



RPM-8000-DC

RPM measurement for DC engines via the power supply

Short description

The RPM-8000-DC was special developed for DC engine RPM measurements. This field of engineering becomes more important in the future regarding the low noise design of compact drives, e.g. in the automotive industry for electrical window opener, slide roofs and seat adjustments. The RPM-8000-DC will used on machines, where the drive shaft is not accessible or where conventional sensor mounting is to time and money expensive. The device will simply connected in series with the engine power supply, without any influence to it.

Every transition between two successive collector lamellas generates a small fluctuation of the engine current. This variations will detect, cleaned from interfering pulses and noise, amplified and converted to a TTL compatible frequency signal, which is per design proportional to the engine RPM. Simultaneously a potentiometer adjustable linear analog output signal will generated.

The sensor electronics will supplied from a separate voltage input in the range from 12 to 15V DC.

Specifications

Specifications for supported DC engines Supply voltage range: 0 – 48V Load current range: 0 - 10A or 0-80A	Sensor power supply Input voltage: 12 - 15V Supply current: ≈ 65mA
Digital frequency output Frequency range: 5Hz – 10kHz Pulse duty ratio: 0.4 – 0.6 Remaining jitter: ≈ 0.25ms Logic level: TTL Signal relations: Output frequency [Hz] = No. of collector lamellas * Engine RPM [min ⁻¹] / 60	Physical quantities Dimensions: 105 x 105 x 65mm (without connectors) Weight: 930g
Analog voltage output Voltage range: 0 - 10V Pot. adjustment range: 0 - 1V per 1000Hz Output impedance: 2Ω, 10mA max. Output ripple: ≈ 1% of voltage value (for 500Hz input frequency)	Environment conditions Operating temperature range: 0 - 70°C Storage temperature range: -20 - 70 °C Humidity: 20 - 80% non-condensing Vibration: 5g Mil Standard 810C, curve C Shock: 10g in all directions

Specifications are subject to change without notice!

Displays, adjustments and connectors

