Move into the future with reliable measurements

KYOWA

Data acquisition system for crash test

DIS-7000 series NEW

Multi-channel on-board data acquisition system

Modularization structure enables to optimize your system.

- Compact and lightweight
  (168 channels: 290 × 100 × 210 mm, approx. 9 kg)
- Impact resistance: 100 G
- Synchronous measuring channels up to 1056
  (Up to 999 channels when using DIS-70A)
- Outputs ignition current based on the pre-set delay time.
  (DIA-708A)
- Acquires CAN data. (DIC-706A)

System example

DIS-7000A DIS-724A-T DIS-724A-L DIA-708A DIC-706A

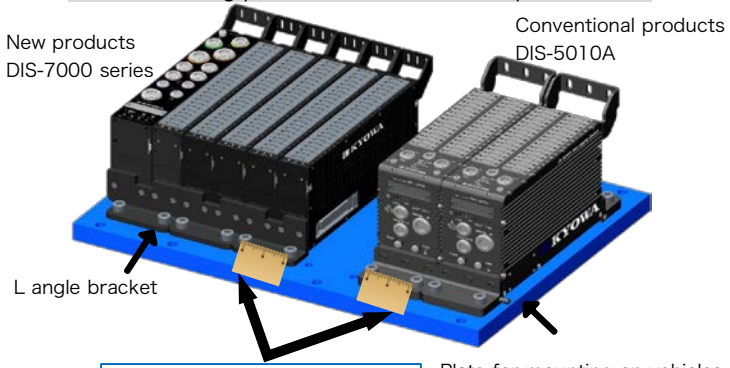
Docked modules

DIS-7000A: Control module for controlling DIS-7000 series.
DIS-724A-T: Signal conditioner module (square connector, 24 channels) for measuring strain and voltage.
DIS-724A-L: Signal conditioner module (round connector, 24 channels) for measuring strain and voltage.
DIA-708A: Airbag timer module (8 channels) for outputting ignition current.
DIC-706A: CAN measurement module (6 channels) for acquiring CAN bus data.
DIS-70A: Control software

Note The number of modules is up to 48 (including up to four DIS-7000A modules).
Single DIS-7000A connects up to 15 modules (DIS-724A-T/-L, DIA-708A, and DIC-706A).

Interchangeable with the conventional plates

Capable of using the conventional plates for mounting on vehicles by selecting the L angle brackets which have the same mounting pitch as the conventional products.



Example of use

Offset crash test

Common main specifications (DIS-7000A, DIS-724A, DIA-708A, DIC-706A)

■Operating Environment	
Operating Temperature	0 to 50°C
Operating Humidity	20 to 80%RH (Non-condensing)
Storage Temperature	-10 to 60ºC
Storage Humidity	10 to 90%RH (Non-condensing)
Impact Resistant	980.7 m/s^2(100G), 10 ms half-sine X-, Y-, Z-axis directions, each 1000 times
■Interfaces	Conforming to 10BASE-T/100BASE-TX
■A/D Converters	16 bits

■Trigger	
Mode	Ring buffer mode, recorder mode
Type	Switch trigger, software trigger, analog trigger *Trigger synchronization of multiple models is available.
■Built-in Batteries	
Type	Li-ion battery
Continuous Operation	Approx. 30 minutes (Operating temperature: 0 to 40°C, non-degradation)
■Power Supply	15 to 28 VDC (Typical 24 VDC)

Other main specifications

DIS-7000A	
■Digital Input	Total 32 (16 ×2), no-voltage contact
■Sampling Frequencies	
	100, 200, 500, 1k, 2k, 5k, 10k, 20k, 50k, 100k Hz
■Data Recording	Approx. 80 minutes (At 100k Hz)
■Trigger Distribution Output	
Number of Channels	4
■Check Functions	Memory, battery, trigger
■Buzzers	Built-in alarm buzzer
■Appearance	
Dimensions	45 (W) × 100 (H) × 210 (D) mm (Excluding protrusions)
Weight	Approx. 1.1 kg

DIS-724A	
■Analog Input	
Measuring Targets	Strain, voltage
Number of Channels	24
Connectors	DIS-724A-T: 3RT01-RW7F(TAJIMI made) DIS-724A-L: ECG.1B.307(LEMO made)
Input Voltage	Within ±20 V
Gain	×0.1 to 0.9, ×1 to 5000
Gain Accuracy	Within ±0.2%FS
Nonlinearity	Within ±0.1%FS
Bridge Excitation	10, 5, and 2 VDC Each channel ON/OFF is switchable.
Applicable Bridge Resistance	
	120 to 5kΩ (Half bridge system, full bridge system)
■Low-pass Filter	5th order Butterworth
Cutoff Frequencies	50, 100, 200, 400, 1k, 2k, 4k, 10k, 20k Hz
Amplitude Ratio	Within -3 ±1 dB
Attenuation	Within (-30±3) dB/oct.
■Sampling Frequencies	
	100, 200, 500, 1k, 2k, 5k, 10k, 20k, 50k, 100k Hz
■Data Recording	Approx. 80 minutes (At 100k Hz)
■Check Functions	Memory, battery, trigger, input terminal resistance, open circuit, bridge excitation, sensor, gain
■TEDS Functions	Compatible with IEEE1451.4
■Appearance	
Dimensions	35 (W) × 100(H) × 210(D) mm (Excluding protrusions)
Weight	Approx. 1.1 kg

DIA-708A	
■Ignition Current	
Number of Channels	8
Connectors	DIA-708A: ECP.0S.302 (LEMO made) Plug: FFA.0S.302 (LEMO made)
Output Current	Setting range: 0.5 to 3.0A and OFF (Selectable with 0.1 A step) Accuracy: Within ±0.05A
Maximum Output Voltage	
	Approx. 18 V
Load Resistance	1 to 9 Ω (Including cable resistance value to the inflater)
Output Time	Setting range: 0.2 to 5 ms Accuracy: Within 0.1ms
Delay Time	Setting range: 0.1 to 9999 ms
■Recording Current Waveform	
Measuring Accuracy	Within ±3%FS (FS=5.0 A)
■Sampling Frequencies	
	10k, 20k, 50k, 100k Hz
■Data Recording	Approx. 40 minutes (At 100k Hz)
■Check Functions	Memory, battery, trigger, current output
■Safety Functions	
Load Resistance Measurement	
	Apply weak current to the inflator and measure the resistance.
SAFETY Function	In a state with the SAFETY plug inserted to the SAFETY connector, no trigger signal can be input, In addition, the current output terminals are shorted in the DIA-708A so as not to flow the accidental current to the inflator.
■Appearance	
Dimensions	35 (W) × 100(H) × 210(D) mm (Excluding protrusions)
Weight	Approx. 1.0kg

DIC-706A	
■CAN	
Number of Channels	6
Physical Layer	High speed CAN
Insulation	Every channel
Termination Resistor	ON/OFF switchable
Sampling Method	Acquires CAN data with timestamp added.
Memory Capacity	Approx. 200M frames (Total 6 channels)
■Appearance	
Dimensions	35 (W) × 100 (H) × 210 (D) mm (Excluding protrusions)
Weight	Approx. 0.9 kg

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⚠ Safety Precautions

Be sure to observe the safety precautions given in the instruction manual, in order to ensure correct and safe operation.

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• Specifications are subject to change without notice for improvement.

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