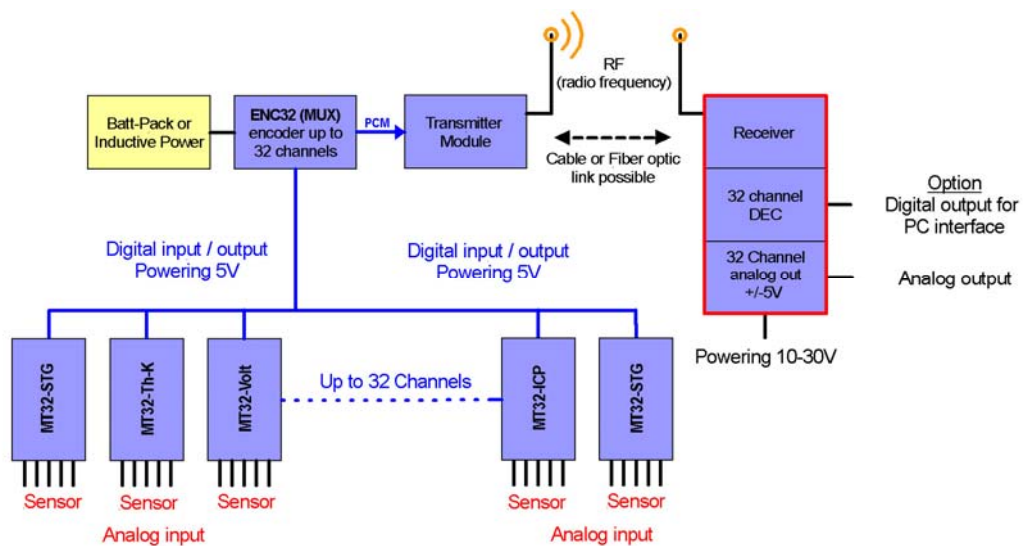


Short description:

The MT32 Mini-Telemetry is a very small and flexible telemetry system for rotating, mobile and stationary applications. Each sensor module is equipped with signal conditioning, anti-aliasing filters, analog-to-digital converters and a digital output. All these up to 32 modules will be controlled by an encoder (multiplexer with PCM output) module. By this concept it's possible to install the acquisition modules close to the sensor to have short connections for the analog sensor lines. This avoids an undesired coupling of disturbances resulting in noisy signals. The interference insensitive digital outputs then can lead over wider distances of up to 5m to the encoder module. The encoder output is a PCM bit stream signal which can be modulated for emission by a transmitter module.

To support a wide range of applications there are different HF- transmitter types available. This includes different distances (short and long), transmission rates (40, 320, 640 or 1280kbit/s). Please send us an exactly description of your application with a simple block diagram. This ensures to provide you a proposal for an optimal solution.

The supply voltage for the transmitting part is 5V DC. It can be generated by batteries, inductive or mains power supplies (depends on application). Optional it's also possible to combine all signal acquisition modules, encoder, transmitter and batteries in a small housing as a compact ready-to-use telemetry system (CT8-16). For strain gage applications the offset can be compensated by potentiometer on the acquisition module or optional by auto-zeroing via a micro switch on the encoder simultaneously for all modules. The calibration settings are not affected during power off. The receiver station outputs the signals in a $\pm 5V$ full scale range via BNC connectors. It will be powered with 10-30V DC or optional by an external mains power supply with 110-230V AC.



MT32 acquisition modules



52 x 27 x 10 mm
Weight 20 grams

MT32-STG
For strain gages
Full, half ($\geq 350\Omega$) and quarter bridges ($\approx 350\Omega$) will be supported
Fixed excitation 4V DC
Offset calibration via potentiometer or optional auto-zeroing
Gain 200 or 1000, others on request
Anti aliasing filter
Resolution 12bit = 72dB dynamic range



52 x 27 x 10 mm
Weight 20 grams

MT32-TH K
For thermo couples type K
Resolution 12bit = 72dB dynamic range



52 x 27 x 10 mm
Weight 20 grams

MT32-ICP
For ICP[®] sensor inputs
Current exc. 1, 4, and 10mA
Signal gain x 2, 4, 8, 16, and 32
Signal bandwidth 2 Hz up to 12000Hz*
(*deepens of the max. cut of frequency)
Resolution 12bit = 72dB dynamic range



52 x 27 x 10 mm
Weight 20 grams

MT32-VOLT
For high level inputs $\pm 5V$ or $\pm 10V$
Resolution 12bit = 72dB dynamic range



MT32-ICP-PWR
Power supply for MT32-ICP
Input: 5V
Output: 26V
For max 8 ICP modules

MT32 encoder and decoder



52 x 27 x 10 mm
Weight 20 grams

MT32-ENC8
PCM encoder module for linking the data of up to 8 SC modules to one PCM bit stream for transmission.



65 x 105 x 230 mm - Weight 1000 grams

MT32-DEC8 (RC8)
Receiver for up to 2, 4 or 8 channels
±5V output range on female BNC
Total system accuracy ±0,5% without sensors
Powering 10–30V DC or optional 110-230V AC (50Hz-60Hz)



52 x 27 x 10 mm
Weight 20 grams

MT32-ENC16
PCM encoder module for linking the data of up to 16 SC modules to one PCM bit stream for transmission.



MT32-DEC16
65 x 105 x 230 mm
Weight 1000 grams

Option :BNC16

MT32-DEC16
Receiver for 16 channels
±5V output range
Output 37pol. Sub D
Total system accuracy ±0,5% without sensors
Powering 10–30V DC or optional 110-230V AC
Option: BNC16, adaptor Box 37 SubD to 16 x BNC Outputs

MT32 transmitter module



52 x 27 x 10 mm
Weight 20 grams

MT32-Short
Low power (1mW) transmitter for short distances up to 0.3m on rotating applications
Total sampling rate 40 kS/s
Transmission rate 640kbit/s

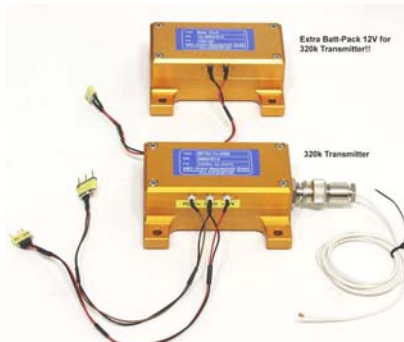
Optional with 1280kbit/s but only distance up to 0.1m



52 x 27 x 10 mm
Weight 23 grams

MT32-40k
High power (10mW) module transmitter for long distances up to 250m point to point or 10m on rotating applications.

Total scanning rate 2,5 kS/s
Transmission rate 40kbit/s
Transmission power 10mW



86 x 75 x 33 mm (each)
Weight each 200 grams

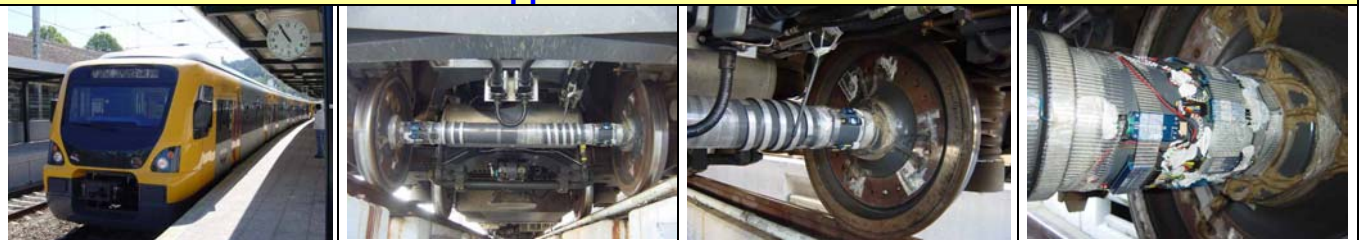
MT32-BATT-PACK12V
Voltage: approximately 12V (4x3V lithium batteries CR123 A)
Capacity: 1.3 Ah
Operating time: 12h
Weight: approximately 200g

MT32-320k
High power (10mW) module transmitter for long distances up to 250m point to point or 10m on rotating applications.
Total scanning rate 20 kS/s
Transmission rate 320kbit/s
Transmission power 10mW
Weight: approximately 200g
Attention:
MT32-320k transmitter needs extra power supply of 12V DC

Max. cut off frequency

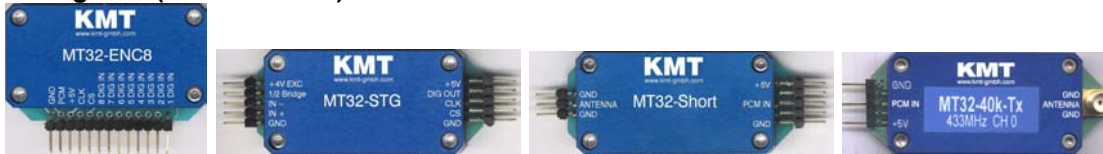
Bit rate	2 Channels	4 Channels	8 Channels	16 Channels	32 Channels
1280 kbit/s	12000Hz	6000Hz	30000Hz	150Hz	750Hz
640 kbit/s	6000Hz	3000Hz	1500Hz	750Hz	375Hz
320 kbit/s	3000Hz	1500Hz	750Hz	375Hz	190Hz
40 kbit/s	375Hz	190Hz	95Hz	47Hz	23Hz

Application Train - Wheel



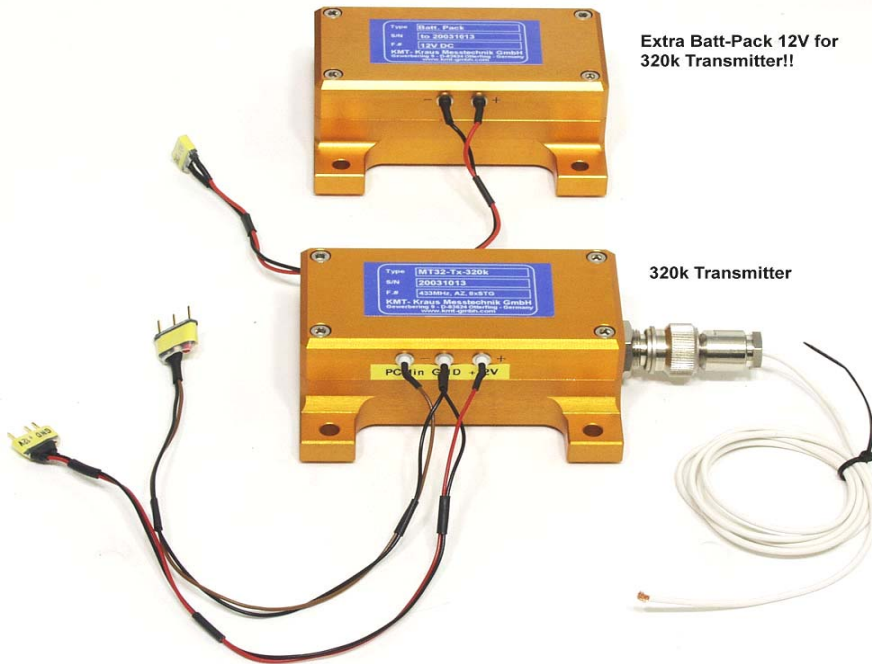
Environmental:

Rotating Part (blue modules):



- Operating Temperature..... -10 – +70°C
- Storage Temperature..... -20 – +80°C
- Humidity (non-condensing)..... 20 – 80%
- Vibration..... 5g Mil standard 810C, curve C
- Shock & static acceleration (in any direction)..... 1000g

Rotating Part, 320kbit transmitter (special):



Extra Batt-Pack 12V for 320k Transmitter!!

320k Transmitter

- Operating Temperature..... -10 – +70°C
- Storage Temperature..... -20 – +80°C
- Humidity (non-condensing)..... 20 – 80%
- Vibration..... 5g Mil standard 810C, curve C
- **Shock & static acceleration (in any direction)..... 250g!!!!!!!**

Down load formula (Excel format) to calculate the static acceleration (RPM/diameter):
www.kmt-gmbh.com/en/telemetrie/excel-file-radial-formula.xls

Receiving Part:



- Operating Temperature..... -10 – +70°C
- Storage Temperature..... -20 – +80°C
- Humidity (non-condensing)..... 20 – 80%
- Vibration..... 5g Mil standard 810C, curve C
- Shock (in any direction)..... 100g

Order Samples		
Qty.	Type	Description
		
2	MT32-STG	MT32-2CH-40k, 2xSTG, BATT, BW 2x0-375Hz Signal conditioning module for strain gages with digital data acquisition
1	MT32-ENC8	Encoder for up to 8 acquisition module
1	MT32-40k-10	ISM-Band telemetry transmitter and receiver (distance up to 10m)
1	BATT-PACK	Battery pack
1	BATT-SET	Battery set
1	MT32-DEC2	Decoder for 2 channels, Output 2 x BNC
1	AC/DC	AC/DC power supply
4	MT32-STG	MT32-4CH-40k, 4xSTG, BATT, BW 4x0-190Hz Signal conditioning module for strain gages with digital data acquisition
1	MT32-ENC8	Encoder for up to 8 acquisition module
1	MT32-40k-10	ISM-Band telemetry transmitter and receiver (distance up to 10m)
1	BATT-PACK	Battery pack
1	BATT-SET	Battery set
1	MT32-DEC4	Decoder for 4 channels, Output 4 x BNC
1	AC/DC	AC/DC power supply
8	MT32-STG	MT32-8CH-40k, 8xSTG, BATT, BW 8x0-95Hz Signal conditioning module for strain gages with digital data acquisition
1	MT32-ENC8	Encoder for up to 8 acquisition module
1	MT32-40k-10	ISM-Band telemetry transmitter and receiver (distance up to 10m)
1	BATT-PACK	Battery pack
1	BATT-SET	Battery set
1	MT32-DEC8	Decoder for 8 channels, Output 8 x BNC
1	AC/DC	AC/DC power supply
8	MT32-STG	MT32-8CH-40k, 8xSTG, IND-PWR, BW 8x0-95Hz Signal conditioning module for strain gages with digital data acquisition
1	MT32-ENC8	Encoder for up to 8 acquisition module
1	MT32-40k-10	ISM-Band telemetry transmitter and receiver (distance up to 10m)
1	IND-POWER	Inductive power supply
1	MT32-DEC8	Decoder for 8 channels, Output 8 x BNC
2	AC/DC	AC/DC power supply (1x for DEC8, 1x for IND-PWR)

	<p>8 MT32-STG 1 MT32-ENC8 1 MT32-Short 1 BATT-PACK 1 BATT-SET 1 MT32-DEC8 1 AC/DC</p>	<p>MT32-8CH-Short, 8xSTG, BATT, BW 8x0-1500Hz Signal conditioning module for strain gages with digital data acquisition Encoder for up to 8 acquisition module Short distance RF telemetry transmitter and receiver (distance 0.2m) Battery pack Battery set Decoder for 8 channels, Output 8 x BNC AC/DC power supply</p>
	<p>6 MT32-STG 2 MT32-ICP 1 MT32-ICP-Pwr 1 MT32-ENC8 1 MT32-Short 1 BATT-PACK 1 BATT-SET 1 MT32-DEC8 1 AC/DC</p>	<p>MT32-8CH-Short, 6xSTG, 2 x ICP, BATT, BW 8x0-1500Hz Signal conditioning module for strain gages with digital data acquisition Signal conditioning module for ICP sensors with digital data acquisition Power module for MT32-ICP Encoder for up to 8 acquisition module Short distance RF telemetry transmitter and receiver (distance 0.2m) Battery pack Battery set Decoder for 8 channels, Output 8 x BNC AC/DC power supply</p>
	<p>16 MT32-STG 1 MT32-ENC16 1 MT32-Short 1 BATT-PACK 1 BATT-SET 1 MT32-DEC16 1 BNC16 BOX 1 AC/DC</p>	<p>MT32-16CH-Short, 16xSTG, BATT, BW 16x0-750Hz Signal conditioning module for strain gages with digital data acquisition Encoder for up to 16 acquisition module Short distance RF telemetry transmitter and receiver (distance 0.2m) Battery pack Battery set Decoder for 16 channels, Output via 37pol. Sub-D Connector Adapter BOX for DEC16 - multiple 37pole SubD to 16 single BNC connectors AC/DC power supply</p>
	<p>16 MT32-STG 1 MT32-ENC16 1 MT32-Short-SP 1 BATT-PACK 1 BATT-SET 1 MT32-DEC16 1 BNC16 BOX 1 AC/DC</p>	<p>MT32-16CH-Short-Special, 16xSTG, BATT, BW 16x0-1500Hz Signal conditioning module for strain gages with digital data acquisition Encoder for up to 16 acquisition module Short distance RF telemetry transmitter and receiver (distance 0.1m) Battery pack Battery set Decoder for 16 channels, Output via 37pol. Sub-D Connector Adapter BOX for DEC16 - multiple 37pole SubD to 16 single BNC connectors AC/DC power supply</p>
	<p>16 MT32-STG 1 MT32-ENC16 1 MT32-Short-SP 1 IND-POWER 1 MT32-DEC16 1 BNC16 BOX 2 AC/DC</p>	<p>MT32-16CH-Short-Special, 16xSTG, IND-PWR, BW 16x0-1500Hz Signal conditioning module for strain gages with digital data acquisition Encoder for up to 16 acquisition module Short distance RF telemetry transmitter and receiver (distance 0.1m) Inductive power supply Decoder for 16 channels, Output via 37pol. Sub-D Connector Adapter BOX for DEC16 - multiple 37pole SubD to 16 single BNC connectors AC/DC power supply (1x for DEC8, 1x for IND-PWR)</p>