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 **DEWESoft®**
7 YEAR WARRANTY

NEW WORLD OF APPLICATIONS

POWER ANALYSIS

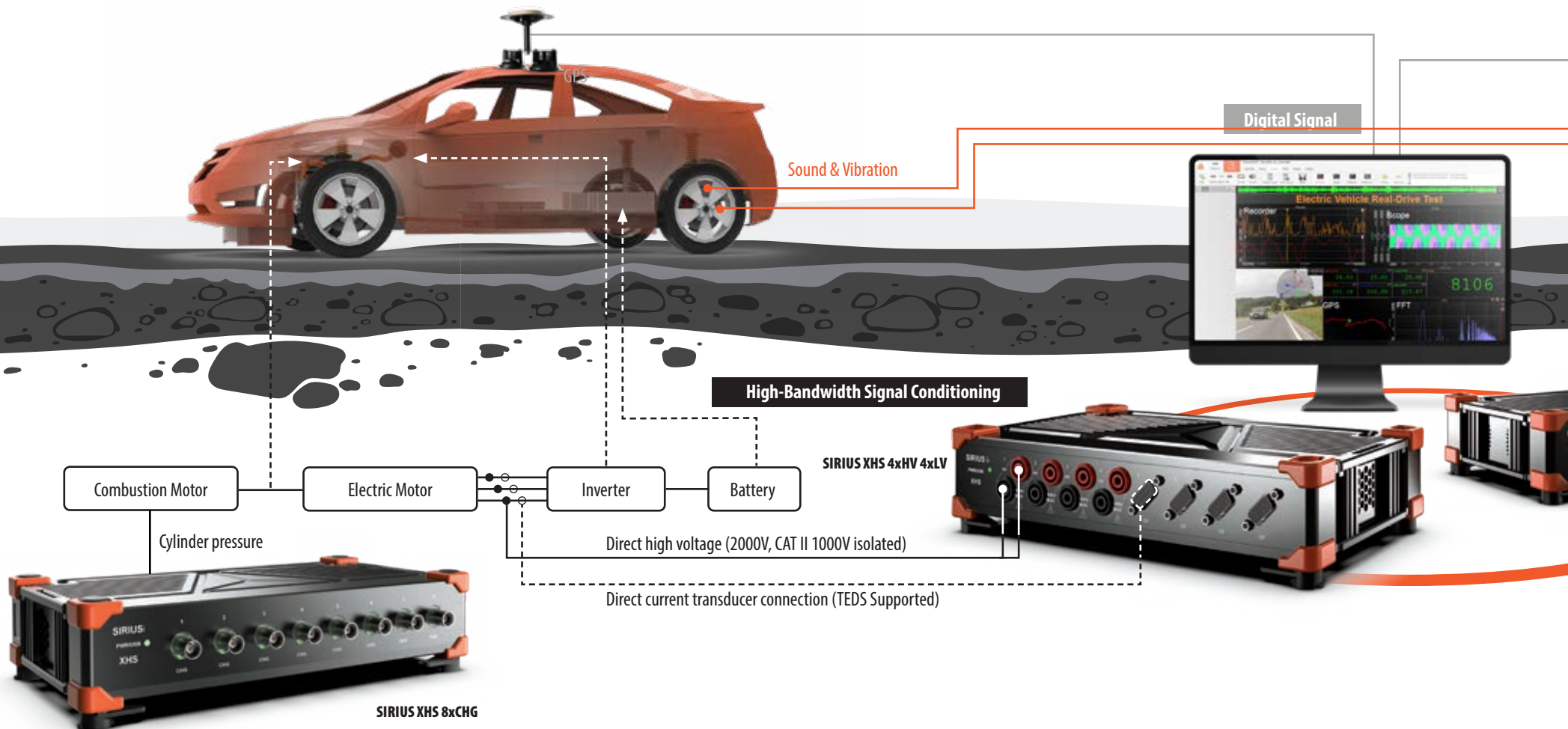
The SIRIUS XHS is the perfect next-gen power analyzer and power quality analyzer device with the highest measurement accuracy.

DewesoftX data acquisition software will automatically calculate and store not only raw data from the voltage and current transducers but also all the power parameters: P, Q, S, Cos ϕ , power factor, P, Q, cos ϕ for each harmonic and other relevant power parameters.

Using the high computational performance capability from the computer's GPU, the DewesoftX Power Module can calculate all the power parameters at full speed up to 15 MS/s sampling rate per channel.

The special SIRIUS XHS-PWR DAQ device is specifically designed for in-vehicle electric power measurements. It features an integrated patented DC-CT current transducer that allows

very precise current measurements even in the most demanding applications such as very high current peaks or leakage current measurement.

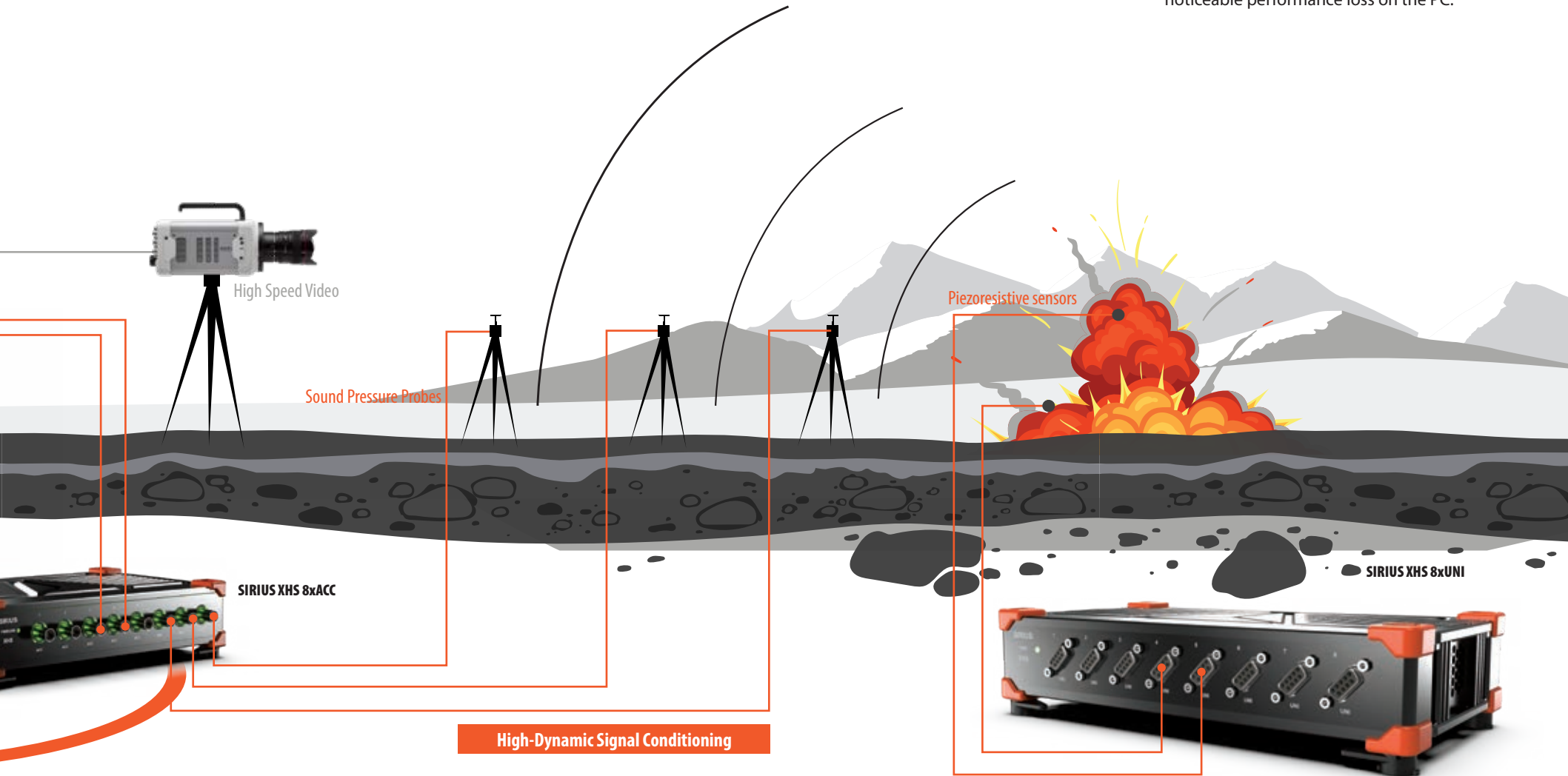


TRANSIENT RECORDING

The ability to record transients with advanced triggering capabilities and a high analog bandwidth ensures that the high-speed transients from voltage, current and pressure probe sensors.

HIGH SPEED DATA RECORDING

With improved performance the DewesoftX software allows for full range data storage. The DewesoftX software is designed to enable GPU computation, this ensures that sampling can be done at full speed (15 MS/s) with no noticeable performance loss on the PC.



TECHNOLOGY AND KEY FEATURES

HYBRID ADC TECHNOLOGY

Hybrid ADC offers everything you ever wanted out of a high-end data acquisition system. High bandwidth and high dynamic mode available software selectable per channel.

HIGH BANDWIDTH MODE

This mode offers more than 5 MHz bandwidth and 15 MS/s sampling rate, SIRIUS XHS can perfectly acquire impulse, step, and square signals without any ringing or overshoot. Such an acquisition mode is perfect for transient recording and power analysis - and is usually found in SAR ADCs.

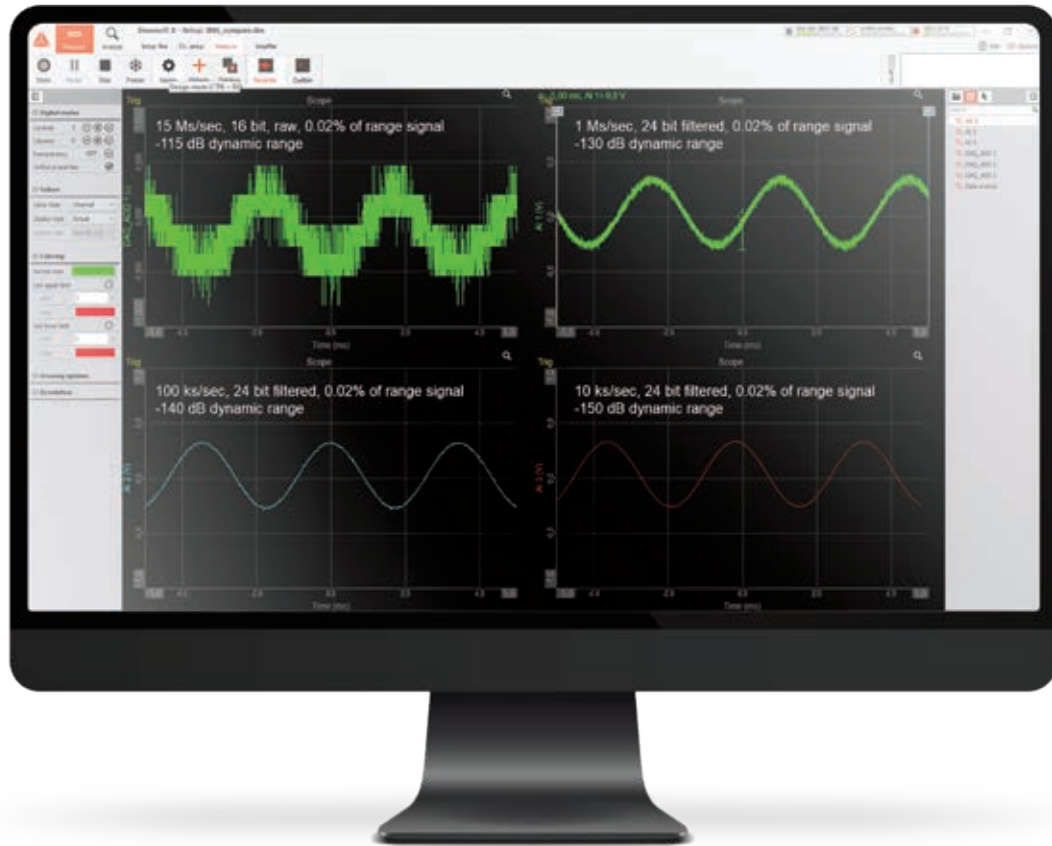
ALIAS FREE MODE

Lets you acquire up to **2 MS/s** with an extremely high dynamic range, similar to that of our **SIRIUS DualCoreADC** devices. The data is totally alias-free, so all higher frequencies are fully rejected. This is perfect for sound, vibration and general data recording applications. Such operation is typically found in Sigma-Delta ADCs.

By today's standard, you would need two totally separate data acquisition devices for the mentioned measurements and applications. But the new SIRIUS XHS data acquisition system allows you to select per channel, depending on the measurement application, the appropriate mode of data acquisition.

HIGH GALVANIC ISOLATION

High channel-to-channel and channel-to-ground isolation prevents damage to the systems from excessive voltage and avoids ground loops.



SIRIUS XHS is the first device ever with Hybrid ADC technology capable of doing both high bandwidth transient recording and very high dynamic alias free acquisition - software-selectable per channel. Modern interfaces and protocols gives you open and flexible connectivity.

VARIETY OF AMPLIFIERS

High voltage amplifiers that can measure 2 kV peak directly. Low voltage amplifiers for connecting almost any current sensor. ACC and CHG amplifiers for connecting high speed accelerometers and pressure sensors. UNI amplifiers for various applications including IEPE and high dynamic strain gauge measurements and DSI adapters support.

SIRIUS XHS HAS TWO WAYS OF TRANSMITTING DATA TO THE PC:

Ethernet interface (GLAN RJ45)

is intended for distributed data acquisition

USB 3.0 (type C connector)

is intended for very high-speed transmission.

The system is acquiring the data with a very low CPU load. We are using DMA transfer on the system level to reduce loads. In today's world of open tool chain and intercommunication, devices should be compliant with standard protocols. SIRIUS XHS can serve acquired data via these standard protocols, all in parallel.

USB 3.0 (type C) or
Ethernet (1 Gbit GLAN RJ45)



Data via XCP to:
ECU calibration software like
ETAS INCA or Vector CANape

XCP

starting with version 1.4, XCP became a very powerful interface protocol for data exchange in the automotive industry. In the modern age of e-mobility, the required sampling rates are much higher than ever and 1 Gbit XCP interface allows for data transfers up to 1 MS/s.

in parallel



Data via OPC UA to:
Dewesoft X
Time-series DB, Cloud, SCADA

OPC UA

is the industry standard. Actually, it is more than a standard, it is a perfect framework to describe and set up a device in any system, including SCADA, MES, ERP, mobile devices, and others.



SMALLEST FORM FACTOR

With the standard SIRIUS sized chassis you can easily carry the SIRIUS XHS in your backpack along with your laptop for field measurements.

PERFECT SYNCHRONIZATION

Even though you can select some channels to be high bandwidth and some to be alias-free, filtering is designed in such a way that all signals are perfectly time aligned with zero phase shift. Multiple devices can be synced together using the PTP or IRIG synchronization method.

SOFTWARE INCLUDED WITH FREE LIFETIME UPGRADES

Data acquisition systems come bundled with DewesoftX data acquisition software - including lifetime free software updates and technical support.

SIRIUS XHS SPECS

SIRIUS XHS data acquisition systems come with high galvanic channel-to-channel and channel-to-ground isolation (up to CATII 1000V), and even includes isolated sensor excitation.



SIRIUS XHS UNI

Universal module available for high-dynamic low voltage, strain and resistance and IEPE measurements. With voltage (up to 24 V) and current (up to 100 mA) sensor power supply and DSI adapter compatibility, it is suitable for almost any application.



SIRIUS XHS HV

Highly isolated CATII 1000 V input. It can directly measure from 200 V to 2000 V peak range at >5 MHz bandwidth with down to 0.03 % accuracy. This amplifier is perfect for connecting high voltage signals directly.

SIRIUS XHS LV

Highly isolated voltage input. It can directly measure from 0.05 V to 100 V range at >5 MHz bandwidth, with down to 0.03 % accuracy, and sensor excitation. This amplifier is perfect for a direct connection of low voltage signals and current transducers.

SYSTEM SPECS

Power

Power Supply	9 - 48 V DC
Power consumption	Typ. 30 W

Environmental

Operating Temperature	-10 to 50 °C
Storage Temperature	-40 to 85 °C
Humidity	5 to 95 % RH non condensing @ 60 °C
IP rating	IP20

Shock & Vibration	Shock (EN 60068-2-27:2009) 75 g, 6 ms, half-sine (25x pos./neg in each axis) Random Vibration (EN 60721-3-2: 1997 - Class 2M2) Sweep sinus Vibration (EN 60068-2-6:2008)
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Interfaces

Ethernet	1 GbE (XCP, OPC UA) incl. IEEE1588v2 synchronization (PTP) (RJ45)
USB	USB 3.0 (Type C)
CAN	CAN 2.0, CAN-FD (DSUB9)

Sync Input/Output

Level (Input/Output)	TTL compatible
Max. Output Current	±24 mA (±50 mA for 1 sec)
Max. Sync-cable length	100 m (Master/Slave), 200 m (IRIG)

	XHS-HV	XHS-LV	XHS-UNI
Connectors	BANANA	DB9, BNC	DB9
Channels per slice	8	8	8
Data rate / channel	15 MS/s	15 MS/s	15 MS/s
ADC type	Hybrid ADC - alias free up to 2 MS/s, 16-bit up to 15 MS/s		
Bandwidth	5 MHz	5 MHz	5 MHz
Voltage ranges	±2000 V ... ±200 V	±100 V ... ±50 mV	±100 V ... ±50 mV
Input coupling	DC	DC, AC 1 Hz	DC, AC 0.1 Hz, AC 1 Hz
Sensor excitation	-	2.5..30 V bipolar, 2..24 V unipolar, max. 0.2 A / 2 W	Voltage: 0.05 .. 24 V bipolar, 0.1 .. 24 V unipolar; Current: 100 µA - 100 mA, IEPE
Bridge connection	-	-	✓
IEPE input	-	DSI-ACC	✓
Temperature (PTx)	-	DSI-RTD	✓
Thermocouple	-	DSI-TH	DSI-TH
LVDT	-	DSI-LVDT	DSI-LVDT
Charge	-	DSI-CHG	DSI-CHG
Current	-	ext. shunt DSI20mA, DSI5A	ext. shunt DSI20mA, DSI5A
TEDS	-	✓	✓
Isolation voltage	CATII 1000 V	420 Vdc (300 Vacrms)	420 Vdc (300 Vacrms)
Power consumption per channel	1 W/ch	1.2 W/ch	2 W/ch
Advanced functions	High voltage, high bandwidth, high isolation	High sensor excitation and multi range	Sensor error detection, high speed



SIRIUS XHS ACC

With very high bandwidth this amplifier can acquire data from pressure probes, accelerometers and microphones with very high dynamic and very high bandwidth.



SIRIUS XHS CHG

Charge amplifier that serves broad range of applications, such as combustion engine analysis with high bandwidth (>5 MHz) or road load data with long time constant (DC coupling) and high charge input range (up to 500000 pC). Also supports IEPE and Voltage input mode.



SIRIUS XHS WITH DIGITAL COUNTERS

Conveniently located on the back panel of the SIRIUS® XHS instrument, the counter inputs ensure easy accessibility and seamless connection of all sorts of counter and encoder sensors via the LEMO 1B 7-pin female connectors.

SIRIUS® XHS counter inputs support Event counting, Waveform timing, as well as Encoder, Tacho and Geartooth mode.

Each counter channel comes with three standard inputs (A, B, Z) necessary for encoder applications. It also provides +12 V and +5 V for sensor supply, along with digital output for alarming and fast triggering.

Apart from the standard Supercounter, there is a Supercounter with Variable trigger option providing adjustable trigger level.

SIRIUS XHS SPECS

	XHS-ACC	XHS-CHG
Connectors	BNC	BNC
Channels per slice	8	8
Data rate / channel	15 MS/s	15 MS/s
ADC type	16-bit (24-bit @ 2 MS/s)	16-bit (24-bit @ 2 MS/s)
Bandwidth	5 MHz	5 MHz
Voltage ranges	±10 V ... ±200 mV	±10 V ... ±100 mV
Input coupling	DC, AC 0.1 Hz, AC 1 Hz	DC, AC 0.1 Hz, AC 1 Hz
Sensor excitation	IEPE 2 mA, 4 mA, 8 mA, 12 mA, 16 mA, 20 mA	IEPE 2 mA, 4 mA, 8 mA, 12 mA, 16 mA, 20 mA
Bridge connection	-	-
IEPE input	✓	-
Temperature (PTx)	-	-
Thermocouple	-	-
LVDT	-	-
Charge	-	✓
Current	ext. shunt	ext. shunt
TEDS	✓	✓
Isolation voltage	-	100 Vdc (100 Vacrms)
Power consumption per channel	1.3 W/ch	
Advanced functions	Sensor error detection, high speed	High-bandwidth and DC charge

COUNTER SPECS

Counter Input

Input Channels (See 1)	8
Modes	Event counting, waveform timing, encoder, tacho, geartooth,...
Counter timebase	150 MHz
Time base accuracy	Typical: 0.5 ppm, Max: 2 ppm
Max. Bandwidth	15 MHz
Max. Sampling Rate	5 MS/s
Input Filter	Off, 500 ns, 1 µs, 2 µs, 4 µs, 5 µs and 7.5 µs
Counter resolution	32-bit
Input Compatibility, Level	3.3 V TTL/CMOS (Low: <0.8 V, High >2 V)
Input Protection	±25 V continuous
Input termination, impedance	100 kΩ pull-up to +3.3 V

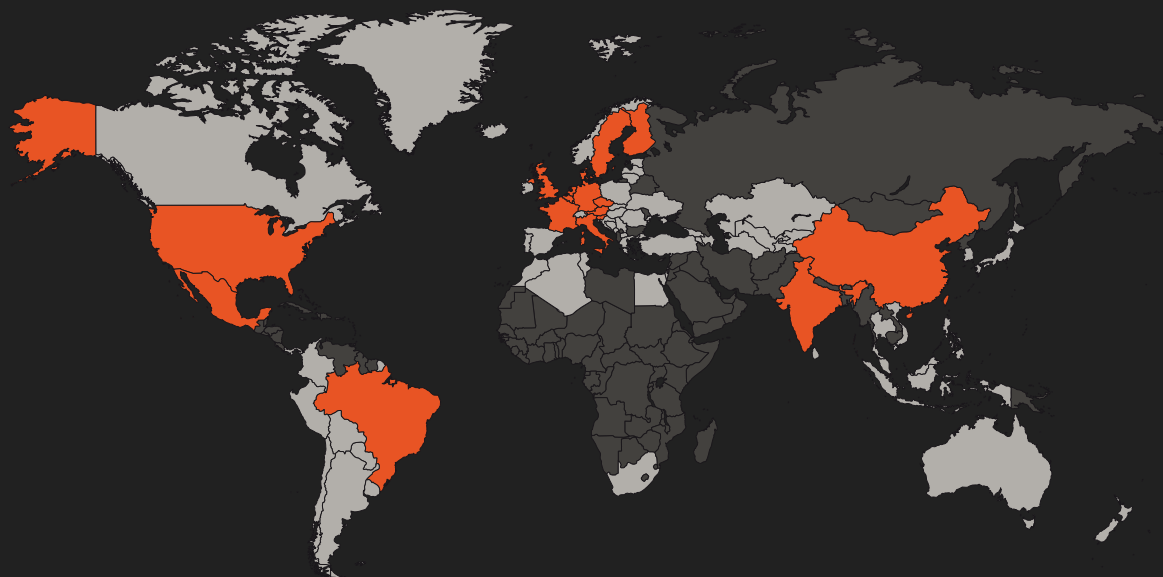
Digital Output

Output Channels	8 connectors, 1 line per connector
Output	5 V digital output
Maximum current	32 mA
Output series resistance	50 Ω

Sensor Power Supply

Output Voltage +5 V	5 V +/- 10 %, 500 mA typ. Output short protected (Shared between 8 ports)
Output Voltage +12 V (See 2)	12 V +/- 10 %, 300 mA typ. Output short protected (Shared between 8 ports)

- 1) Digital Inputs on Counter (individual A, B, Z input) can be used only for Trigger condition
- 2) Maximum 3x DS-TACHO4 laser probes supported.



DEWESOFT® WORLDWIDE: SLOVENIA, Austria, Belgium, Brazil, Czech, China, Denmark, Finland, France, Germany, Hong Kong, India, Italy, Mexico, Singapore, Sweden, UK, USA and PARTNERS IN MORE THAN 50 COUNTRIES

HEADQUARTERS

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