DYNAMOMETER SYSTEM

MEIDEN

Operation, Data Acquisition and Control System for Dynamometers

MEIDACS DY6000P Series

100μs control response

Empower for new days

100 μs control response

MEIDACS DY6000P Series

by MEIDACS DY6000P Series

Features

High–speed control ····· More than 50 times the control speed of conventional versions.

Version		Control Period
Conventional system	5000P	5ms
New system	6000P	100 μs

PowerPC for the main Computer ····· The dynamometer is controlled at high accuracy.

Compact-PCI bus for the measurement and control unit ····· Control response has been improved.

MATLAB/Simulink technology ····· The control software quality has been improved.

CAN Interface ····· Noiseless and multi-channel measuring.

Windows 7 ····· Security and stability have been improved.

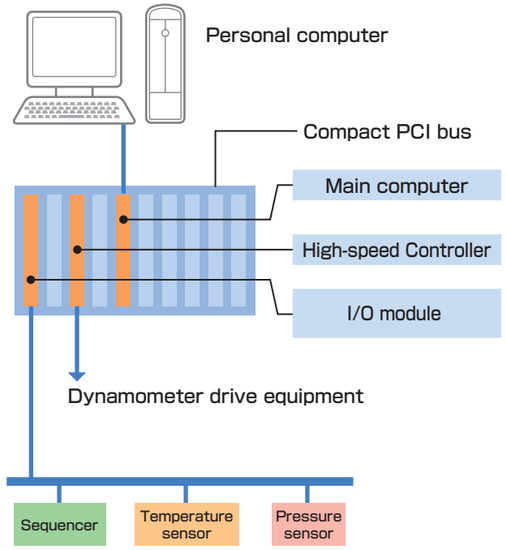
Database ····· The database manages testing conditions and results.

- Simulation of engine and vehicle characteristics can be carried out at high accuracy.
- Vehicle simulation operation can be carried out at the engine bench.
- The continuous forward/reverse operation and the disturbance torque control are available .

Applications

- Engine bench
- Chassis dynamometer
- Power train tester
- Heavy duty engine transient test bench
- Drive train tester with the engine simulation

System configuration



Operation / display computer	Personal computer (OS: Windows 7)		
Measure-ment and control unit	Main computer board	Processer	MPC7410 500MHz or above 512MB or above memory
		Serial interface	RS-232-C: 2ch
	Controller board	Processer	MPC8572E or above Operation at 1.5GHz
		Memory	Flash: 512kB for system boot SDRAM: 2GB Dual port RAM: 1MB
		Optical communication interface	5ch 1.5Mbps
	I/O module	Pulse input(FD)	4ch/board Frequency input range:1 ～ 128kHz
		Analog input(AD)(1)	Isolated 16bit AD 16ch/board
		Analog input(AD)(2)	Isolated 12bit AD 32ch/board
		Analog output(DA)	Isolated 14bit DA
		Digital I/O(D I/O)	Input: 64 points/board Output: 64 points/board
		CAN	1ch
		GPIB	1ch

Examples of screens

■ Road load setup screen

■ Monitoring screen

Software specifications

Item	Major functions		
Testing condition setup	・Paramrter data, upper/lower limits supervisory conditions, operation patterns, correlation supervisory conditions, average measurement conditions, high-speed measurement conditions, continuous measurement conditions ・Options: Max./Min. measurements (Used in average measurement mode)		
Auto matic operation patterns	・Maximum number of pattern repetitions: 999,999 times ・Maximum number of pattern composing characters: 1200 characters (60 characters × 20 lines) ・Maximum number of modes established: 200 modes ・Maximum number of steps established: 500 steps/mode ・Step-up conditions: Time [9999.9 sec, min], distance [999.999m], measurement data, external trigger, synchronism with the end of average measurement ・Digital output: 16 status points Max., 16 pulse points Max. ・Output timing : Step head (at the execution start of the step), end-of-ramp time (at the end of ramp time), after the specified time (after the lapse of specified time measured from the step head), at the time of step-up		
Measurement condition setup	**Average measurement**	**High-speed measurement**	**Continuous measurement**
Measurement starting conditions	START button	Start button, measurement items (threshold value upper, lower, up skip, low skip, width)	
Measurement ending conditions	STOP button	Stop button, measurement items (threshold value upper, lower, up skip, low skip, width)	
		Time (sec)	Time (hour)
Measurement items	・General measurement data ・Caluculated data ・Special instrument data	Maximum 100items from general measurement data and calculated data	General measurement data and calculated data
Measurement period	0.1sec	1 ～ 999ms	0.1 ～ 99.9sec
Max. measuring times	8,000,000 times/ Number of measurement items	400,000 times / Number of measurement items	50,000 times
	However, the maximum number of measurements shall be 50,000 times per measurement item.		
Number of data files	1file/test	Maximum 999 files/test	1file/test
Upper/lower limits supervision	・Supervised items: General measurement data and calculated data, Maximum 250 items ・Supervised stage: Upper stage in 2 stage and lower sage in 2 stage ・Supervising method: Instantaneous/time limit/AND supervision ・Supervisiory peoriod: 0.1sec ・Supervising grouping: Maximum 3 groupings (A/B/C)		
Correlation supervision	・Maximum registered numbers: 10 sheets ・Supervised stages: Upper stage in 2 stage and lower stage in 2 stage ・Supervising method: Instantaneous/time limit/AND supervision ・Supervisory peorid : 0.1sec ・Supervising grouping: Maximum 3 groupings (A/B/C)		
Measurements at alarm condition	For high speed ・Telemetry period: 10 ～ 90ms at 10ms pitch ・Measurement times after the occurrence of error: 3000 times Max. ・Measurement items: 20 items Max.		
	For low speed ・Telemetry period: 0.1 ～ 99.9s ・Measurement times after the occurrence of error: 3000 times Max. ・Measurement items: 20 items Max.		
Real-time monitor editor	Basic monitor parts:analog meters, digital meters, bar graphs, Trend 1, Trend 4, pictures, labels, ramp, averaged measurement trends, auto-operation monitor, auto-operation graph monitor		
Tabulating	Type of tabulating data: Averaged measurement data, high-speed measurement data, continuous measurement data Number of tabulating items: Maximum 16 items per a line, Maximum 3 lines (Maximum 48 items per a tabulating)		
2-D graph plotting	Multiple Y-axis graph (Maximum 10 Y-axis) Comparing X-Y graph (Maximum 5 measurement data file)		
External CPU linkage	LAN, Data exchange through a common folder		
Security level	3 levels of security can be set up on user side.		

MEIDEN

MEIDENSHA CORPORATION

ThinkPark Tower, 2-1-1, Osaki, Shinagawa-ku, Tokyo, 141-6029 Japan
Phone: 81-3-6420-7750 Facsimile: 81-3-5745-3053

http://www.meidensha.co.jp

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