

CT4/8

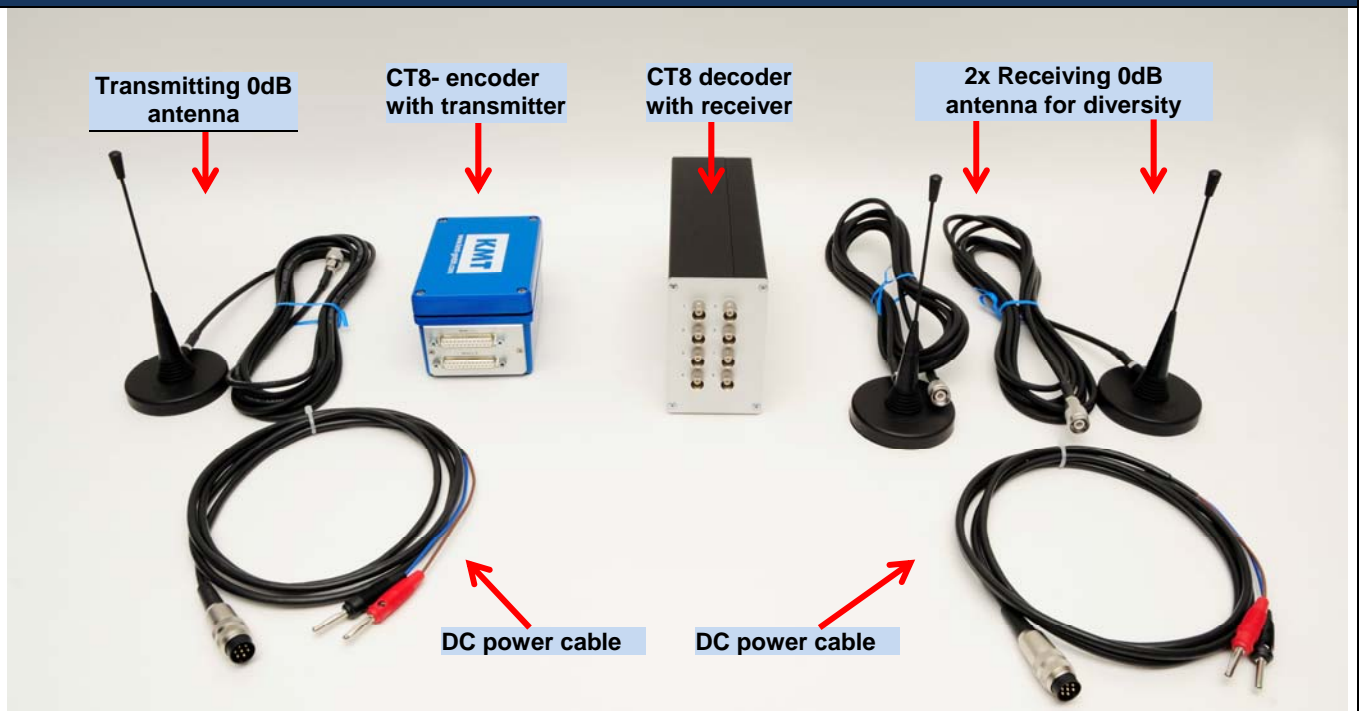
4/8-Channel Compact Telemetry System

Including signal conditioning for STG, ICP, POT, PT100, TH-K or high-level inputs



- 4 or 8 input channels, 12 bit ADC resolution, simultaneous sampling of all channels
- STG offset via potentiometer or optional Auto Zero calibration
- +/- 5V analog output at the receiver side, PCM output via optional special PCM PC interface and Software
- Signal bandwidth: up to 6000Hz (4CH 1280kbit)
- Line-of-sight distance between transmitter and receiver up to 500m
- Static acceleration up to 100g in all directions (Transmitter unit)

General functions:

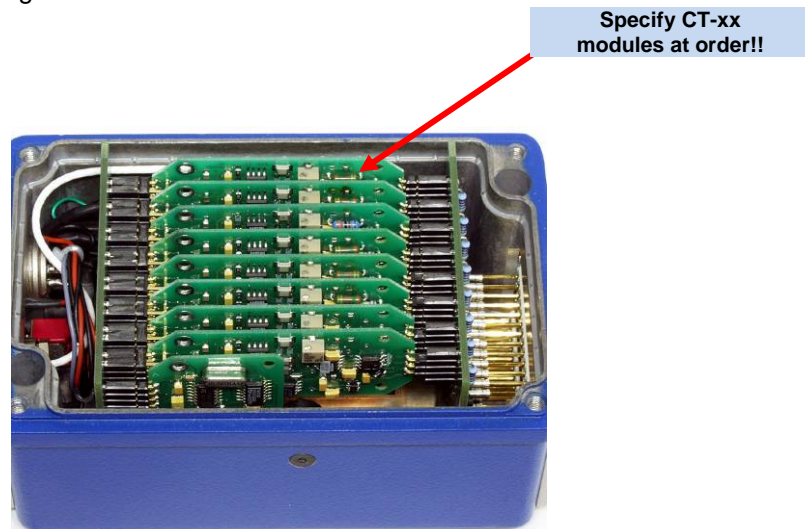


Picture shows a CT8 telemetry system with optional diversity receiver

The CT8 Compact is a 8-channel telemetry system with integrated signal conditioning for sensors, wireless digital transmission and analog reproduction.

The conditioned measured values are routed via anti-aliasing filter to a 12-bit A/D converter, simulate sampling of all channels, encoded in PCM format and transferred to the HF transmitter as modulation variables. Dynamic range is 72dB with a signal-to-noise ratio of approximately 70dB.

Various configurations of different sensor modules are possible like signal conditioning for strain gages (STG), thermocouples type K (Th-K), thermo sensors Pt100, ICP sensors, potentiometer sensors (POT) and also Voltage inputs (+/-5 or +/-10V). Mixed configuration available.



Transmitter Device (Encoder)



Front side view

25-pole female SubD input connector for sensors 1 to 4

25-pole female SubD input connector for sensors 5 to 8

Female TNC connector for transmitter antenna

Power ON LED

7-pole female TUCHEL connector for power supply input (10–30V DC)

Auto Zero Switch (option)

Power Switch



Rear side view

CT-4/8-ENC

CT-STG V1:

Sensor:	strain gage, ≥ 350 Ohms
Bridge completion:	full, half and quarter-bridge (optional)
Excitation:	4 VDC (fixed), short-circuit protection up to 20mA
Gain:	200 or 1000 - selectable by solder jumpers
	Optional Gain: 250-500-1000-2000 with new CT-STG V2 module
Offset	Zero adjustment by potentiometer or <u>optional</u> Auto-zero function (which is not lost by power-off), offset range up to 80% of full scale.

CT-TH-K-ISO:

Sensor:	thermo-couple, type K (with cold junction compensation)
Temperature measuring range:	-50°C to +1000°C (other on request) with galvanic isolation

CT-PT100:

Sensor:	resistance temperature detectors (RTDs) with resistance of 100 ohm
Temperature measuring range:	-100°C to +500°C

CT-VOLT:

High-level inputs:	+/- 5 Volt or +/- 10 Volt (other ranges on request)
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CT-ICP:

Sensor:	For ICP® sensor inputs, Current exc. 4mA
	Signal gain x 2, 4, 8, 16, 32 - Signal bandwidth 3 Hz up to 6000Hz (depend of transmitter)

CT-POT:

Sensor:	Potentiometer Sensor >350 Ohms to 10kOhm
Excitation:	4 VDC (fixed)

System Parameters:

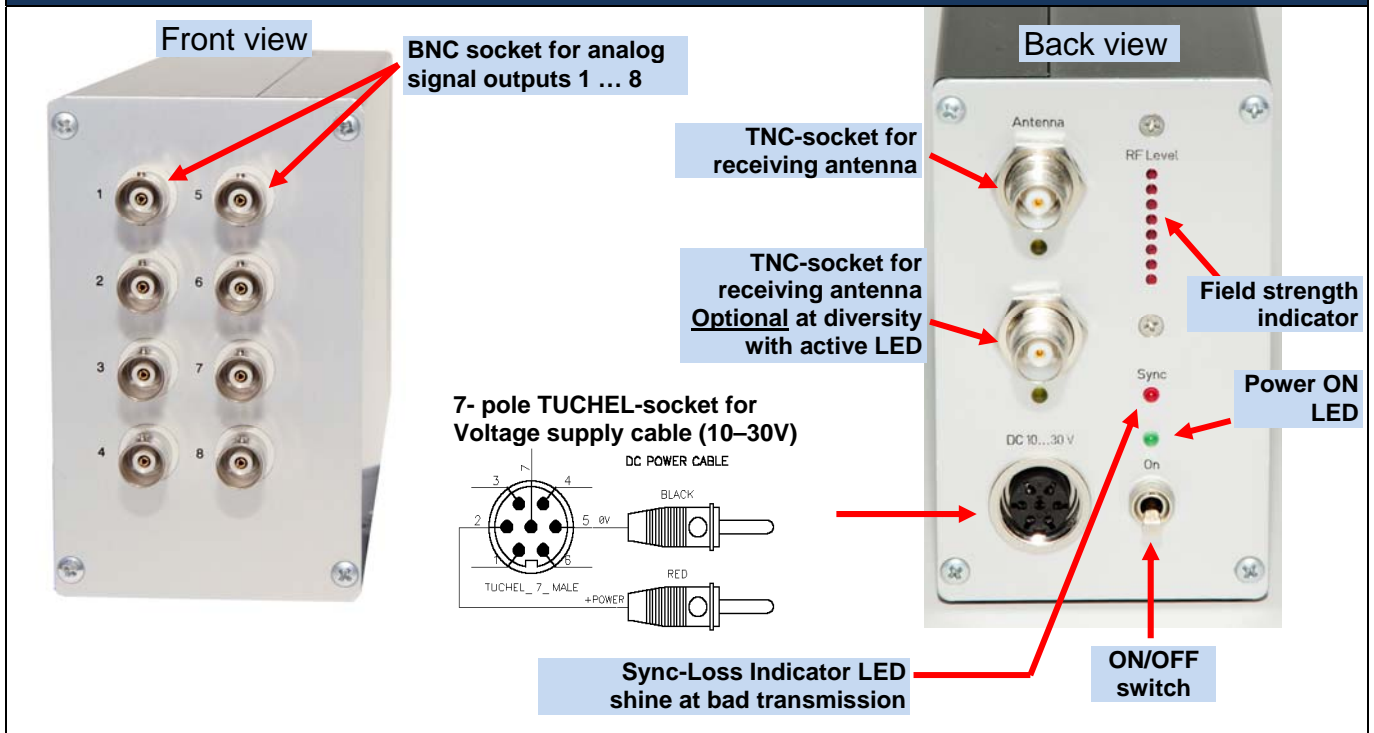
Channels:	4 or 8
Resolution:	12 bit A/D converter with anti aliasing filter, simultaneous sampling of all channels
Line-of-sight distance with diversity telemetry:	200m with 40kbit, 150m with 320/kbit, 100m with 640kbit, 50m with 1280kbit (free view)
Line-of-sight distance with non-diversity telemetry:	500m with 40kbit (free view)
Powering:	10-30V DC
Power consumption:	200 mA (at 12V) using 8 STG sensors at 350 Ohms and 40kbit transmitter

Bit rate	Cut off frequency from anti-aliasing filter (-3dB)	
	Scanning rate (red)	
	4 Channels	8 Channels
1280 kb/s	6000 Hz <i>(24615 Hz)</i>	3000 Hz <i>(12800 Hz)</i>
640 kbit/s	3000 Hz <i>(12308 Hz)</i>	1500 Hz <i>(6400 Hz)</i>
320 kbit/s	1500 Hz <i>(6154 Hz)</i>	750 Hz <i>(3200 Hz)</i>
40 kbit/s	190 Hz <i>(770 Hz)</i>	95 Hz <i>(400 Hz)</i>

depending of transmitter!

Analog signal bandwidth:	
Dimensions:	132 x 85 x 68mm
Weight:	0.8 kg without cables
Transmission:	Digital PCM Miller format - FSK
Transmission Power:	10mW
Operating temperature:	- 20 ... +70°C
Housing:	Aluminum
Humidity:	20 ... 80% no condensing
Static acceleration:	100g in all directions
Shock:	200g in all directions

Technical data: Receiving CT8 DEC (Decoder)



System Parameters:

Channel: 8 analog outputs via (BNC) +/-5V
 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

Cut off frequency from anti-aliasing filter (-3dB)		
Scanning rate (red)		
Bit rate	4 Channels	8 Channels
1280 kbit/s	6000 Hz (24615 Hz)	3000 Hz (12800 Hz)
640 kbit/s	3000 Hz (12308 Hz)	1500 Hz (6400 Hz)
320 kbit/s	1500 Hz (6154 Hz)	750 Hz (3200 Hz)
40 kbit/s	190 Hz (770 Hz)	95 Hz (400 Hz)

Analog signal bandwidth:

Dimensions:

Weight:

Overall system accuracy between encoder input and decoder output:

Environmental

Operating:

Humidity:

Vibration:

Static acceleration:

Shock:

205 x 105 x 65mm

1.00 kg without cables and antenna

+/-0.25% without sensor influences, with CT-TH-K-ISO only +/-1%

-20 ... +70°C

20 ... 80% not condensing

5g Mil Standard 810C, Curve C

10g in all directions

100g in all directions

Technical specifications are subject to change without notice