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RPM-8000-OBD2

RPM and SPEED measurement in cars via CAN "On-Board Diagnostics" interface with analog and pulse outputs



- No sensor installation required
- Direct reading of RPM and SPEED
- 16 pulse / engine revolutions
- 16 Hz / km/h

- Analogue and pulse output
- Display of RPM and SPEED
- Max. 10000 RPM and 250 km/h
- Universal 8-30VDC supply

RPM8000-OBD2 offers a discerning solution for automotive RPM measurement without an additional sensor. The information will read direct from the CAN-OBD2- interface (ISO 15765 CAN, 11/29Bit ID, 250/500 kBaud). The instrument is simply connected to the standard OBD2 connector and the RPM or SPEED is shown directly on the LCD display. You even have the choice to output the data as an analog voltage (0-5V) or as a digital pulse sequence (TTL).

The RPM measuring range of the analog output is 0.5 Volt per 1000 RPM. The standard TTL frequency output of 16 pulse per engine revolution can scaled with a frequency divider of 1:1, 1:2, 1:4, 1:8 or 1:16.

The SPEED measuring range of the analog output is 0.020V per km/h (0-5V = 0-250km/h) The TTL frequency output is 16Hz/km/h max. 250km/h.

Technical details:

Input source CAN-OBD2 Interface (ISO 15765 CAN BUS)
CAN 11 ident 250 KB, CAN 11 ident 500 KB

CAN 11 Ident 250 KB, CAN 11 Ident 500 KB CAN 29 ident 250 KB, CAN 29 ident 500 KB Update rate 10-20Hz (typical) or better

RPM8000OBD2 unit can up to 400Hz update rate, if supported from the car Engine control unit (ECU)

Supply voltage via CAN-OBD2 connector or 8-30 VDC

Current consumption 200 mA at 12V

RPM Analog output: 0-5V, 0.5 V per 1000 RPM, max. 10000 RPM

max. delay 50 ms (car timeout), min. delay 4ms,

typ. delay 10 ms

accuracy 0.5 % (tested with calibrator) output impedance 2 ohm 10 mA

RPM Digital output: 16 (1:1) per engine revolutions max. 10000 RPM

RPM frequency divider 1:1, 1:2, 1:4, 1:8 or 1:16

DIV 1:1 = 2666,66 Hz at 10000 RPM = 16pulse/rev. DIV 1:2 = 1333,33 Hz at 10000 RPM = 8 pulse/rev. DIV 1:4 = 666,66 Hz at 10000 RPM = 4 pulse/rev. DIV 1:8 = 333,33 Hz at 10000 RPM = 2 pulse/rev. DIV 1:16 = 166,66 Hz at 10000 RPM = 1 pulse/rev.

TTL level 0 and 5 V

output impedance 130 ohm

accuracy 0.5 % (tested with calibrator)

max. delay 50 ms (car timeout), min. delay 4ms,

typ. delay 10 ms

jitter 0.1 – 1 %

SPEED Analog output: 0-5V, 0.02 V per km/h, max. 250Hz

max. delay 50 ms (car timeout), min. delay 4ms,

typ. delay 10 ms

accuracy 0.5 % (tested with calibrator)

output impedance 2 ohm 10 mA

SPEED Digital output: 16Hz/km/h max. 250km/h = 4000Hz

TTL level 0 and 5 V

output impedance 130 ohm

accuracy 0.5 % (tested with calibrator)

max. delay 50 ms (car timeout), min. delay 3ms,

typ. delay 10 ms

jitter 0.1 - 1 %

Synchronization time ~ 2 seconds

Displays: graphic display: Divider, numeric and graphic

RPM and SPEED

LED green Power ON

LED green/red RPM supported over CAN

YES / NO (green/red)

LED green/red SPEED supported over CAN

YES / NO (green/red)

Rotary switch: frequency divider for RPM 1:1, 1:2, 1:4, 1:8 or 1:16

Rotary switch can switch-OFF the SPEED function

(only RPM measurement possible)

Connectors: BNC OUT for analog RPM and SPEED

BNC OUT for TTL frequency RPM and SPEED

OBD2 Plug for INPUT with 3m cable

Pin connection: 4 GND Car

5 GND Signal

6 CAN-High

14 CAN-Low

16 Battery (+)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



Dimensions: 150 x 100 x 30mm

Weight: 0.5kg without connection cable

Material: anodized aluminum

Operating temperature: -20°C to +70°C

Storage temperature: -30 to +80°C

Humidity: 20 – 80%

Vibrations: 5g

Shock: in all directions 100 g



RPM8000OBD2 - in transport case