

KNOCK DEFENDER



By DMS Electronics Design
(ABN 95 651 040 899)

Introductory Guide

v1.00 (14-May-2012)

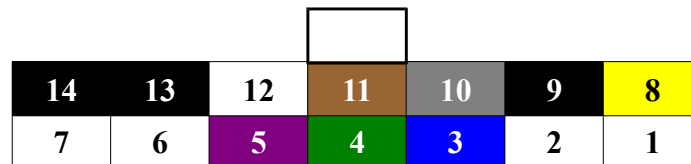
Thank you for purchasing **Knock Defender**.

This guide is intended to provide a summary of how to connect and get the hardware and software up-and-running, how to test it to confirm it works, and what to do when there are problems or if you have any questions.

Hardware

Before doing anything, it is best to plan what to do prior to performing any actions, such as cutting and soldering wires. Without having a plan will result in human error and many hours of time consumed to resolve simple-but-not-obvious problems.

Please connect Knock Defender (UNIVERSAL) as follows:



Knock Defender: CONNECTOR

<i>Knock Defender</i>			<i>HKS F-CON V Pro Gold ECU</i>	
<i>Pin</i>	<i>Description</i>		<i>Description</i>	<i>Pin</i>
3	Analog #2 OUTPUT	↔	RESERVED	
4	Analog GND	↔	OPTIONAL	
5	Knock Level OUTPUT	↔	Knock Level INPUT	23
8	POWER +5V INPUT	↔	+5V supply OUTPUT	40
9	Knock Sensor #2 GND	↔	Knock Sensor #2 GND	
10	Knock Sensor #2 INPUT	↔	Knock Sensor #2	
11	Knock Window INPUT	↔	Knock Window OUTPUT	61
12	Knock Sensor #1 INPUT	↔	Knock Sensor #1	
13	Knock Sensor #1 GND	↔	Knock Sensor #1 GND	
14	SYSTEM GND	↔	ECU GROUND	10

Knock Defender: Connection Diagram

Software

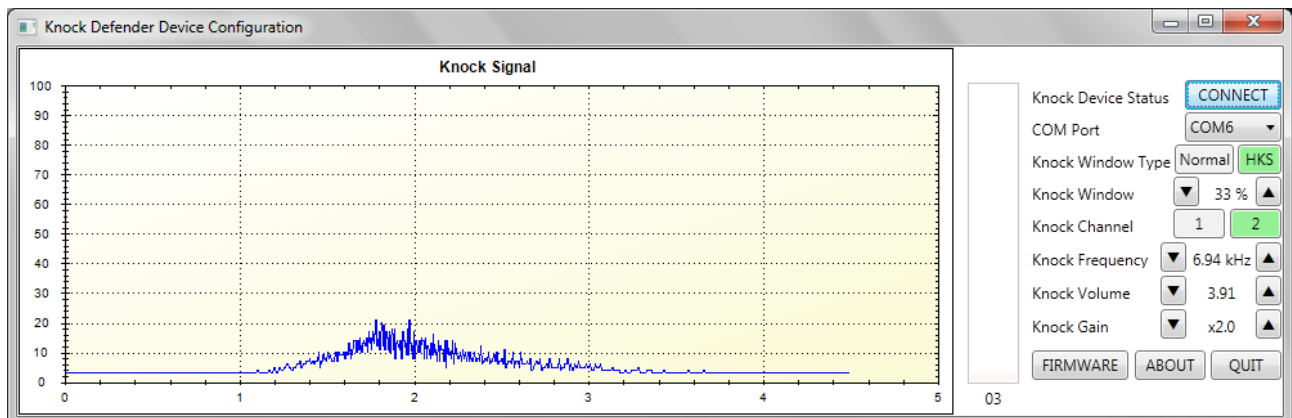
Download software from <http://1jzmerc.com/knockdefender/technical/files/>

- Configuration Interface - <http://1jzmerc.com/knockdefender/files/knockcfg.exe>
- Graphing Library - <http://1jzmerc.com/knockdefender/files/zedgraph.dll>
- Ignition Tuning Guide - <http://1jzmerc.com/knockdefender/files/Ignition-Tuning.pdf>
- USB Drivers -

http://www.prolific.com.tw/UserFiles/files/PL2303_Prolific_DriverInstaller_v1_11_0.zip

Steps:

- 1) Hardware must be connected to harness, which is then soldered onto HKS piggyback harness.
- 2) Connect USB cable to Laptop or computer.
- 3) Acc or Ignition Switch ON by key.
- 4) Knock Defender Orange LED should be ON (*Orange LED=waiting for firmware break key*)
- 5) After 10 seconds, Orange LED is OFF and Green LED blinks twice. It is now operational.
- 6) Start KnockCFG.EXE software
- 7) Appropriate COM port should be listed (*make sure PORT is UNUSED and not SHARED*)
- 8) Press CONNECT
- 9) CONNECT button should change to Green and ONLINE mode
- 10) Graph should be updating approximately every 100 msec.
- 11) Rev engine in neutral to 2000-3000 RPM. You should have the following:



Adjust settings according to engine and sensor (Window, Frequency, Volume, Gain)

Saving firmware-based setting is performed by cycling through "CONNECT" / "ONLINE" button.

Both Nissan RB25DET and RB26DETT sensors have been tested and no problems experienced.

Issues

If graph looks negative in behaviour (knock level is at 20 but spiking negatively), then ground and signal of flat-response sensor is connected in reverse!

If no signal at all, then quite possible that wiring is at fault (eg: knock window input)

If you have any unexplained problems, feel free to send an email to [john @ 1jzmerc.com](mailto:john@1jzmerc.com)