



Combustion Analyzer Instruments

DEWE-CA ... Multi measurements and flexibility

DEWETRON Combustion Analyzer systems are used for engine research, development and optimization as well as for component development and testing, such as ignition systems, exhaust systems and valve control gear.

There are several standard models in a variety of form factors. The portable versions are really great for mobile testing of all types of combustion engines, such as car, truck, ship, motorcycle, power-saw...

All systems sample each channel with up to 1 MS/s and at 16 bit resolution for precise results. A wide charge input range from 100 to 1.000.000 pC with additional features like offset and customized range is available to connect any pressure sensor. Virtually any angle sensor can directly be connected to these instruments, no matter if there is an encoder on a test rig or if the vehicles gearwheel with missing teeth must be used (like 60-2, 36-1 ... free programmable).

CAN, video, Ethernet and the integration within a test rig are supported, too.

The DEWETRON CA instruments support angle and time based measurements and use highly improved algorithms for online mathematics and statistics – calculating heat release and further thermodynamic parameters. The easy to use software ensures short learning time and offers user definable displays for convenient online view of data. Offline calculation and the export to several file formats are included.

DEWETRON CA instruments are the optimal fit in engine research, development and optimization because of its powerful analysis capabilities for many engine parameters and characteristics and the capability to measure synchronous additional signals beyond engine combustion. Easy expansion is possible for e.g. combined testing of hybrid powertrains with electrical power analysis functions, sound and vibration, rotational and torsional vibration, drivability with GPS and camera and more. DEWETRON CA instruments are flexible and powerful enough to perform multiple measurements at once saving valuable test time and cost.

Key Features

- ALL-IN-ONE combustion analyzer and mixed signal data acquisition system
- Crank angle and time based sampling
- Direct pressure and angle sensor connection
- XCP interface for acquiring ECU data
 - Portable/in-vehicle and test bed models
 - Battery powered, compact
- Connectivity to AVL PUMA, KS TORNADO, ETAS INCA ...
- Cold start testing, knock detection
- Easy to use, short learning time

CA Instruments

Only your choice of DAQP modules is required to complete these instruments



	DEWE-2600-CA2-PROF	DEWE-5000-CA2-PROF
Dynamic analog input channels	8 16 slots for DAQP modules	8 16 slots for DAQP modules
Internal quasi-static temperature inputs	Up to 4 MPAD-TH8-x (=32 ch)	-
External quasi-static channel expansion	EPAD interface, up to 16 EPAD2 modules = 128 ch	
A/D conversion		
Sampling method	Simultaneous sampling	
Sampling rate	1 MS/s per channel	
Resolution	16 bit	
Options		
CA-ADD-8CH Upgrade from 8 to 16 input channels, 1MS/s each	✓	✓
CA-16CH-500KS Changes the DEWE-xxxx-CA-PROF to 16 channels, 16 bit resolution and 500 kS/s per channel sampling rate Up to 8.333 RPM at 0.1° resolution with crank angle encoder (= 500 kS/s sampling rate per channel)	✓	✓
Digital I/O and counters		
Digital I/O	8, TTL level	
Counters / digital inputs	2 counters or 8 digital inputs, TTL level	
Options		
UP-CNT8-TTL adds 8 synchronous counter / encoder or 32 digital inputs, TTL level	✓ not in combination with MPAD internal static temperature inputs	✓ external connector box ORION-CB-CNT8
UP-CNT8-DIFF adds 8 synchronous counter / encoder or 24 digital inputs with programmable threshold levels (0..40 V), input voltage range -35 to 60 V, AC/DC coupling, 8 sync. digital inputs protected up to 25 VDC, TTL level	✓ not in combination with MPAD internal static temperature inputs	✓ external connector box ORION-CB-CNT8
CAN bus option		
UP-CAN-2 optional 2 high-speed CAN bus interfaces	✓	✓
Video input option		
UP-DEWE-CAM-01 adds synchronized video picture acquisition of up to 200 FPS (frames per second) up to 70 fps at 640 x 480 pixel up to 200 fps at 640 x 120 pixel	✓	✓
Data storage ¹⁾		
Technology	Hard disk	Hard disk
Capacity	600 GB	1000 GB
Max. gap free storing to disk	Typ. 80 MB/s	Typ. 70 MB/s
Typ. duration of recording (16 ch. / 10 kS/s/ch. / 16 bit)	20 days	35 days
Main system ¹⁾		
Display	15" TFT (1024 x 768)	17" TFT (1280 x 1024)
Processor	Intel® Core™2 Duo 2 GHz	Intel® Core™2 Duo 2 GHz
Power supply		
Standard	Battery powered, 3 battery slots ²⁾ , 3 batteries for ~2 hrs. operation incl., incl. external AC power supply optional external DC power supply	95 to 260 V _{AC}
Dimensions		
Dimensions (W x D x H)	417 x 246 x 303 mm (16.4 x 9.6 x 11.9 in.)	460 x 351 x 192 mm (18.1 x 13.8 x 7.7 in.)
Weight without batteries	Typ. 14 kg (31 lb.)	Typ. 17 kg (37.4 lb.)

¹⁾ Please find current specifications in the latest price list

²⁾ Weight of one battery: 660 g (1.45 lb.)



DEWE-800-CA2-PROF	DEWE-211-CA2-PROF
8 16 slots for DAQP modules	8 two Charge and six ± 10 V inputs
-	-
EPAD interface, up to 16 EPAD2 modules = 128 ch	
Simultaneous sampling 1 MS/s per channel 16 bit	
✓	-
✓	-
8, TTL level 2 counters or 8 digital inputs, TTL level	
✓	✓ external connector box ORION-CB-CNT8
✓	✓ external connector box ORION-CB-CNT8
✓	✓
✓	✓
Hard disk 1000 GB Typ. 70 MB/s 35 days	Solid State Disk 32 GB Typ. 40 MB/s 1 day
External 17" monitor	-
Intel® Core™2 Duo 2 GHz	Intel® Core™2 Duo 2 GHz
95 to 260 V _{AC}	8 to 30 V _{DC} , incl. external AC power supply (Optional battery pack for ~2 hrs.)
437 x 443 x 181 mm (17.2 x 17.4 x 7.1 in.) Typ. 12 kg (26.4 lb.)	317 x 252 x 92 mm (12.4 x 9.9 x 3.6 in.) Typ. 5 kg (11 lb.)



Standard Models

Instruments

For Your Computer

Signal Conditioning

Components

