

DEWE-NET Devices

- High-speed data acquisition for laptops or workstations via Ethernet
- Online data transfer or local storing
- Data storage on DEWE-NET device and/or on remote computer
- Fast sampling rates up to 1 MS/s per channel
- Various models with up to 64 channels available



	DEWE-510-NET	DEWE-501-NET	DEWE-211-NET
DAQ / PAD amplifier slots	16	-	-
MDAQ amplifier input channels	-	Up to 64	Up to 16
Combined DAQ / PAD slots and MDAQ input channels	16 DAQ / PAD, up to 32 MDAQ (BNC only)	-	-
Internal conditioned channels	-	-	-
Int. PCI slots for ORION cards	3	3	1
Quasi-static channel expansion	EPAD interface Up to 16 EPAD2 = 128 ch	EPAD interface Up to 16 EPAD2 = 128 ch	EPAD interface Up to 16 EPAD2 = 128 ch
A/D conversion			
Sampling method	Simultaneous sampling		
Sampling rate	According to selected ORION card		
Resolution	According to selected ORION card		
Digital I/O, counters and CAN			
Digital I/O	8, TTL level optional more, according to selected ORION cards		8, TTL level
Counters / digital inputs	2 counters or 8 digital inputs, TTL level optional more, according to selected ORION card(s)		
High-speed CAN bus interfaces	Up to 4, optional	Up to 4, optional	Up to 2, optional
Data storage ¹⁾			
Technology	Hard disk	Solid State Disk	Solid State Disk
Capacity	1000 GB	32 GB	32 GB
Typ. duration of recording (16 ch. / 10 kS/s/ch. / 16 bit)	35 days	1 day	1 day
Data throughput ²⁾	Typ. 70 MB/s	Typ. 40 MB/s	Typ. 40 MB/s
Main system ¹⁾			
Ethernet interface	1 GBit LAN (2x)	1 GBit LAN	1 GBit LAN (2x)
Processor	Intel® Core™ i5	Intel® Core™ i5	Intel® Core™ i5
Power supply			
Standard (max.)	90 to 264 V _{AC}	Battery powered, ~2 hrs. operation, incl. ext. AC power supply	8 to 30 V _{DC} ¹⁾ incl. ext. AC power supply
Optional	Battery powered, ~2 hrs. operation, incl. ext. AC power supply	External DC power supply	Stackable battery-pack for ~2 hrs. operation with wide range DC inp.
Dimensions			
Dimensions (W x D x H)	439 x 308 x 181 mm (17.2 x 12.1 x 7.1 in.)	439 x 209 x 181 mm (17.2 x 8.2 x 7.1 in.)	317 x 252 x 92 mm (12.4 x 9.9 x 3.6 in.)
Weight	Typ. 8 kg (17.6 lb.)	Typ. 6 kg (13.2 lb.)	Typ. 5 kg (11 lb.)

¹⁾ Please find current specifications in the latest price list
²⁾ Depending on configuration setup

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Additional interfaces and sensors

Measurements are not limited to just classic analog and digital signals. Please find further detailed information to expand your system in the chapter "Components".

Needed to complete the system

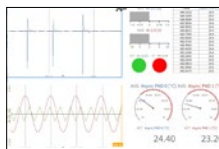
DEWE-ORION "A/D Boards" offer simultaneous sampled analog inputs, synchronous digital I/Os, high-performance counters and high-speed CAN interfaces. DAQP- or MDAQ signal amplifiers and software are needed as well.



A/D card



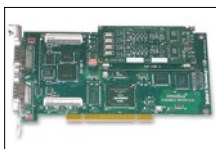
DAQP/MDAQ



Software

Options to expand the system

Add further "Interface Cards" like ARINC-429, 1553, PCM telemetry, FireWire and analog output or special "Sensors" like synchronized Video, industrial encoders (RIE-360) or GPS.



ARINC



VIDEO



VGPS

	DEWE-510-NET	DEWE-501-NET	DEWE-211-NET
510-DC-12V Power supply 9 to 18 V _{DC} (no internal battery), incl. external AC adaptor	✓	-	-
510-DC-24V Power supply 18 to 36 V _{DC} (no internal battery), incl. external AC adaptor	✓	-	-
510-PS-BAT Battery power supply with UPS function, 18 .. 24 V _{DC} non-isolated input, incl. external AC adaptor, 3 slots for hot-swappable batteries, 3 batteries for appr. 3 hours operation included, for DC operation always add DEWE-DCDC-24-300-ISO	✓	-	-
DEWE-DCDC-24-300-ISO External DC/DC converter with isolation, 9 to 36 V _{DC} input range, 24 V _{DC} output	✓	✓	-
DEWE-UPS-150-DC External 130 W UPS and multi-battery charger with 9 .. 36 V _{DC} input range 2 slots for BAT-95WH batteries, 2 batteries included	-	-	✓
BAT-95WH Spare Lithium-Ion battery, 14.4 V, 95Wh, max. 8A	✓	✓	✓
BAT-CHARGER-1 Desktop battery charger for 1 battery, incl. external AC adaptor	✓	✓	✓

Modes of Operation

DEWE-NET data acquisition units can be linked to a measurement network. There are three modes of operation:

- Single DEWE-NET device attached to a single client computer
- Multiple DEWE-NET devices attached to a single client computer
- Single DEWE-NET device attached to multiple client computers

With these three modes almost any application can be covered. From simple remote controlled data logging over distribution of computing power to distributed measurements over large distances – everything is possible.

Single DEWE-NET Device attached to a Single Client Computer

The DEWE-NET device usually is fully remote controlled by your computer. That means that the client computer 100 % controls the DEWE-NET device and e.g. starts storing. For live data view all or a selection of activated channels are transferred to the remote computer. Data can be stored on the NET device and on the remote computer. The DEWE-NET unit keeps acquiring and storing data if the client computer is disconnected. Of course the remote computer can be reconnected at any time and take full control of the device.

Multiple DEWE-NET Devices attached to a Single Client Computer

Mainly this mode is used in case of distributed systems, e.g. in long trains or on huge bridges.

A second good reason to use this mode is when the data rates are too high for a single instrument. The disk storing rate of different instruments ranges from 40 MS/s to 70 MS/s.

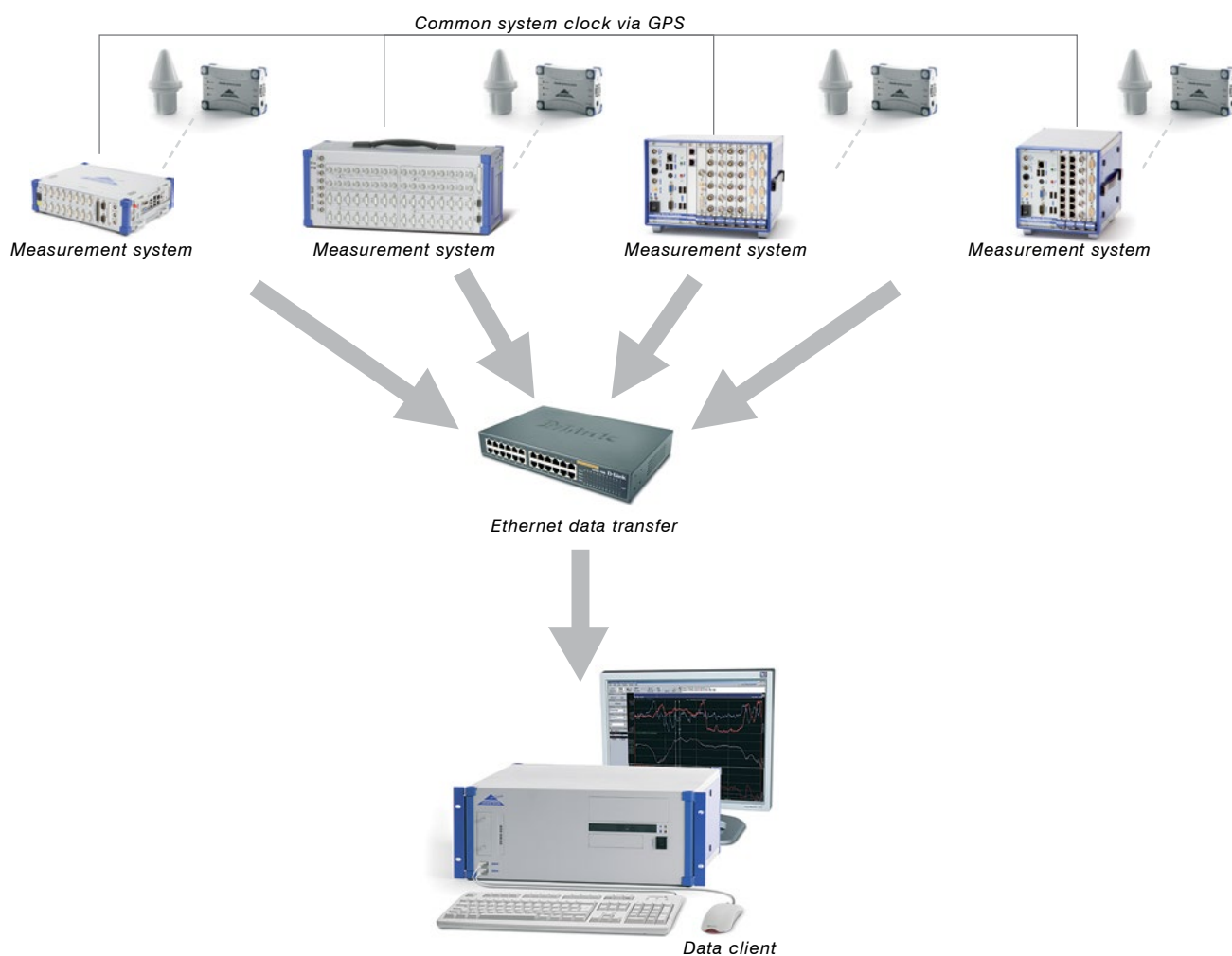
Example: Storing 64 channels, 16 bit resolution at 1 MS/s per channel results in 128 MB of data per second which is too much for a single device. The solution is using two 32 channel DEWE-NET devices and store 64 MB/s in each.

In such configuration all instruments must be synchronized to each other. There are multiple choices:

- Synchronization cable (limited length, depending on sampling rate and A/D technology, range from 30 m to 200 m)
- IRIG time (requires DEWE-CLOCK sync interface)
- GPS time (requires DEWE-CLOCK sync interface)
- NTP, Network Time Protocol (requires a LAN time server)

Also in this configuration all or selected channels of the whole measurement network can be transferred to the remote computer.

Of course multiple computers can connect to the network in a „view“ mode.

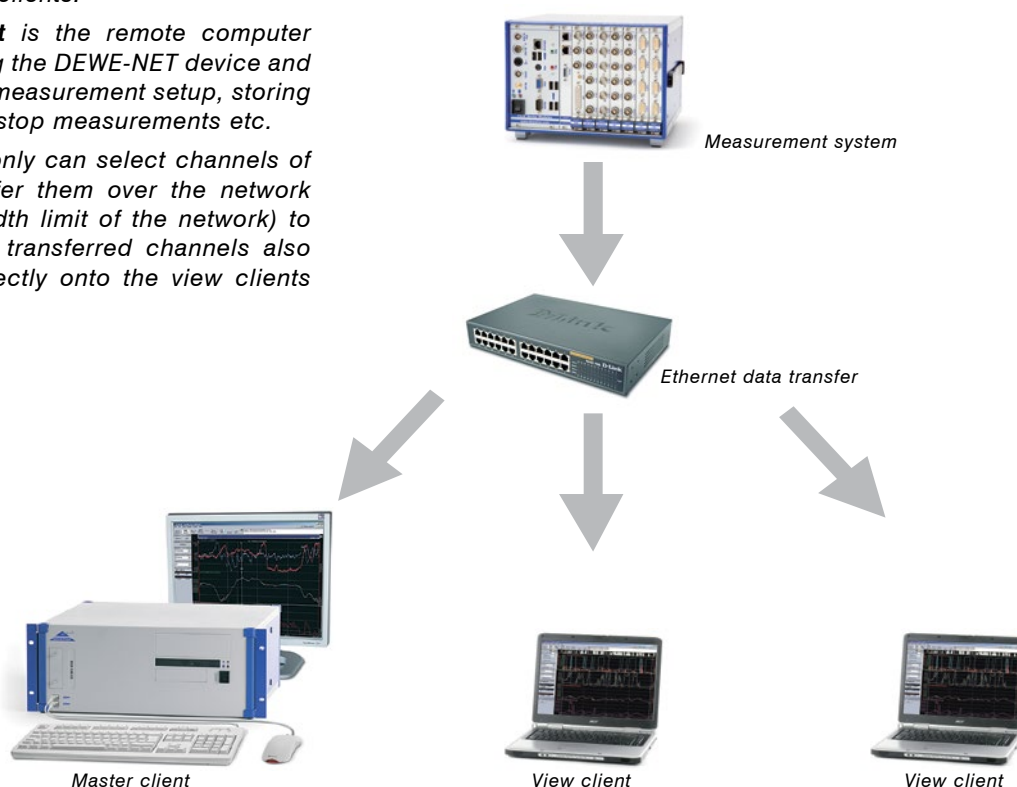


Single DEWE-NET Device attached to Multiple Client Computers

In this mode there is one DEWE-NET device controlled by one "master" client and there are several "view" clients.

The **master client** is the remote computer which is controlling the DEWE-NET device and e.g. changing the measurement setup, storing strategy, start and stop measurements etc.

The **view clients** only can select channels of interest and transfer them over the network (up to the bandwidth limit of the network) to view the data. All transferred channels also can be stored directly onto the view clients hard disk.



Models

DEWE-510

Most flexible model, prepared for DAQP isolated analog input amplifier modules. DAQP conditioners offer highest bandwidth, great accuracy, different input ranges and integrated filters. Besides the single channel modularity – a module easily can be changed by the user at any time – the main advantage of these modules is the high galvanic isolation which ensures safe measurements, high quality results and make them almost indestructible. See chapter “Signal Conditioning” for details.



DEWE-510

DEWE-511

There are two versions, DEWE-511-A and DEWE-511-B. Both are for sensor input via differential MDAQ analog input amplifiers. MDAQ modules are available in cost efficient and space saving 8-channel blocks. See chapter “Signal Conditioning” for details.



DEWE-511-A



DEWE-511-B

DEWE-512

This version combines 16 slots for isolated DAQP modules and 2 positions for differential MDAQ blocks. Thus it enables you configuring a cost optimized system that needs isolated inputs, e.g. high voltage signals, and a number of differential inputs, e.g. accelerometers.

Note that only MDAQ-SUB-x-BNC fit into this model due to limited space of 1.5U.



DEWE-512

DEWE-501

There are two versions, DEWE-501-A and DEWE-501-B. Both are for sensor input via differential MDAQ analog input amplifiers. MDAQ modules are available in cost efficient and space saving 8-channel blocks. See chapter “Signal Conditioning” for details.



DEWE-501-A



DEWE-501-B

DEWE-211

Version for sensor input via differential MDAQ analog input amplifiers. MDAQ modules are available in cost efficient and space saving 8-channel blocks. See chapter “Signal Conditioning” for details.



DEWE-211