NEW!

SIRIUS Overview

Let`s get SIRIUS!

The new hardware generation makes your measurement more precise!

SIRIUS from Dewesoft

**NEW dual ADC**

Dual core Input

This new technology solves the often faced problem that the signal is just much higher than expected and therefore clipped. Dewesoft DUAL CORE ADC technology always gives you the full possible measuring range, because the signal is measured with a high and a low gain at the same time! The user doesn´t need to care about the range anymore. The dynamic range is far beyond 100 dB!

Digital Isolation
600V RMS
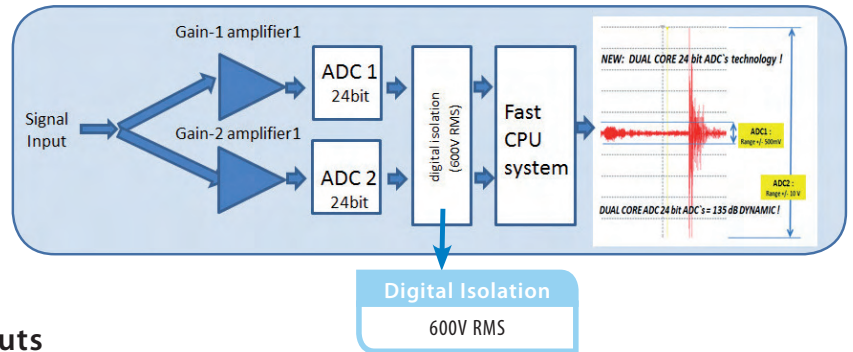
NEW realtime counter

### Real-time counter / digital inputs

There are 2 typical counter functions: the gated measurement (high frequency range typ. > 100 Hz) or pulse width measurement (low frequency range typ. < 100 Hz). Many applications need both: the counter information and the analog data. Traditional systems do not offer the counter information synchronized to the A/D converters, because they get the counter information only either after the gate time or after the pulse time measured. In comparison to standard counting with software interpolation (value 1.5 in the example image) **Dewesoft real-time counting** uses an additional counter to get the exact time of the rising edge of the signal. This unique feature allows the calculation of the exact counter value at the A/D sample point (value 1.87 in the example).
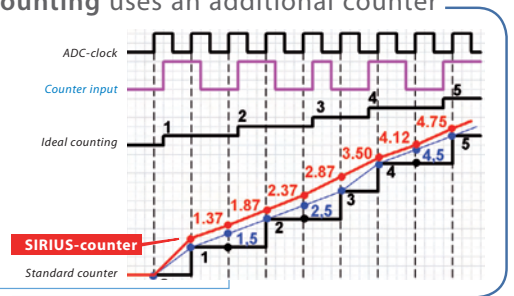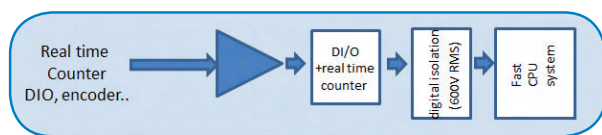
NEW multiple analog output

24 bit analog output, or function generator, programmable voltage and current supply

In addition to the programmable voltage or current power supply for all sensors on the market, the SIRIUS MULTI module also offers the analog output function of the conditioned input signal, or even additional mathematic functions, often used for redundant data acquisition systems. These functions can also be used as a function generator to drive a shaker for the structural analysis function (FRF)

- Sensor supply, voltage or current
- Analog out, or function generator
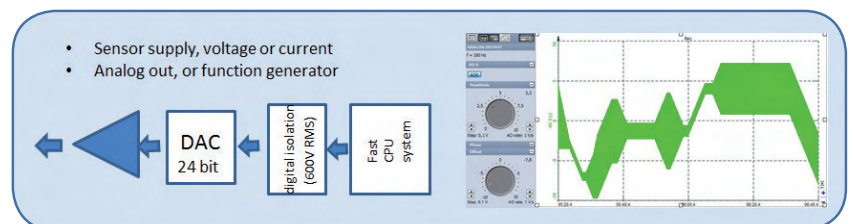
Analog, digital, counter, Bus systems, video ... all synchronized in- and outputs!

SIRIUS Overview

NEW!

- ANY SIGNAL ANY SENSOR !
- SCALABLE from 8 to 1000 Channels
- No limitation whatever channel - count is used
- Input protection – optical ±1000 V ISOLATION
- Highest measurement precision using DUAL CORE 24 bit ADCs
- NO over range!
- Sampling rate 200 kS/s each channel synchronous
- Anti aliasing filters
- Programable analog outputs
- Smart real time counters synchronous
- Predefined modules or customized modules with any channel configuration any input connector!
- CAN bus synchronous

Choose your system 8, 16, 24, 32 or customized channels/chassis
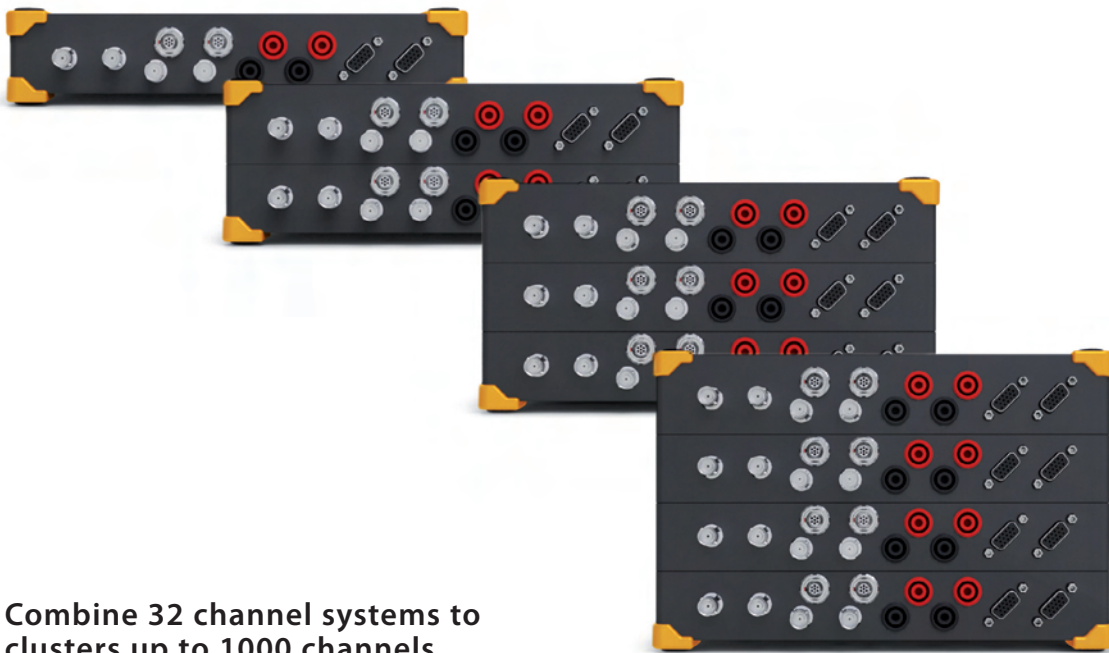
Combine 32 channel systems to clusters up to 1000 channels

192 channel fully-sample-**synchronized** data acquisition system
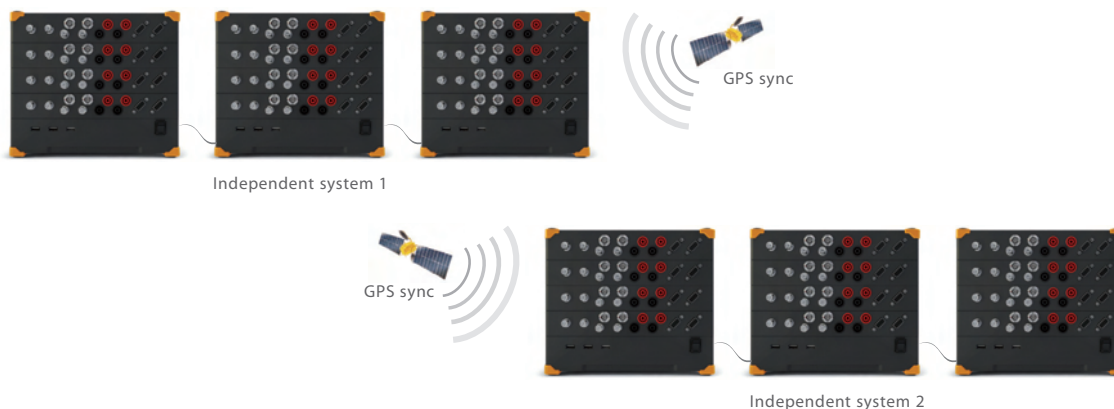
GPS sync

Independent system 1

GPS sync

Independent system 2

Analog, digital, counter, Bus systems, video ... all synchronized in- and outputs!

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NEW!

SIRIUS configuration

Choose your system configuration:

SIRIUS USB chassis with an external PC

SIRIUS is an USB data acquisition device. It has eight isolated input/output channels. Each base board of the SIRIUS can hold 8 standard amplifiers (modules), which are:

- ACC: for sound and vibration IEPE channels
- MULTI: multipurpose analog in/out and digital/counters
- HV: high voltage inputs
- STG: strain measurements

The chassis have a 6-36 V power supply and an additional CAN interface on the back side.

Multiple chassis can be combined and synced together to get a multichannel solution. By using sync connectors, the SIRIUS modules can also be combined with non isolated DEWE-43 devices or DS-CAN2 devices.

8 channel USB chassis...

8-channel modules can be combined to a 32 channel system with an external sync. and power box. Each of these 8 channel systems can be used as individual measurement systems or as a single fully synchronized 32 channel system.

General specs per chassis	
Number of measurement channels per chassis	8
Analog Inputs	Depending on the module: voltage, high voltage, bridge, IEPE, temperature…
Input isolation	600 V RMS to ground on all modules
CAN bus	
Number of ports	1
Interface type	CAN 2.0B, up to 1 MBit/sec
Special applications	OBDII, J1939, CAN output
General specifications	
Power supply	6-36 V DC
Maximum power consumption	30 W
Interface	USB 2.0 interface
Physical dimensions	220x130x40 mm
Weight	1000 g
Operating temperature	-20 to 50° C
Storage temperature	-40 to 85° C
Humidity	95% RH non condensing @ 60° C

...or 32 channel USB chassis...

Dewesoft also offers a single 16/24/32 channel USB SIRIUS system. Here only ONE USB interface on your PC/laptop is required.
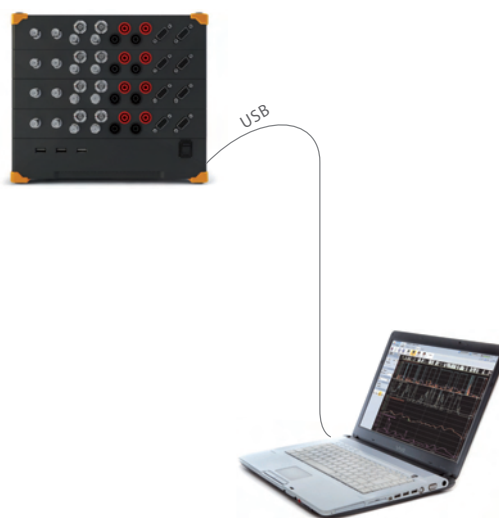
PS & Sync

USB

USB

USB

USB

USB

Analog, digital, counter, Bus systems, video ... all synchronized in- and outputs!

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PWM

SIRIUS configuration

NEW!

Choose your system configuration:

S-BOX (embedded PC) with up to 4 SIRIUS chassis

With the S-BOX Dewesoft SIRIUS becomes an up to 32 channel system including an i7 embedded PC running DEWESoft™ Software. It can be set to hold 1 to 4 SIRIUS chassis to get 8, 16, 24 or 32 channels. Each input channel can be chosen from the standard range of SIRIUS modules.

The standard configuration of the PC is an i7 processor, 4 GB RAM and a 64 GB removable solid state disk. The operating system is stored on an internal 8 GB flash-disk, so removing the hard drive with valuable information is easy. The GLAN and WLAN modules provide good connectivity between instruments while seven USB and one VGA connector complete the system. If you need more channels simply connect multiple systems via GLAN and sync to get a system of up to 1000 channels and more. Each system can be used independently or can be combined for bigger measurement tasks.

When using the DEWE-NET option, each 32 channel PC has more than enough power for most demanding math operation since the load of calculation is distributed among the computers. With this system configuration performance problems belong to the past!

S-BOX supports also 1 Hz or 100 Hz GPS receiver with real time Kinematic option for down to 2 cm accuracy.

General specs	
Number of measurement channels per system	8, 16, 24, 32
Up to four chassis for	SIRIUS ACC8, MULTI8, STG8, HV8 or customized
Interfaces	5xUSB, VGA, GLAN, WLAN, 2xsync
Dimensions	PC only: 210x160x50 8 channels: 210x160x90 16 channels: 210x160x140 24 channels: 210x160x190 32 channels: 210x160x240
Operating temperature	-20 to 50° C
Power-up temperature	0 to 50° C
S-BOX specs	
CPU	i7 2.0 GHz
Chipset	Intel QM57
RAM	4 GB
HDD	8 GB internal flash + 64 GB removable SSD

...or a 96 channel SIRIUS data acquisition system?

Ethernet Synchronization Ethernet Synchronization

Analog, digital, counter, Bus systems, video ... all synchronized in- and outputs!

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SIRIUS module types

SIRIUS module types	ACC 8 isolated	ACC 8 non isolated	MULTI 8 isolated	MULTI 8 non isolated	STG 8 isolated	STG 8 non isolated	ACC 8+ CNT 2 isolated	ACC 8+ CNT 2 non isolated	HV 8 isolated
No of channels	8	8	8	8	8	8	8 + 2	8 + 2	8
Data rates / channels [Hz]	200 k	200 k	200 k	200 k	200 k	200 k	200 k	200 k	200 k
Vertical resolution	2 * 24 bit	2 * 24 bit	2 * 24 bit	2 * 24 bit	2 * 24 bit	2 * 24 bit	2 * 24 bit	2 * 24 bit	2 * 24 bit
Isolation voltage [V]	1 kV	-	1 kV	-	1 kV	-	1 kV	-	1.5 kV 4 kV peak
Input types									
Voltage	8 ch	8 ch	8 ch	8 ch	8 ch	8 ch	8 ch	8 ch	8 ch
Max. range	± 10 V ± 500 mV autorange	± 10 V ± 500 mV autorange	± 10 V ± 500 mV autorange	± 10 V ± 500 mV autorange	± 50 V ± 10 V ± 500 mV autorange	± 50 V ± 10 V ± 500 mV autorange	± 10 V ± 500 mV autorange	± 10 V ± 500 mV autorange	± 1000 V ± 50 V autorange
Input coupling	DC, AC 1 Hz	DC, AC 1 Hz	DC	DC	DC	DC	DC, AC 1 Hz	DC, AC 1 Hz	DC
IEPE/ICP Sensors	8 ch	8 ch			MSI option	MSI option	8 ch	8 ch	
Sensor supply per channel	4 or 8 mA, max 25 V	4 or 8 mA, max 25 V	programmable up to 10 V, 100 mW	programmable up to 10 V, 100 mW	programmable up to 20 V or 45 mA, 100 mW	programmable up to 20 V or 45 mA, 100 mW	4 or 8 mA, max 25 V	4 or 8 mA, max 25 V	
Bridge connection type			8 ch 2,3, 4,5, 6, wire connection	8 ch 2,3, 4,5, 6, wire connection	8 ch 2,3, 4,5, 6, wire connection	8 ch 2,3, 4,5, 6, wire connection			
Bridge completion programmable			full bridge, half bridge 1 kOhm quarter bridge 120 and 350 Ohm	full bridge, half bridge 1 kOhm quarter bridge 120 and 350 Ohm	full bridge, half bridge 1 kOhm quarter bridge 120 and 350 Ohm	full bridge, half bridge 1 kOhm quarter bridge 120 and 350 Ohm			
Short and shunt programmable			yes	yes	yes	yes			
Counter			8 ch	8 ch			2 ch	2 ch	
TEDS support	yes	yes	yes	yes	yes	yes	yes	yes	
Resistance					8 ch	8 ch			
Potentiometer			8 ch	8 ch	8 ch	8 ch			
Pt100, Pt1000					8 ch	8 ch			
Thermocouple					MSI option	MSI option			
Charge					MSI option	MSI option			
Output Signal									
Voltage (±10 V)			8 ch 200 kS/s	8 ch 200 kS/s					
CAN BUS	1 ch	1 ch	1 ch	1 ch	1 ch	1 ch	1 ch	1 ch	1 ch
Connectors									
BNC	8	8					8	8	
DSUB 15			8	8					
DSUB 9					8	8			
LEMO 7pin							2	2	
Banana									8

Analog, digital, counter, Bus systems, video ...
all synchronized in- and outputs!

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SIRIUS module types

NEW!

ACC module

Inputs	Voltage, IEPE
ADC type	24 bit sigma delta dual core with anti-aliasing filter (see section ADC)
Sampling rate	simultaneous 200kS/sec sampling rate
Input ranges	±10V, ±500mV, autorange
Input coupling	DC, AC 1 Hz
Input impedance	1 MOhm in parallel with 0.4 nF
Sensor supply	4 or 8 mA, max. 25 V
IEPE voltage range	4 to 19 V
IEPE voltage < 4 V:	Shortcut detection
IEPE voltage > 19 V:	No sensor detection
Bandwidth (-3dB)	50 kHz
Dynamic range	107dB@ ±10V range, 50 kHz rate 100dB@ ±500mV range, 50 kHz rate 135dB@ auto range, 50 kHz rate
Connector type	BNC
Input coupling	DC, AC (1 Hz filter)
TEDS support	Yes, for IEPE sensors
Supported TEDS chips	DS2406, DS2430A, DS2432, DS2433
Power consumption	Typically 0.8 to 1.0 W (depending on sensor)
Protection	60 V in+ to in-
Isolation (isolated version)	1 kV

Multi module

Inputs	Voltage, strain, counter, digital
ADC type	24 bit sigma delta with anti-aliasing filter (see section ADC)
Input ranges	±10 V, ±500 mV, autorange
Dynamic range	107 dB@ ±10V range, 50 kHz rate 100 dB@ ±500 mV range, 50 kHz rate 125 dB@ auto range, 50 kHz rate
Counters (we can use either counter or analog)	1 counter/3 digital input, fully synchronized with analog
Modes	counting, waveform timing, encoder, tacho, geartooth sensor
Bridge connection type	3, 4, 5, 6 wire connection
Overvoltage protection	±30 V input protection
Bridge completion	Full bridge, half bridge (1 kOhm resistors), quarter bridge (120 Ohm, 350 Ohm)
Sensor supply	Programmable 0-25 V, 5 V, 15 V fixed or 45 mA 100 mW
Short	software selectable
Shunt resistor	59 kOhm, 175 kOhm, software selectable
Analog outputs	1 channel 24 bit sigma delta 200 kHz
Connector type	DSUB15
TEDS support	Standard + MSI adapters
Isolation (isolated version)	1 kV optical

STG module

Inputs	Voltage, full bridge strain, half bridge strain, quarter bridge strain, potentiometer, RTD
ADC type	24 bit sigma delta dual core with anti-aliasing filter (see section ADC)
Sampling rate	simultaneous 200 kS/sec sampling rate
Input ranges	±50 V (2.5 V), ±10 V (500 mV), ±1V (50 mV), autorange
Connection type	3, 4, 5, 6 wire connection
Short	software selectable
Shunt resistor	59 kOhm, 175 kOhm, software selectable
Bridge completion	Half bridge, quarter bridge 120 Ohm, 350 Ohm
Sensor supply	Programmable 0 to 20 V or 45 mA 100 mW
Dynamic range	107 dB@ ±10V range, 50 kHz rate
	100 dB@ ±100 mV range, 50 kHz rate
	125 dB@ auto range, 50 kHz rate
Connector type	DSUB9
TEDS support	Standard + MSI adapters
Protection	IN+ to IN- line voltage
Isolation (isolated version)	1 kV

HV module

Inputs	Voltage
ADC type	24 bit sigma delta dual core with anti-aliasing filter (see section ADC)
Input ranges	±1000V, ±50V, autorange
Dynamic range	107dB@ ±1000V range, 50 kHz rate 100dB@ ±50V range, 50 kHz rate 125dB@ auto range, 50 kHz rate
Connector type	Banana plugs
Isolation (isolated version)	1.5 kV optical

any customized module combination

Analog, digital, counter, Bus systems, video ... all synchronized in- and outputs!

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