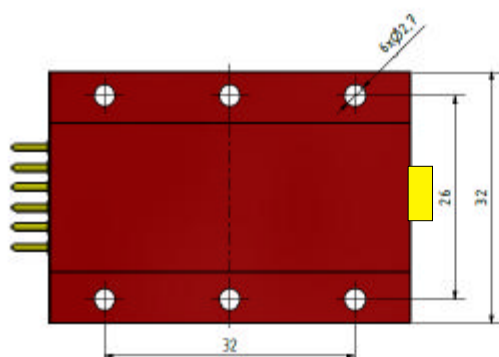
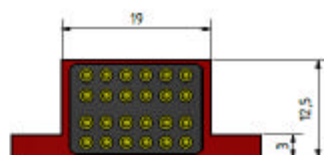
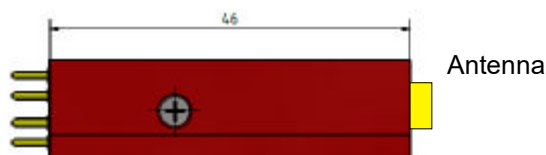
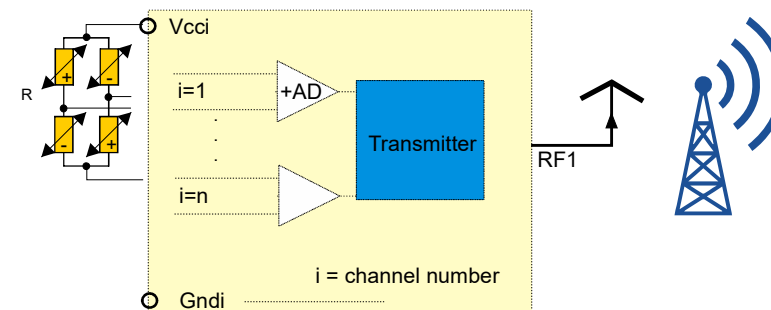
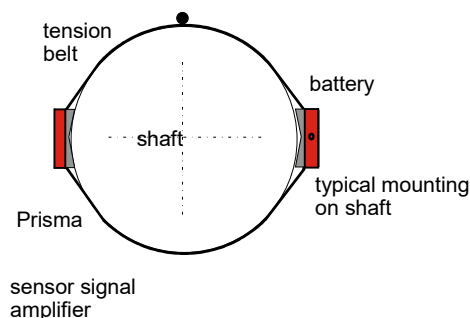
protection: IP65

Max load: 1 000 g (depends on fixing)

Type: SV_8b_<accuracy>_<temp>_Fu_<mod>_<bandwidth>_<rmc>_wa_<TC>

0,02	85	FM	1 kHz	-	-
0,01	125	PCM16	2 kHz	RMC	TC
0,003	150		10 kHz		

4 channel signal Amplifier Type M



4 Channel Radio Sensortelemetry transmitter

For strain gage, PT100, Thermocouple

Sensitivity: 0,02 to 20 mV/V

Bandwidth (10 Hz / 0 Hz to 1 kHz)

Bridge supply: 3 V

Strain gage: 350 Ω (1000 Ω)

Transmission: Radio Sensortelemetry PCM, 433 MHz

Integrated filter

Resolution: 16 Bit

Drift zero: 0,01, (0,005 option)

Supply: 3,3 to 16 V, 80 mA

Remote range control, auto zero (option)

Environmental temperature: -25 to +85°C (120°C)

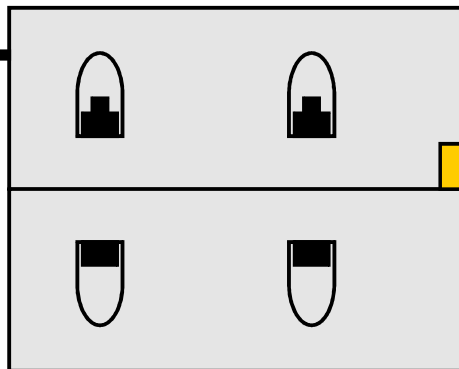
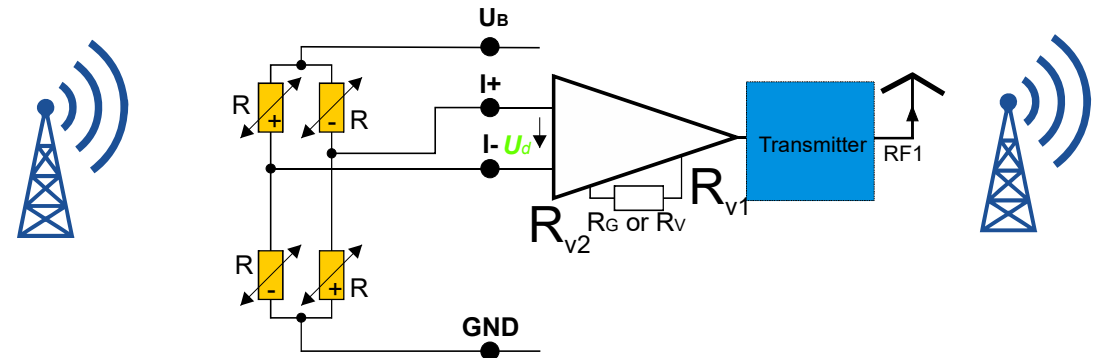
weight. 20 g, Max load: 3 000 g (depends on fixing)

Type: SV_7a_<accuracy>_<temp>_Fu_<mod>_sample_<bandwidth>_<rmc>

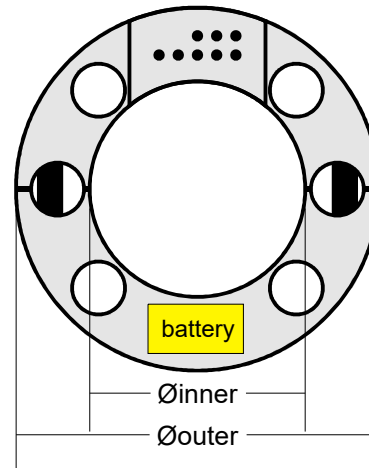
0,01	85	PCM16	2000 /s	0,5 kHz	-
0,005	120		4000 /s	1 kHz	RC
			8000 /s	2 kHz	

Sensor Signal Amplifier Type 9

Through hole
 $\varnothing = 7\text{mm}$ for weight reduction



M3 Inbus



Inner diameter: 17 to 50mm
Outer diameter = Inner diameter + 20mm
(without integrated battery)
or
Outer diameter = Inner diameter + 30 mm
(with integrated rechargeable battery)

1 Channel Radio Sensortelemetry transmitter

For strain gage, PT100, Thermocouple

Sensitivity: 0,02 to 20 mV/V

Bandwidth 10 Hz / 0 Hz to 1 kHz

Bridge supply: 3 V

Strain gages: 350 Ω

Transmission: Radio Sensortelemetry PCM

Integrated filter

Resolution: 14 Bit (16 Bit)

Drift zero: 0,02 (0,01, 0,005 option)

Supply: 3,3 to 12 V, 50 mA

Remote range control, auto zero (option)

Environmental temperature: -25 to +85°C (120°C)

Max load: 1 000 g (depends on fixing)

Type: SV_9_<accuracy>_<temp>_Fu_<mod>_<bandwidth>_<rmc>_<wa>_<TC>

1 kHz	0,02	85	PCM12	-	-	-
	0,01	120	PCM16	RMC	IP52	TC
	0,005				IP65	
					IP67	

Complete systems



All systems can be designed for dual use battery supply for the quick solution but also with inductive (maintenance free supply)

