SKM Standalone Knock Module
Part Number #53116

Basic specifications

Inputs

- Knock sensor input
- Knock window input
- Power supply 8 V

Outputs

- Knock Signal
- Audio

Physical

- Case size 38 x 90 x 25 mm excluding connector
- Weight 100 grams
- 1 x 13 pin Autosport connector

Other information

Compatibility

- 'hundred series' ECUs – M400, M600, M800 and M880 – using ECU Manager software v3.5 and up
- *i2* data analysis
- All knock sensors

Related Software

- Gold Wave Audio Analysis Software for frequency analysis.
  Download from www.goldwave.com

Accessories

- Stereo headphones
- Knock sensor
- SKM tuning loom #61114 (optional)

User Manual
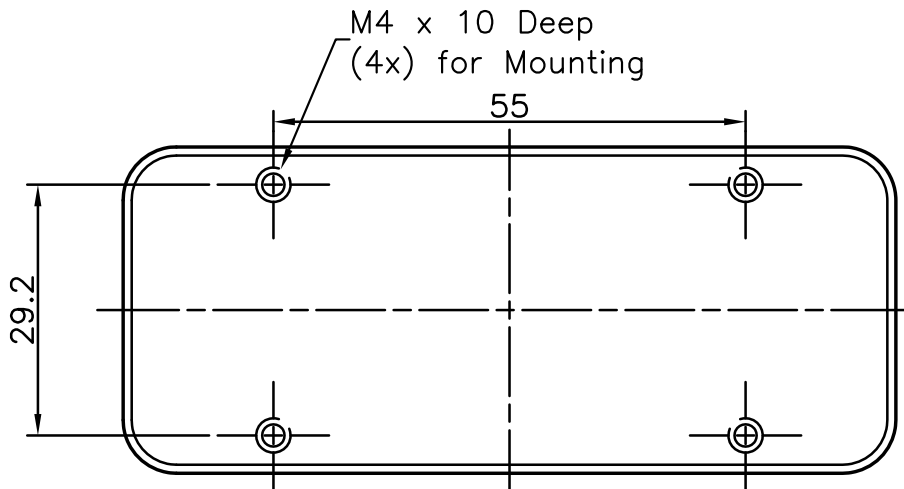
Download from www.motec.com/downloads

MoTeC's **Standalone Knock Module (SKM)** enables individual cylinder closed loop knock control on our 'hundred series' ECUs. The knock module allows tuners to safely optimise high performance ignition maps.

It is housed in a robust aluminium casing and can be mounted in the vehicle as required. It is wired between the ECU and the knock sensor.

To set up a reliable electronic knock control system it is necessary to determine knock levels accurately and differentiate knock from normal engine noise. MoTeC's Knock Modules use the vehicle's original, factory-fitted knock sensors to detect detonation, improving this detection by reducing the influence of background engine noise using a combination of data gating and frequency filtering.

A competent tuner needs to carry out a frequency analysis to determine the target frequency and knock module settings. This is highly specialised work and therefore the Knock Modules will only be available through authorised dealers that have undertaken specific training.

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Product specifications are subject to change

Dimensions

M4 x 10 Deep
(4x) for Mounting

55

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Connector, Pinout and Wiring

Connector			
Autosport 13 pin mating connector #65041			
SKM		Connect to	
Pin	Function	Device/connector	Input
1	Select 0		
2	Select 1		
3	Knock ECU Out	M400/M600/M800/M800	any available AV input, preferable a Lambda sense input
4	Knock Audio Out	3.5 mm stereo connector	tip (left channel)
5	Audio Ground	3.5 mm stereo connector	ring (ground)
6	Sensor 1 Input	knock sensor	signal
7	Sensor 2 Input		
8	Sensor 3 Input		
9	Sensor 4 Input		
10	Shield	knock sensor	shield
11	Knock Window	M400/M600	injector8 only
		M800/M880	any spare ignition or injector output
		3.5 mm stereo connector	via 100 KΩ resistor to ring (right channel)
12	8 V	M400/M600/M800/M880	8 V
13	Ground	M400/M600/M800/M880	ground

![MoTeC logo]
ENGINE MANAGEMENT &
DATA ACQUISITION SYSTEMS

PRODUCT
DATASHEET
SKM #53116 rev 1.0

SKM Tuning Loom #61114

Optionally MoTeC's SKM Tuning Loom can be used. It is wired with three connectors to connect to the ECU, the knock sensor and the headphones.

- Length of the ECU and knock sensor leads is 600 mm
- Length of the audio lead is 1850 mm

Connector 1
Stereo plug

Pin	Function	
Base	Audio Ground	Connect to stereo headphones
Middle right channel	Knock Window	
Tip left channel	Knock Audio Out	

Connector 2

2 pin DTM
Mating connector #68051

Pin	Function	Connect to knock sensor
1	Shield	Shield
2	Knock Signal	Signal

Connector 3

4 pin DTM
Mating connector #68054

Pin	Function	Connect to M400/M600/M800/M880
1	Ground	Ground
2	Knock ECU Out	Any available AV input, preferable a Lambda sense input
3	Knock Window	Any spare ignition or injector output **Note:** on M400/M600 injector8 only
4	8 V	8 V

SKM connector
1 — NC
2 — NC
3 — blue / knock ECU out
4 — white / knock audio out
5 — black / audio ground
6 — green / knock signal
7 — NC
8 — NC
9 — NC
10 — black / shield
11 — orange / knock window
12 — red / 8 V
13 — black / ground

Tip / Middle / Base — Connector 1 Audio
2 / 1 — Connector 2 Knock sensor
100K
1 / 2 / 3 / 4 — Connector 3 ECU