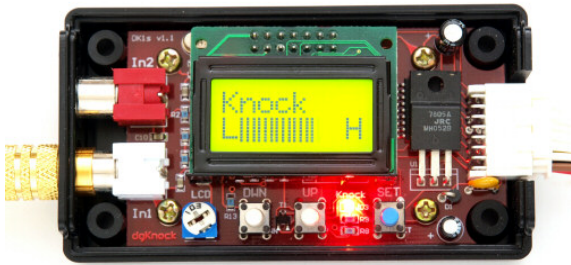


DK1s - DSP knock analyzer



Features

- Every one ignition is high-speed analysis.
- Only knock window Filtering.
- Highly precise in digital one by DSP technology.
- Programmable gain and a knock level.
- Knock frequency automatic setup by cylinder size.
- Band path filter by digital signal processing.
- Improvement in the knock S/N ratio by integration.
- Dwell time, Engine RPM display.
- Knock display, Red LED and External Output.
- Easy operation by three buttons.
- Knock level display by back light LCD

Description

DK1s is apparatus which measures the strength of a knock for every one ignition. One of the earliest methods which gets to know an engine combustion state is detection of a knock. DK1s detects a knock for every ignition in an engine, and overlooks not a knock. Only the period of a knock window is detected and it has the high performance by DSP processing.

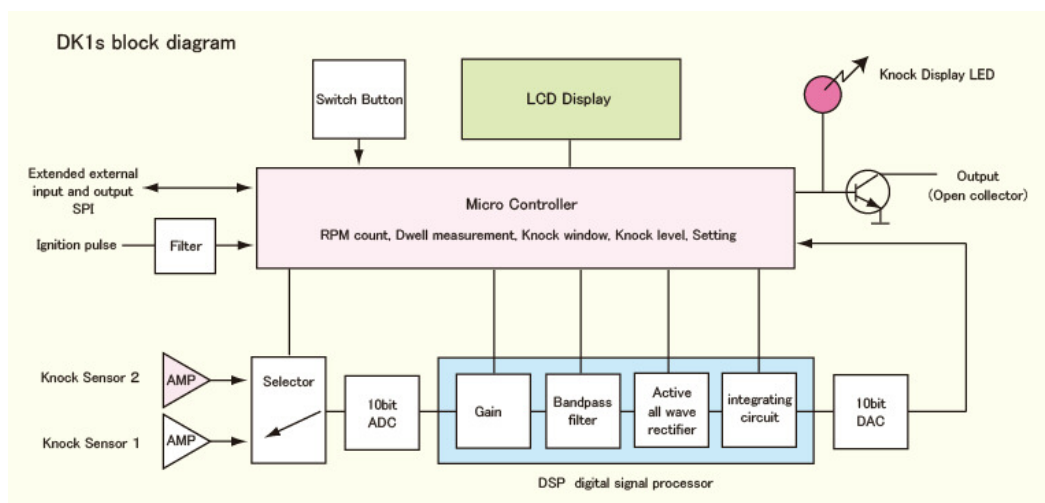
Purpose

- Knock detection at engine setting.
- Setup of turbo boost pressure and boost controller.
- Ignition timing adjustment for engine management.
- Safety control after the adjustment by Chassis Dyno.
- The check of fuel quality etc.

Product Contents

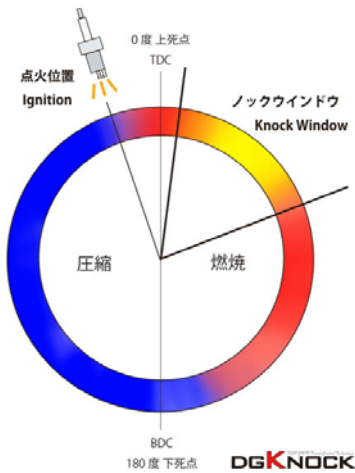
DK1s main unit
Power, igniter and output line connector cable.
Knock sensor cable with RCA pin-plug.
(Knock sensor is not enclosed)

Block Diagram



DK1s block diagram

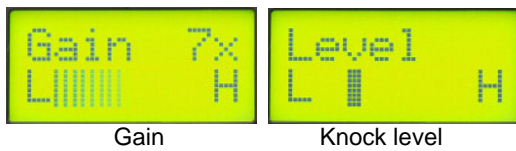
- Filtering processing is only Knock window.



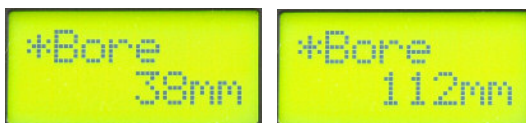
- Easy operation by three buttons, UP, DWN, SET.



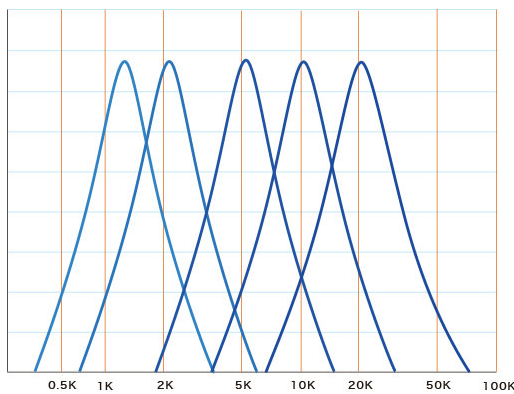
- Gain and knock level is programmable.



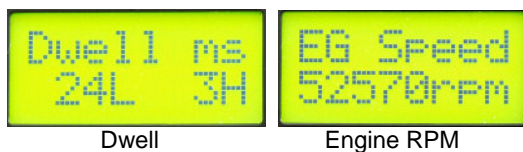
- Knocking frequency automatic setup at the diameter of a cylinder.



- Band path filter by digital signal processing.



- Dwell time displayed.



Specifications

Operating Voltage	7.8V to 17V DC
Input Current	50mA Typical
Igniter pulse Input	DC30V p-p Max
Cylinder diameter	38mm to 112mm
Response time	< 1mS (Every one ignition)
Sensors	Non-resonant type Knock sensor (Knock sensor kit is Optional)
Display	LCD Backlight character display LED High-intensity Red
Input	RCA Pin plug x 2 White Normal Input Red Optional Input
Interface	SPI
Output	Knock detect (Yellow line)
Output Current	250mA Max (Open collector)
Engine speed	300 to 13000rpm (8 cylinder)
Cylinder number	1, 2, 3, 4, 6, 8,
Ignition type	2cycle, 4cycle, Waste
Size	50mm x 90mm x 26mm
Weight	80g
Manufacture	KOTEC Made in Japan.