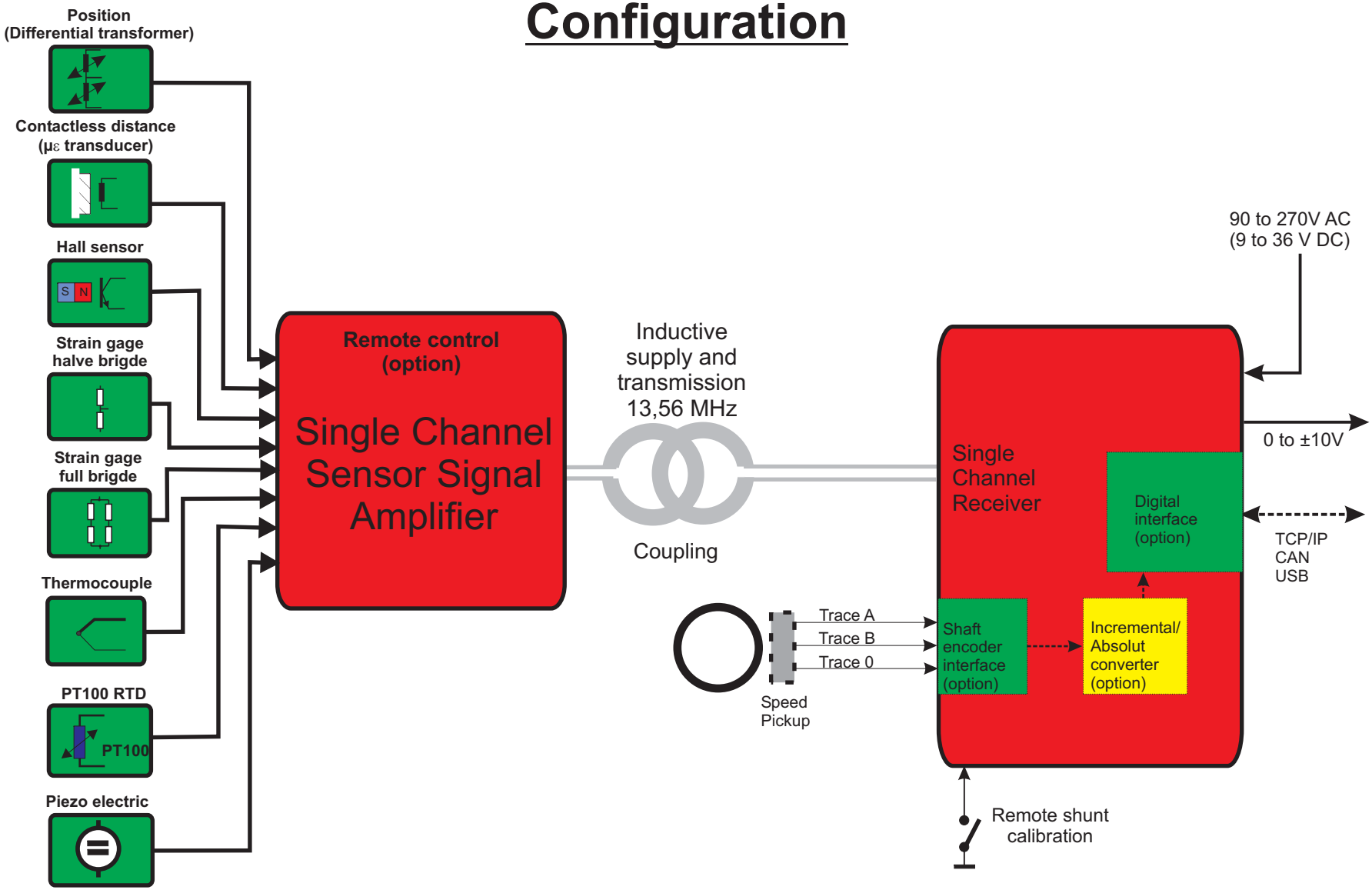
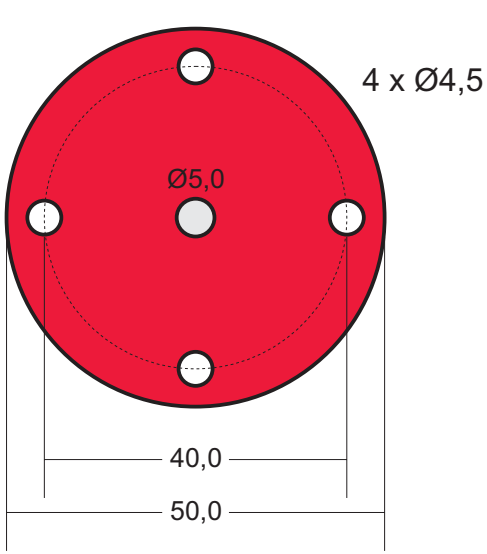
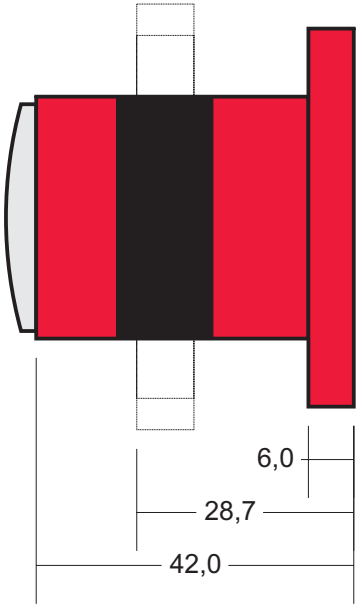
# Inductive Sensortelemetry
# 1 Channel Sensor Signal Amplifiers and Receivers

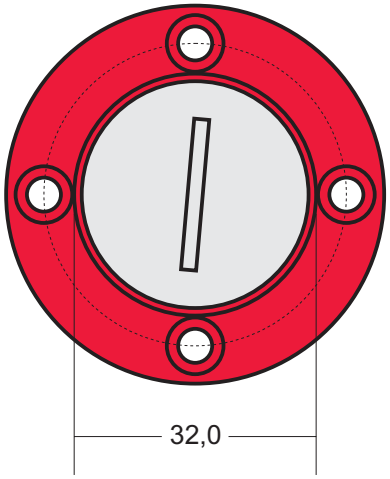
# Configuration

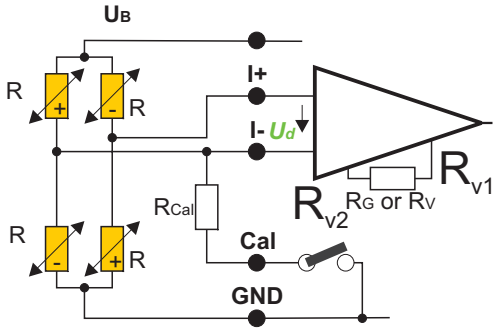


# Sensor Signal Amplifier Type 2a




## 1 Channel FM/PCM Transmitter

- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 14 Bits, 16 Bits*
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 150°C)
- Max load: 50 000 g (depending on fixing)
- Type: SV_2a_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>

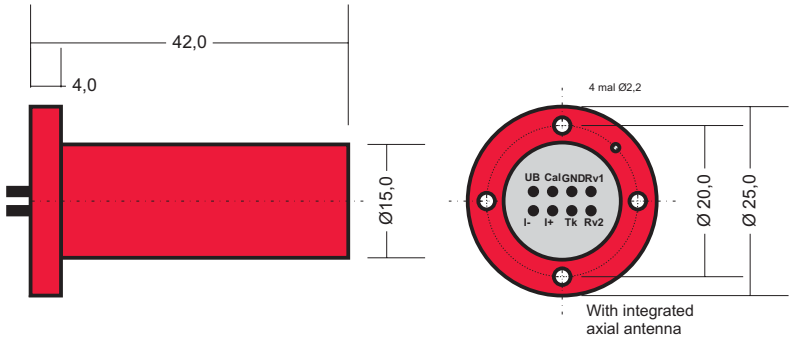
| | | | | |
|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - |
| 0,01 | 125 | PCM16 | 10 kHz | RMC |
| 0,003 | 150 | | 40 kHz | |
| | 160 | | | |

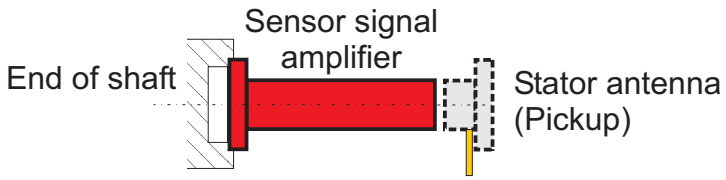
*** PCM-Version**

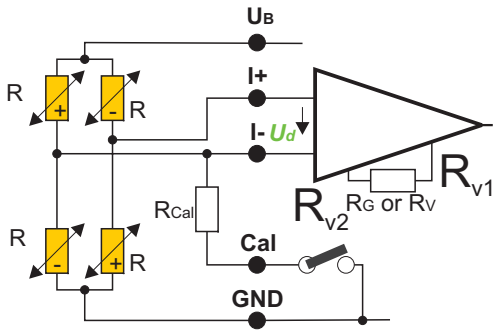
# Sensor Signal Amplifier Type 2b (End of shaft, Cartridge, Turbine)

Integrated Rotor Coil

## Weight: about 10g




## 1 Channel FM/PCM Transmitter

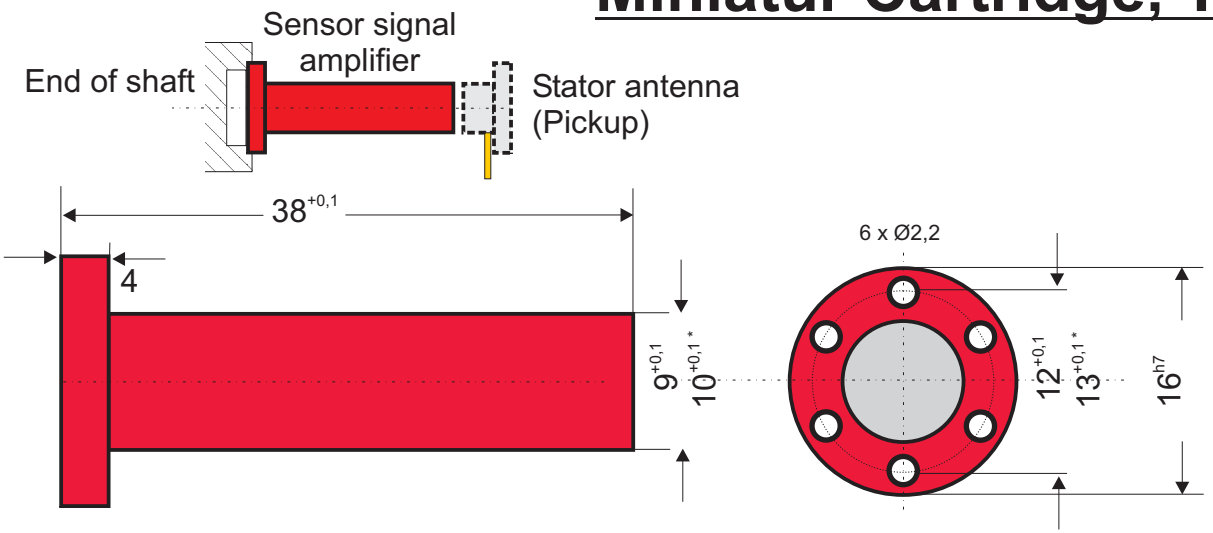
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 14 Bits, 16 Bits*
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 150°C)
Max load: 50 000 g (depending on fixing)
Type: SV_2b_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_TC

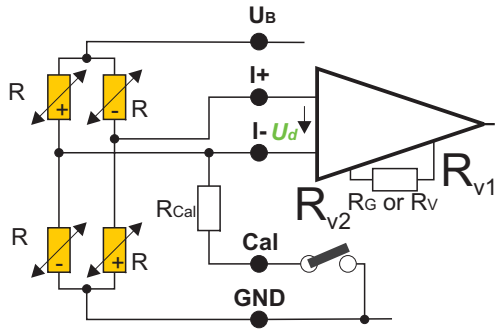
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | |
| 0,01 | 125 | PCM16 | 10 kHz | RMC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

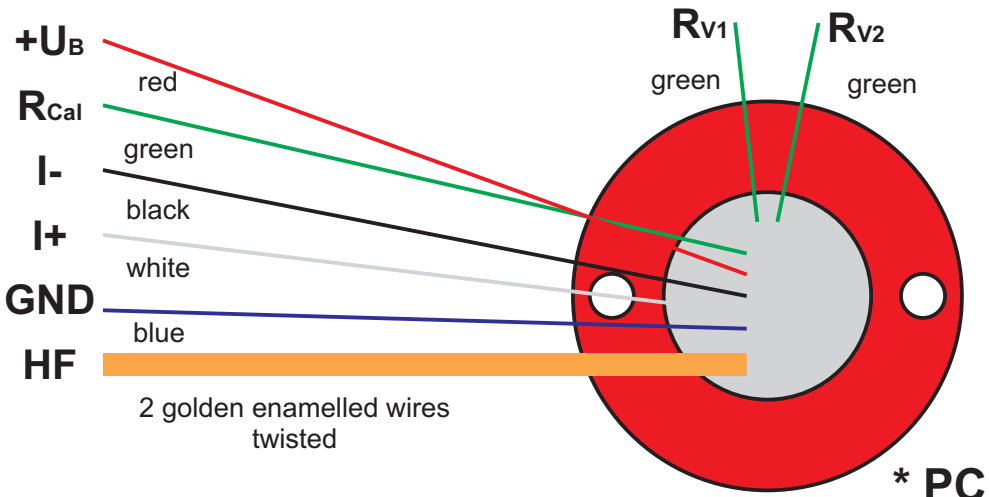
*** PCM Version**

**Weight: 15 g**
**Torque of inertia: 4,2E-7 kgm²**

# Sensor Signal Amplifier Type 2c (End of shaft, Miniatur Cartridge, Turbine)




## 1 Channel FM/PCM Transmitter

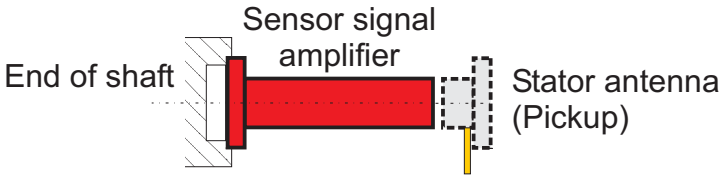
- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 14 Bits, 16 Bits*
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 150°C)
- Max load: 50 000 g (depending on fixing)
- Type: SV_2b_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>

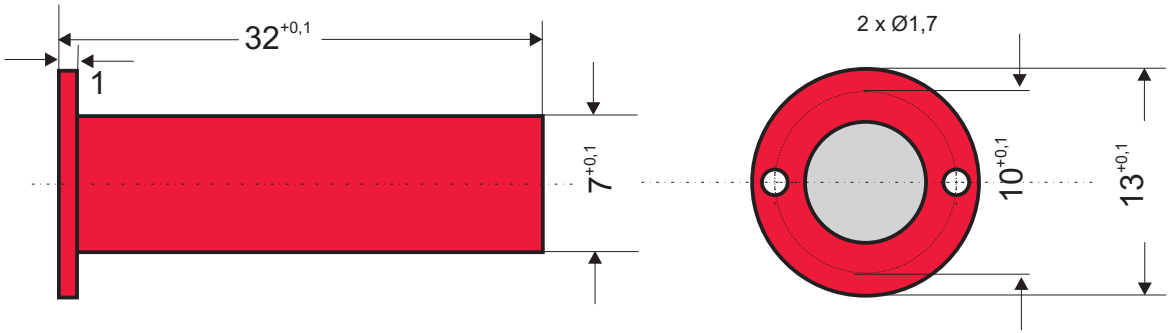
| | | | | |
|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - |
| 0,01 | 125 | PCM16 | 10 kHz | RMC |
| 0,003 | 150 | | 40 kHz | |
| | 160 | | | |

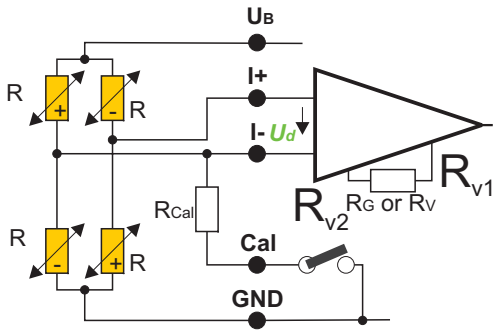
*** PCM-Version**

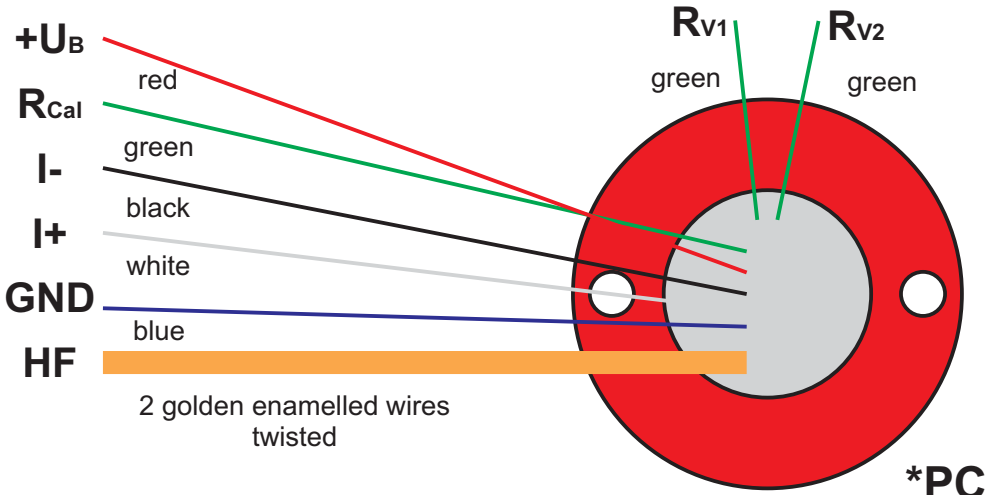
# Sensor Signal Amplifier Type 2d (End of shaft, Micro Cartridge, Turbine)

Integrated Rotor Coil



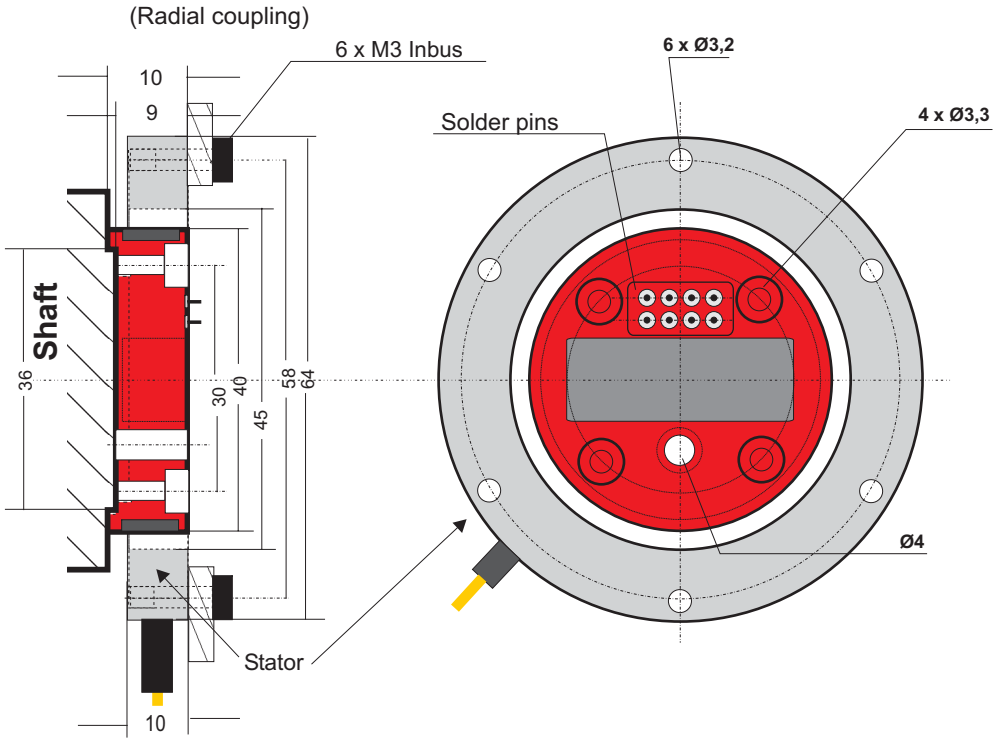

## 1 Channel FM/PCM Transmitter

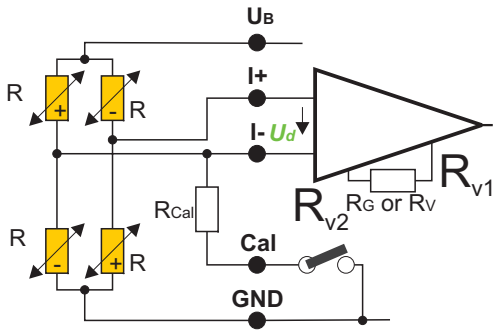
- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 16 Bits
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 160°C)
- Max load: 50 000 g (depending on fixing)
- Type: SV_2d_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>

| | | | | |
|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - |
| 0,01 | 125 | PCM16 | 10 kHz | TC |
| 0,003 | 150 | | 40 kHz | |
| | 160 | | | |

*PCM-Version

# Sensor Signal Amplifier Type 2e (Disk, End of shaft, Small space)



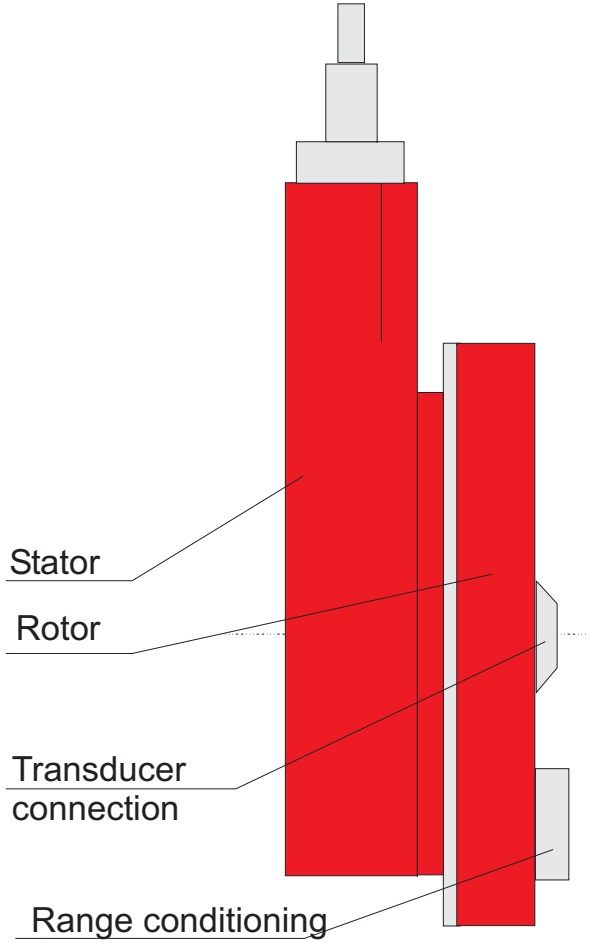

## 1 Channel FM/PCM Transmitter

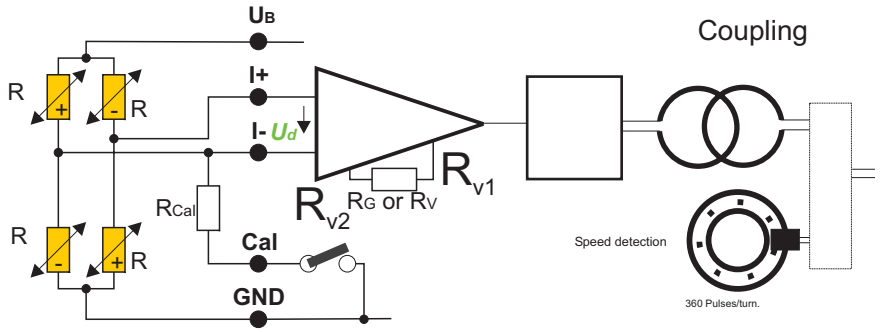
- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 14 Bits, 16 Bits*
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 160°C)
- Max load: 50 000 g (max. speed: 30 0000 RPM)
- Type: SV_2e_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>

| | | | | |
|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - |
| 0,01 | 125 | PCM16 | 10 kHz | RMC |
| 0,003 | 150 | | 40 kHz | |
| | 160 | | | |

*** PCM-Version**

# Wheel Transmitter with integrated Signal Amplifier Type 2f




## 1 Channel FM/PCM Transmitter

- Beared wheel transmitter
- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 6 V (3,3 V*)
- Strain gage bridge resistance: 120, 350, 1000 Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 14 Bits, 16 Bits*
- Zero point drift: 0,02, (0,01, 0,003* option)
- Remote shunt calibration
- Speed detection: 360 pulses/turn
- Enviromental temperature range: -25 to +85°C (125°C, 160°C)
- Max load: 5 000 g (max. speed:10 000 RPM)
- Type: SV_2f_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>_<RPM>

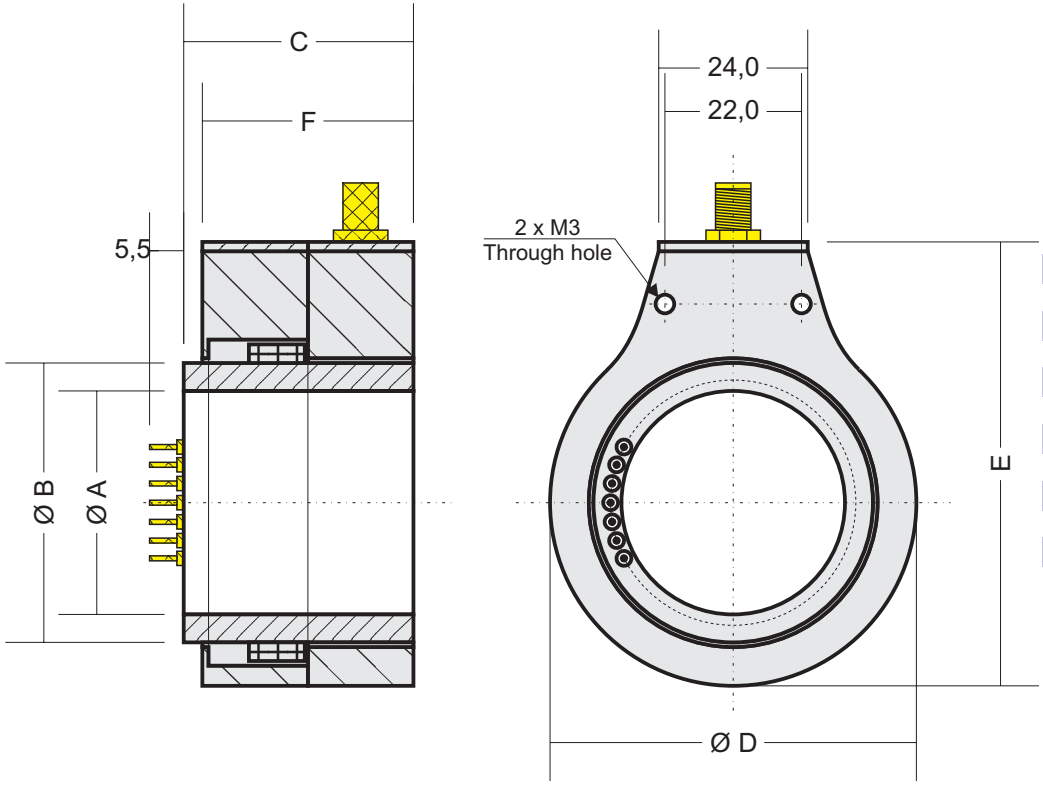
| | | | | | | |
|---|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - | 90 |
| 0,01 | 125 | PCM16 | 10 kHz | RC | TC | 180 |
| 0,003 | 160 | | 40 kHz | | | 360 |

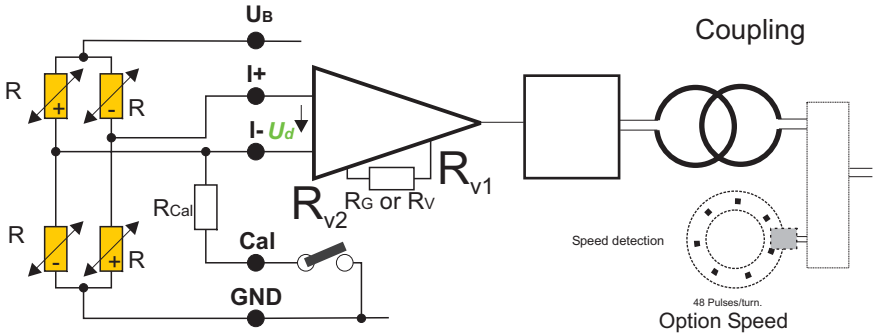
For more information see section: Universal shaft transmitter

# Universal Shaft Transmitter with Sensor Signal Amplifier Type 2La

(non divisible, 1 channel,with/without RMC, without rpm sensor)

| Dimensions | | | | | |
|---|---|---|---|---|---|
| Ø A [mm] | Ø B [mm] | C [mm] | Ø D [mm] | E [mm] | F [mm] |
| 36 | 45 | 37 | 59 | 70 | 17 |
| 41 | 50 | 37 | 65 | 76 | 17 |
| 46 | 55 | 37 | 69 | 83 | 17 |
| 51 | 60 | 39 | 75 | 90 | 19 |




## 1 Channel FM/PCM Transmitter

Beared wheel transmitter
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 10 kHz
Strain gage brigde supply: 6 V (3,3 V*)
Strain gage bridge resistance: 120, 350, 1000 Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 16 Bits
Zero point drift: 0,02, (0,01, 0,003* option)
Remote shunt calibration
Type: SV_2La_<Di>_<Da>_<temp>_<mod>_<bandwidth>_<rmc>_TC_<RPM>

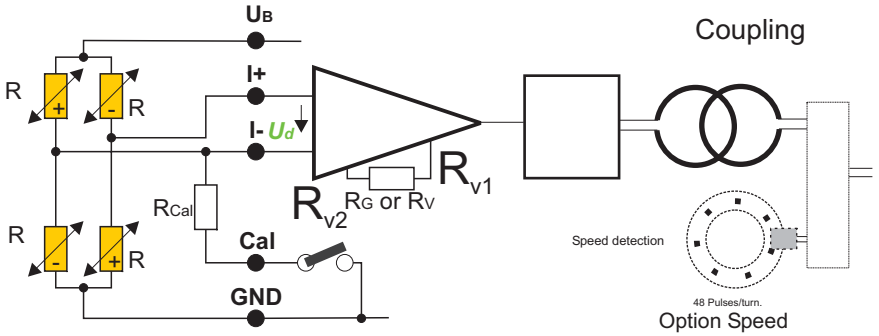
| in mm | in mm | | | | | |
|---|---|---|---|---|---|---|
| 36 | 59 | -10+85°C | PCM16 | 1 kHz | - | - |
| 41 | 65 | -25+125°C | | 10 kHz | RC | TC |
| 46 | 69 | -45+85°C | | 40 kHz | | |
| 51 | 75 | -45+125°C | | | | |
| | | -25+160°C | | | | |

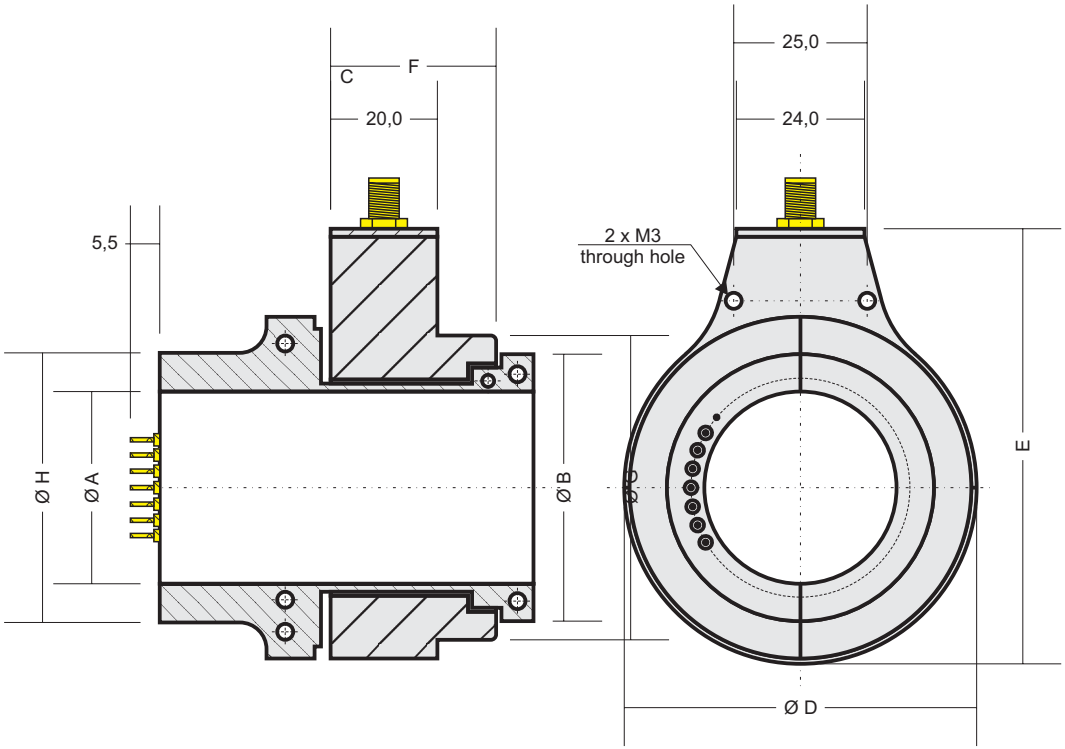
For more information see section: Universal shaft transmitter

# Universal Shaft Transmitter with Sensor Signal Amplifier Type 2Lg

(divisible, 1 channel,with/without RMC, without rpm sensor)

| Dimensions | | | | |
|---|---|---|---|---|
| Ø A [mm] | Ø B [mm] | C [mm] | Ø D [mm] | E [mm] |
| 36 | 50 | 70 | 66 | 80 |
| 41 | 55 | 73 | 71 | 85 |
| 46 | 60 | 75 | 76 | 90 |




## 1 Channel PCM Transmitter

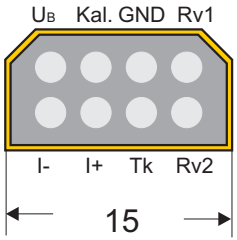
Beared wheel transmitter
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 10 kHz
Strain gage brigde supply: 6 V (3,3 V*)
Strain gage bridge resistance: 120, 350, 1000 Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 16 Bits
Zero point drift: 0,02, (0,01, 0,003* option)
Remote shunt calibration
Type: SV_2Lg_<Di>_<Da>_<temp>_<mod>_<bandwidth>_<rmc>_TC_<RPM>

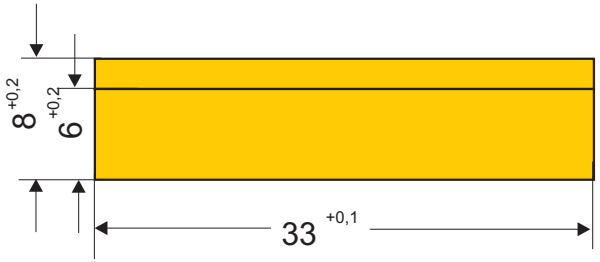
| in mm | in mm | | | | | | |
|---|---|---|---|---|---|---|---|
| 36 | 59 | -10+85°C | PCM16 | 1 kHz | - | - | - |
| 41 | 65 | -25+125°C | | 10 kHz | RC | TC | 24 |
| 46 | 69 | -45+85°C | | | | | |
| 51 | 75 | -45+125°C | | | | | |
| | | -25+160°C | | | | | |

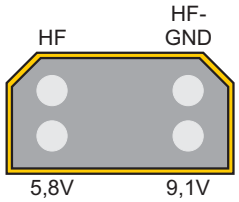
For more information see section: Universal shaft transmitter

# Sensor Signal Amplifier Type 3a

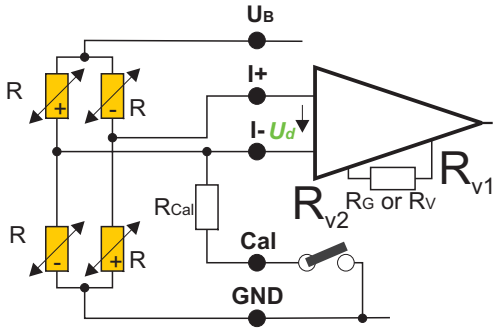
## Weight: about 10g







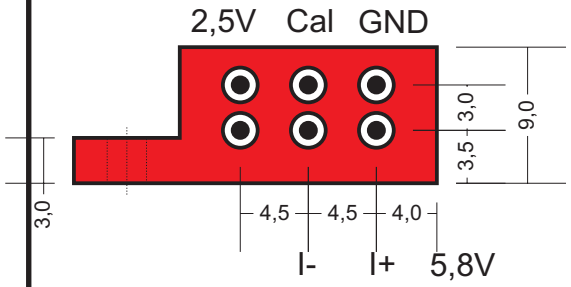

## 1 Channel FM/PCM Transmitter

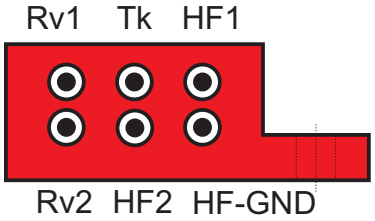
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 14 Bits, 16 Bits*
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_3a_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_TC

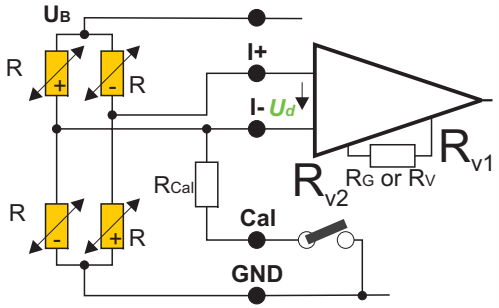
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | |
| 0,01 | 125 | PCM16 | 10 kHz | RMC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

*** PCM-Version**

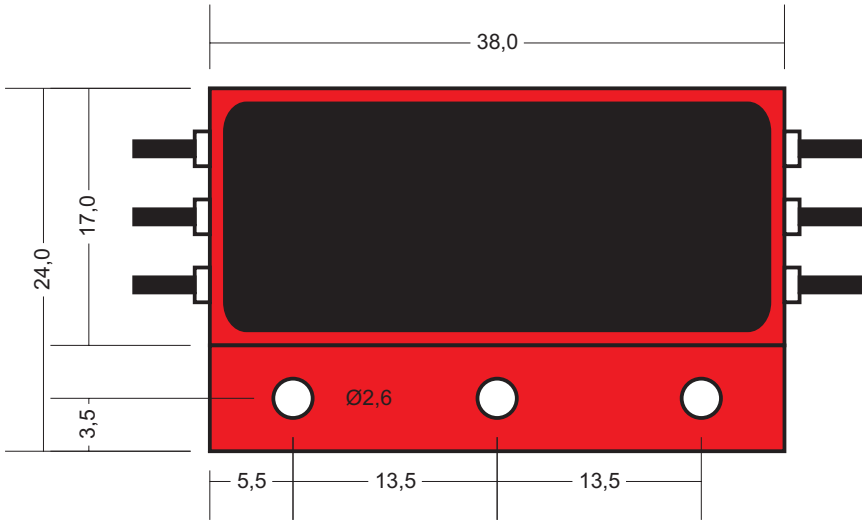
# Sensor Signal Amplifier Type 3B








## 1 Channel FM/PCM Transmitter

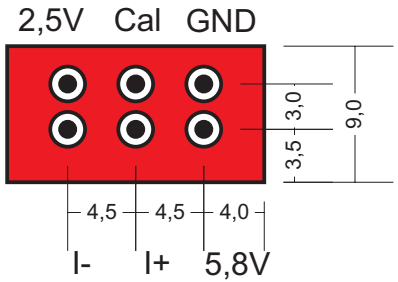
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 14 Bits, 16 Bits*
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_3b_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_TC

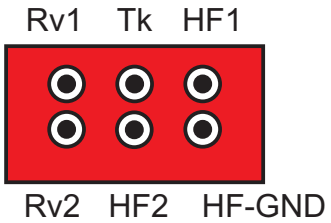
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | |
| 0,01 | 125 | PCM16 | 10 kHz | RMC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

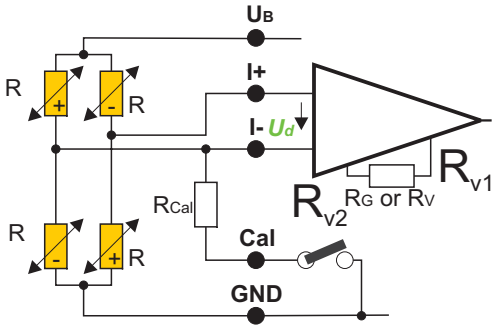
*** PCM-Version**

# Sensor Signal Amplifier Type 3C

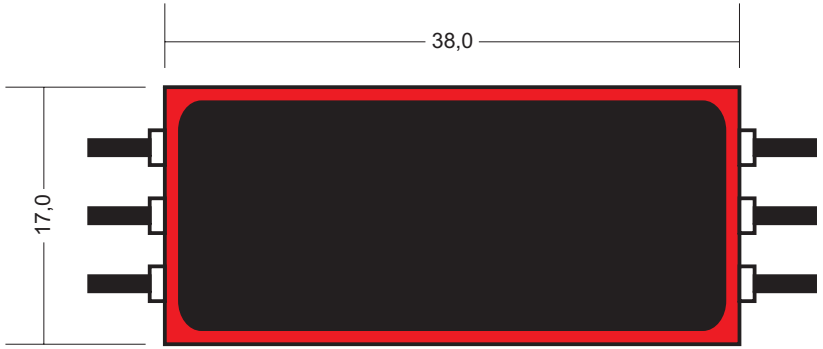
**Weight: about 12g**








## 1 Channel FM/PCM Transmitter

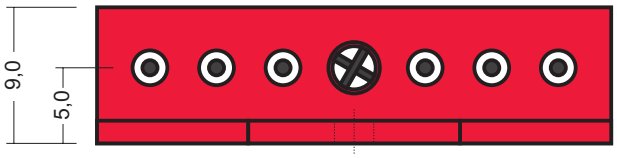
- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 14 Bits, 16 Bits*
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 160°C)
- Max load: 50 000 g (depending on fixing)
- Type: SV_3c_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_TC

| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | |
| 0,01 | 125 | PCM16 | 10 kHz | RMC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

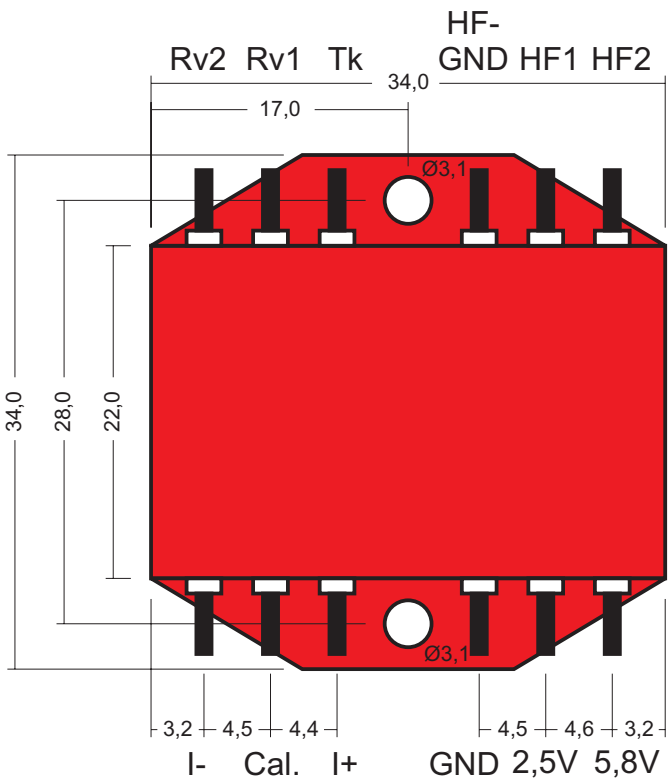
*** PCM-Version**

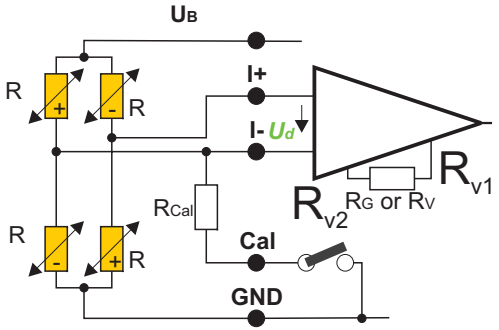
# Sensor Signal Amplifier Type 4a

## Weight: about 15g






## 1 Channel FM/PCM Transmitter

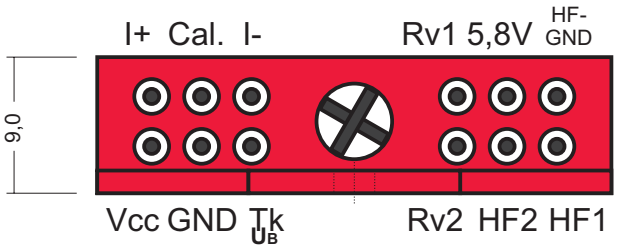
- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 14 Bits, 16 Bits*
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 160°C)
- Max load: 50 000 g (depending on fixing)
- Type: SV_4a_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_TC

| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | |
| 0,01 | 125 | PCM16 | 10 kHz | RMC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

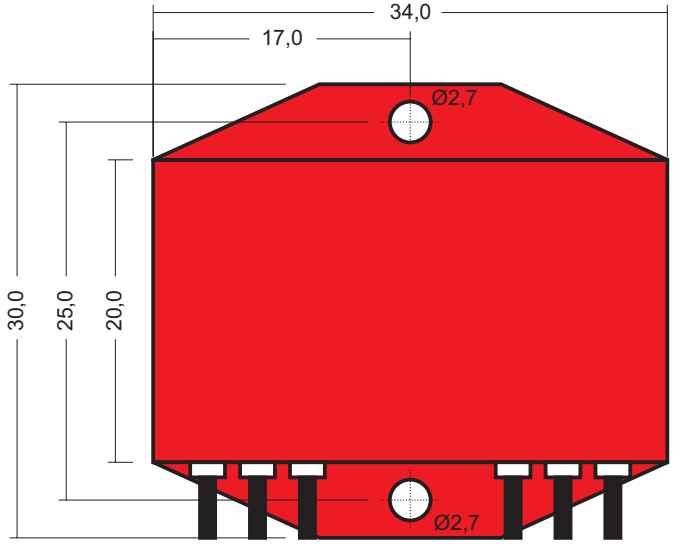
*** PCM-Version**

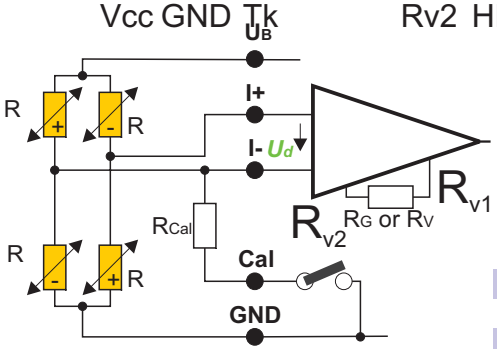
# Sensor Signal Amplifier Type 4b

## Weight: about 12g





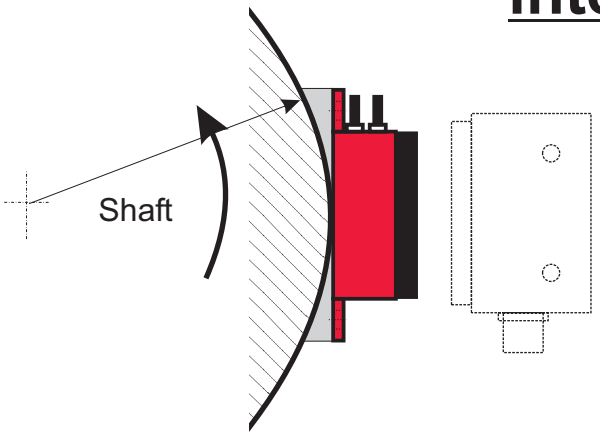

## 1 Channel FM/PCM Transmitter

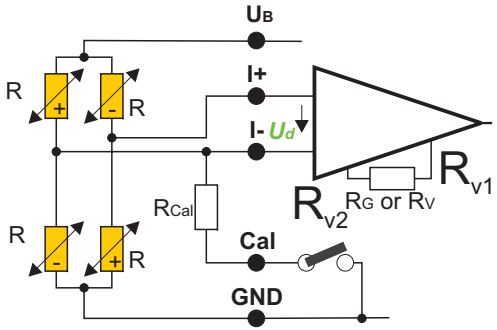
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 14 Bits, 16 Bits*
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_4b_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_TC

| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | |
| 0,01 | 125 | PCM16 | 10 kHz | RMC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

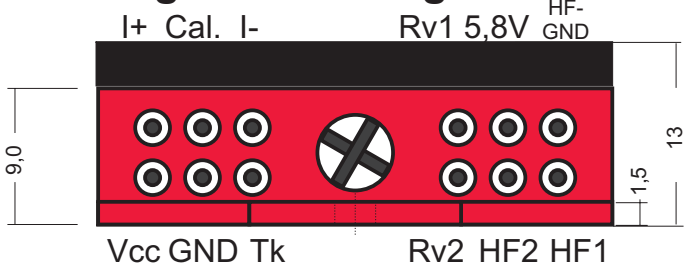
*** PCM-Version**

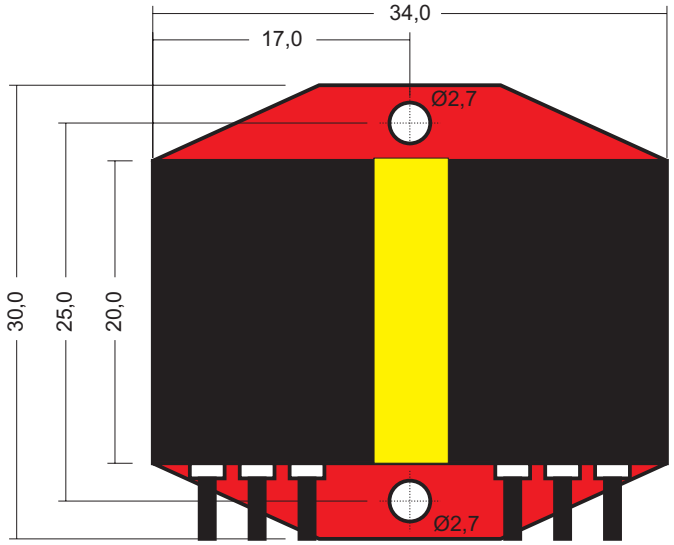
# Sensor Signal Amplifier Type 4c integrated Rotor Antenna (radial)




**Weight: about 12g**



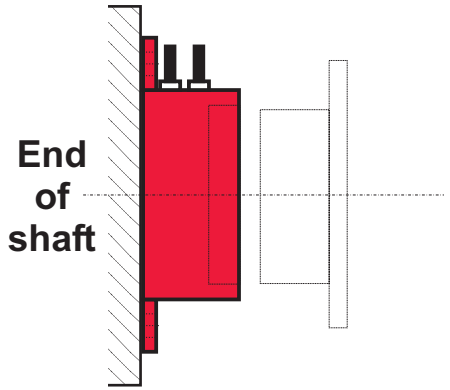

## 1 Channel FM/PCM Transmitter

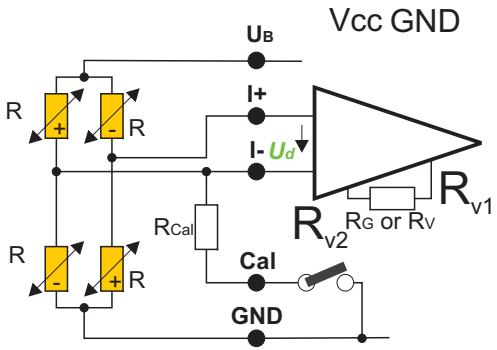
For strain gage, PT100, Thermocouple
integrated rotor antenna
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 14 Bits, 16 Bits*
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 150°C)
Max load: 50 000 g (depending on fixing)
Type: SV_4c_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>_<spot>

| | | | | | | |
|---|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - | - |
| 0,01 | 125 | PCM16 | 10 kHz | RC | TC | spot |
| 0,003 | 150 | | 40 kHz | | | |
| | 160 | | | | | |

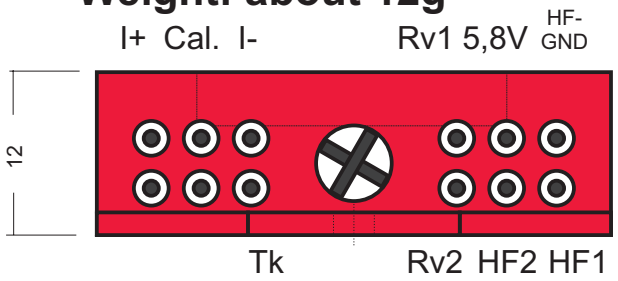
*** PCM-Version**

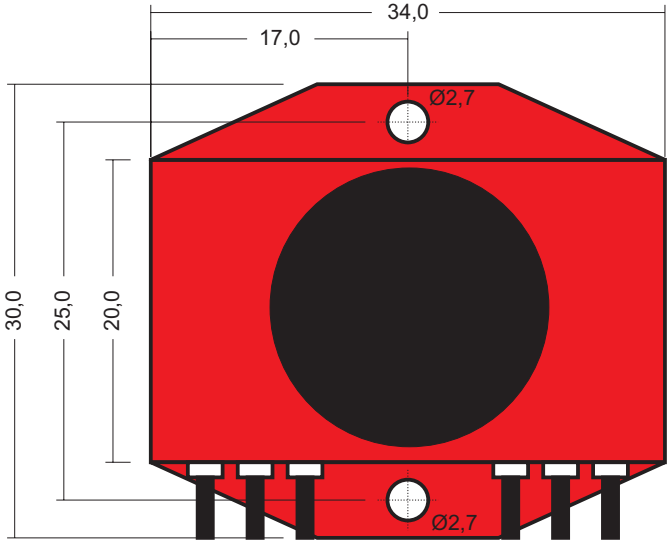
# Sensor Signal Amplifier Type 4d integrated Rotor Antenna (axial)




**Weight: about 12g**




## 1 Channel FM/PCM Transmitter

For strain gage, PT100, Thermocouple
integrated rotor antenna
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 14 Bits, 16 Bits*
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_4d_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>

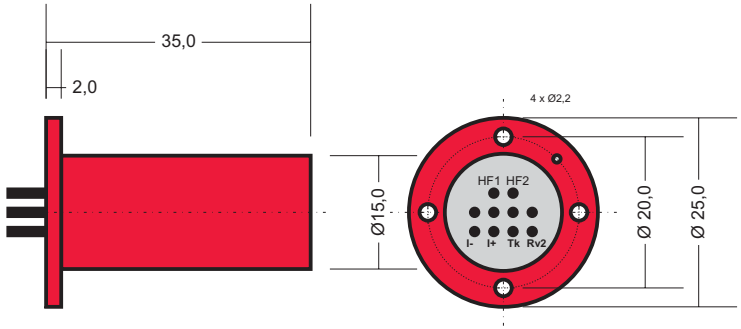
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - |
| 0,01 | 125 | PCM16 | 10 kHz | RC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

*** PCM-Version**

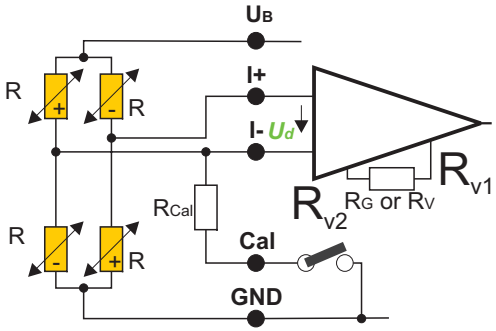
# Sensor Signal Amplifier Type 5a

(Standard)

**Weight: about 8g**








## 1 Channel FM/PCM Transmitter

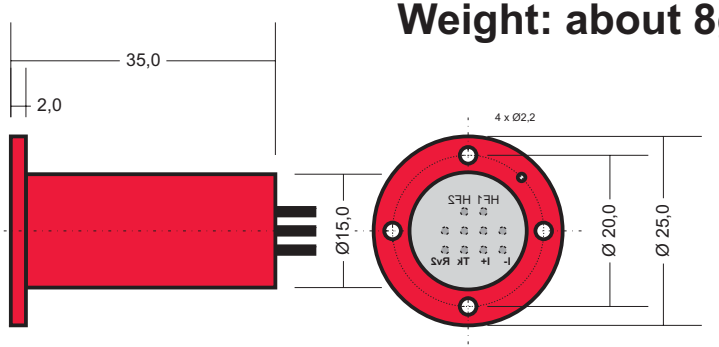
- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 14 Bits, 16 Bits*
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 160°C)
- Max load: 50 000 g (depending on fixing)
- Type: SV_5a_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_TC

| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | |
| 0,01 | 125 | PCM16 | 10 kHz | RMC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

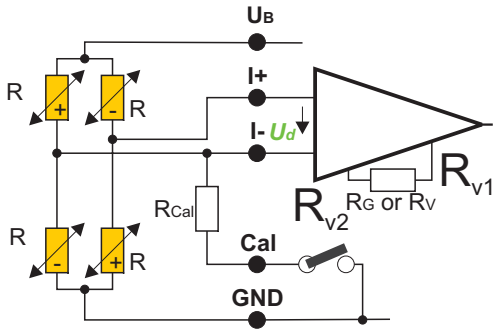
*** PCM-Version**

# Sensor Signal Amplifier Type 5b

(Standard)




**Weight: about 8g**



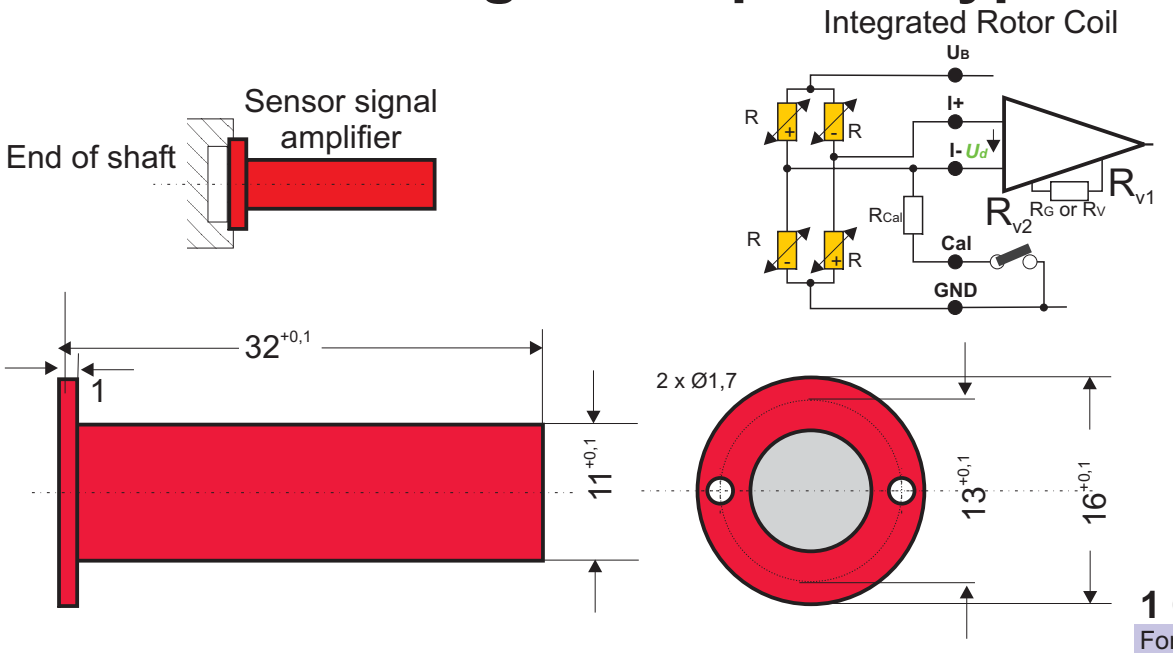

## 1 Channel FM/PCM Transmitter

For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 14 Bits, 16 Bits*
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_5b_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_TC

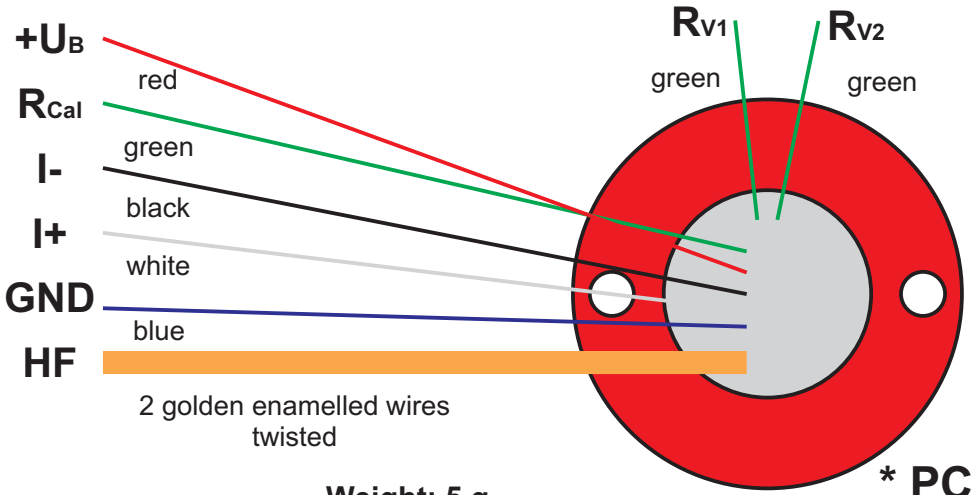
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | |
| 0,01 | 125 | PCM16 | 10 kHz | RMC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

*** PCM-Version**

# Sensor Signal Amplifier Type 5c (Miniature Patrone)








## 1 Channel FM/PCM Transmitter

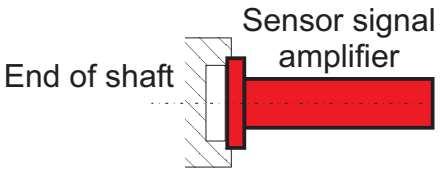
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 14 Bits, 16 Bits*
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 150°C)
Max load: 50 000 g (depending on fixing)
Type: SV_5c_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>

| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - |
| 0,01 | 125 | PCM16 | 10 kHz | RC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

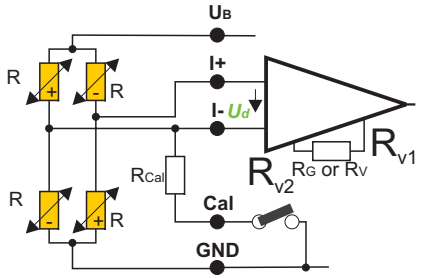
*** PCM-Version**

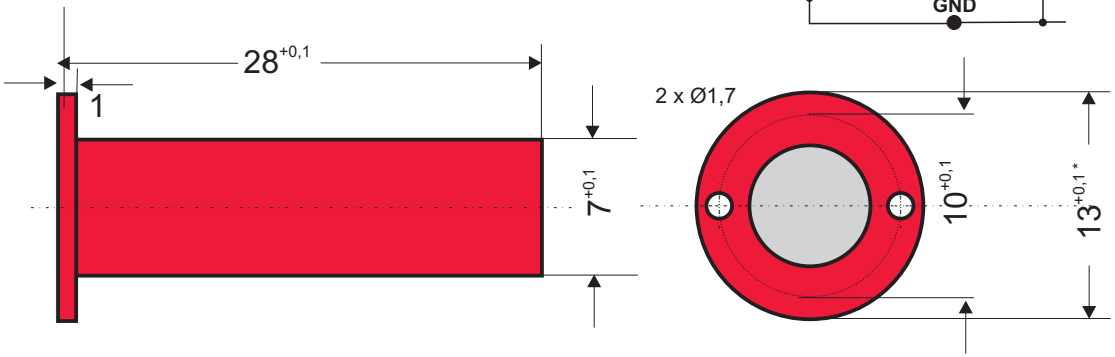
**Weight: 5 g**
**Torque of inertia: 1,5E-8 kgm²**

# Sensor Signal Amplifier Type 5d (Super Miniature Patrone)

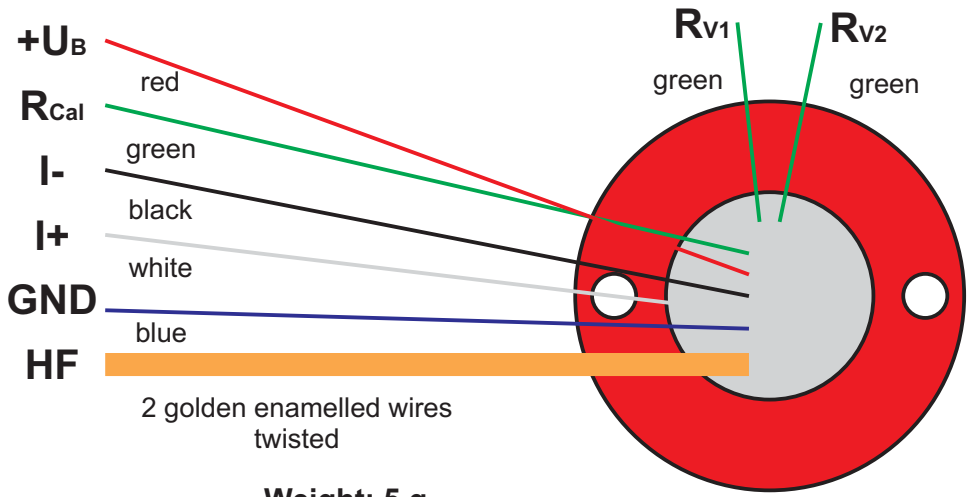



Integrated Rotor Coil








## 1 Channel FM/PCM Transmitter

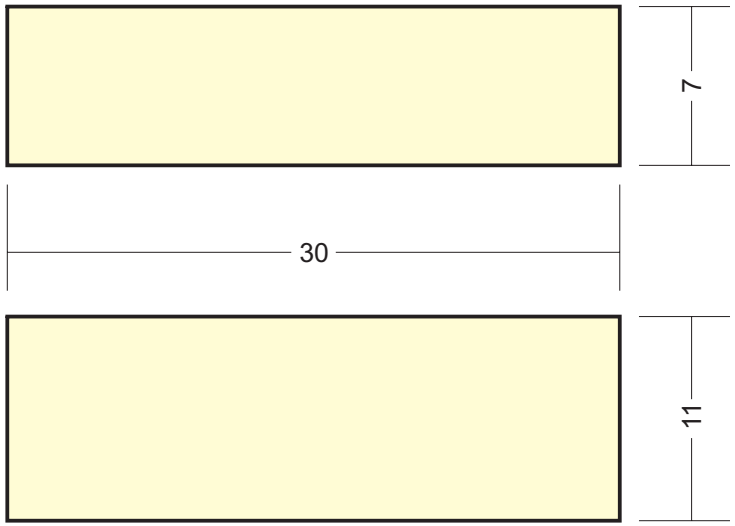
- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 14 Bits, 16 Bits*
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 150°C)
- Max load: 50 000 g (depending on fixing)
- Type: SV_5d_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>

| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | PCM16 | 1 kHz | - | - |
| 0,01 | 125 | | 10 kHz | RC | TC |
| 0,003 | 150 | | | | |
| | 160 | | | | |

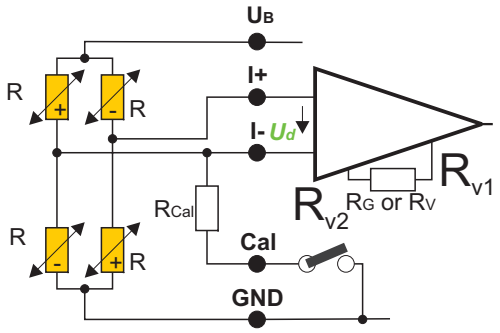
**Weight: 5 g**
**Torque of inertia: 1,5E-8 kgm²**

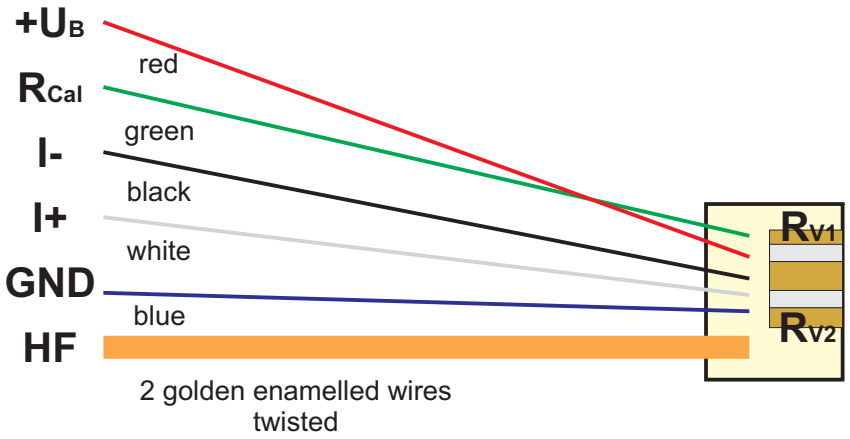
*** PCM-Version**

# Miniatur Sensor Signal Amplifier Type 7a (Flatchip)




**Weight:**
**Epoxy: about 5g**



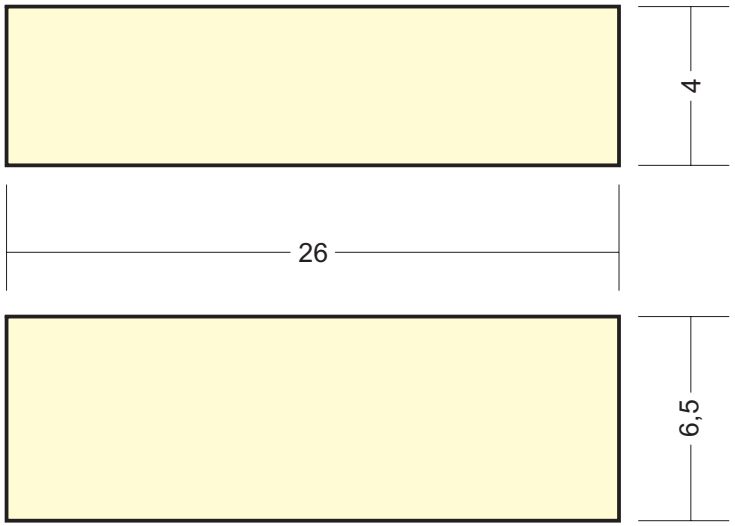

2 golden enamelled wires
twisted

## 1 Channel FM/PCM Transmitter

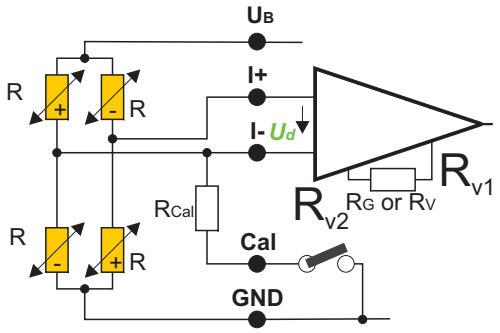
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 16 Bits
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_7a_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>

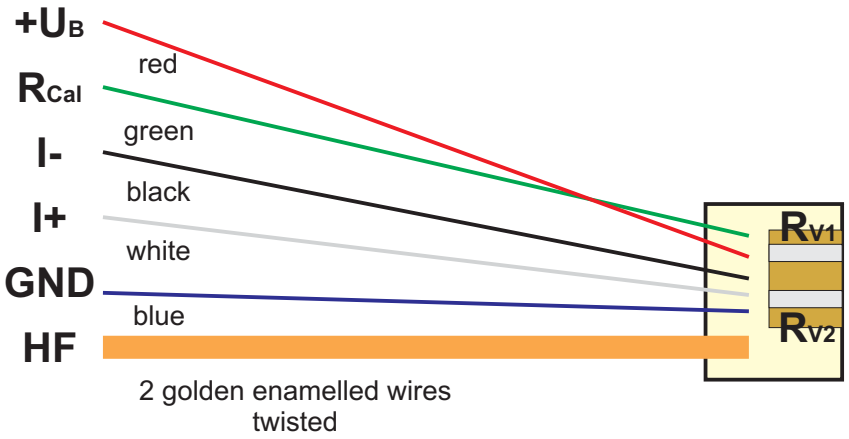
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - |
| 0,01 | 125 | PCM16 | 10 kHz | RC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

# Super Miniatur Sensor Signal Amplifier  Type 7b Micro (Flatchip)




**Weight:**
**Epoxy: about 3g**



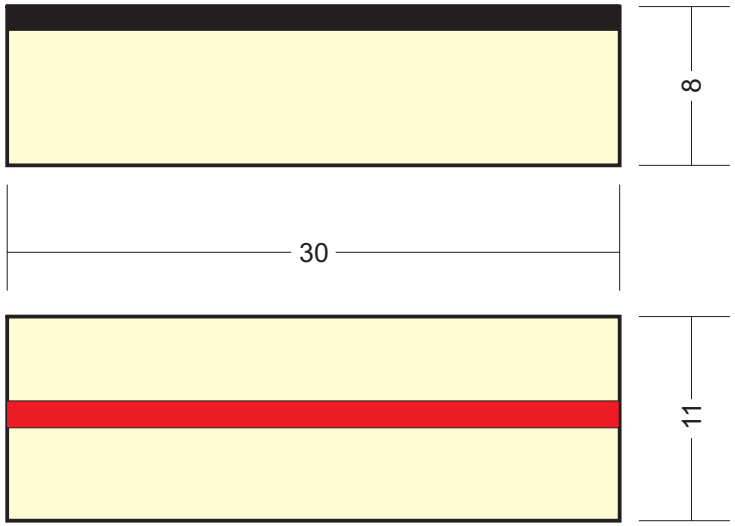

## 1 Channel FM/PCM Transmitter

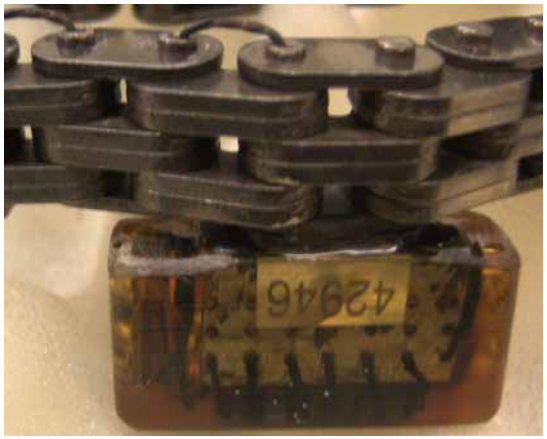
For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry PCM
Integrated filter
Resolution: 16 Bits
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_7b_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>

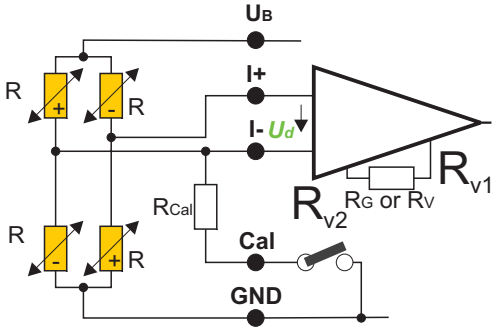
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - |
| 0,01 | 125 | PCM16 | 10 kHz | | TC |
| 0,003 | 150 | | | | |
| | 160 | | | | |

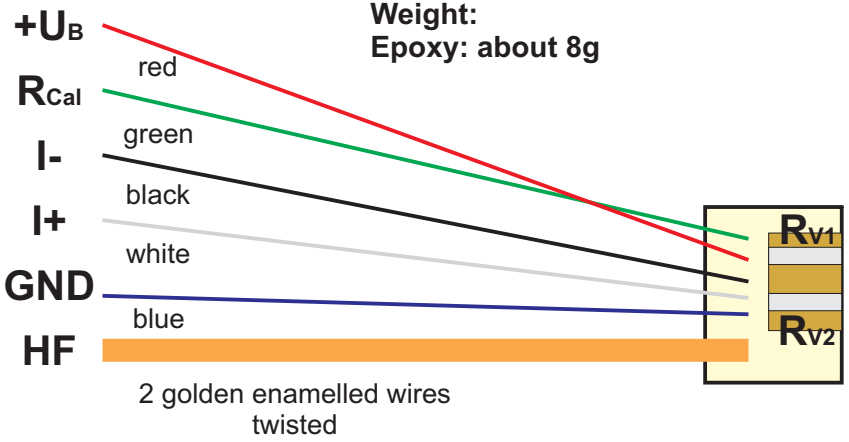
# Miniatur Sensor Signal Amplifier Type 7ke (Flatchip)

## with integrated Antenna (special for Chain Application)






**Weight:**
**Epoxy: about 8g**

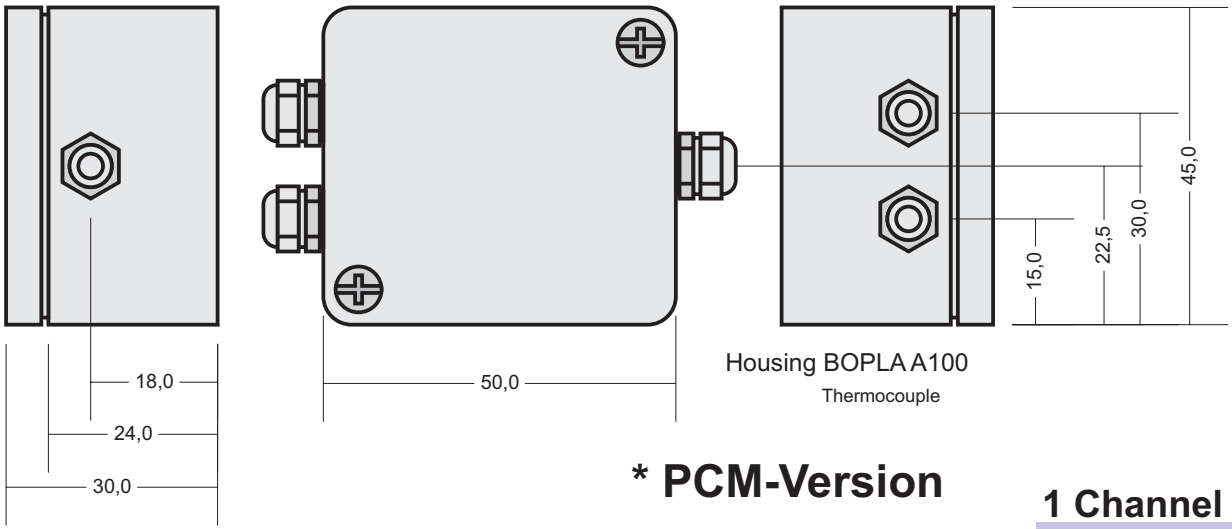
2 golden enamelled wires
twisted

### 1 Channel FM/PCM Transmitter with Antenna

- For strain gage, PT100, Thermocouple
- Sensitivity: 0,02 mV/V to 20 mV/V
- Bandwidth: 0 (10) Hz to 50 kHz
- Strain gage brigde supply: 2,5 V (3,3 V*)
- Strain gage bridge resistance: 350 (120, 1000) Ω
- Transmission: inductive sensortelemetry FM, PCM
- Integrated filter
- Resolution: 16 Bits
- Zero point drift: 0,02, (0,01, 0,003 option)
- Remote shunt calibration
- Remote gain, zero, auto zero with 16 Bit resolution (option)
- Additonal temperature channel (option)
- Enviromental temperature range: -25 to +85°C (125°C, 160°C)
- Max load: 50 000 g (depending on fixing)
- Type: SV_Ke_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>

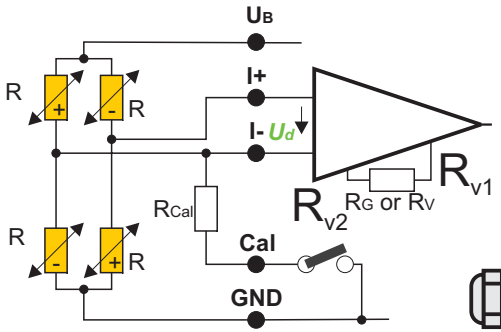
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - |
| 0,01 | 125 | PCM16 | 10 kHz | | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

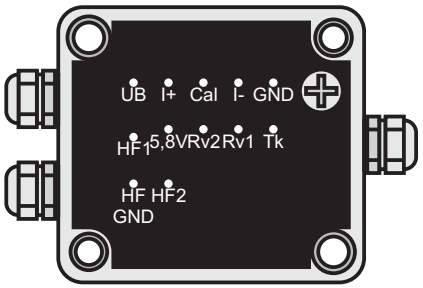
# Waterproof Sensor Signal Amplifier Type 8a





## * PCM-Version



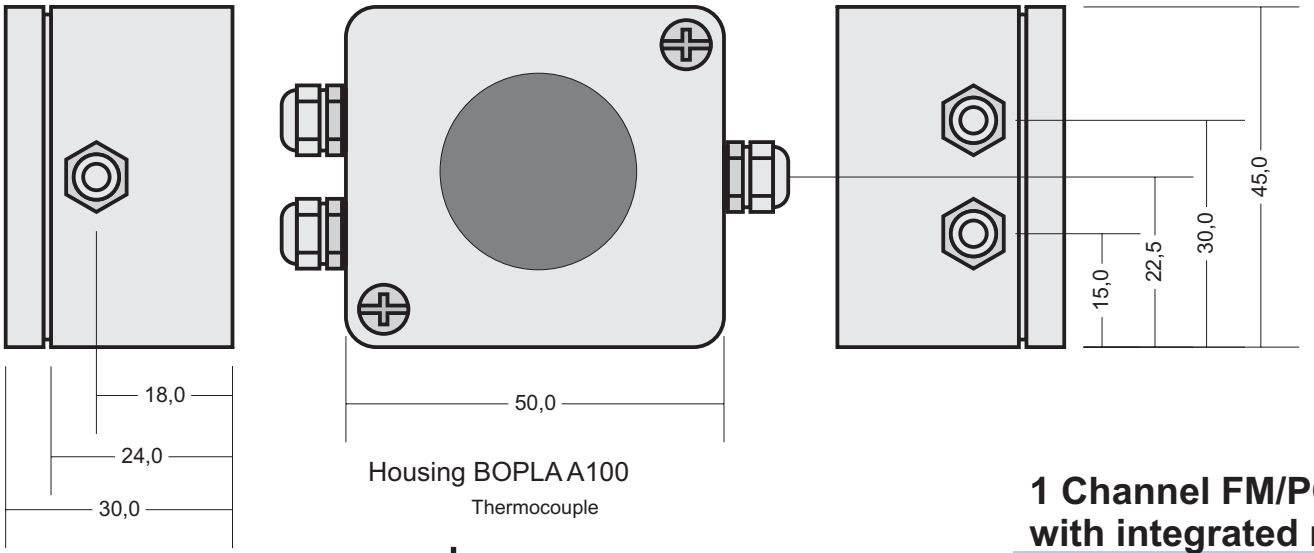




## 1 Channel FM/PCM Transmitter

For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 16 Bits
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_8a_<accuracy>_<temp>_<sys>_<mod>_<bandwidth>_<rmc>_<TC>_wa

| | | | | | | |
|---|---|---|---|---|---|---|
| 0,02 | 85 | - | FM | 1 kHz | - | - |
| 0,01 | 125 | Fu | PCM16 | 10 kHz | RC | TC |
| 0,003 | 150 | | | 40 kHz | | |
| | 160 | | | | | |

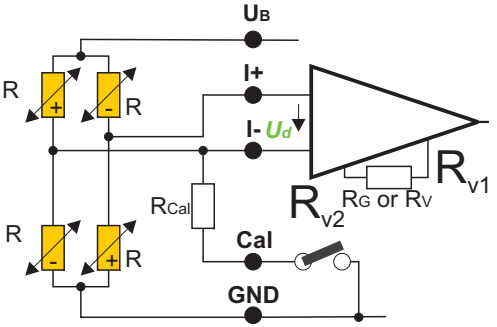
# Waterproof Sensor Signal Amplifier Type 8b

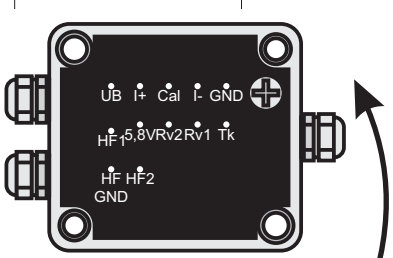



Housing BOPLA A100

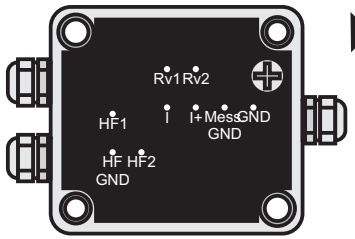
Thermocouple

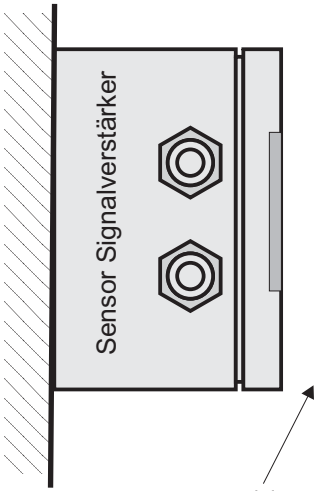
*** PCM-Version**




Strain Gage Bridge/Thermo couple




transmitting

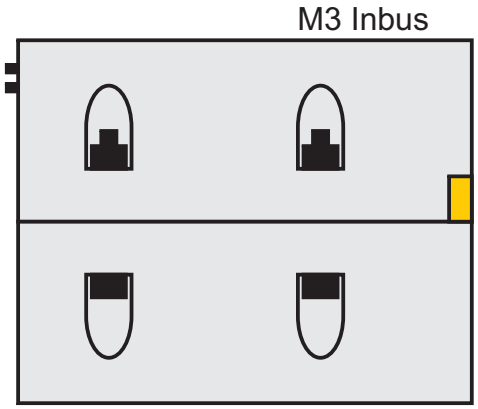

## 1 Channel FM/PCM Transmitter with integrated radial antenna

For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 16 Bits
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_8b_<accuracy>_<temp>_<sys>_<mod>_<bandwidth>_<rmc>_<TC>_wa

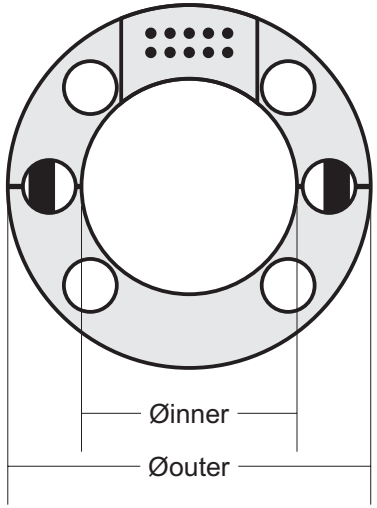
| | | | | | | |
|---|---|---|---|---|---|---|
| 0,02 | 85 | - | FM | 1 kHz | - | - |
| 0,01 | 125 | Fu | PCM16 | 10 kHz | RC | TC |
| 0,003 | 150 | | | 40 kHz | | |
| | 160 | | | | | |

# Sensor Signal Amplifier Type 9

## especially for Driveshafts

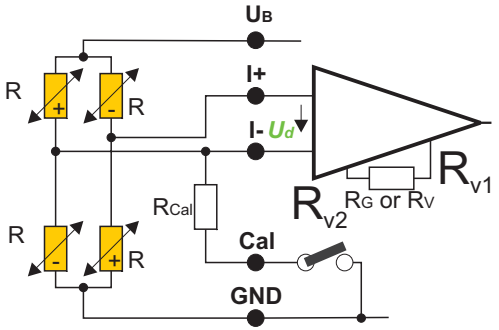



**very low inertia**




Through hole
Ø = 7 mm for weight reduction

Inner diameter: 17 to 50 mm
Outer diameter = Inner diameter + 20 mm



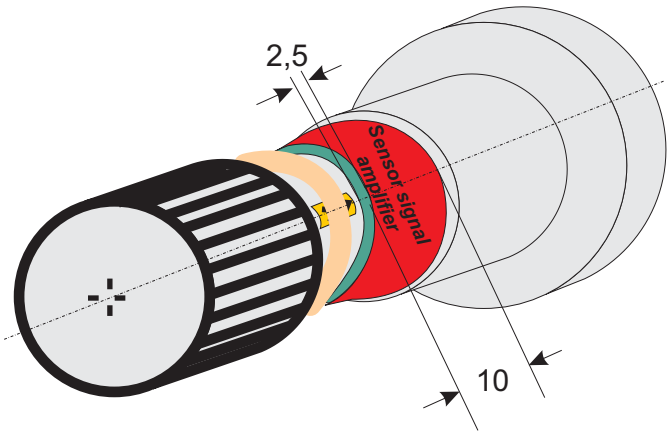

### 1 Channel FM/PCM Transmitter

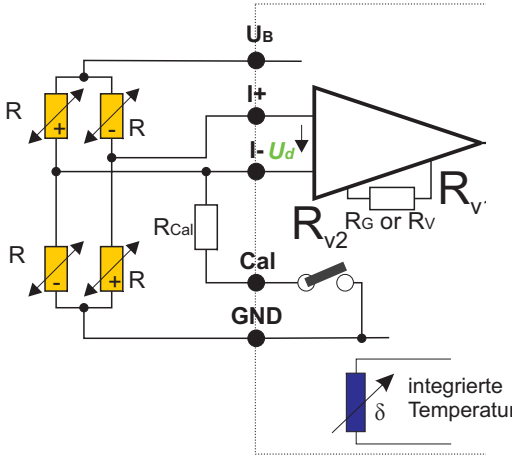
| |
|---|
| For strain gage, PT100, Thermocouple |
| Sensitivity: 0,02 mV/V to 20 mV/V |
| Bandwidth: 0 (10) Hz to 50 kHz |
| Strain gage brigde supply: 2,5 V (3,3 V*) |
| Strain gage bridge resistance: 350 (120, 1000) Ω |
| Transmission: inductive sensortelemetry FM, PCM |
| Integrated filter |
| Resolution: 16 Bits |
| Zero point drift: 0,02, (0,01, 0,003 option) |
| Remote shunt calibration |
| Remote gain, zero, auto zero with 16 Bit resolution (option) |
| Additonal temperature channel (option) |
| Enviromental temperature range: -25 to +85°C (125°C, 160°C) |
| Max load: 50 000 g (depending on fixing) |
| Type: SV_9_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC> |

| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - |
| 0,01 | 125 | PCM16 | 10 kHz | RC | TC |
| 0,003 | 150 | | 40 kHz | | |
| | 160 | | | | |

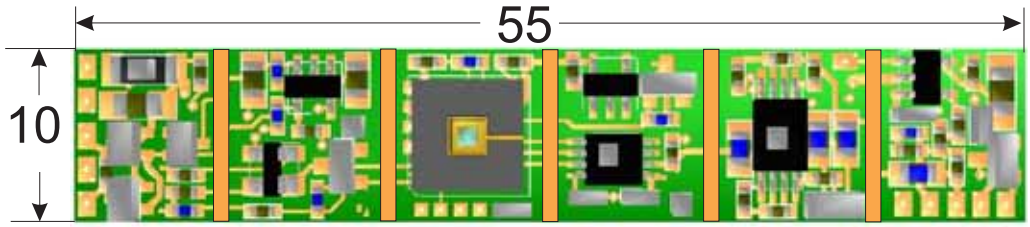
*** PCM-Version**

# Sensor Signal Amplifier Type SV-Flex




*Flexsubstrat*



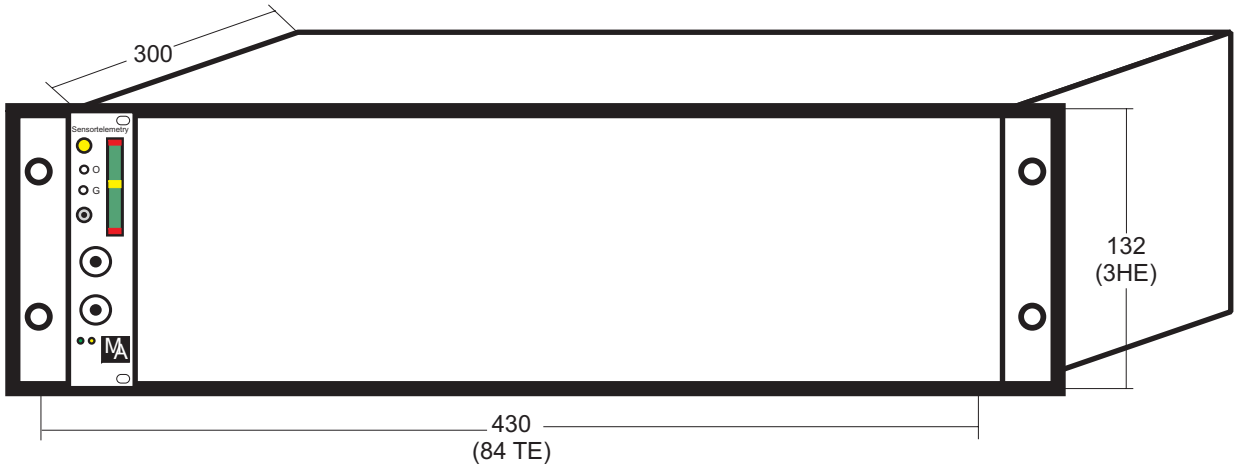

**Very low inertia**

## 1(2) Channel FM/PCM Transmitter

For strain gage, PT100, Thermocouple
Sensitivity: 0,02 mV/V to 20 mV/V
Bandwidth: 0 (10) Hz to 50 kHz
Strain gage brigde supply: 2,5 V (3,3 V*)
Strain gage bridge resistance: 350 (120, 1000) Ω
Transmission: inductive sensortelemetry PCM
Integrated filter
Resolution: 16 Bits
Zero point drift: 0,02, (0,01, 0,003 option)
Remote shunt calibration
Remote gain, zero, auto zero with 16 Bit resolution (option)
Additonal temperature channel (option)
Enviromental temperature range: -25 to +85°C (125°C, 160°C)
Max load: 50 000 g (depending on fixing)
Type: SV_Flex_<accuracy>_<temp>_<mod>_<bandwidth>_<rmc>_<TC>

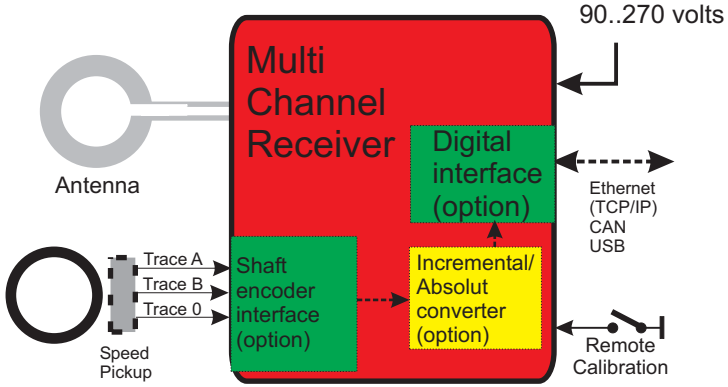
| | | | | | |
|---|---|---|---|---|---|
| 0,02 | 85 | FM | 1 kHz | - | - |
| 0,01 | 125 | PCM16 | 2kHz | RC | TC |
| 0,003 | 150 | | 10 kHz | | |
| | 160 | | 40 kHz | | |

# Evaluation Unit (84TE)




MAW_84TE_3_0.01_6,8MHz_PCM16_6700_1W_230VAC

## Front side

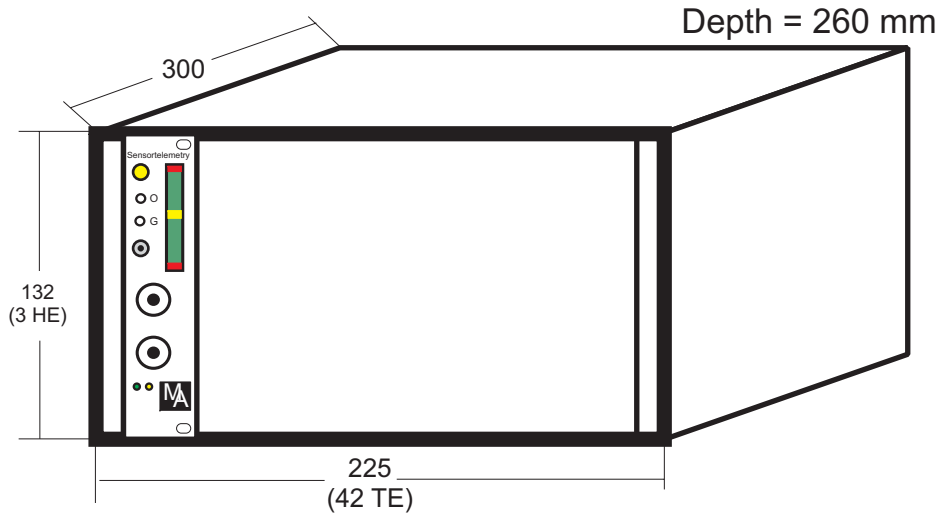



## 1 Channel FM/PCM Receiver

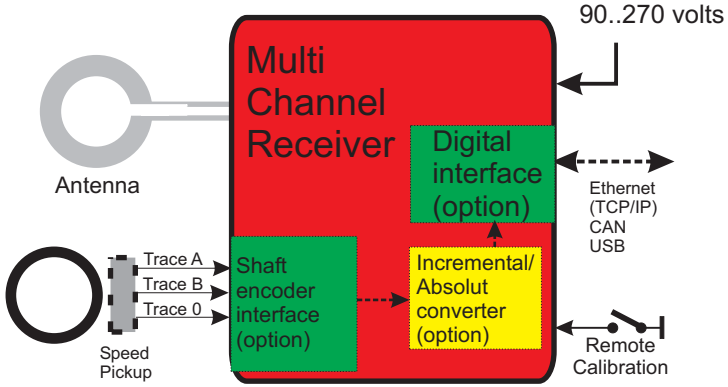
Bandwidth: 0 to 1 kHz (10 kHz,40 kHz)
Output: 0 to ±10 V, (0 (4) to 20 mA, frequency, binary, USB, CAN, TCP/IP)
RF power: 1 W, 3 W, 5 W
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 12 Bits, 16 Bits*
Remote shunt calibration
Enviromental temperature range: -25 to +70°C
Supply: 9 to 36 V DC (board supply), 90..270 V AC 50/60 Hz
Type: AW_84TE_<Freq>_<mod>_<bandwidth>_<RF-Power>_<Supply>_<output>_<RPM>_<temp>

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - | F | 1 kHz | 1W | 24B | U | - | |
| 6 | PCM16 | 2 kHz | 3W | 90/270AC | I | RPM | 70 |
| Fu | PCM12 | 5 kHz | 5W | | F | | |
| 3,2 | | 10 kHz | 10 W | | B | | |
| | | 40 kHz | | | USB | | |
| | | | | | CAN | | |
| | | | | | TCP/IP | | |

# Evaluation Unit (42TE)




**Front side**

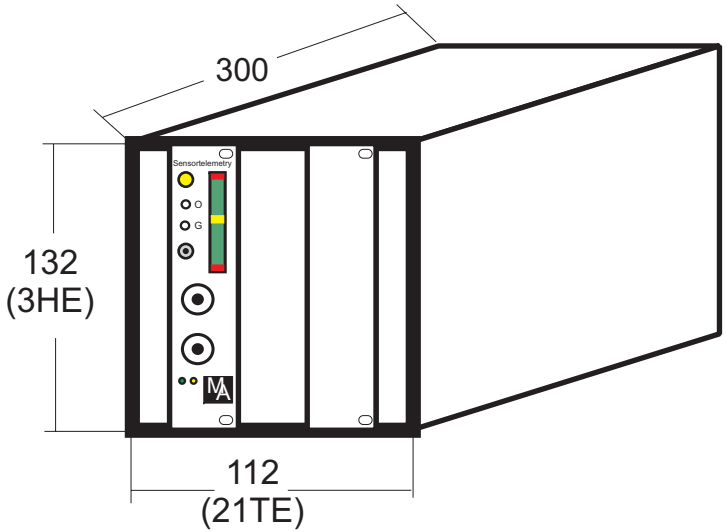



## 1 Channel FM/PCM Receiver

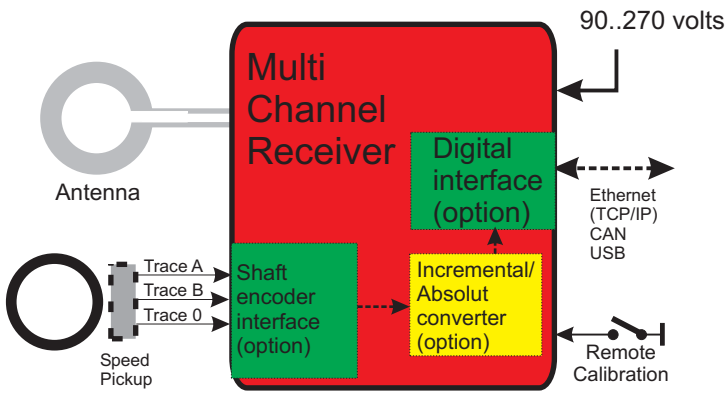
Bandwidth: 0 to 1 kHz (10 kHz,40 kHz)
Output: 0 to ±10 V, (0 (4) to 20 mA, frequency, binary, USB, CAN, TCP/IP)
RF power: 1 W, 3 W, 5 W
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 12 Bits, 16 Bits*
Remote shunt calibration
Enviromental temperature range: -25 to +70°C
Supply: 9 to 36 V DC (board supply), 90..270 V AC 50/60 Hz
Type: AW_42TE_<Freq>_<mod>_<bandwidth>_<RF-Power>_<Supply>_<output>_<RPM>_<temp>

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - | F | 1 kHz | 1W | 24B | U | - | |
| 6 | PCM16 | 2 kHz | 3W | 90/270AC | I | RPM | 70 |
| Fu | PCM12 | 5 kHz | 5W | | F | | |
| 3,2 | | 10 kHz | 10 W | | B | | |
| | | 40 kHz | | | USB | | |
| | | | | | CAN | | |
| | | | | | TCP/IP | | |

# Evaluation Unit (22TE)




**Front side**

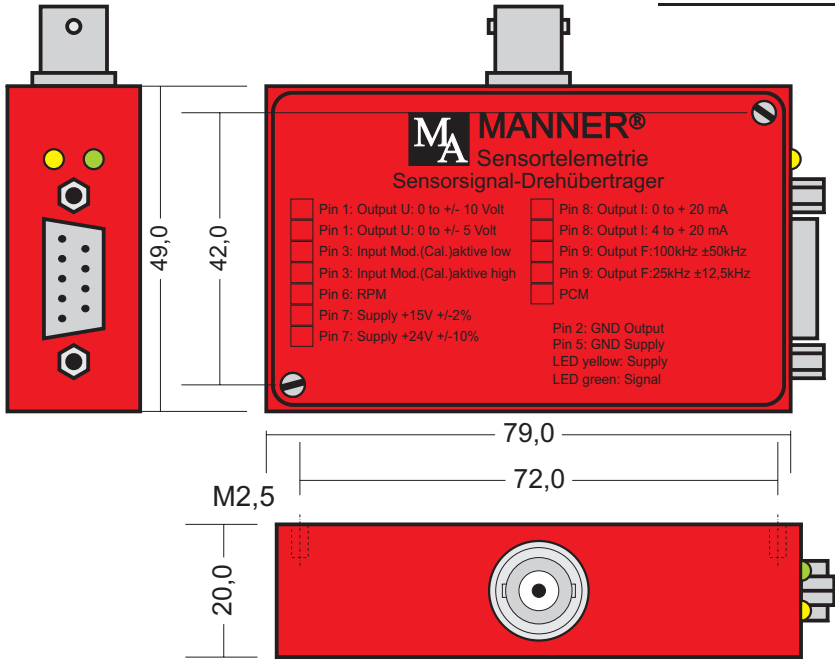



## 1 Channel FM/PCM Receiver

Bandwidth: 0 to 1 kHz (10 kHz,40 kHz)
Output: 0 to ±10 V, (0 (4) to 20 mA, frequency, binary, USB, CAN, TCP/IP)
RF power: 1 W, 3 W, 5 W
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 12 Bits, 16 Bits*
Remote shunt calibration
Enviromental temperature range: -25 to +70°C
Supply: 9 to 36 V DC (board supply), 90..270 V AC 50/60 Hz
Type: AW_22TE_<Freq>_<mod>_<bandwidth>_<RF-Power>_<Supply>_<output>_<RPM>_<temp>

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - | F | 1 kHz | 1W | 24B | U | - | |
| 6 | PCM16 | 2 kHz | 3W | 90/270AC | I | RPM | 70 |
| Fu | PCM12 | 5 kHz | 5W | | F | | |
| 3,2 | | 10 kHz | 10 W | | B | | |
| | | 40 kHz | | | USB | | |
| | | | | | CAN | | |
| | | | | | TCP/IP | | |

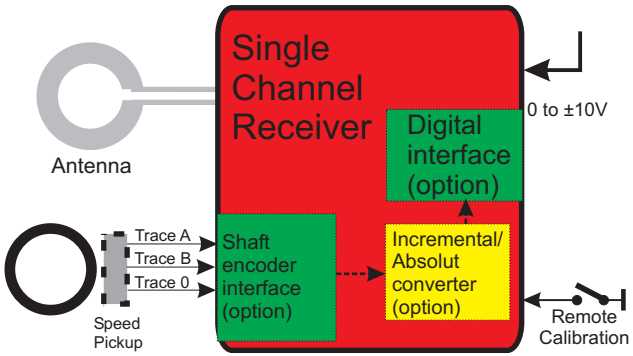
# Evaluation Unit (AW_D)





## 1 Channel FM/PCM Receiver

Bandwidth: 0 to 1 kHz (10 kHz,40 kHz)
Output: 0 to ±10 V, (0 (4) to 20 mA, frequency, binary
RF power: 1 W, 3 W, 5 W
Transmission: inductive sensortelemetry FM, PCM
Integrated filter
Resolution: 12 Bits, 16 Bits*
Remote shunt calibration
Enviromental temperature range: -25 to +70°C
Supply: 24/15V
Type: AW_D_<Freq>_<mod>_<bandwidth>_<RF-Power>_<Supply>_<output>_<RPM>_<temp>



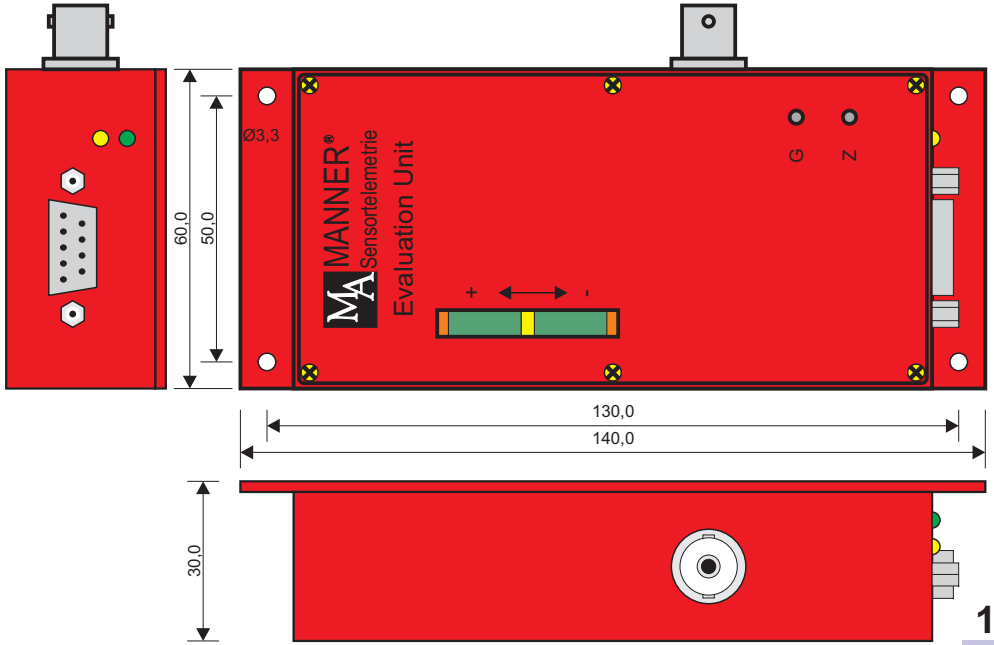

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - | F | 1 kHz | 1W | 24 | U | - | |
| 6 | PCM16 | 2 kHz | 3W | 15 | I | RPM | 70 |
| Fu | PCM12 | 5 kHz | | | F | | |
| 3,2 | | 10 kHz | | | | | |

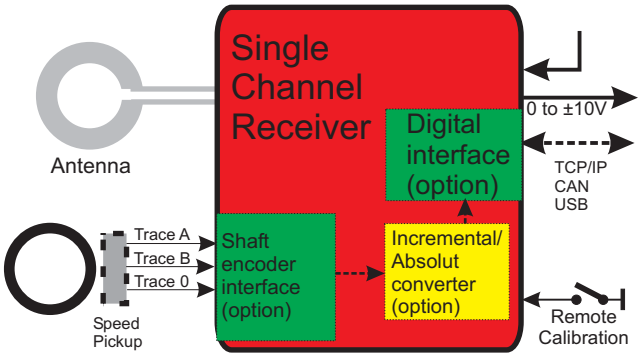
## Pin Assignment

of the D-Sub connector

Pin 1 Output -10V to +10V
Pin 2 GND Output
Pin 3 Remote Calibration Signal
Pin 4 do not connect
Pin 5 GND Power Supply
Pin 6 do not connect
Pin 7 Power Supply 9 to 36 VDC
Pin 8 do not connect
Pin 9 do not connect

# Evaluation Unit (AW_M)




## Pin Assignment

of the D-Sub connector

| | |
|---|---|
| Pin 1 | Output -10V to +10V |
| Pin 2 | GND Output |
| Pin 3 | Remote Calibration Signal |
| Pin 4 | do not connect |
| Pin 5 | GND Power Supply |
| Pin 6 | do not connect |
| Pin 7 | Power Supply 9 to 36 VDC |
| Pin 8 | do not connect |
| Pin 9 | do not connect |

## 1 Channel FM/PCM Receiver

Bandwidth: 0 to 1 kHz (10 kHz)

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

RF power: 1 W, 3 W, 5 W

Transmission: inductive sensortelemetry FM, PCM, Radio

Integrated filter

Resolution: 14 Bits, 16 Bits*

Remote shunt calibration

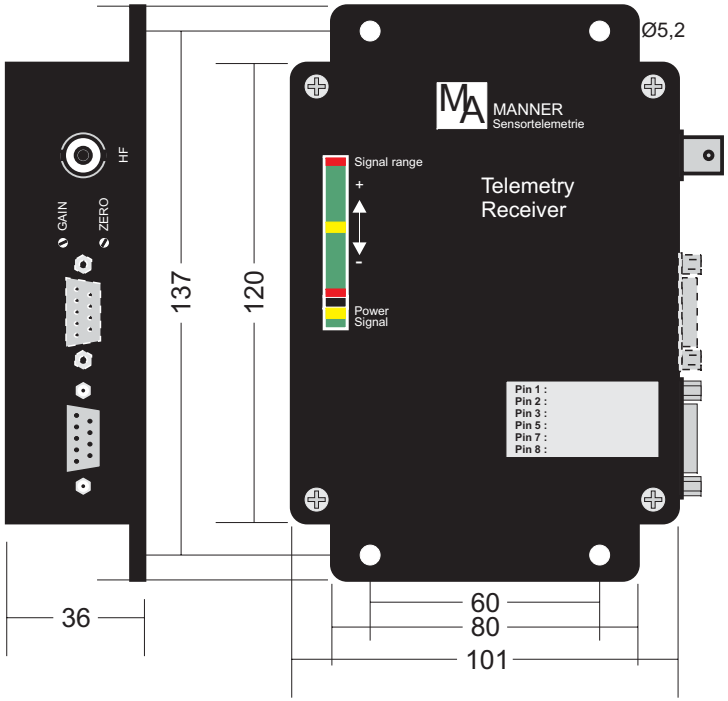
Enviromental temperature range: -10 to +70°C (-45 to +85°C)

Supply: 24 (±5%) V DC, 15 (±2%) V DC, 9 to 36 V DC (board supply)

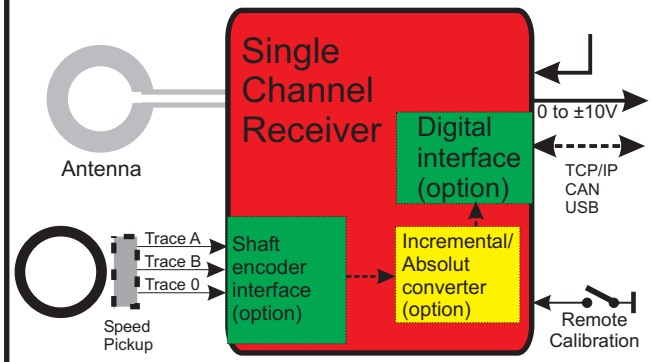
Type: AW_P_<bandwidth>_<supply>_<output>_<RF-power>_<temp>_<mod>_<Freq>_<Mont>

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 kHz | 15 | U | 1W | 70 | F | - | - |
| 2 kHz | 24 | I | 3W | -45/85 | PCM16 | 6 | Hu |
| 5 kHz | 24B | F | | | PCM12 | Funk | |
| 10 kHz | | B | | | | 3,2 | |
| | | USB | | | | | |

# Evaluation Unit (AW_P)




**With CAN-Bus or TCP/IP Option available**




## Pin Assignment

of the D-Sub connector

| | |
|---|---|
| Pin 1 | Output -10V to +10V |
| Pin 2 | GND Output |
| Pin 3 | Shunt Cal. (active low) |
| Pin 4 | do not connect |
| Pin 5 | GND Power Supply |
| Pin 6 | do not connect |
| Pin 7 | Power Supply 9 to 36 VDC |
| Pin 8 | do not connect |
| Pin 9 | do not connect |

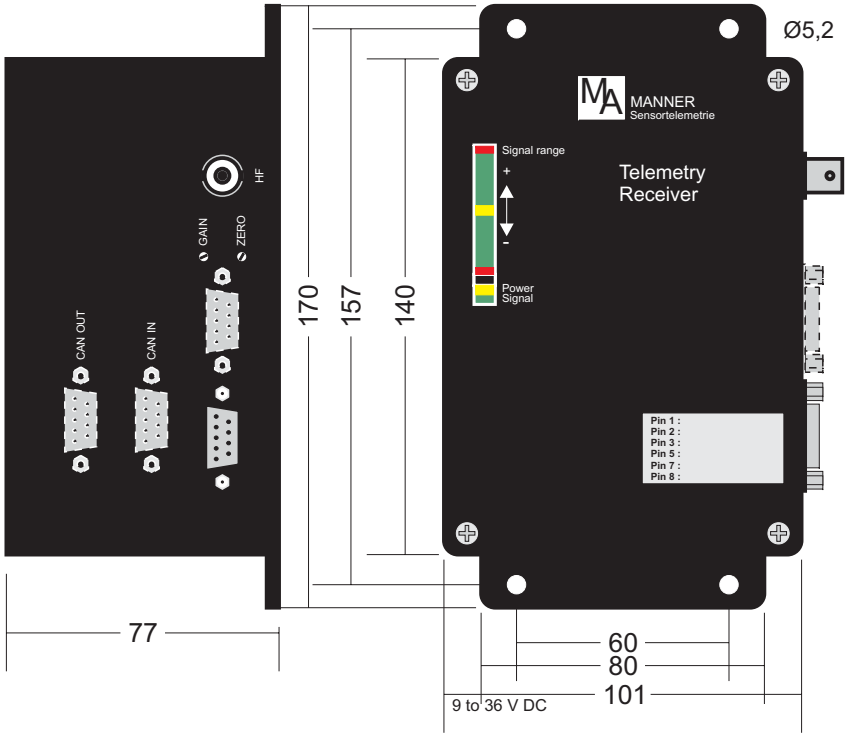
## 1 Channel FM/PCM Receiver

Bandwidth: 0 to 1 kHz (10 kHz)
Output: 0 to ±10 V, (0 (4) to 20 mA, frequency, binary, USB, CAN, TCP/IP)
RF power: 1 W, 3 W, 5 W
Transmission: inductive sensortelemetry FM, PCM, Radio
Integrated filter
Resolution: 14 Bits, 16 Bits*
Remote shunt calibration
Enviromental temperature range: -10 to +70°C (-45 to +85°C)
Supply: 24 (±5%) V DC, 15 (±2%) V DC, 9 to 36 V DC (board supply)
Type: AW_P_<bandwidth>_<supply>_<output>_<RF-power>_<temp>_<mod>_<Freq>_<Mont>

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 kHz | 15 | U | 1W | 70 | F | - | - |
| 2 kHz | 24 | I | 3W | -45/85 | PCM16 | 6 | Hu |
| 5 kHz | 24B | F | 5W | | PCM12 | Fu | |
| 10 kHz | | B | | | | 3,2 | |
| | | USB | | | | | |
| | | CAN | | | | | |
| | | TCP/IP | | | | | |

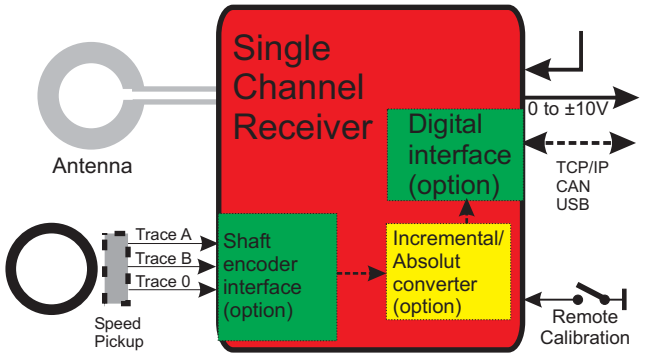
Cover 'Zero' and 'Gain' screws after adjustment if necessary

# Evaluation Unit (AW_G)





**With CAN-Bus or TCP/IP Option available**




## Pin Assignment

of the D-Sub connector

| | |
|---|---|
| Pin 1 | Output -10V to +10V |
| Pin 2 | GND Output |
| Pin 3 | Shunt Cal. (active low) |
| Pin 4 | do not connect |
| Pin 5 | GND Power Supply |
| Pin 6 | do not connect |
| Pin 7 | Power Supply 9 to 36 VDC |
| Pin 8 | do not connect |
| Pin 9 | do not connect |

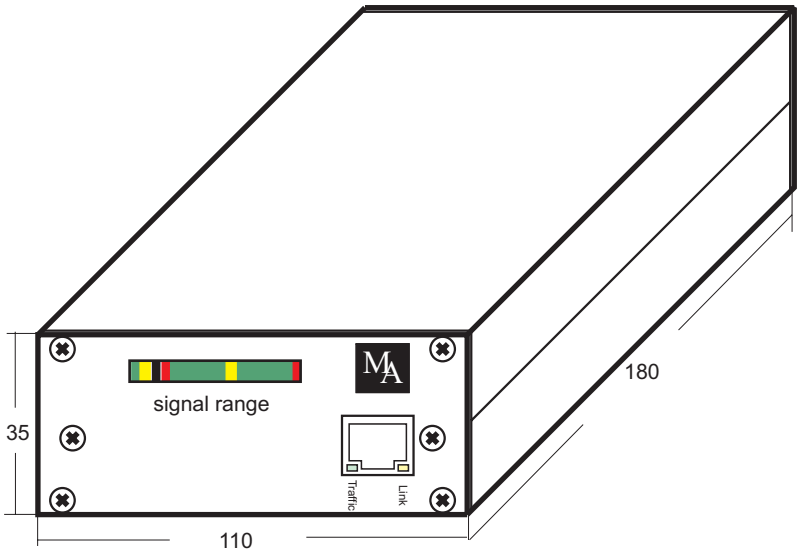
## 1 Channel FM/PCM Receiver

Bandwidth: 0 to 1 kHz (10 kHz)
Output: 0 to ±10 V, (0 (4) to 20 mA, frequency, binary, USB, CAN, TCP/IP)
RF power: 1 W, 3 W, 5 W
Transmission: inductive sensortelemetry FM, PCM, Radio
Integrated filter
Resolution: 14 Bits, 16 Bits*
Remote shunt calibration
Enviromental temperature range: -10 to +70°C (-45 to +85°C)
Supply: 24 (±5%) V DC, 15 (±2%) V DC, 9 to 36 V DC (board supply)
Type: AW_G_<bandwidth>_<supply>_<output>_<RF-power>_<temp>_<mod>_<Freq>_<Mont>

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 kHz | 15 | U | 1W | 70 | F | - | - |
| 2 kHz | 24 | I | 3W | -45/85 | PCM16 | 6 | Hu |
| 5 kHz | 24B | F | 5W | | PCM12 | Fu | |
| 10 kHz | | B | 10W | | | 3,2 | |
| | | USB | | | | | |
| | | CAN | | | | | |
| | | TCP/IP | | | | | |

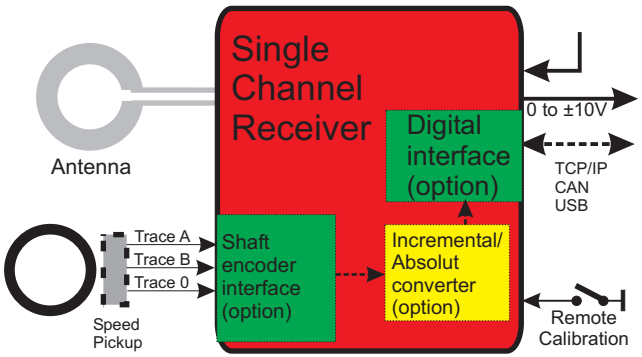
Cover 'Zero' and 'Gain' screws after adjustment if necessary

# Evaluation Unit (AW_F)






**With CAN-Bus or TCP/IP or USB Option available**




## Pin Assignment

of the D-Sub connector

| | |
|---|---|
| Pin 1 | Output -10V to +10V |
| Pin 2 | GND Output |
| Pin 3 | Shunt Cal. (active low) |
| Pin 4 | do not connect |
| Pin 5 | GND Power Supply |
| Pin 6 | do not connect |
| Pin 7 | Power Supply 9 to 36 VDC |
| Pin 8 | do not connect |
| Pin 9 | do not connect |

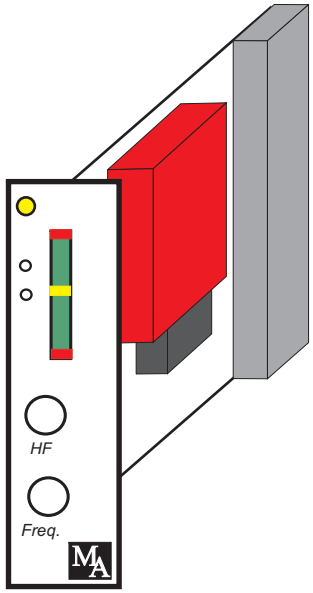
## 1 Channel PCM Receiver

Bandwidth: 0 to 1 kHz (10 kHz)
Output: 0 to ±10 V, (0 (4) to 20 mA, frequency, binary, USB, CAN, TCP/IP)
RF power: 1 W, 3 W, 5 W
Transmission: inductive sensortelemetry FM, PCM, Radio
Integrated filter
Resolution: 14 Bits, 16 Bits*
Remote shunt calibration
Enviromental temperature range: -10 to +70°C (-45 to +85°C)
Supply: 24 (±5%) V DC, 15 (±2%) V DC, 9 to 36 V DC (board supply)
Type: AW_P_<bandwidth>_<supply>_<output>_<RF-power>_<temp>_<mod>_<Freq>_<Mont>

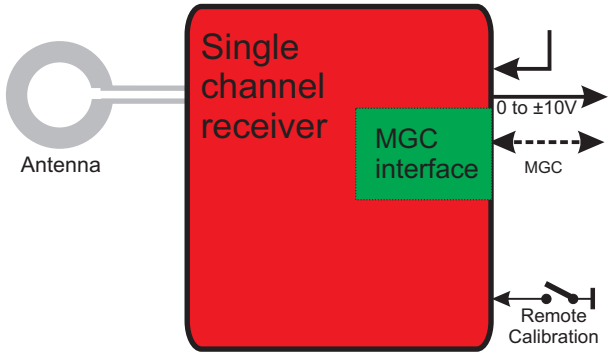
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 kHz | 15 | U | 1W | 70 | F | - | - |
| 2 kHz | 24 | I | 3W | -45/85 | PCM16 | 6 | Hu |
| 5 kHz | 24B | F | 5W | | | 3,2 | |
| 10 kHz | | B | 10W | | | Funk | |
| | | USB | | | | | |
| | | CAN | | | | | |
| | | TCP/IP | | | | | |

Cover 'Zero' and 'Gain' screws after adjustment if necessary

# Evaluation MGC Plugin Unit (AW_ES_MGC)




*Plug in card*
*Type: AW_ES_MGC*



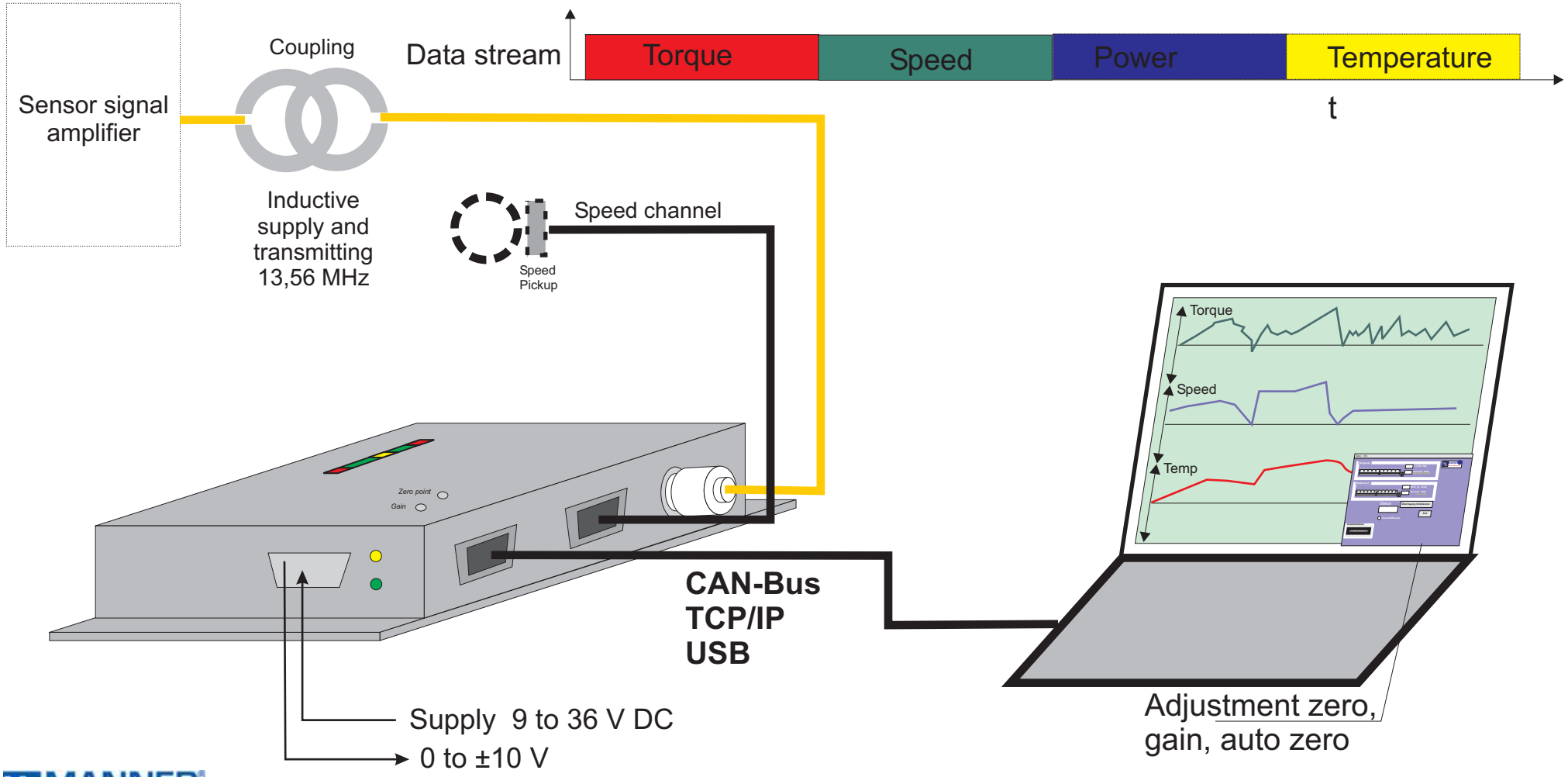

## 1 Channel MGC-Plugin Unit FM/PCM Receiver

Bandwidth: 0 to 1 kHz
Output: 5..15 kHz
RF power: 3 W
Transmission: inductive sensortelemetry FM, PCM, Radio
Integrated filter
Resolution: 16 Bits
Remote shunt calibration
Enviromental temperature range: -10 to +70°C
Supply: 17 (±5%) V DC, 15 (±2%) V
Type: AW_ES_MGC_<bandwidth>_<supply>_<output>_<RF-power>_<temp>_<mod>_<Freq>_<Mont>

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 kHz | 17 | F | 3W | 70 | Fu | - | - |
| | | | | | PCM16 | 6 | |
| | | | | | | 3,2 | |
| | | | | | | Fu | |

# Configuration

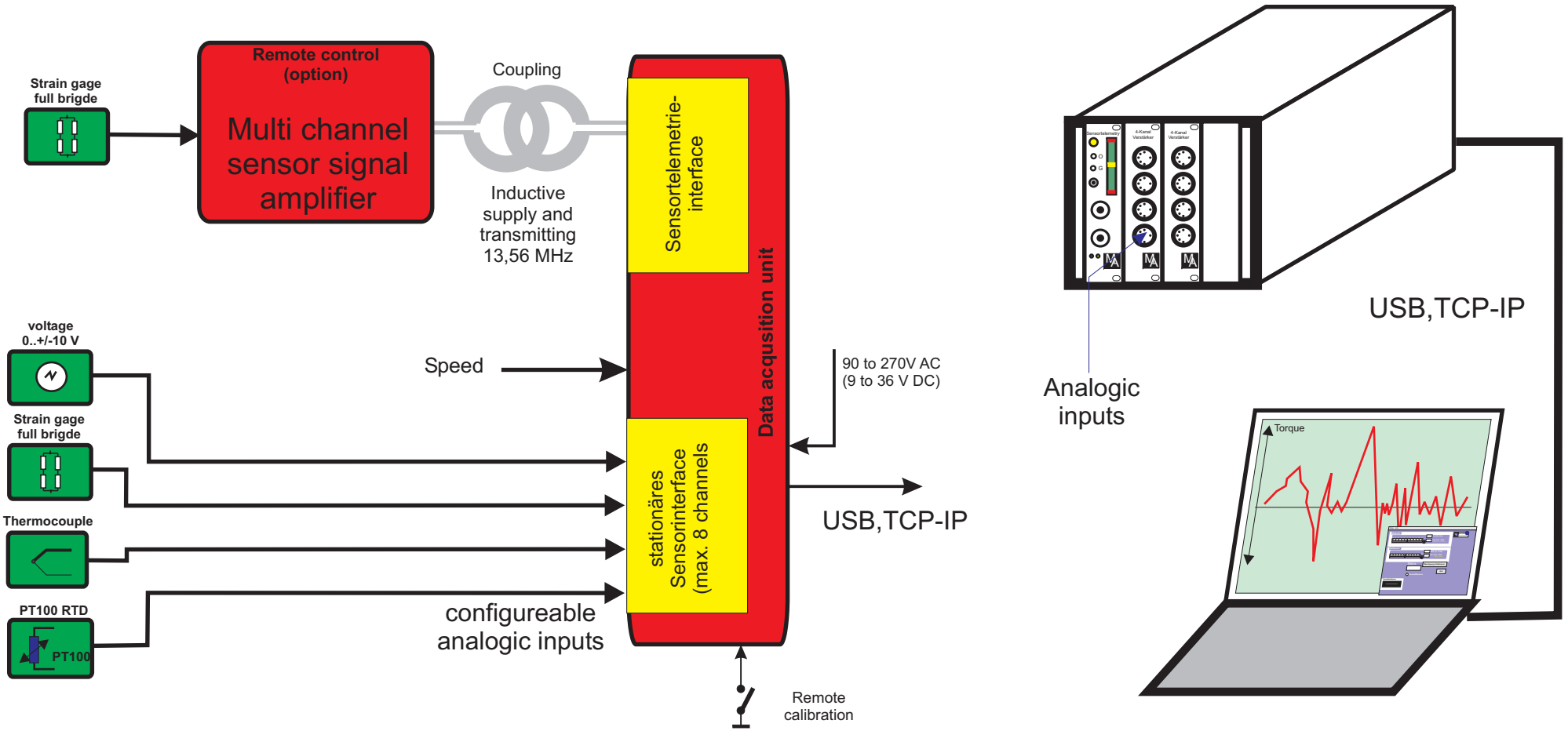
(direct signal data acquisition,torque, no analog output)



# Digital combi Data acquisition (Sensortelemetry + stationary Channels)

(direct signal data acquisition)

## Configuration



# Digital combi Data Acquisition (Sensortelemetry + stationary Channels)

(direct signal data acquisition)

## 1 Channel PCM Receiver with additional stationary Channels

Bandwidth: 0 to 1 kHz (10 kHz)

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

RF power: 1 W, 3 W, 5 W

Transmission: inductive sensortelemetry FM, PCM, Radio

Integrated filter

Resolution: 14 Bits, 16 Bits*

Remote shunt calibration

Additional 4/8 static configurable signal inputs (strain gauge, voltage,etc.) with remote conditioning

Digital Interface USB oder Ethernet

Enviromental temperature range: -10 to +70°C (-45 to +85°C)

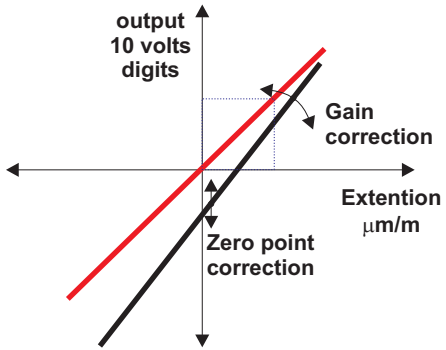
Supply: 90..270 volts ac, 24 (±5%) V DC, 15 (±2%) V DC, 9 to 36 V DC (board supply)

Type: AW_22TE_<bandwidth>_<supply>_<output>_<RF-power>_<temp>_<mod>_<Freq>_<Mont>_<x><sta>

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 kHz | 230 | U | 1W | 70 | F | - | - | | | |
| 2 kHz | 15 | B | 3W | -45/85 | PCM16 | 6 | Hu | - | - | |
| 5 kHz | 24 | USB | 5W | | | 3,2 | | 4 | Sta | |
| 10 kHz | 24B | CAN | 10W | | | Funk | | 8 | | |
| | | TCP/IP | | | | | | | | |

# Online remote programmable Sensor Telemetry

*High resolution (16 Bit) initial remote setup of the of strain gage application at installation, calibration*




Remote programmable samplerate (opt.)

Storage for calibration data and characteristic curve or user specific data

Separate address for each amplifier

Acquisition of internal temperature or alternative external sensor (opt.)

## RMC-Sensortelemetry

Optional temperature channel

Address
Programmable sample rate
User spec. storage
Monitoring of supply
Internal/ext. temperature

Sensor Signal amplifier

Sensor

*Electronically programmable amplifier*

µP

*Gain (remote)*

*Autozero, Zero (remote)*

Rotational speed

**Evaluation unit**

0 to ±10V

USB

*CAN*

*Ethernet*

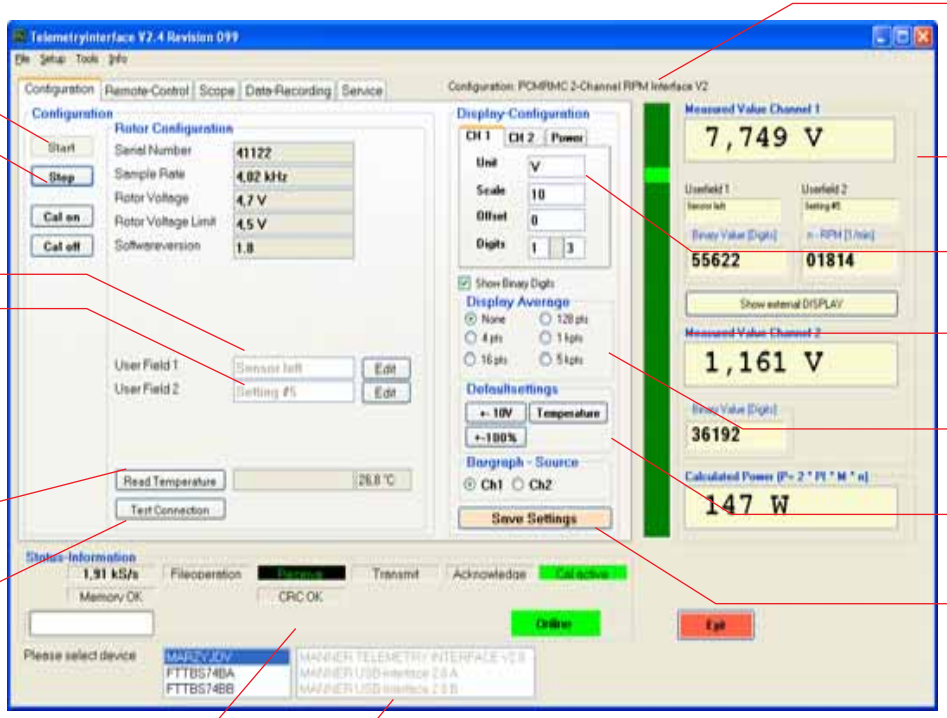
*Digital data*

**Remote conditioning with Laptop**

**Remote controlled range (online via telemetry channel)**

# Display Software and special Configurations

(Software Package Remote Control)




Display of the selected hardware configuration

Start display data

Stop display data

User programmable desciption field (saved in the rotor-memory)

Desciption field 1

Desciption field 2

Read the temperature of the rotor electronic via RMC

Start / Stop of the Test-RMC transmission

Communication display: Receive / Transmit / Acknowledge additionally Low-Power (in radio applications)

Selection of the available USB devices, appears if more than one devices are connected

Display of the measvalue channel 1

Display settings: Unit, Scale, Offset

Bar diagram of the analog output value

Average: Number of values used for averaging of the displayed analog value

Uses predefined settings for the display configuration

Save: Saves the display settings

**When using the software for the first time the hardware must be configured select menue -> Setup -> Hardware configuration' to configure**

**Not all functions are available in every hardware configuration**

# Remote Control for rotor electronic (range/autozero/shunt calibration)

(Software Package Remote Control)

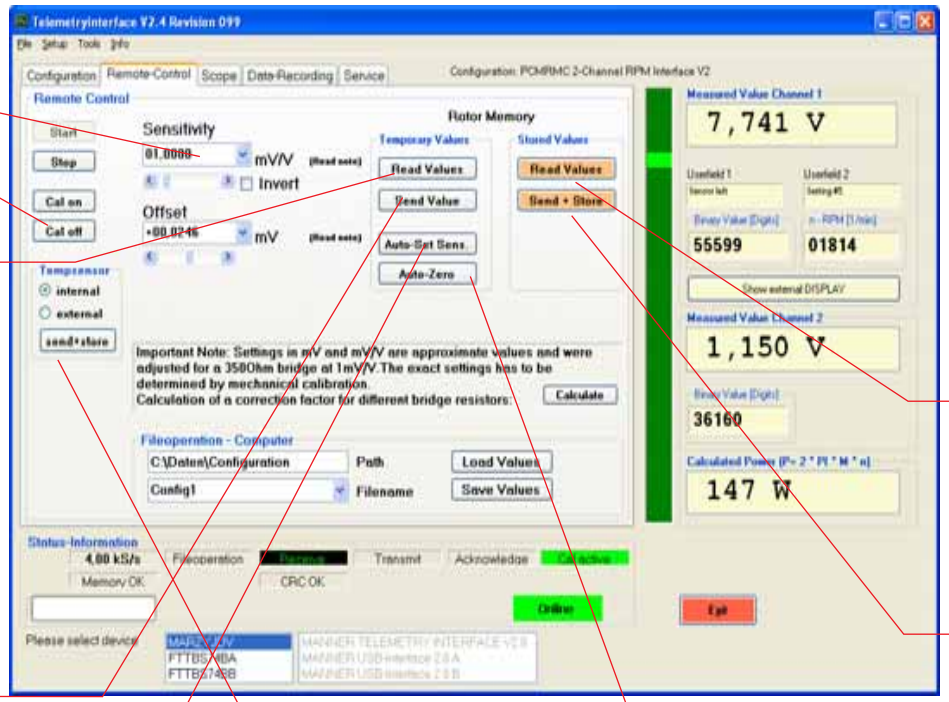
Input field for the sensitivity

Input for the zero point

Remote calibration on/off

Read actual active values

Transmission of the settings
- temporary storage:
The settings keep actual as long as the measuring amplifier is powered. If the power supply breaks the previous stored settings will get active.
This function is useful for tests or alternative settings because it allows a quick update of the measured value. After a successful adjustment the settings can be stored permanently into the EEPROM of the rotor with 'Send and store'.




This function allows the readback of the saved (EEPROM on rotor) settings of the rotor measuring amplifier. It is useful to read back these values at start paramerters before starting the adjustment.

Transmission of the settings
- permanent storage:
Zero point and gain are sent to the measuring amplifier and stored permanently in the EEPROM of the rotor.

Automatic zero point
Calculates the offset on the basis of the actual measured value and the actual gain to correct the output voltage to Zero.
If necessary do this function repetitive.
To save this offset permanently store it with 'Send and store'.

Automatic range set
Allows to automatic range set during applied load

Selection of the used temperaturesensor:
internal sensor (standard) or external temperature-diode (2. channel)

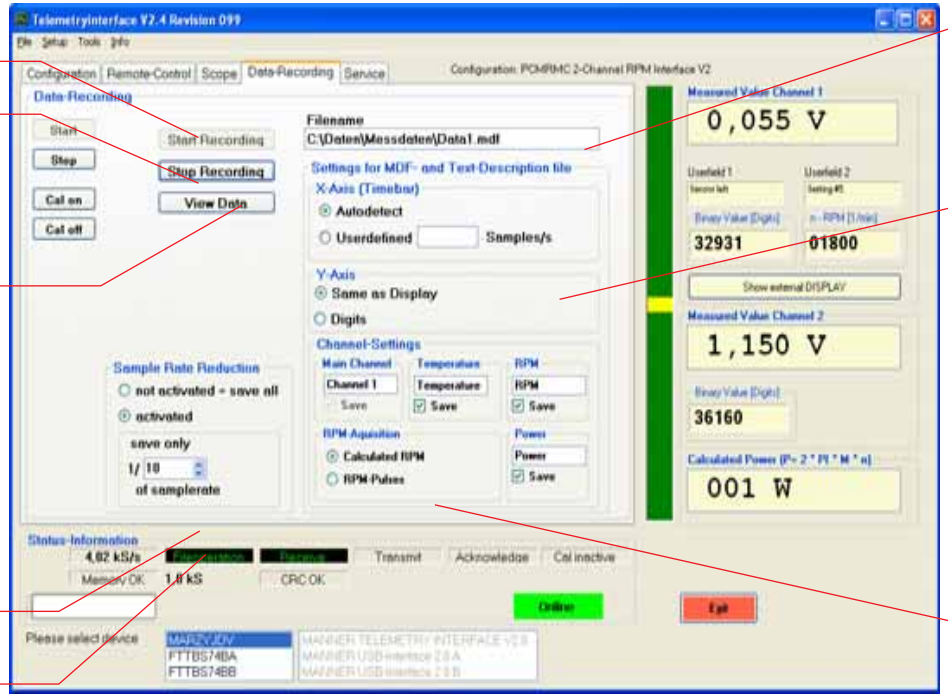
# Data Recording Software

(Software Package Data Acquisition - optional)

Start recording into a file

Stop recording into a file

Show data with additional external viewer PVIEW - if installed




Input field for path and file name

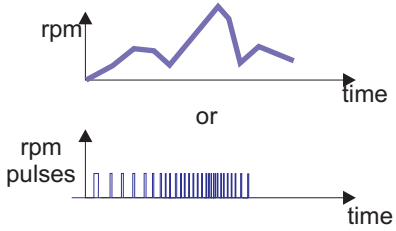
Additional information, which is saved in the description files

Display file operation activity

Number of saved samples

Option for RPM-systems save calculated rpm or save rpm-pulses to datafile

On menue setup, there is the possibility to activate an averaging for the calculated rpm.
For option 'Calculated RPM' take care of the correct setting at configuration (Samplerate).

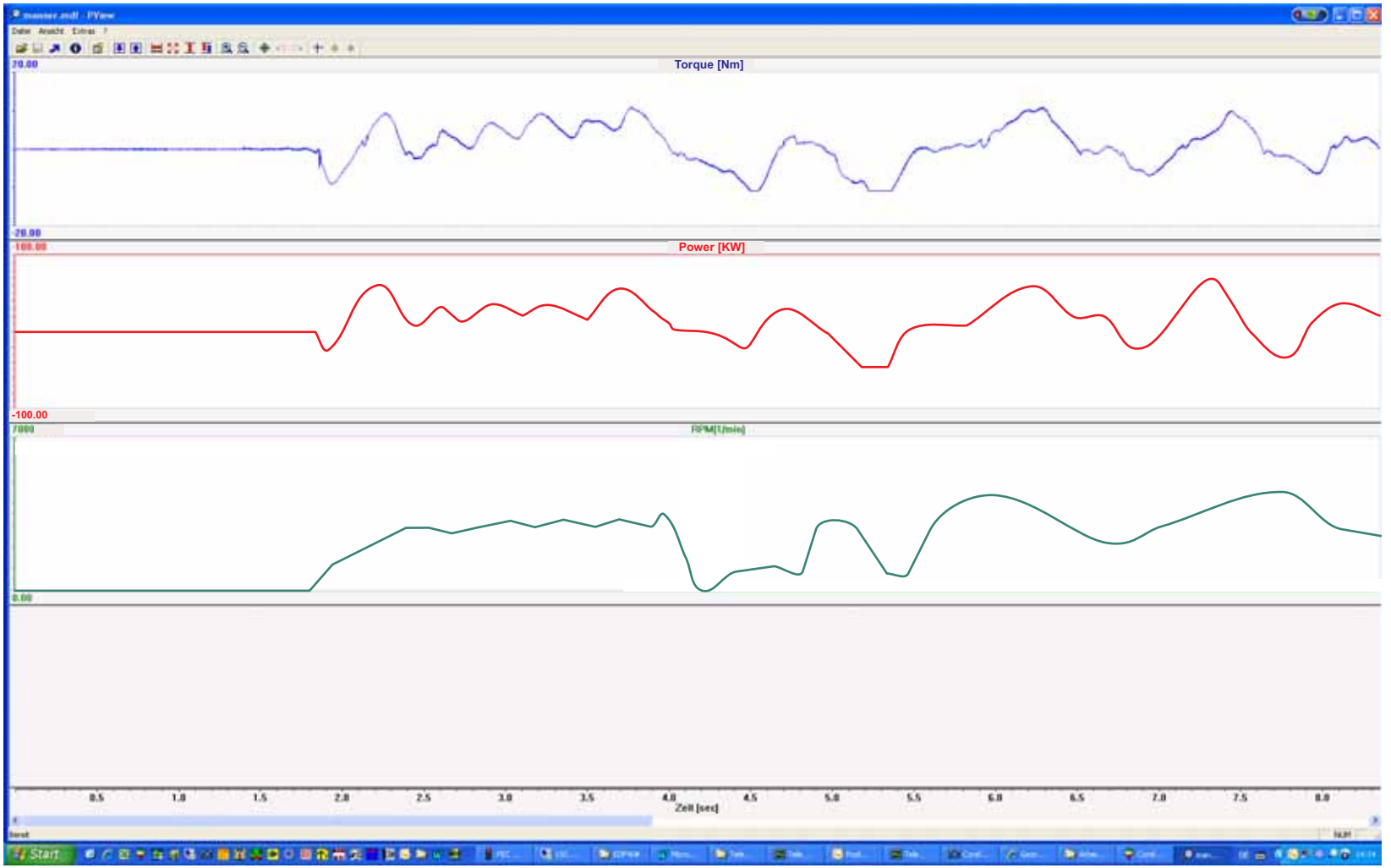



No other program must be active at the PC while recording data into a file.
This can effect a loss of data.

# Data Display Software Pview

(Software Package data acquisition - optional)

## Visualisation of recorded datas

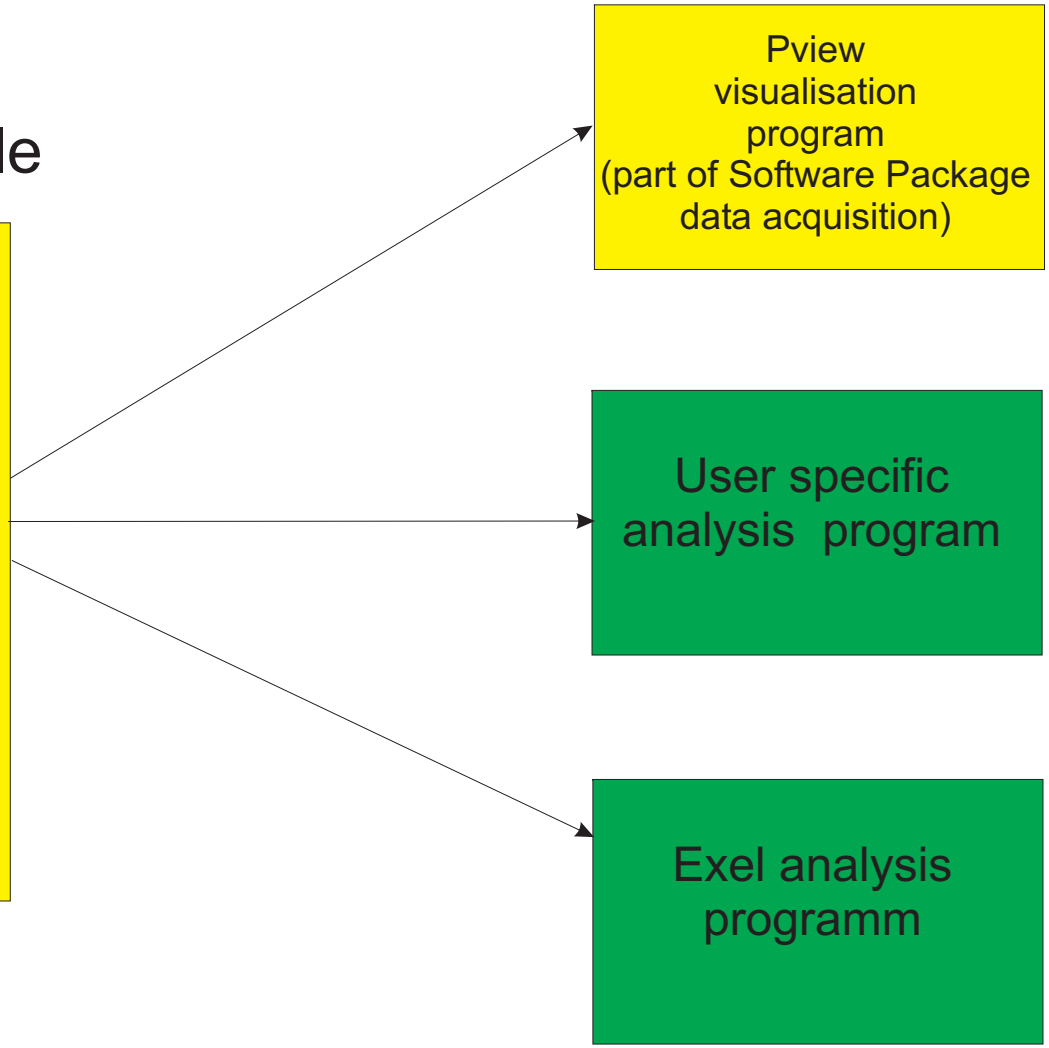


# Data Interface

realtime recorded data file

**Format of the**
**Binary File (.DAT) or**
**Ascii File (.CSV)**

Definition:
LB= Low Byte,
HB=High-Byte
First the Low-Byte and then the High-Byte of a channel is recorded
The range of a 12 and 16 bit system is from 0 to 65535
For 12 bit-systems, the lowest 4 bits are set to 0



# Data file format

(Software package Data acquisition modul - optional)

## Data Format

The data are recorded in a binary format. The file has the ending '.DAT'. The data can be imported in every analysing software, which can handle with binary data.

Additionally there are generated two description files:

- MDF-description-file: This file is used to descript the structure of the binary file. .
  The description file is necessary for the data viewing software PVIEW from Stiegele Datensysteme GmbH.

- Text-description-file: Description information in plane text

## Format of the Binary File (.DAT)

Definition: LB= Low Byte, HB=High-Byte
First the Low-Byte and then the High-Byte of a channel is recorded.
The range of a 12 and 16 bit system is from 0 to 65535
For 12 bit-systems, the lowest 4 bits are set to 0

Assignment to the analog values:
Excitation 100% (correspond to analog output +10V) digital value 62259 for 16 Bit-Systems
Excitation 0% (correspond to analog output 0V) digital value 32768 for 16 Bit-Systems
Excitation -100% (correspond to analog output - 10V) digital value 3277 for 16 Bit-Systems

Exciation [%] = (Digital-Value - 32768) / 294.91 for 16 Bit-Systems

Values, which exceed this range are not within the measuring range.
The time between two measvalues in the .DAT-file corresponds to the reciprocal value of the sample rate of the system (see page technical data)

A optional calculated power-value is saved as 4-Byte float.

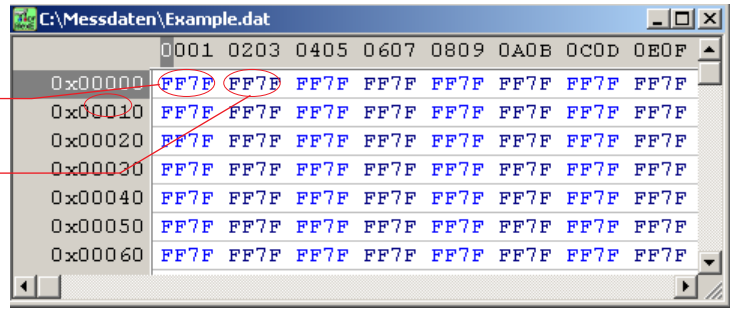
# Data File-Structure

(Software package Data acquisition modul - optional)

**Structure of the Binary File with extension .DAT: Sample file shown with a Hex Viewer**

First measvalue
FF=Low Byte
7F=High Byte

Second measvalue




**Structure of the Text Descitiption File with extension .txt (structe shown for a system with two channels)**

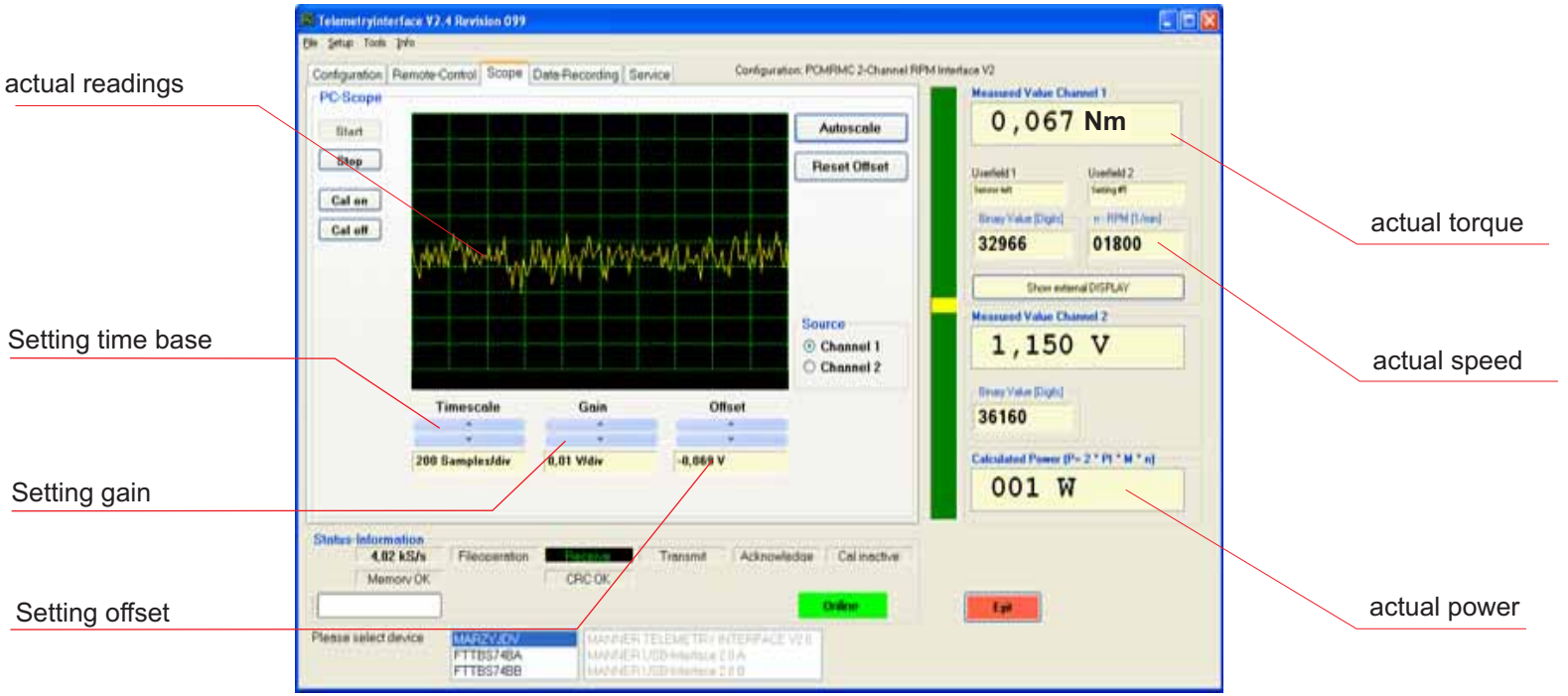
```
[Data-Description file]
Version:            1.0
Binary-Filename:    dataset1.dat
Time of Record:     24.01.2008 17:15:39
Samples per Frame:  2
Bytes per Sample    4
Samplerate  [1/s]   6511,48

[Channeldescription]
Channelnumber:      1
Name:               Ch1
Label:              Channel 1
Unit:               V
Factor:             0,00033908650096639 7
Constant:           -11,1111864636669

Channelnumber:      2
Name:               Ch2-RPM
Label:              RPM
Unit:               1/s
Factor:             1
Constant:           0
```

Factor and offsetconstant to calculate the physical value from the binary value
Example: Binary Value 62259 * (0,00033908..)+ (-11,1111..) = 10 V [Unit]

Dataformat: 4 for 2-Byte Integer, 9 for 4-Byte Floatingpoint

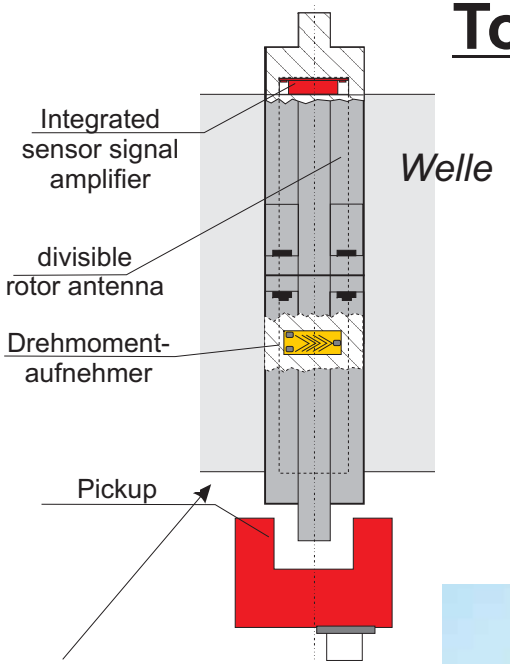
# Signal test function via Scope function

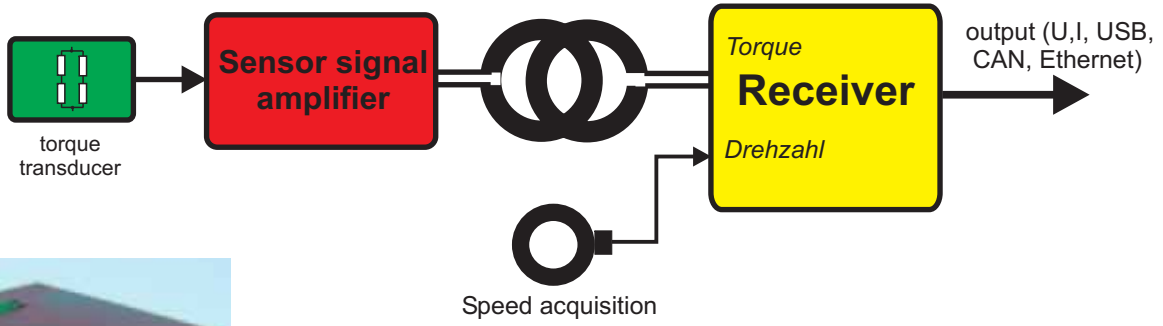
(Software package Data acquisition modul - optional)

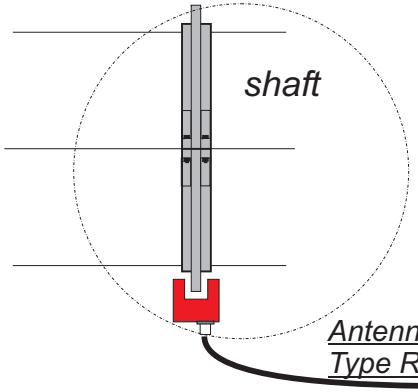


# Torque/Power acquisition on shaft

* high precise torque acquisition based on strain gauge
* integrated power supply (no batteries)
* no maintainance, easy mounting
* special for longterm use
* digital interface
* environment temperature range -45..160°C

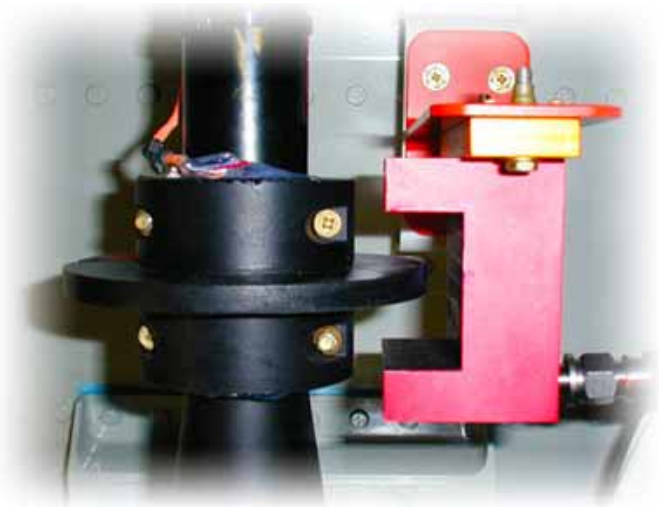


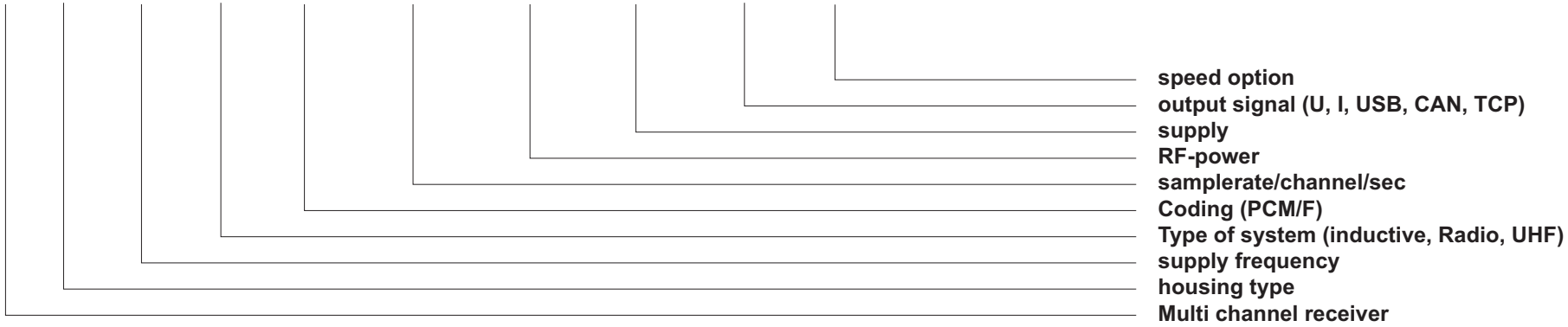


Antenna cable Type RG316

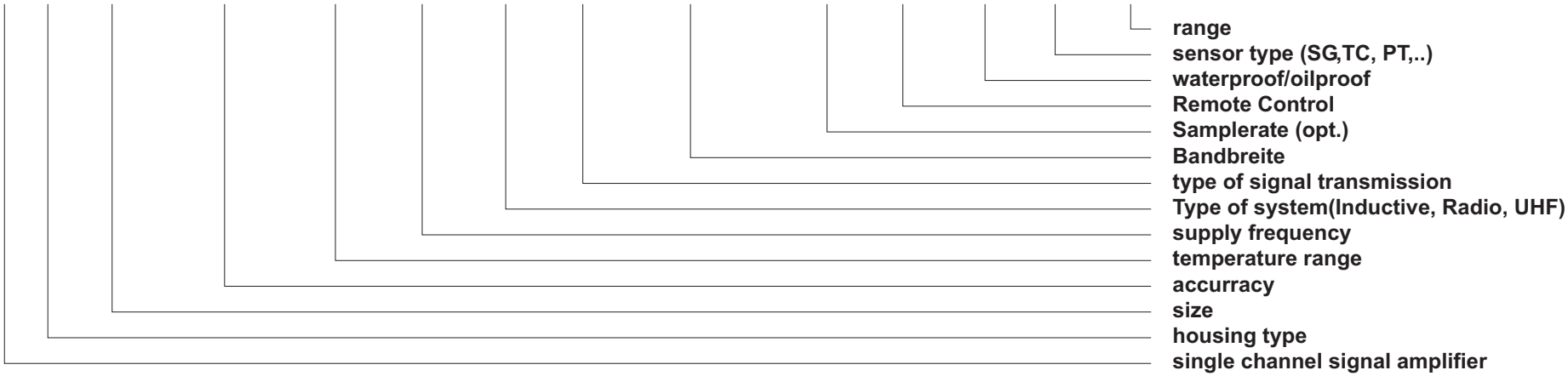


# Product Key One channel system

**Type: AW_84H6_<Freq>_<sys>_<mod>_<bandwith>_<power>_<supply>_<output>_<RPM>**




**Type: SV_Rad_<size>_ <accuracy>_<temp>_<Freq>_<sys>_<mod>_<bandwidth>_<sample>_<rmc>_<wa>_<TC>_<range>**




not all iteam always used