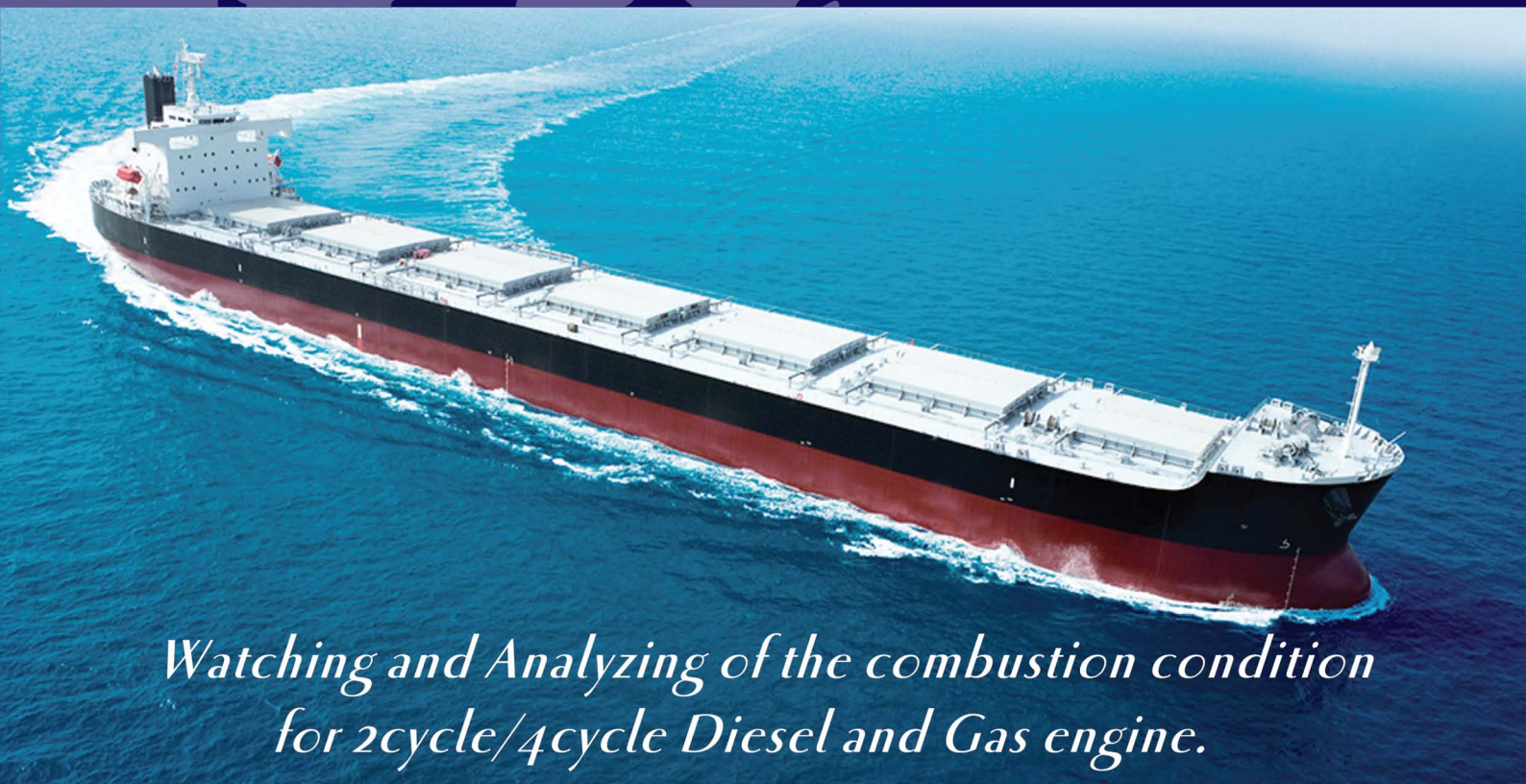


YSK Systems Co.,Ltd.



*Watching and Analyzing of the combustion condition
for 2cycle/4cycle Diesel and Gas engine.*

NH-X III

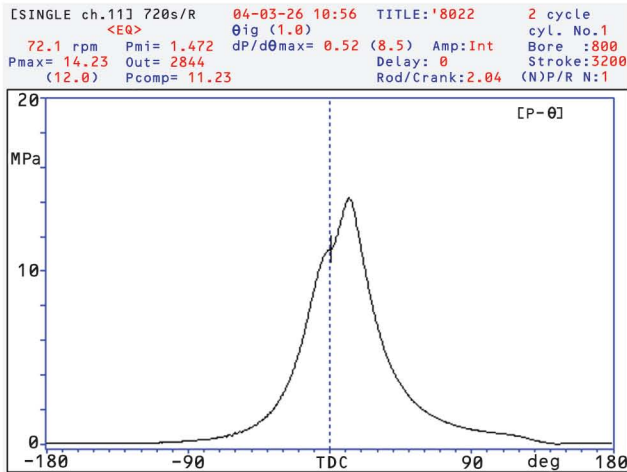


NH-X II



Total merit of NH-X Engine Analyzer.

The early diagnosis for engine performance by NH-X can get the long maintenance interval for diesel engine. The optimum operation of diesel engine is obtained with suitable fuel consumption.



1

Torque rich is found.

2

The load unbalance is found between each cylinder.

3

The prevention can be done for the future trouble.

4

Ratio of after burning is found by the heat release diagram.

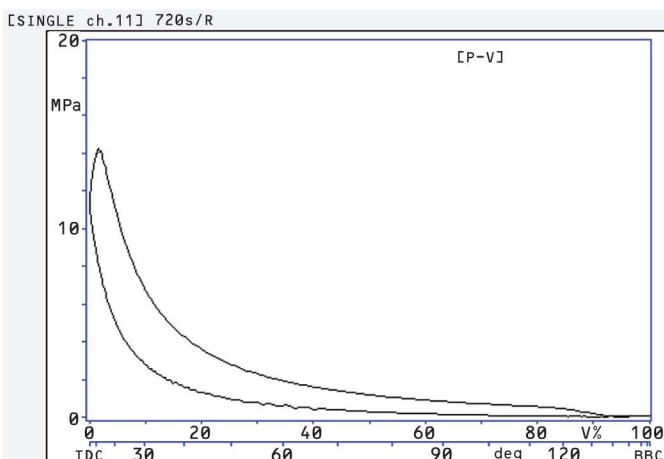
Available to check the combustion condition of engine periodically.

This NH-X measures the combustion pressure inside cylinder at each crank shaft angle based on TDC and can show Pmax., Pcomp., Pmi., θ_{ig} , IHP, each diagram such as P- θ ., P-V. and the heat release. They are shown on PC screen. The best combustion condition can be found by our own sophisticated analyzing soft ware with the accurate data. Available to the improving of fuel consumption, reducing of the maintenance cost and the protection for serious trouble on diesel engine.

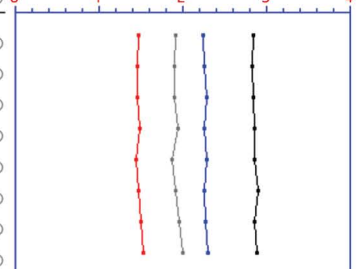


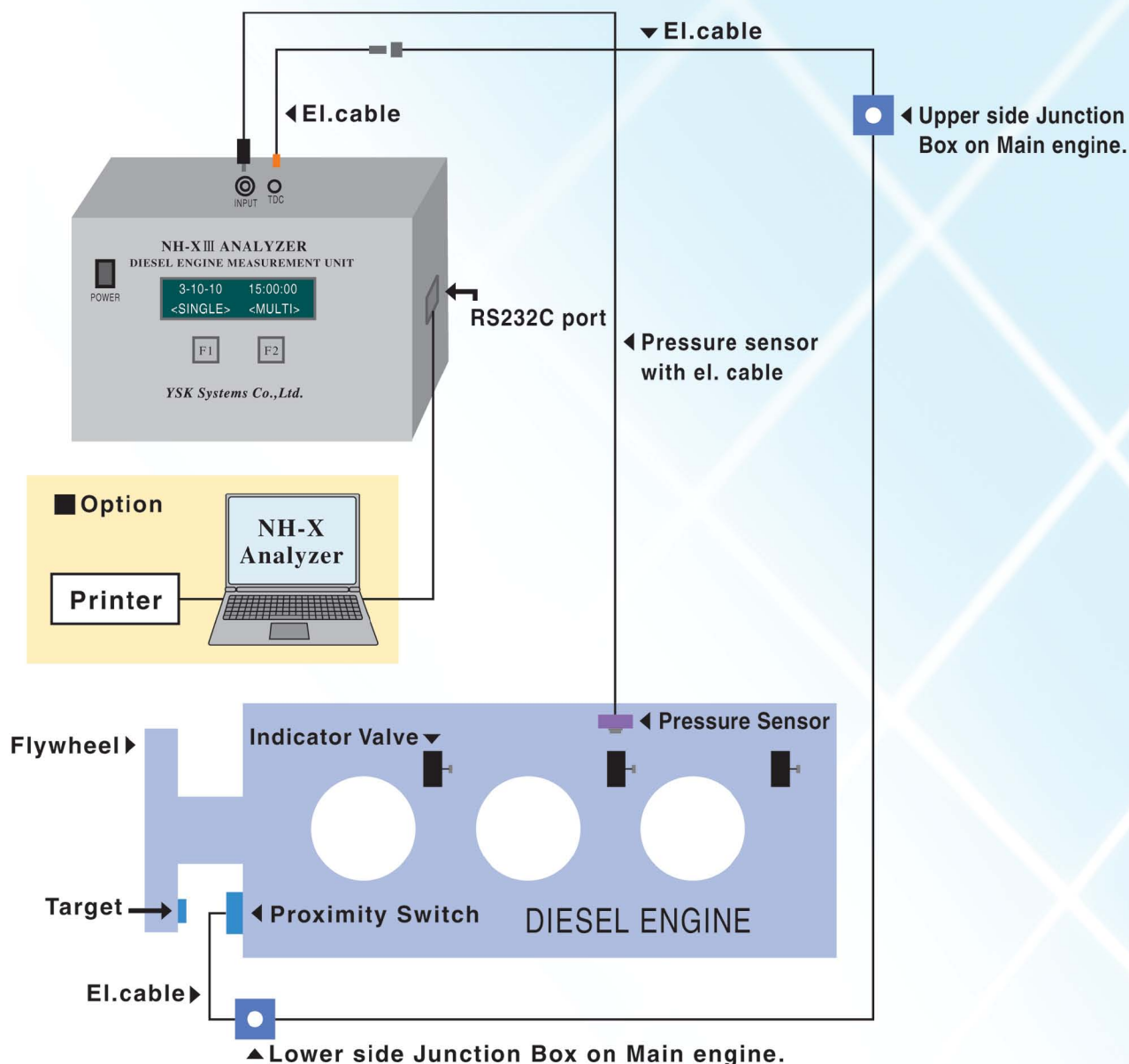
Easy operation and Portable Type.

Model NH-X2 and NH-X3 are the portable type and small size instrument with the high accurate performance and the high processing speed. NH-X2 can operate by 4 buttons, dialog on LCD and measure the max. pressure even if no TDC pulse signal. NH-X3 can operate by 2 buttons and Data is analyzed by our soft ware on PC. Anybody can get the accurate and clear data easily. They can apply for high, medium and low speed engines and also 2cycle, 4cycle diesel and gas engines.



[ch.11 to 18]		Total Output --- 22887		04-03-26			
CHG. PAR.		RPM	Pmax	Pcomp	Pmi	Output	
	Mean:	72.0	14.33	11.37	1.481	2860	
	Max:	72.1	14.51	11.52	1.533	2962	
	Min:	72.0	14.21	11.23	1.447	2793	
						<Unit> MPa, kw	
ch. cyl	Pmax	Pcomp	0	5	10	15	20
	Pmi	Output (%/Max)	0	1	2	3	4
[11] 1	14.23	11.23					
	1.472	2844 (96.0)					
[12] 2	14.21	11.32					
	1.463	2823 (95.3)					
[13] 3	14.27	11.48					
	1.463	2823 (95.3)					
[14] 4	14.35	11.29					
	1.494	2886 (97.4)					
[15] 5	14.31	11.43					
	1.447	2793 (94.2)					
[16] 6	14.51	11.33					
	1.475	2846 (96.0)					
[17] 7	14.34	11.39					
	1.506	2906 (98.1)					
[18] 8	14.47	11.52					
	1.533	2962 (100.0)					





■ Technical Specification

	Model	NH-X II	NH-X III
Specification	Engine	2,4 cycle / Diesel , Gas	
	No. of Cylinder	Max.24	Max.20
	R.P.M	21~2800 rpm	21~2500 rpm
	Max. Pressure	200kg /cm ² G	
	Memory Channel	40	20
			Data is shown on LCD Available w/o TDC signal
Input Signal	Pressure sensor	Quartz Pressure Sensor (Piezoelectric Type)	
	TDC Pulse	Proximity Switch	
	N/RPM Pulse	N times pulse per 1rpm	N/A
	Multi Channel Input	Option	N/A
Output Signal	Output Signal	RS232C	
Electric Source		Battery Charge(AC100~200V)	AA Alkali Battery×4
Dimension	W×D×H [mm] / Weight	210×80×120/3kg	170×125×50/1kg



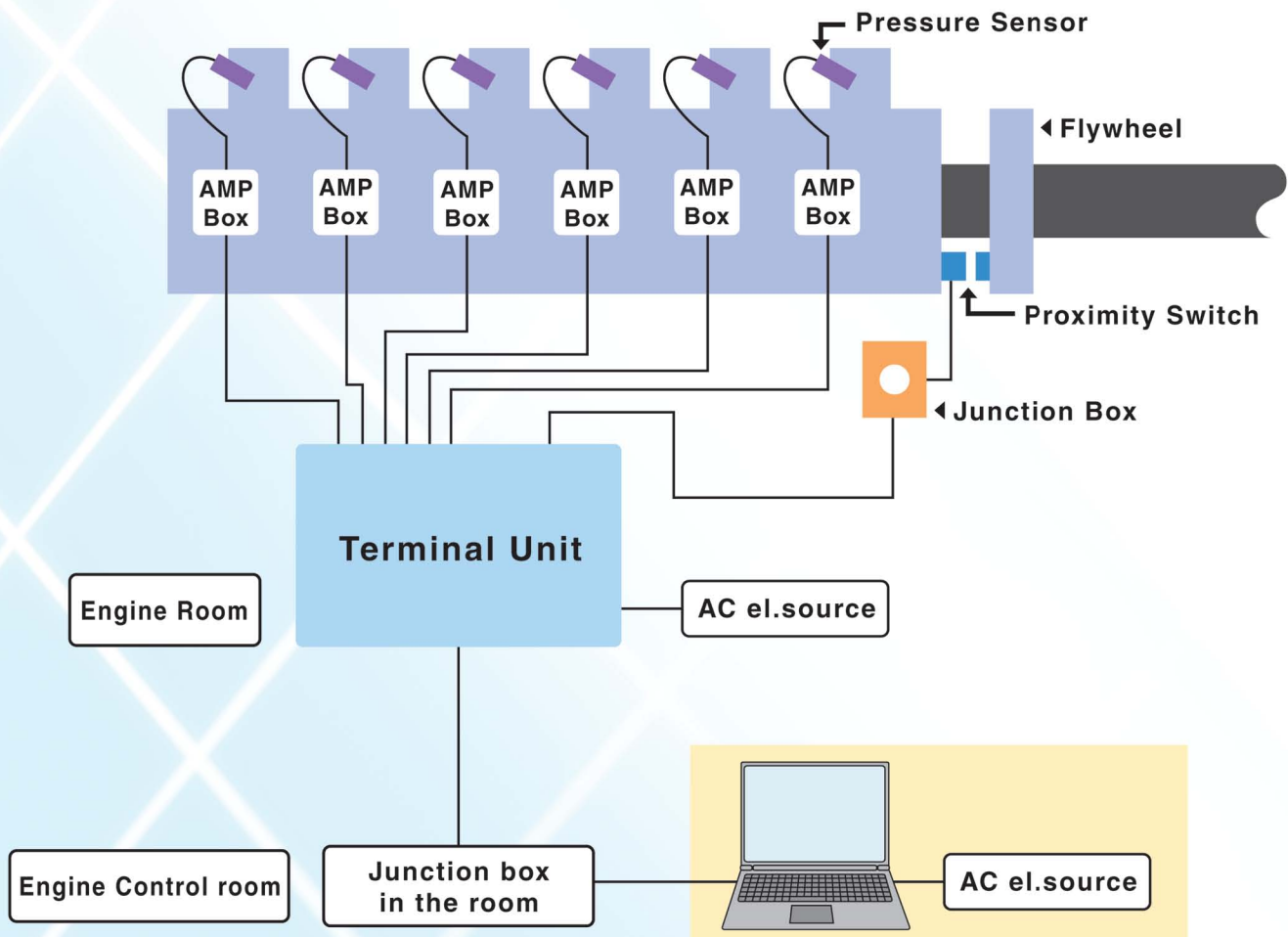
NH-X Multi Type (The Same Time Measurement Instrument)

This model can measure, almost same time, the pressure of whole cylinders because the pressure sensors are provided on whole cylinders. Each cylinder is measured the data at no time lag under the same load condition and the same outside circumstances. The accurate comparison can be done for the load unbalance between each cylinder. It can protect the large torsional unbalance and the damage of flexible coupling. Also, especially, it is very easiness to adjust the same Pmax. condition on each cylinder for the modern electric controlled engine due to the same time measurement for all cylinder.



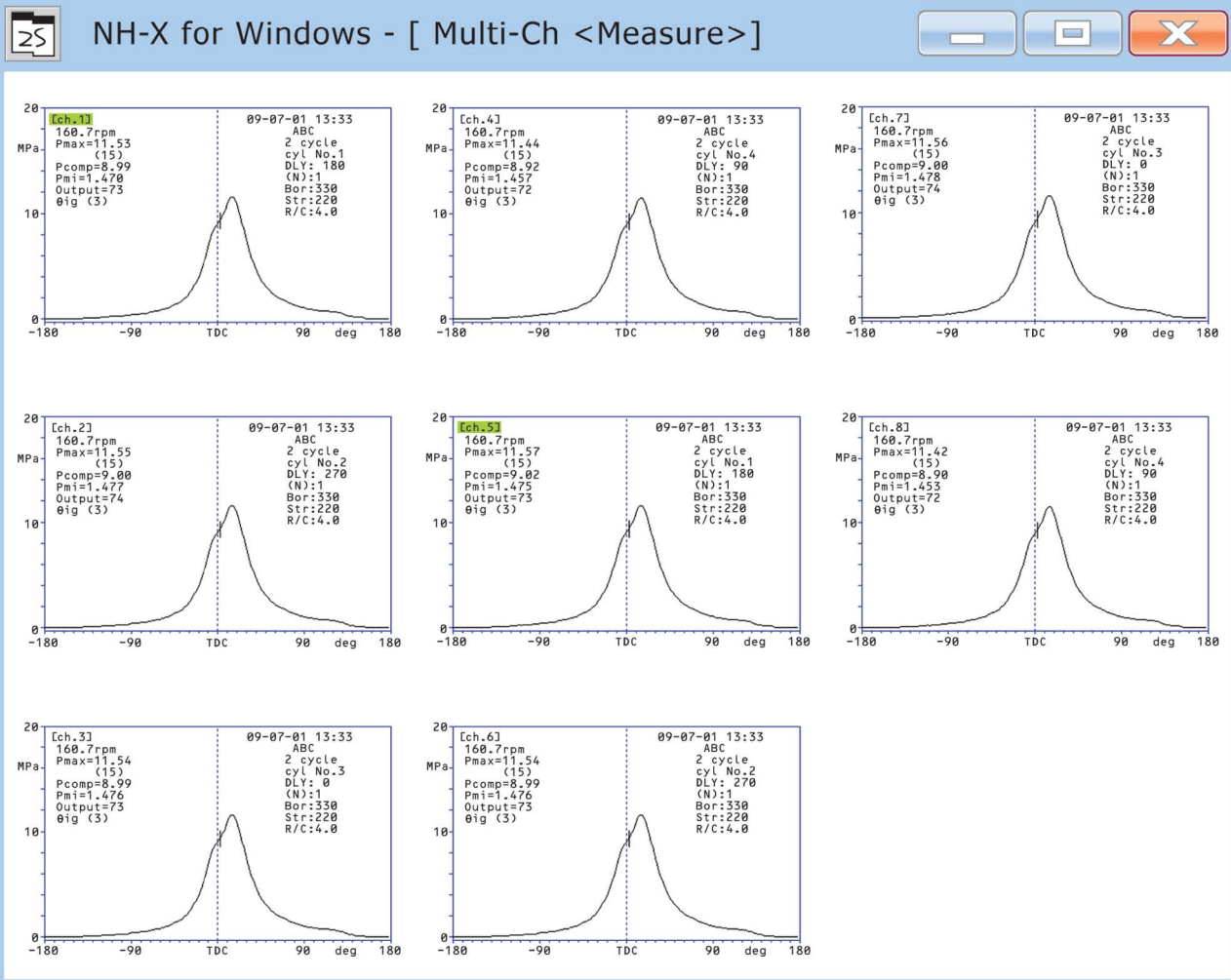
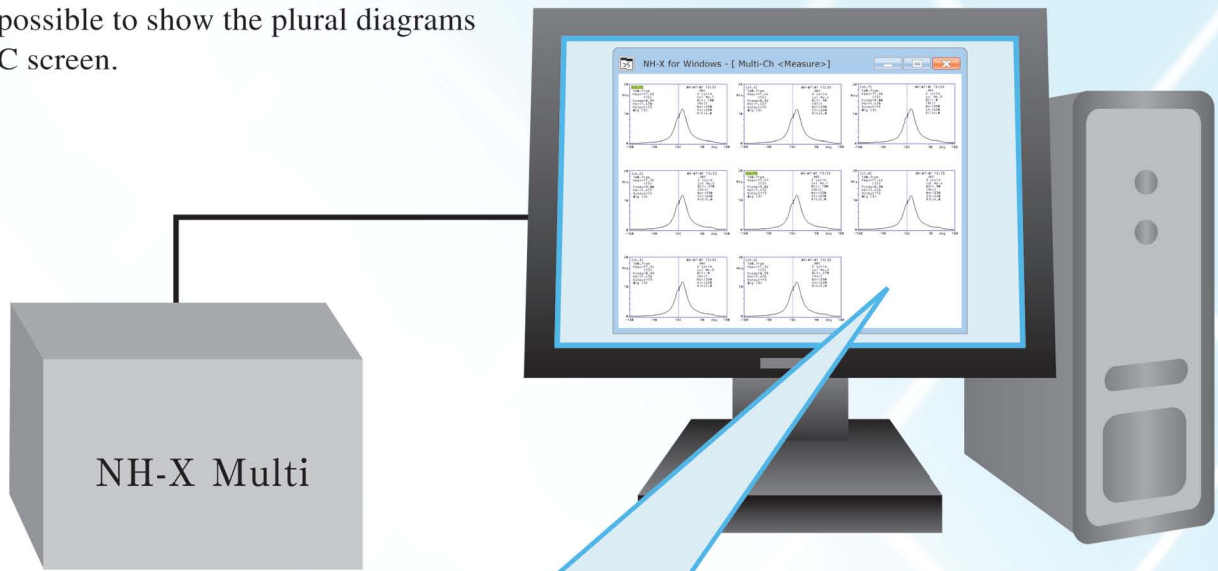
Technical Specification

	Model	NH-X Multi
Application	Engine	2 ,4cycle / Diesel , Gas
	No. of Cylinder	Max. 40
	R.P.M	21~2500 rpm
	Max. Pressure	200kg /cm ² G
Input Signal	Pressure sensor	Quartz Pressure Sensor
	TDC Pulse	Proximity Switch
Electric Source		AC100~200V



Example on the monitor screen.

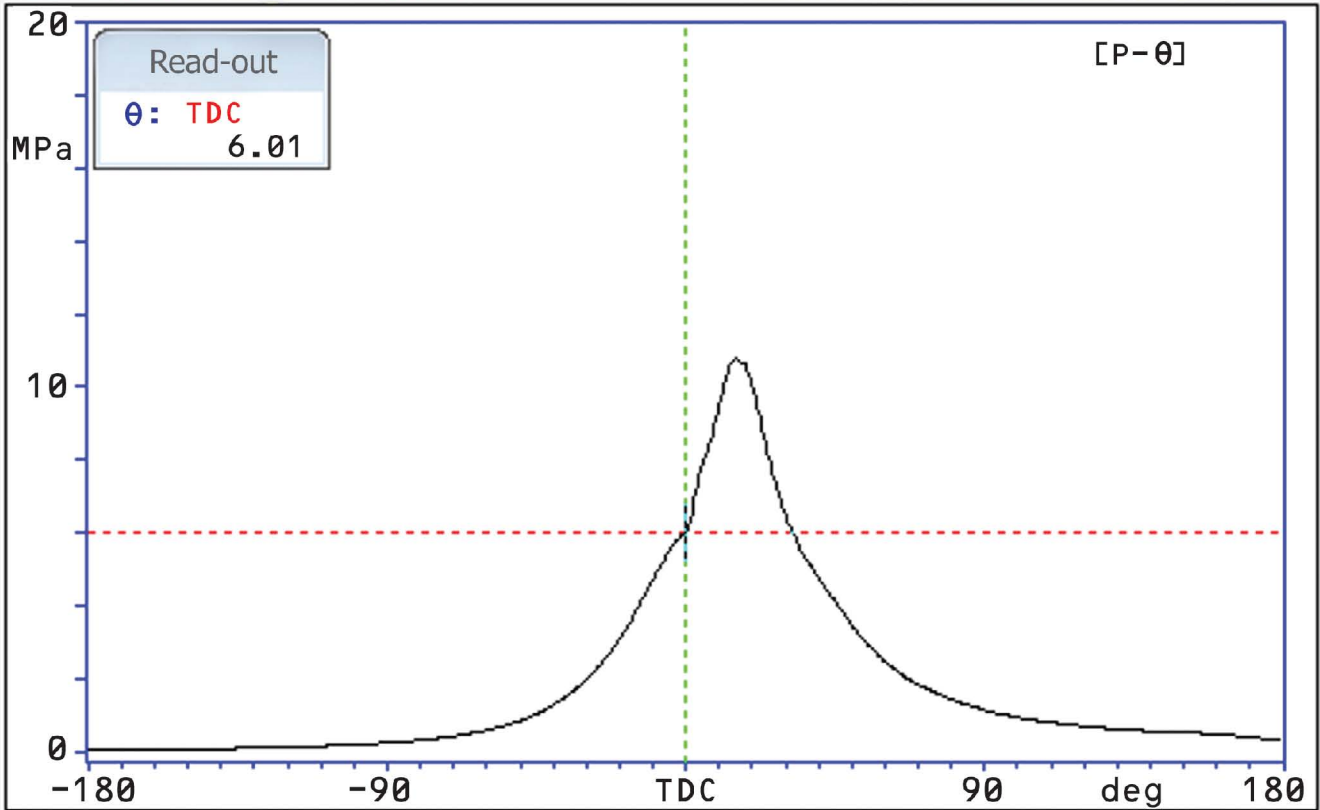
It is possible to show the plural diagrams on PC screen.





<Example:P-θ Diagram>

[SINGLE ch.1] 720s/R 09-10-28 10:51 TITLE: 'YSK 4 cycle
 <EQ> θ_{ig} (0.0) cyl. No.1
 674.4 rpm P_{mi}= 1.716 dP/dθ_{max}= 0.55 (2.0) Amp: Int Bore :260
 P_{max}= 10.77 Output= 174 Delay: 0 Stroke:340
 (15.0) P_{comp}= 5.94 Rod/Crank:4.0 (N)P/R N:1



<Example:A Look of Data Report>

[ch.1 to 6]		Total Output --- 998			09-10-28	
CHG. PAR.	RPM	P _{max}	P _{comp}	P _{mi}	Output	<Unit>
	Mean: 674.2	10.46	5.94	1.641	166	
	Max: 674.4	10.86	6.07	1.716	174	
	Min: 674.0	9.82	5.85	1.585	161	MPa, kw

ch.	cyl	P _{max}	P _{comp}	0	5	10	15	20
		P _{mi}	Output (%/Max)	0	1	2	3	4
[1]	1	10.77	5.94					
		1.716	174 (100.0)					
[2]	2	10.54	5.85					
		1.629	165 (94.9)					
[3]	3	10.86	5.95					
		1.635	165 (94.9)					
[4]	4	9.82	5.98					
		1.612	163 (93.6)					
[5]	5	10.21	5.90					
		1.668	169 (97.0)					
[6]	6	10.63	6.07					
		1.585	161 (92.4)					



COMPANY PROFILE

■ Company Profile

Name

YSK Systems Co.,Ltd.

Address

1-2-7 Mikawaguchi-cho, Hyogo-ku, Kobe city, 652-0815 Japan.

Tel: +81-78-681-7235 Fax: +81-78-671-2024

Established in 1992

Capital

10 Million JPY.

CEO

Mr. Makoto Kunishio.

Major Business Item

Development, Fabrication and Sales for

- 1) Electronic device such as sensor and measurement equipment.
- 2) Portable Diesel Engine Analyzer and Heat release soft wear.
- 3) Spare Parts for Marine Equipments.
- 4) Spurs Line and Net cutter system.

■ Major Customers

NYK Line

Mitsui O.S.K.Line

K-Line Ship Management

Japanese Fishery Agency

IHI/Diesel United

MHI Kobe / Nagasaki

Niigata Shipyard

Sasakura Engineering Co., Ltd

YSK Systems Co., Ltd





YSK Systems Co.,Ltd. <http://www.ysk-sys.co.jp>

1-2-7 Mikawaguchi-cho, Hyogo-ku, Kobe city, 652-0815 Japan.
Tel:+81-78-681-7235 Fax:+81-78-671-2024 E-mail:ysk@ysk-sys.co.jp