# DEWE-43A

## MUST HAVE FOR EVERY ENGINEER


### 8 ANALOGUE INPUTS

- Multi-sensor input for Voltage, Bridge, IEPE, Temperature, Charge
- Simultaneous sampling
- 200 kHz/channel
- 24 bit, alias-free
- 10 V, 1 V, 100 mV, 10 mV ranges (200 V with DSI® adapter)
- ± 5 V, 12 V sensor supply
- Isolated power supply as standard

### 8 COUNTER INPUTS 24 DIGITAL INPUTS

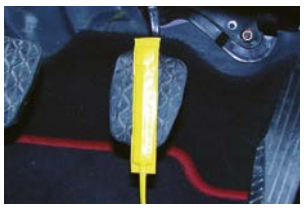
- Counting, Waveform timing, Encoder, Tacho and Geartooth sensors
- Digital inputs
- Fully synchronized with analogue data

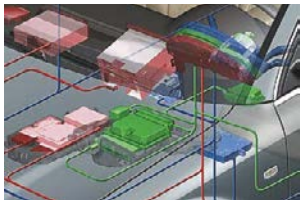
### 2 CAN BUS PORTS

- optical isolation
- Vehicle CAN, OBDII, J1939
- CAN sensors support
- CAN 2.0b up to 1 MBit/sec

### DEWESoft®

- DEWESoft® X included
- Synchronous data acquisition of different sources
- Full support of DEWE-43A, GPS and video camera



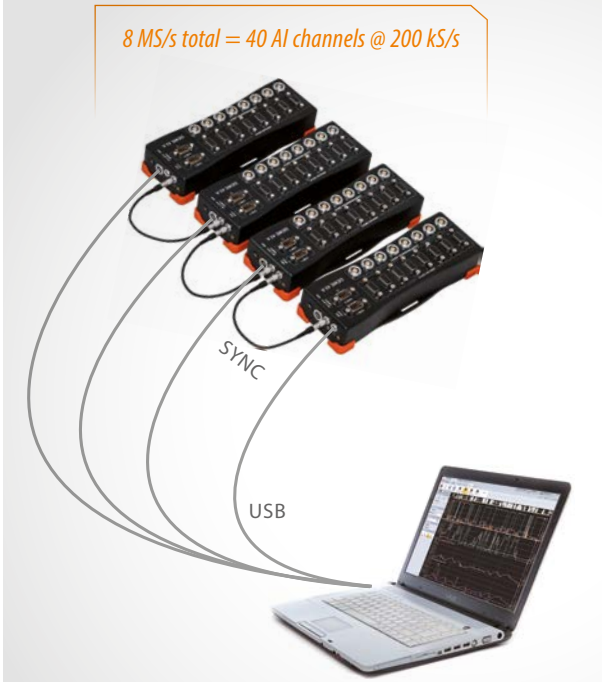



## DEWE-43A SYSTEM CONFIGURATIONS

ANY combination up to 32 analogue, 32 counter and 8 CAN bus channels.

### *4 x 8 channel systems*

### *1 x 32 channel system*



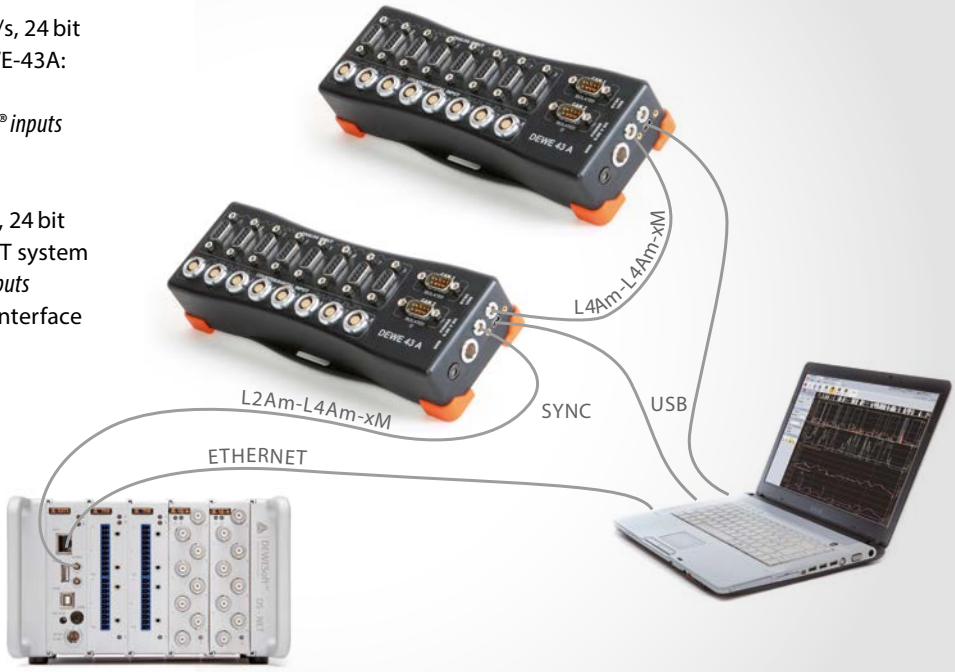

## DEWE-43 + DS-NET= ETHERNET DAQ SYSTEM

Mixed signal data acquisition
**Example configuration:**

16 channel fast 200 kS/s, 24 bit each channel, 2 x DEWE-43A:
- *For ACC vibration sensors*
- *16 channel Supercounter® inputs*
- *4 CAN bus*

32 channel slow 2 kS/s, 24 bit each channel, 1 DS-NET system
- *Mixed signals isolated inputs*

With DEWESoft® user interface



# DEWE-43A – TECHNICAL SPECIFICATIONS

## ANALOGUE INPUT

| | |
|---|---|
| **Number of channels** | 8 (simultaneously sampled) |
| **Measured values** | Voltage, full bridge (IEPE, charge, thermocouple and RTD with DSI® adapters) |
| **Resolution** | 24-bit |
| **Type of ADC** | Sigma-Delta with anti-aliasing filter |
| **Sampling rate** | 200 kS/s |
| **-3 dB bandwith** | 76 kHz @ 200 kS/s |

## AMPLIFIER CHARACTERISTICS

| | | |
|---|---|---|
| **Input ranges** | **Voltage** | ±10 V; ± 1 V; ± 100 mV; ± 10 mV |
| | **Voltage via DSI-V200** | up to ±200 V |
| | **Full bridge @ 10 Vexc** | ±10 mV/V, ±100 mV/V, ±1000 mV/V |
| | **Half or quarter bridge** | With external bridge completion |
| | **IEPE via DSI-ACC** | ±0.1 V, ±1 V, ±10 V |
| | **Thermocouple via DSI-THx** | Full range of thermocouple type (isolated thermocouple only) |
| | **Pt100, Pt200, Pt500, Pt1000, Pt2000 and resistance via DSI-RTD** | -200°C to 1000°C and 0 to 6.5 kOhm |
| **DC accuracy** | 10 V range: 0.1 % of value, +1 mV<br>1 V range: 0.1 % of value, +0.5 mV<br>100 mV range: 0.1 % of value, +0.1 mV<br>10 mV range: 0.1 % of value, +0.1 mV | |
| **Input impedance** | 10 MΩ\|\|33 pF (common mode), 20 MΩ\|\|47 pF (differential mode) | |
| **CMRR** | >80 dB | |
| **Sensor supply voltage** | ±5 V 0.1 % @ 100 mA, 12 V @ 400 mA per channel | |
| **Voltage mode coupling** | DC | |
| **Input overvoltage protection** | ±70 V | |

## DYNAMIC CHARACTERISTICS

| | |
|---|---|
| **Signal to noise @ fs<1000 Hz** | < -100 dB |
| **Crosstalk** | < -100 dB |

## COUNTER/DIGITAL INPUTS

| | |
|---|---|
| **Number of channels** | 8 counters or 24 digital inputs<br>(per software each counter can be selected to be 3x digital input) |
| **Counter modes** | Event counting, encoder input, period, pulsewidth, duty cycle, frequency measurement |
| **Resolution** | 32-bit |
| **Time base** | 102.4 MHz |
| **Signal levels** | TTL/CMOS |
| **Input voltage protection** | 30 V |

## CAN PORTS

| | |
|---|---|
| **Number of channels** | 2 (optically isolated) |
| **Specification** | CAN 2.0b up to 1MBit/s |
| **Physical layer** | High speed |

## ENVIRONMENTAL

| | |
|---|---|
| **Operating temperature** | -20 to 50°C |
| **Storage temperature** | -20 to 70°C |
| **Relative humidity** | 10 to 90 % |
| **Vibration** | MIL-STD 810F 514.5, procedure I |
| **Shock** | MIL-STD 810F 516.5, procedure I |

## PHYSICAL

| | |
|---|---|
| **Dimensions (L x W x H)** | 223 x 78 x 45 mm (7.78 x 3.08 x 1.77 inch) |
| **Weight** | 0.72 kg (1.58 pounds) |

## POWER REQUIREMENTS

| | |
|---|---|
| **Supply voltage** | 6 to 36 $V_{DC}$ |
| **Supply overvoltage protection** | 80 V |
| **Negative input voltage protection** | -30 V |
| **Typical power consumption** | 5 W |
| **Maximum sensor consumption** | 6 W |

## SYSTEM REQUIREMENTS

| | |
|---|---|
| **Operating system** | Microsoft WindowsXP®<br>Microsoft Windows Vista®<br>Microsoft Windows 7® |
| **System** | PC with DEWESoft® software |
| **Interface** | USB 2.0 |

## IN THE PACKAGE

| |
|---|
| DEWE-43A |
| DEWESoft® X - Professional Edition (DSA upgrade available) incl. CAN option |
| MINI USB cable (equipped with special lock-in screws for secure connection) |
| Carrying bag |
| Device ground cable |

## DEWE-43A INPUTS

| | | |
|---|---|---|
| | **No. of analogue channels** | 8 |
| | **Samplerate / channel** | 200 kHz |
| | **Vertical resolution** | 24 bit |
| | **Input type** | differential |

## INPUT TYPES

| | | |
|---|---|---|
| | **Voltage** | 8 ch |
| U | **Max. Range** | ± 10V<br>± 200 V<br>DSI® option |
| | **Input coupling** | DC |
| | **IEPE/ICP Sensors** | 8 ch<br>DSI® option<br>4 mA,<br>max 21V |
| | **Sensor supply per system** | ± 5V 100 mA<br>12V 400 mA |
| | **Bridge connection type** | 8 ch<br>4 wire |
| | **Bridge completion with DSI® adapter** | full bridge,<br>half bridge 1 kOhm<br>quarter bridge<br>120 and 350 Ohm |
| | **Supercounter®** | 8 ch |
| | **TEDS supprt without DSI® adapters** | yes |
| | **Charge input with DSI® adapter** | up to 50000 pC |
| | **Potentiometer** | with DSI® adapter |
| | **Pt100.. Pt2000** | with DSI® adapter |
| | **Thermocouple** | with DSI® adapter |
| | **CAN bus ports** | 2 ch (isolated) |

## CONNECTORS

| | | |
|---|---|---|
| | **DSUB 9** | 8 + 2 |
| | **LEMO 7pin** | 8 |
| | **BNC, Binder and others** | DSI® adapter |