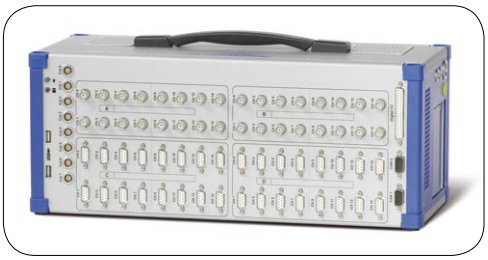
Automotive
Energy & Power Analysis
Aerospace & Defense
Transportation
General Test & Measurement



Instruments Without Display

DEWETRON Instruments Without Display are combining a ruggedized PC with signal conditioning, A/D card and software. They don´t have a built-in display but all feature a standard VGA or DVI connector to attach external monitors.

All have the power of synchronous acquisition and analysis of vastly different signals! The flexibility of DEWETRON Instruments Without Display allows connecting all kinds of analog signals, digital I/Os, counters, CAN bus or GPS and even video – all synchronized!

One system clock controls the whole instrument, either generated internally or from external sync interfaces like GPS-CLOCK or IRIG-CLOCK. This system clock technology allows synchronizing several independent systems even without physical connection. Each system can have hundreds of channels.

The ingenious driver and software design is the base for outstanding power and flexibility in applications. The incomparable DEWE-ORION data acquisition cards and the accurate DAQP and MDAQ modules guarantee measurements with highest precision even in harsh environments.

The computer part of each instrument is based on qualified common off-the-shelf hardware. This type of build guarantees cost-effective upgradeability of future generations of processors, even many years later, providing a secure investment.

Key Features

- *Flexible configuration options*
- *Traceable system specifications*
- *System clock technology*
- *Synchronous acquisition of analog, digital, counter, CAN bus, video and GPS data*
- *High speed acquisition, up to 70 MB/s gap-free streaming to disk*
- *Easy to use DEWESoft software for data acquisition and analysis*
- *Powerful PC inside for fast online data view and analysis*
- *Combinations of isolated DAQP series and differential MDAQ series amplifiers*
- *Many expansion options*
- *Safe investment, easy future upgrade*

worldwide DEWETRON

Instruments Without Display

	DEWE-800 series	DEWE-510 series
DAQ / PAD amplifier slots	16	16
MDAQ amplifier input channels	Up to 64	Up to 64
Combined DAQ / PAD slots and MDAQ input channels	-	16 DAQ / PAD, up to 32 MDAQ (BNC only)
Internal conditioned channels	-	-
Total PCI slots	5	3
Available with DAQ / PAD slots	5	3
Dynamic channel expansion	Analog, PCI, Ethernet	Analog, PCI, Ethernet
Quasi-static channel expansion	EPAD interface up to 16 EPAD2 modules = 128 ch	EPAD interface up to 16 EPAD2 modules = 128 ch
Data storage [1]		
Technology	Hard disk	Hard disk
Capacity	250 GB	250 GB
Typ. duration of recording (16 ch. / 10 kS/s/ch. / 16 bit)	8 days	8 days
Data throughput		
Standard system [2]	Typ. 70 MB/s	Typ. 70 MB/s
With STREAM option	Typ. 100 MB/s	-
Main system [1]		
Processor	Intel® Core™2 Duo 2 GHz	Intel® Core™2 Duo 2 GHz
Power supply		
Standard	95 to 260 V_{AC}	95 to 260 V_{AC}
Optional	9 to 18 V_{DC} or 18 to 36 V_{DC}	Battery powered, 3 battery slots [3], 2 batteries for ~2 hrs. operation incl., incl. external AC power supply optional external DC power supply
Dimensions		
Dimensions (W x D x H)	437 x 443 x 181 mm (17.2 x 17.4 x 7.1 in.)	439 x 308 x 181 mm (17.2 x 12.1 x 7.1 in.)
Weight without batteries	Typ. 12 kg (26.4 lb.)	Typ. 8 kg (17.6 lb.)

[1] Please find current specifications in the latest price list
[2] Depending on configuration (performance is different if e.g. Video data are involved and 2 or more files are written in parallel)
[3] Weight of one battery: 660 g (1.45 lb.)

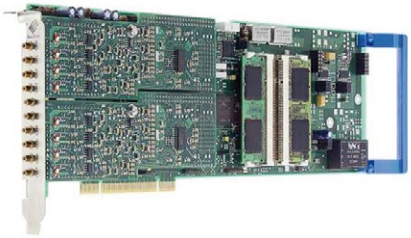
A/D boards

		Analog input				CAN bus	Counter input		Digital input	Analog output
Multi function PCI-board	**Channels per board**	**Simultaneous sampling**	**Resolution**	**Sample rate per channel**	**Sample rate total**		**Counter**	**Encoder**		
DEWE-ORION-0824-20x	8	Yes	24 bit	204.8 kS/s	1.6 MS/s	Up to 2	Up to 10	Up to 10	Up to 56	-
DEWE-ORION-1624-20x	16	Yes	24 bit	204.8 kS/s	3.2 MS/s	Up to 2	Up to 10	Up to 10	Up to 56	-
DEWE-ORION-1622-10x	16	Yes	22 bit	102.4 kS/s	1.6 MS/s	Up to 2	Up to 10	Up to 10	Up to 56	-
DEWE-ORION-3222-10x	32	Yes	22 bit	102.4 kS/s	3.2 MS/s	Up to 2	2	2	Up to 32	-
DEWE-ORION-1616-10x	16	Yes	16 bit	100 kS/s	1.6 MS/s	Up to 2	Up to 10	Up to 10	Up to 56	-
DEWE-ORION-3216-10x	32	Yes	16 bit	100 kS/s	3.2 MS/s	Up to 2	2	2	Up to 32	-
DEWE-ORION-1616-50x	16	Yes	16 bit	500 kS/s	8 MS/s	Up to 2	Up to 10	Up to 10	Up to 56	-
DEWE-ORION-0816-100x	8	Yes	16 bit	1 MS/s	8 MS/s	Up to 2	Up to 10	Up to 10	Up to 56	-
M2I.3122 [2]	8	Yes	12 bit	10 MS/s	80 MS/s	Option [1]	-	-	32 (option)	-
M2I.3132 [2]	8	Yes	12 bit	25 MS/s	200 MS/s	Option [1]	-	-	32 (option)	-
M2I.3024 [2]	2	Yes	12 bit	100 MS/s	200 MS/s	Option [1]	-	-	8 (option)	-
M2I.4022 [2]	4	Yes	14 bit	20 MS/s	80 MS/s	Option [1]	-	-	8 (option)	-
M2I.4032 [2]	4	Yes	14 bit	50 MS/s	200 MS/s	Option [1]	-	-	8 (option)	-
M2I.4652 [2]	8	Yes	16 bit	3 MS/s	24 MS/s	Option [1]	-	-	-	-
AD16-1000-16	16	No	16 bit	62.5 kS/s	1 MS/s	Option [1]	2	2	8	Up to 2 [3]
AD32-1000-16	32	No	16 bit	31.25 kS/s	1 MS/s	Option [1]	2	2	24	Up to 4 [4]
AD64-1250-12	64	No	12 bit	19.5 kS/s	1.25 MS/s	Option [1]	2	-	-	2
AD64-100-16	64	No	16 bit	1.5 kS/s	100 kS/s	Option [1]	2	-	-	2

[1] only with PCI-CAN2 option [2] Full size card, not suitable for DEWE-211, DEWE-1201, DEWE-501, DEWE-510, DEWE-571 [3] AD16-1000-16-OUT2 only [4] AD32-1000-16-OUT4 only

DEWE-501 series	DEWE-211 series	DEWE-101 series
-	-	-
Up to 64	Up to 16	-
-	-	-
-	-	8
3	1	-
-	-	-
Analog, PCI, Ethernet	Analog, Ethernet	USB, Ethernet
EPAD interface up to 16 EPAD2 modules = 128 ch	EPAD interface up to 16 EPAD2 modules = 128 ch	EPAD interface up to 16 EPAD2 modules = 128 ch
Solid State Disk (SLC type)	Solid State Disk (SLC type)	Solid State Disk (SLC type)
32 GB	32 GB	32 GB
1 day	1 day	1 day
Typ. 40 MB/s	Typ. 40 MB/s	Typ. 40 MB/s
-	-	-
Intel® Core™2 Duo 2 GHz	Intel® Core™2 Duo 2 GHz	Intel® Atom™ 1.6 GHz
Battery powered, 2 battery slots [3], 2 batteries for ~2 hrs. operation incl., incl. external AC power supply	8 to 30 V_{DC}, incl. external AC power supply	6 to 30 V_{DC}
External DC power supply	Stackable battery-pack for ~2 hrs. operation with wide range DC input	-
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.)	210 x 80 x 140 mm (8.3 x 3.1 x 5.5 in.)
Typ. 6 kg (13.2 lb.)	Typ. 5 kg (11 lb.)	Typ. 1.9 kg (4.2 lb.)

DEWE-ORION series card

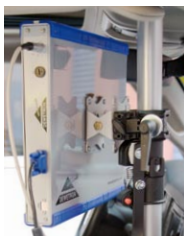


M2I series card

AD series card

Modes of Operation and Typical Applications

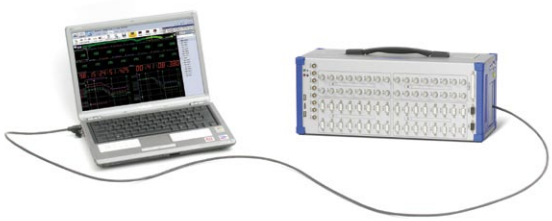
Measurements with External Display and Keyboard



A very popular use of Instruments Without Display is to perform measurements with a single unit using an external monitor (MOB-DISP-x) and keyboard. Setup for the measurement task can be done on-site and data is viewed online on the external display during the measurement.

Typical applications are in-vehicle tests like brake test, ride and handling evaluation, pass-by noise measurements, ACC testing and many more. The big advantage in such applications is that the driver can be advised by voice output and in parallel can see online data on the MOB-DISP-x mounted on the windscreen.

Remote Single Unit Operation



A very popular way of using an Instrument Without Display is to remote control the unit by another computer via Ethernet. Software option DEWESOFT-OPT-NET is required for this mode. It means that the remote computer 100 % controls the instrument 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 instrument and on the remote computer as well.

A typical application is measuring in dangerous environments (e.g. on an engine test stand) and online view the data on a PC outside the test chamber.

Data Logging with USB Remote Control Panel

In this mode of operation the system is setup in the office and then it is operated by a very simple USB remote control panel. The USB-PANEL-1 has a 4 lines LCD display and 4 control buttons to display the current state of DEWESoft, to perform basic control of DEWESoft (like start and stop a measurement) and to display the current values of a list of selected measurement channels.

A typical application is durability testing, where additionally an automatic startup and shutdown of the instrument is required according to start and stop of the vehicles engine. Such option is available for some models (xxx-REMOTE-ON)

Distributed Measurements

If huge channel counts are needed and/or the monitoring area is really wide a network consisting of several instruments is built. All instruments require software option DEWESOFT-OPT-NET and are connected via Ethernet (copper or fibre-optic link). Depending on the distance the synchronization of all units is done by a sync cable or by sync interfaces like IRIG-CLOCK or GPS-CLOCK. Finally there is one Master Client which is used to setup and control all measurement units. Data is stored locally on each instrument but also can be transferred to the Master Client online and stored there additionally up to the limit of the Ethernet data throuput.

A typical application is dynamic monitoring of huge bridges or buildings.