

D^x - Top Class Digital Telemetry



The new digital telemetry system D^x - one toolkit for many specifications

For wireless transmission of measurement data from rotating devices to a stationary data processing unit a suitable telemetry system is needed, which basically consists of two modules: the signal conditioning transmitter (SCT) and the receiver control interface (RCI).

In the SCT, analog sensor signals are digitized and radio-transmitted to the RCI, where they can be either accessed at the analog output or as digital CAN messages.

Due to economic pressure, short setup times and easy handling are essential for efficient measuring:

The D^x with its remarkably low energy consumption, its numerical display of measurement data in physical units, its digital remote control of measurement ranges and autozero offers convenient measuring as required in modern test engineering.

Up to six analog inputs per sender unit: strain gauges, temperatures, analog signals, freely programmable

All-over sampling rate: up to 4.8 kHz (16 bit)

Synchronous data collection and processing of up to 4 sender units (SCTs)

Transmission and display of temperature and battery power at the measuring point

Worldwide authorization-free operation of the wireless connection (2.4GHz band)

Integrated standard interfaces: Analog, CAN, Ethernet

Convenient parametrization by our RemusLAB software

Mechanics: heat- and impact-resisting Peak housing

Plated-through soldering connection points: No more soldering pads coming off!

SCT dimensions/weight: 44x24x10mm, approx. 14 grams

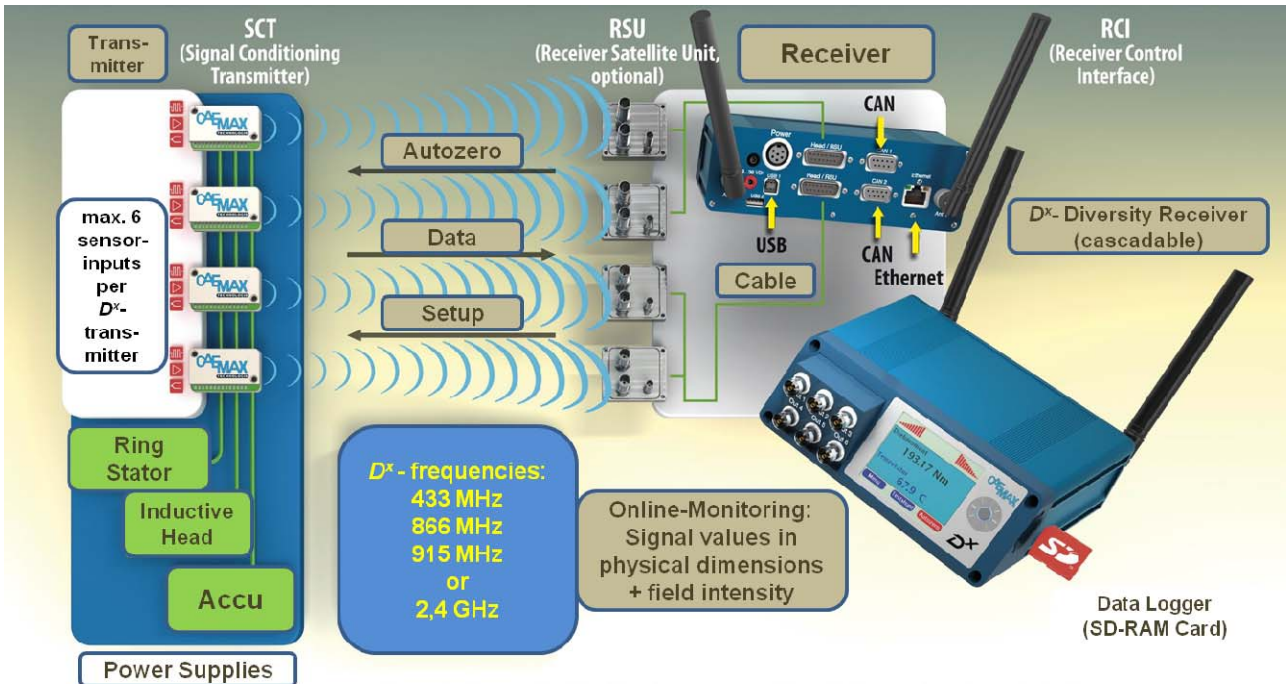
Power supply: +9 to +36 V/DC, ring stator or inductive head



Radio transmission in license-free frequency bands

Measurement data can be radio-transmitted within different ISM frequency bands — in the 433 MHz, 866 MHz or the 2.4 GHz frequency band (please specify when ordering).

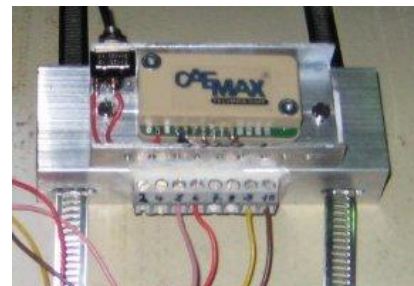
Within the chosen frequency band, any desired frequency can be selected by the operator. The 2.4 GHz frequency band, extensively used in wireless communication via WLAN and Bluetooth, may be used worldwide without official authorization. So, also in the far east, lengthy approbation procedures remain a thing of the past.



D^x sender module (SCT)

CAEMAX's new telemetry sender SCT may either be supplied by battery or alternatively by the ring stator RX1 or an inductive head.

Proper mounting - as seen in the sketch on page three - is crucial for effective energy transmission. To match the individual features of each mounting site, CAEMAX offers competent advice for mechanical adaptation.



Moreover, CAEMAX offers clean room application of strain gauges as well as optimal calibration at the company's test benches.

D^x satellite receiver (RSU)

With bad transmission conditions due to reflections, shadowing etc., the bar antennas can be replaced by two satellite receivers that reliably transmit the data to the RCI. Data synchronicity is preserved even under these conditions. The satellite receivers may be placed up to 30m away from the RCI.



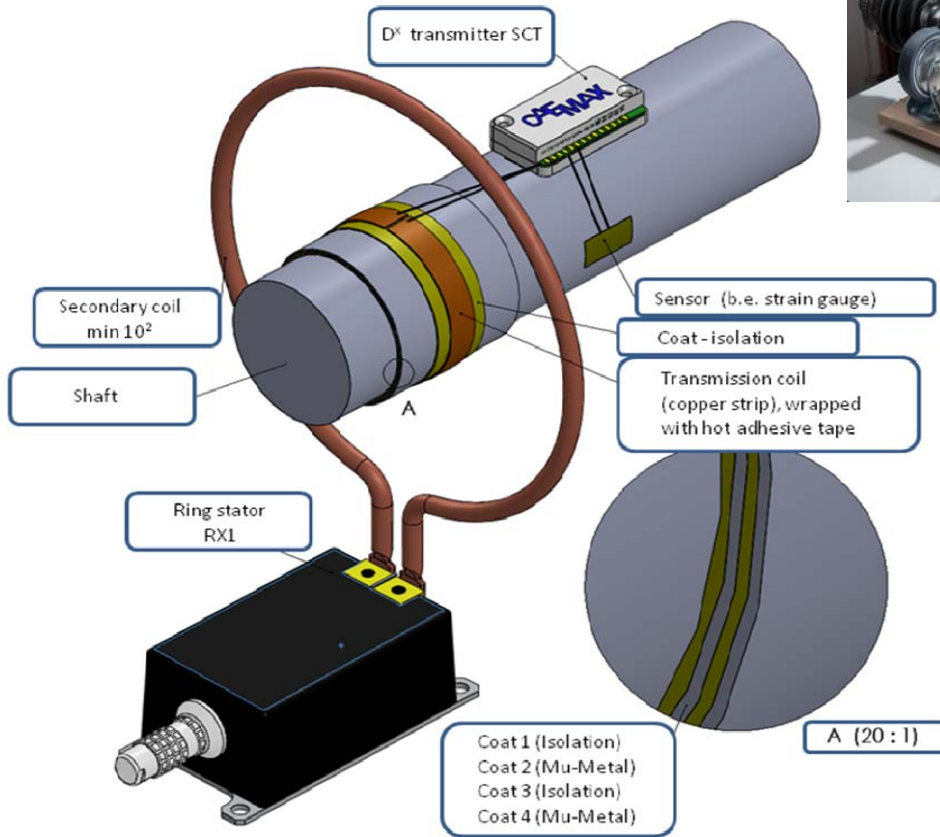
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Power supply of a D^x sender by a ring stator



As data transmission of the D^x is completely independent of power supply, the ring stator (or alternatively the inductive head) may be placed at any arbitrary place along the axle. Due to a built-in DC/DC converter in the sender, the quality of the power supply is of secondary importance.

D^x special housing for automotive applications

For temperature and/or torque measurements with vehicles, CAEMAX offers custom-built watertight housings with easy mounting on arbitrary rims.



D^x mirror antenna

For driving experiments in public traffic, an inobtrusive design of the measurement system is advantageous. For these conditions, CAEMAX has developed a smart elastic haltering system with which the antennas are attached to the wing mirrors of the vehicle.



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D^x connection panel for convenient testing

With the D^x connection panel, especially developed for convenient testing, the SCTs can be tested and programmed very quickly - without soldering!

Experience in practice

Experience with a number of practical applications has shown that the D^x telemetry system allows a very quick putting into operation. One reason for this is the already integrated SCT antenna, another reason is the utterly flexible and simple mounting of the optional receiver antennas.



Due to customer-oriented programming and configuration, measurement data are available right after power-on. By aids of the online display and the status bars for power supply and transmission quality, it is possible to check the system for functionality irrespective of data acquisition. Due to webserver technology for configuration, installation of a special parametrization software is unnecessary. Users can immediately operate the system!

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