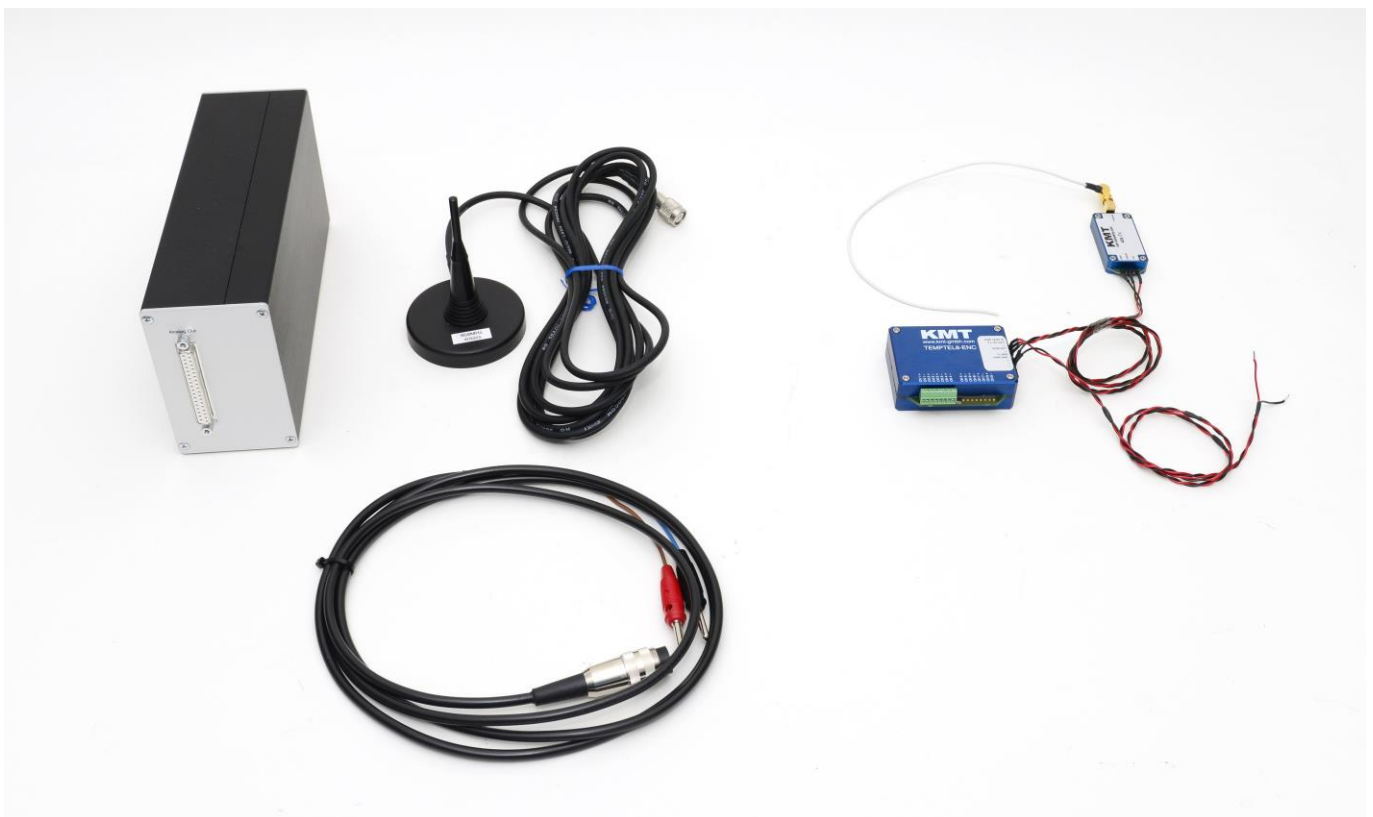


TEMPTEL4/8 with radio telemetry

8 channel Telemetry System for Thermocouples K or J

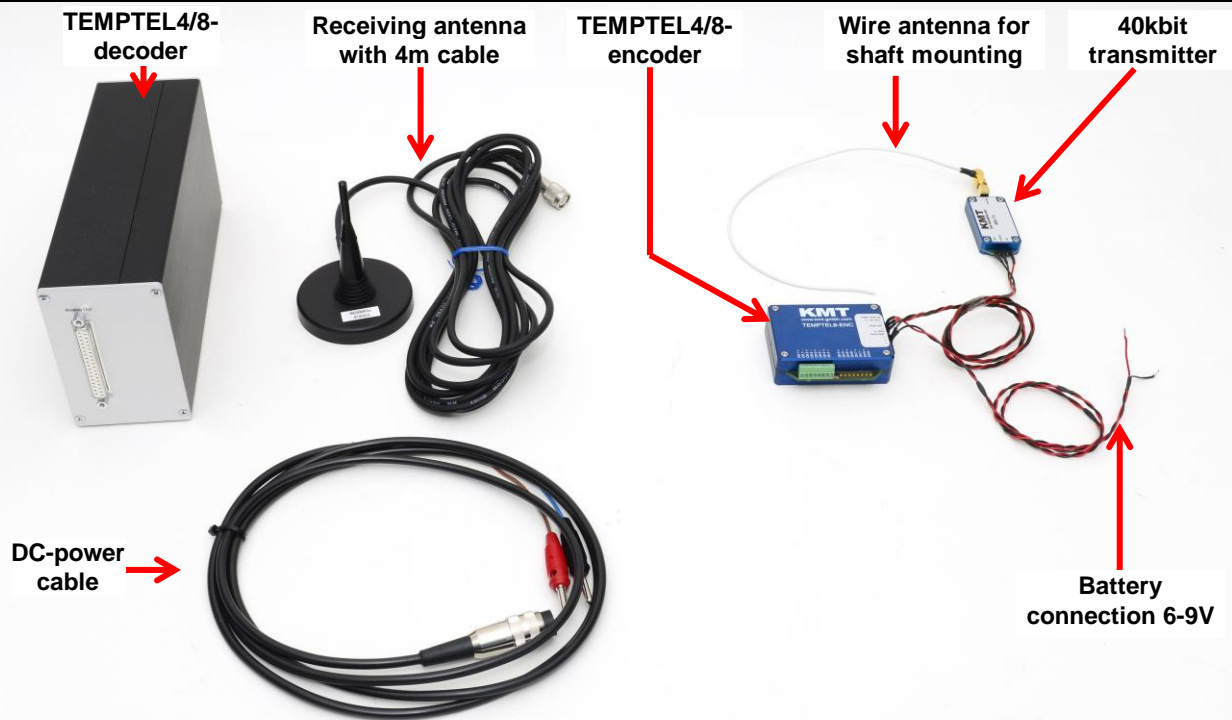
User Manual



- 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
- Linearized output for K or J
- Analog output +/- 10V, Opt. IP-LAN
- 4 different carrier frequencies
- Line-of-sight distance up to 10m
- Powering ENC 6-9V DC

INSTRUCTIONS FOR QUALIFIED PERSONNEL ONLY!

General functions:



Picture shows a TEMPTTEL4/8 - telemetry system with standard accessories

TEMPTTEL4/8 is an telemetry system designed for easy mounting shaft or point to point transmission of temperature measurement.

Sensors inputs are connected via screw clamp. Measured values are prepared in analog format, digitized (12bit) and transmitted via radio frequencies. Four different carrier frequencies are provided, this allows up to four systems to operate in parallel.

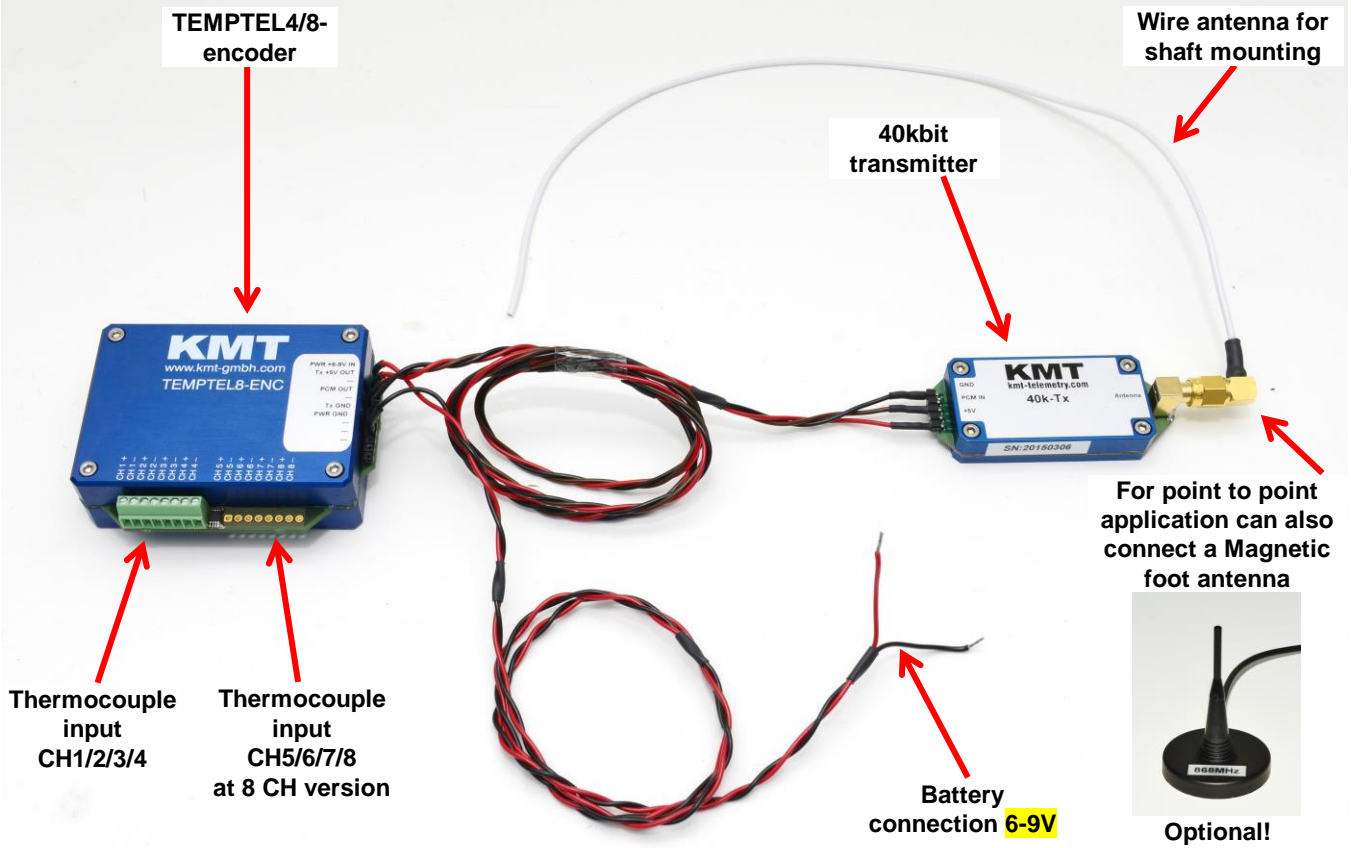
The following thermocouples can be connected: Type K -50 to 1000°C (standard) or Type J -50 to 750°C (optional)

All inputs are full galvanic isolated!

The measured values are processed and output as +/-10V analog signals (linearized for K or J) at the BNC sockets (optional digital output for a special IP-LAN interface) on the receiver.

Resolution of 12 bits is standard; this enables an amplitude dynamic of 72 dB. The analog signal bandwidth is 0-30 Hz (-3dB) when configured as an eight channel. The measurement accuracy is +/-0.5 % (without sensor). The TEMPTTEL4/8 is suited for operation at ambient temperatures of -20 to +70°C. The transmission distance between transmitter and receiving antenna is of the order of up to 1-10m (3-30 feet) - depend of application!

Transmitter Device (Encoder)



TEMPTTEL4/8-ENC

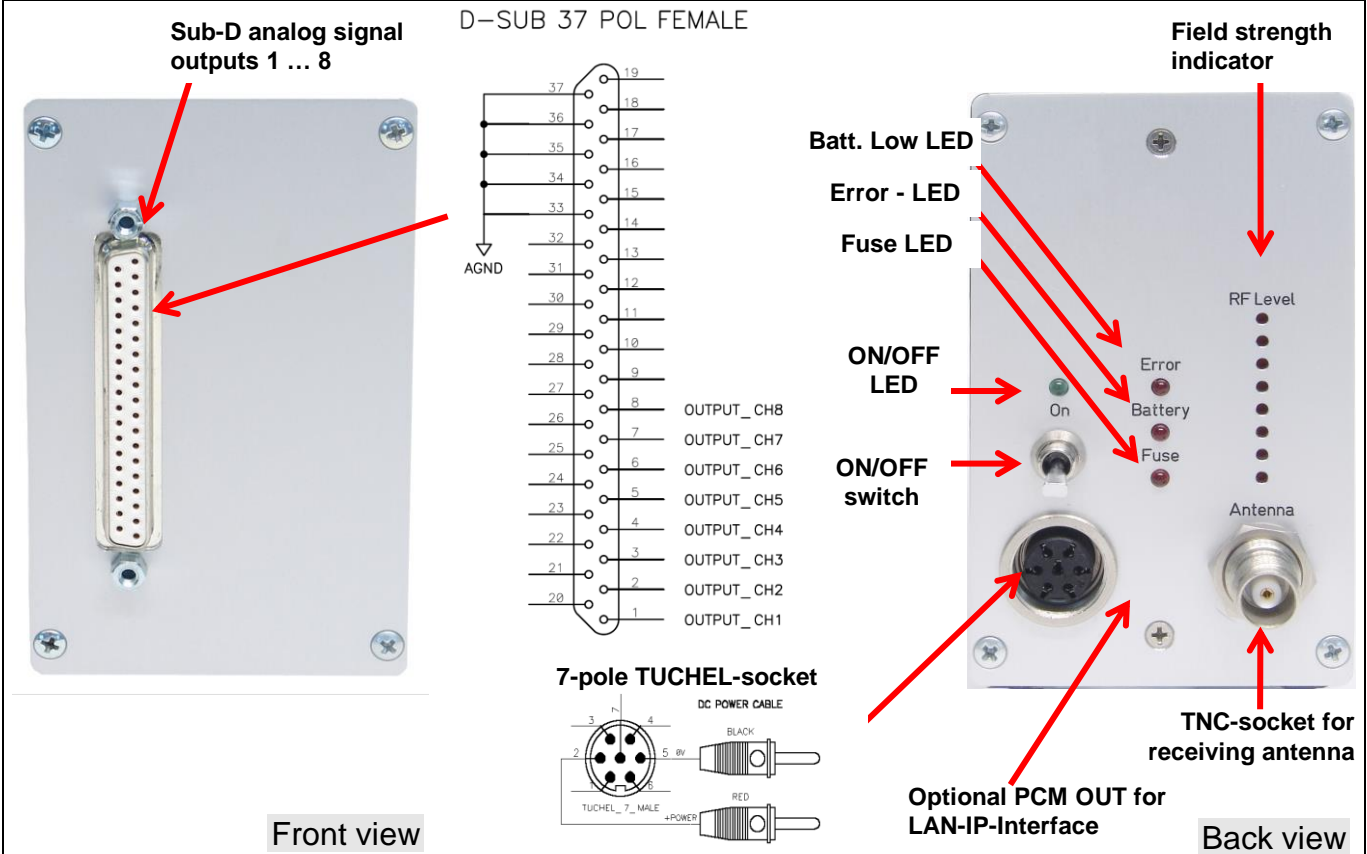
SC Module TH-K (J):

Sensor:	thermo-couple, type K (J) with cold junction compensation inputs full galvanic isolated!!
Temperature measuring range type K:	-50°C to +1000°C (standard), or -50°C to +500°C or -50°C to +250°C specify temperature range at order!
Temperature measuring range type J: <i>type J on request</i>	-50°C to +750°C or -50°C to +500°C or -50°C to +250°C specify temperature range at order! J on request

System Parameters:

Channels:	4 or 8
Resolution:	12 bit A/D
Line-of-sight distance:	distance 5-50mm at battery power (between coil and Pickup Head)
Powering:	6-9V by battery or <u>optional</u> inductive power supply
Current consumption:	130 mA
Analog signal bandwidth:	4x 0...30Hz or 8x 0...30Hz (scanning range 312.5Hz/CH)
Dimensions:	70mm x 50 x 22.5mm (housing)
Weight:	110 g without cables
Transmission:	Induktive ,digital PCM Miller Format - FSK
Operating temperature:	- 20 ... +70°C
Housing:	Aluminum IP 54
Humidity:	20 ... 80% no condensing
Static acceleration:	1000g in all directions
Shock:	2000g in all directions

Technical data:
Receiving Unit TEMPTTEL4/8 DEC (Decoder)



System Parameters:

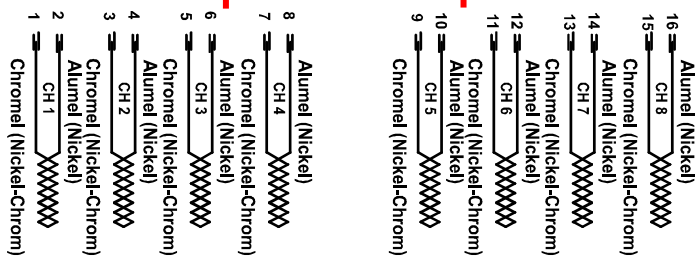
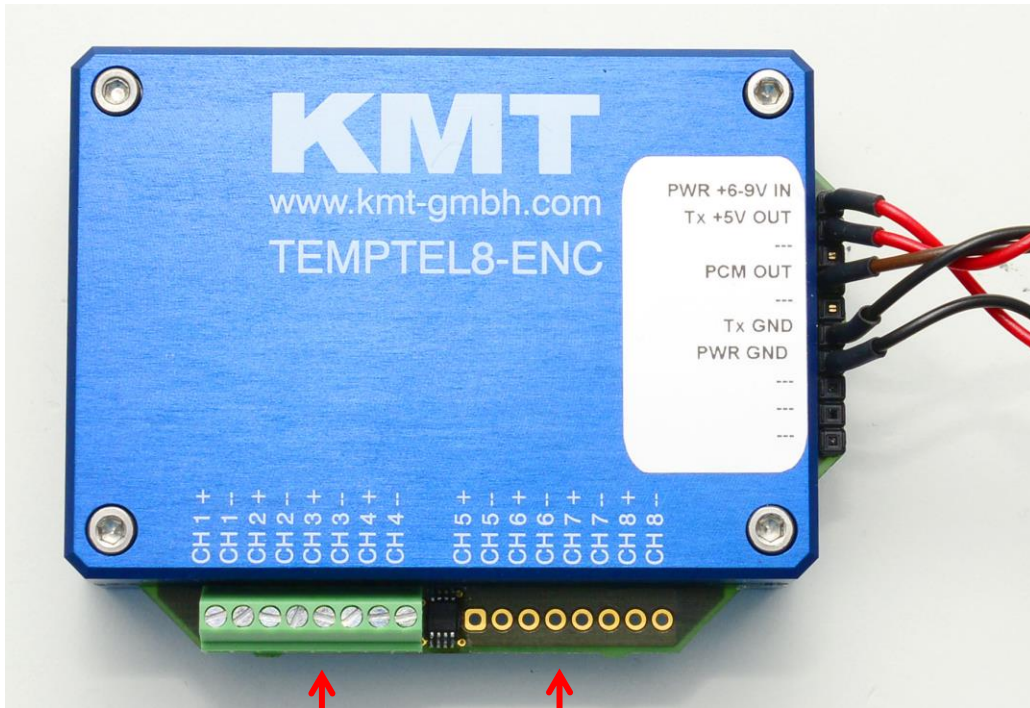
Channel:	8 analog outputs via 37-pole Sub-D +/-10V
Resolution:	12 bit D/A converter, with smoothing filter
Dynamic:	72dB
Power supply input:	10-30 VDC
Current consumption:	300mA at 10V, 100mA at 30V
Analog signal bandwidth:	8 x 0 ... 30Hz
Dimensions:	205 x 105 x 65mm
Weight:	1.00 kg without cables and antenna
Overall system accuracy between encoder input and decoder output:	+/-0.5% without sensor influences

Environmental

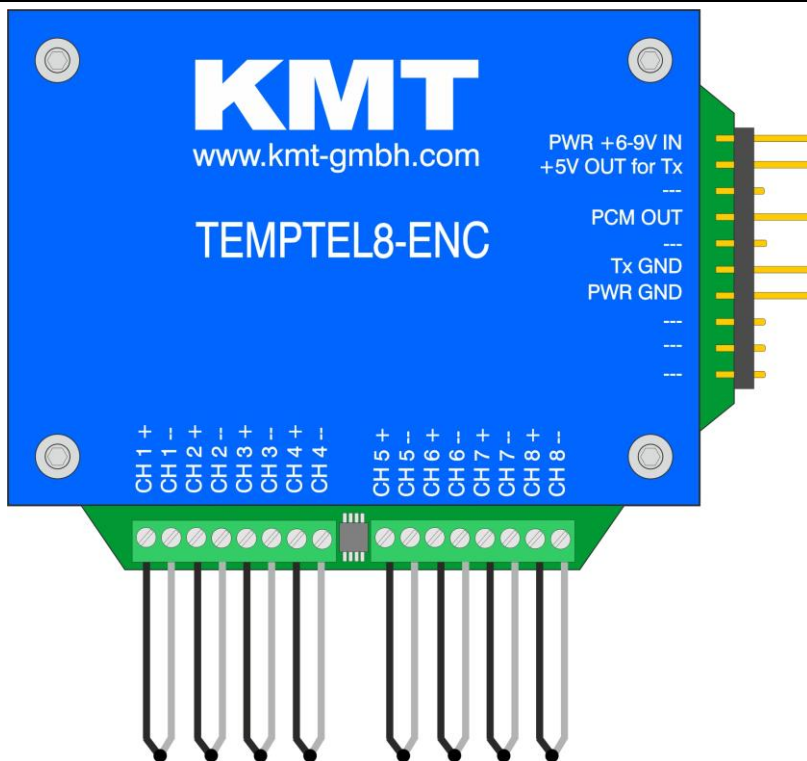
Operating:	-20 ... +70°C
Humidity:	20 ... 80% not condensing
Vibration:	5g Mil Standard 810C, Curve C
Static acceleration:	10g in all directions
Shock:	100g in all directions



TEMPTEL4/8-ENC - pin connection Th K-ISO radio data transmission



(CH 4-8 only at 8-CH version)



Output table of Th K-ISO

Temperature measuring range type K: -50°C to +250°C							
Temperature [°C]	Output [V]						
-50	-2.00						
0	0.00						
50	2.00						
100	4.00						
150	6.00						
200	8.00						
250	10.00						
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				
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		

Output table of Th J-ISO

Temperature measuring range type J: -50°C to +250°C			
Temperature [°C]	Output [V]		
-50	-2.00		
0	0.00		
50	2.00		
100	4.00		
150	6.00		
200	8.00		
250	10.00		
Temperature measuring range type J: -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
Temperature measuring range type J: -50°C to +750°C			
Temperature [°C]	Output [V]	Temperature [°C]	Output [V]
-50	-0.67	375	5.00
0	0.00	450	6.00
75	1.00	525	7.00
150	2.00	600	8.00
225	3.00	675	9.00
300	4.00	750	10.00

TEMPTTEL4/8-ENC - Dimensions:

