

TEMPTEL 4/8

4/8 channel temperature telemetry

For thermo couples K and J, galvanic isolated and linearized output



Transmitter with radio transmission



Receiver unit

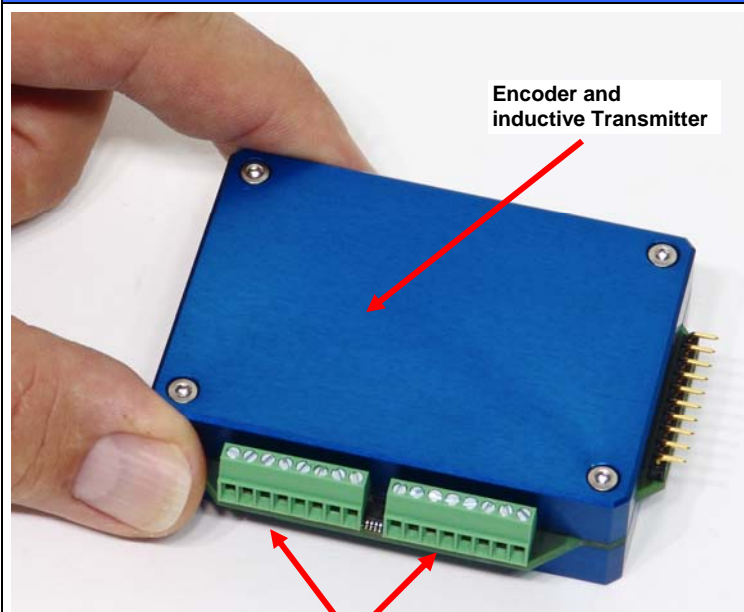
TEMPTEL8 is an small telemetry system designed for easy mounting onto rotating shafts to provide non-contact transmission of temperature measurement.

Sensors inputs are connected via screw clamp. Measured values are prepared in analog format, digitized (12bit) and transmitted via **radio transmission**.

The following thermocouples can be connected: Type K -50 to 1000°C or Type J -50 to 750°C. All inputs are full galvanic isolated! The measured values are processed and output as +/-10V (Opt. 0-20mA current output) analog signals (linearized for K or J) at a 37-pole sub-d sockets on the stationary receiver. The transmission distance between transmitter antenna and receiver is up to 10m (depends of application).

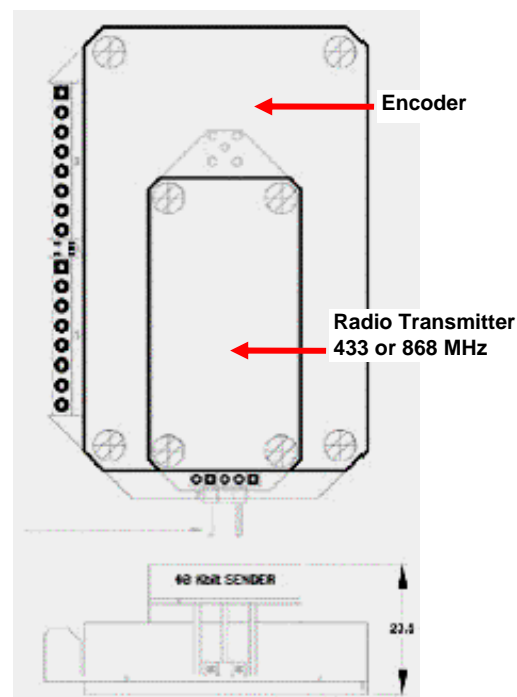
- 8x Thermocouple inputs for K or J
- Full galvanic isolated inputs
- Temperature range -50 to 1000°C
- Signal bandwidth 8x 0-30Hz
- 12 bit ADC, simultaneous sampling
- Galvanic isolated inputs
- Housing aluminum anodized
- Linearized output for K or J
- 4 different radio carrier frequencies: in 433 or 868MHz band
- Line-of-sight distance up to 10m
- 4 or 8 channel version
- Analog output +/- 10V
- Current Output 0-20mA (Opt.)
- Powering 6-9VDC or inductive

TEMPTEL8 Transmitting Unit Technical Data (Encoder)



Encoder and inductive Transmitter

Clamp board 1-8Ch



Encoder

Radio Transmitter
433 or 868 MHz

40 Kbit SENDER

22.5

Encoder in Aluminum housing

SC Module TH-K or J:

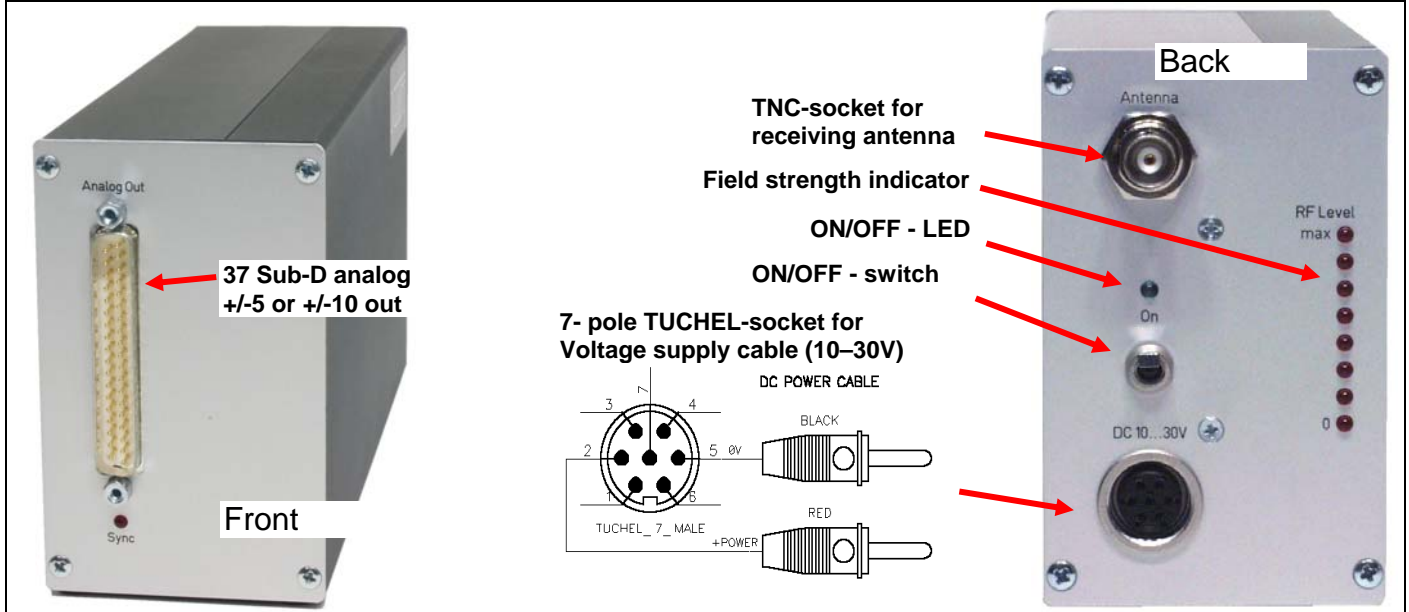
Sensor:	thermo-couple, type K and J (with cold junction compensation at the camp board), full galvanic isolated!
Temperature measuring range type K:	-50°C to +1000°C (standard) or -50 to +500°C
Temperature measuring range type J:	-50 to +750°C (on request)

System Parameters:

Channels:	4/8 (more on request)
Resolution:	12 bit A/D converter with anti aliasing filter, simultaneous sampling of all channels
Line-of-sight distance:	100 m with 10mW transmitting power, (433MHz or 868MHz band, FSK modulation), 10 cm with inductive transmission
Powering:	6-9V DC
Power consumption:	about 160 mA
Analog signal bandwidth:	8 x 0 ...30Hz with 40 kbit/s transmitter (-3dB cut-off frequency)
Transmitter carrier frequency:	up to 4 radio frequencies in the 433 or 868MHz with 40 kbit/s, (specify at order!)
Transmission:	Digital PCM Miller format - FSK
Transmission Power:	10mW (enable a range up to 100m)
Weight:	100gram (about) without cables
Dimensions:	85 x 50 x 13/23,5 mm
Operating temperature:	- 30 ... +70°C
Housing:	Aluminum anodized, splash waterproofed (IP65)
Vibration:	5g Mil Standard 810C, Curve C
Static acceleration:	500g in all directions

Technical specifications are subject to change without notice!

TEMPTTEL8 Receiving Unit Technical Data (Decoder):

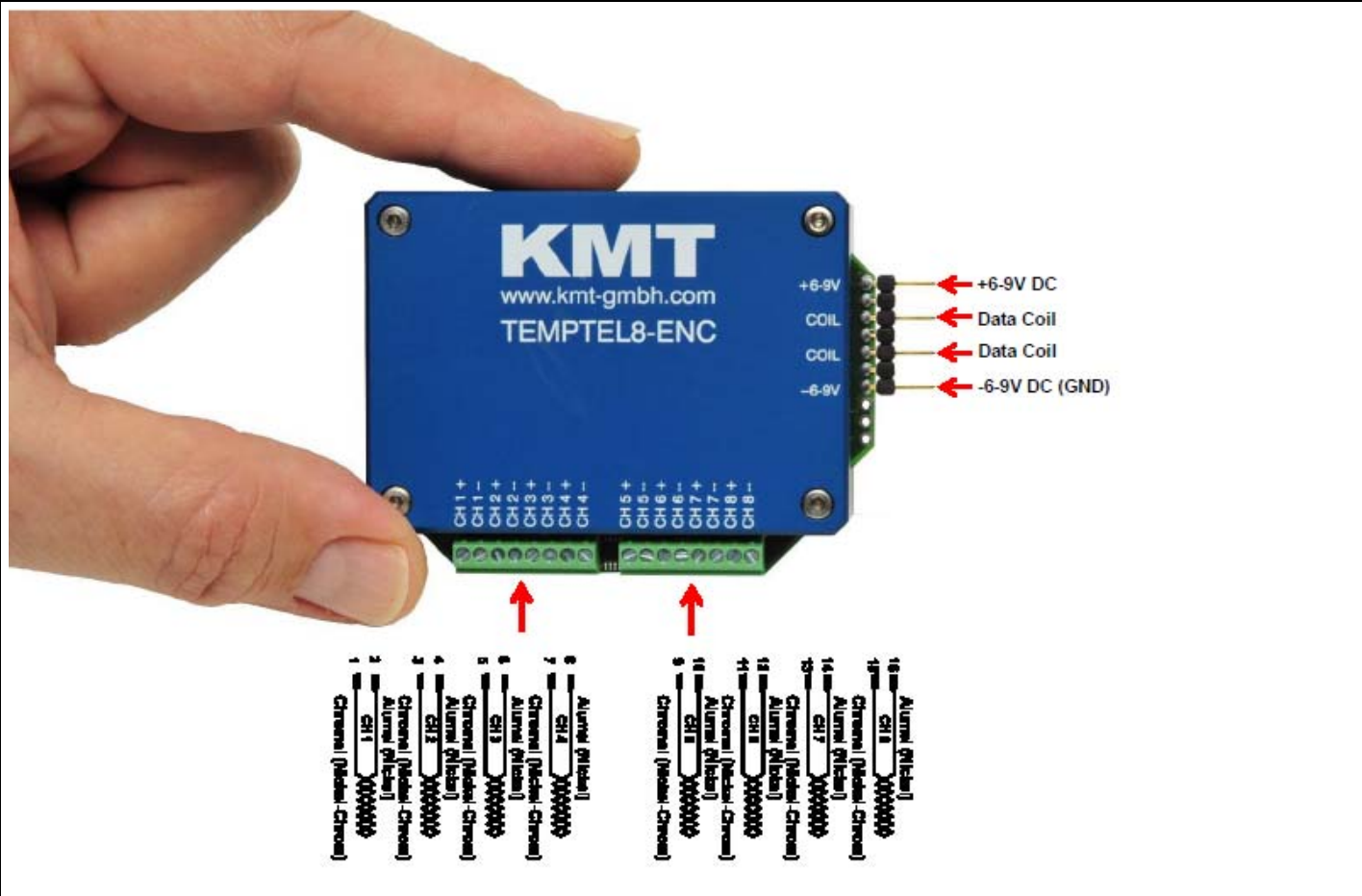


System Parameters:

Channel:	8 analog outputs via (37.Sub-D), +/-10V
Resolution:	12 bit D/A converter, with smoothing filter
Dynamic:	72dB
Power supply input:	10-30 VDC
Current consumption:	300mA at 10V, 100mA at 30V
Carrier frequencies:	up to 4 radio frequencies in the 433 or 868MHz with 40 kbit/s, (specify at order!) FSK modulation
Dimensions:	205 x 105 x 65mm
Weight:	1.25 kg without cables and antenna
Overall system accuracy between encoder input and decoder output:	+/-0.5% without sensor influences
Environmental	
Operating:	-20 ... +70°C
Humidity:	20 ... 80% not condensing
Vibration:	5g Mil Standard 810C, Curve C
Static acceleration:	10g in all directions
Shock:	100g in all directions

Technical specifications are subject to change without notice!

Temperature Measuring Range



Sensor TH-K: Thermo-couple, type K (with cold junction compensation), Inputs full galvanic isolated!

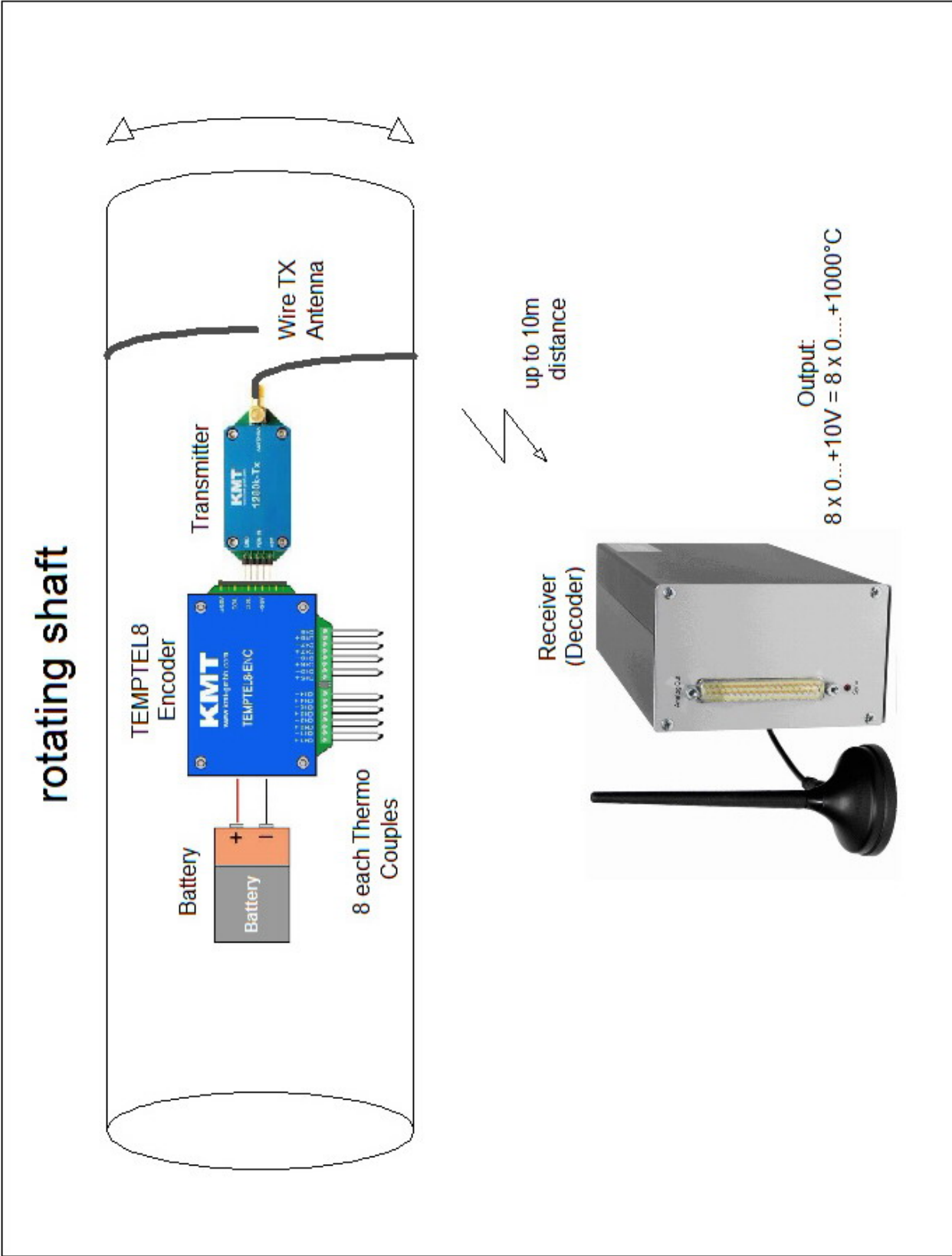
Range -50 to +500°C:

Temperature measuring range type K: -50°C to +500°C			
Temperature [°C]	Output [V]	Temperature [°C]	Output [V]
-50	-1.00	250	5.00
0	0.00	300	6.00
50	1.00	350	7.00
100	2.00	400	8.00
150	3.00	450	9.00
200	4.00	500	10.00

Range -50 to +1000°C:

Temperature measuring range type K: -50°C to +1000°C							
Temperature [°C]	Output [V]	Temperature [°C]	Output [V]	Temperature [°C]	Output [V]	Temperature [°C]	Output [V]
-50	-0.50	250	2.50	550	5.50	850	8.50
0	0.00	300	3.00	600	6.00	900	9.00
50	0.50	350	3.50	650	6.50	950	9.50
100	1.00	400	4.00	700	7.00	1000	10.00
150	1.50	450	4.50	750	7.50		
200	2.00	500	5.00	800	8.00		

Block diagram with Battery Power



Block diagram with Inductive Power

