TMS · Telemetrie-Messtechnik Schnorrenberg

Telemetry Systems

Welcome to our new operational Internet site portal.
This site is dedicated to providing you with up-to-date on-line information, solutions and applications exclusively around our telemetry product range.

Extreme miniaturization, flexible adaptation and an undisturbed wireless data transmission even under harsh environmental conditions, are the most significant features of all telemetry systems offered by TMS · Telemetrie-Messtechnik Schnorrenberg.

TMS provides a variety of multi-channel telemetry systems offering flexible mechanical adaptation to different applications. Telemetry systems have to transmit measurement data reliably under very different conditions. We provide turnkey systems that are ready to use. For instance, the digital multi channel System MT32 enables conditioning, digitisation and wireless transmission of up to 32 parallel signals. Our telemetry systems for strain gage applications mount quickly to any size shaft without machine disassembly or modification. Torque measurement products are designed to provide accurate and reliable torque data in demanding applications

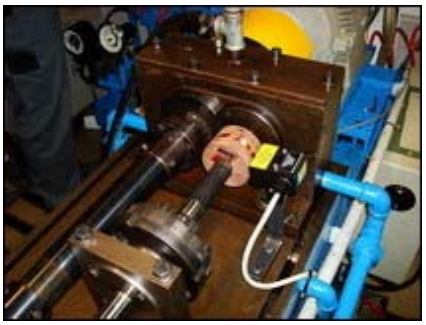
Key-Products:

1-Channel Telemetry for Rotating Applications

TEL1-PCM
Rotating 1-Channel Telemetry System for torque and temperature.

1-channel digital telemetry system for the transmission of strain or temperature measurement from rotating shafts. TMS offers a new advanced telemetry system for the continuous, contact less transmission of torque from rotary drive shafts. A special new characteristic is the digital bi-directional operation PCM telemetry, which allows shunt calibration and autozero during operation.

The TEL1-PCM telemetry systems provide a simple, accurate method of measuring strain, torque, or thermocouple signals on rotating or moving machinery while operating in a completely contactless mode. The small dimensions and light weight of the rotor electronics allows installations on very small shafts without affecting the dynamic properties of the shaft in any way. Power is transferred inductively and the signal is transferred between the moving and static component – no brushes or wires required! The advantage of this method guarantees an absolute wear-free continuous operation and accurate digital transmission of measured data.



J1
New Shaft Telemetry System with maximum reliability, long-term stability and the lowest time investment.

Wireless transmission of sensor data from rotating objects is now generally accepted by mechanical engineers as a standard method for measurement applications in research, testing and vehicle development. For such tasks the new single-channel telemetry system J1, with the revolutionary IPT (Intelligent Power Transmission) offers even more compelling reasons for using this technique.

Engineers demand that shaft telemetry systems have the highest possible signal integrity, are easy to install and reliable in operation. With the J1 system and IPT technology, this becomes a reality. Power transmission is now substantially improved giving a longer range (70mm) than previously possible. The flexible ring of the stator type JX-SR-70 can be individually adapted to accommodate very large deflections of a shaft or axle (up to 700mm) and supply uninterrupted power to the rotor electronics.

Small and lightweight rotor electronics installed directly on the item under test, provide power to the sensor, acquire the measurement data and transmit it wirelessly to the stator antenna. The stator can transmit power to the rotor electronics allowing continuousoperation without batteries. Remote shunt calibration for strain based applications is also supported. The receiving control unit provides signals for recording, monitoring or analysis.

A range of accessories and options for rotors, stators and control units, including a low profile, low weight, flexible rotor, and a CANbus interface, ensure most demanding measurement applications can be met. Easy configuration, assembly and installation, and the flexibility of using inductive or battery power for the rotor electronics, makes the J1 a genuine multi-talent for rotary applications.

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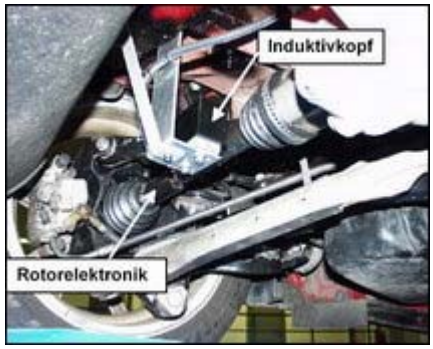
K1
1-channel digital telemetry system for the transmission of strain measurement from rotating shafts.

A versatile single-channel telemetry system for the measurement and transmission of data from rotating machinery shafts or wheels. The miniature Rotor Electronics contain complete signal processing and sensor supply for strain, PT100, thermocouple or voltage inputs; making it suitable for acquiring torque, force, temperature, pressure etc. The K1 can be easily installed on existing equipment and be configured for inductive power enabling continuous operation without batteries. The system is durable and has an extended operating temperature range for use in extreme conditions.

1-channel telemetry systems for contact-less measurement of torque on drive shafts in vehicles and machines of all kinds. Strain gage sensors fixed to the shaft measure the torque and feed it as a strain signal into the rotor electronics, which transmits the measuring signal modulated, on a frequency from 10-40MHz to a receiver unit and a ±10V signal is reproduced. The signal bandwidth is 1 kHz, with a user selectable gain of up to 8000. An inductive voltage supply for the rotating assembly is produced from the stator unit.



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Multi-Channel Telemetry

CT2-16
Compact Telemetry System with direct sensor connection.

Multichannel telemetry system designed for easy mounting on to rotating and moving parts to provide non-contact transmission of measured parameters such as pressure, force, temperature, acceleration and voltage. Also for point to point application like bridge or buildings testing, the telemetry system offers a wireless solution and replacement of cables between sensor and computer.

CT2, **2-Channel-Telemetry**
A miniature 2-channel telemetry system with selectable inputs for strain gages, thermocouples or voltages. Data transmission rate 40kbit/s. 10mW power output distance up to 300m.

CT-8, 8-Channel-Telemetry
Equipped with modular telemetry components from the MT32 series, the system can be configured with signal conditioning modules for strain, thermocouple, voltages and ICP sensors. Digital transmission bandwidths of 40 kbit/s to 320 kbit/s giving signal bandwidths of dc to 95Hz and/or dc to 750Hz/Channel respectively. Power output 10mW, range to 300m.

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Multichannel Wheel Telemetry

CT4-Wheel
Telemetry for Rotary Applications
This 4-channel wheel telemetry can be easily installed and has four configurable channels, either for strain, thermal, ICP sensor or voltage, which will transfer measured signals by radio telemetry to the receiver inside the vehicle. Signal outputs are ±5V full scale. Up to four systems can be operated simultaneously. Digital data transmission rate of 4x40 kbit/s.

CT8-Wheel
Telemetry for Rotary Applications
CT8-Rotate is a special waterproof 8-channel telemetry system for assembly on rotary parts e.g. helicopter rotors or wind-powered devices, as well as propellers or wheels. Up to four systems can be operated at the same time in close proximity to each other.
The sensors are attached with water-protected plugs. The following sensors can be attached: strain gages as full, half and quarter bridge >350 ohms, thermocouples type K to 900°C as well as capacitive sensors. Measurements of ±5V or ±10V level signals are also possible. The receiver and decoder in the vehicle or in the helicopter cockpit, outputs the analog data as ±5V signals on BNC sockets for recording, as well as a digital interface for the direct transmission of the measured values into a PC. The 8-channel configuration provides a signal bandwidth is dc to 95Hz/channel with 72dB dynamic range. A typical measuring accuracy of ±0.5 % (without sensor) is achieved. The CT8-Rotate has an ambient operating temperature range of -20 to 70°C. The transmission range between transmitting unit and receiver is up to approx. 250 m.

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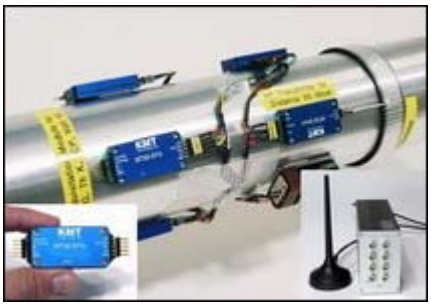
Distributed Telemetry

MT32
Mini Telemetry System up to 32 channels.

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 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 1m to the encoder module. The encoder output is a PCM bit stream signal which can be modulated for emission by a transmitter module for a distances of up to 50m.

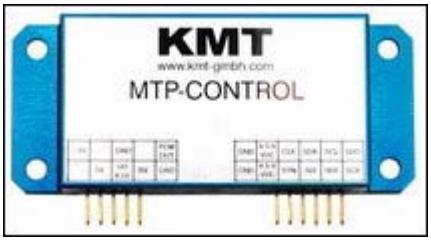
Suitable for wireless data transmisson rates of 40kbit/s up to 2560kbit/s.



MTP64
Mini Telemetry System up to 64 channels.

Modular Telemetry for rotating shafts

Rotating telemetry systems in various designs and functions are used for non-contact measurement and transmission of torque, acceleration and temperature on rotating shafts.
The programmable digital multi channel system MTP enables conditioning, digitisation and wireless transmission of up to 64 parallel signals. Each sensor module is equipped with signal conditioning, anti-aliasing filters, A/D-converters and digital output. All these up to 32 modules (32 modules = 64 channels) will controlled by an encoder module. The encoder output is a fast PCM bit stream signal which can be transferred either inductive for small distances or modulated for emission by a RF-transmitter module for a distances of up to 50m and useable data transmission rates of up to 2500kbit/s.



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