



EIE

Frequency Meter for Diesel Lubricating Testing

EIE-MAC100

Frequency Meter for Diesel Lubricating Testing Instrument



Purpose and Function

The EIE-MAC100 frequency meter is a dedicated frequency detection device developed by our company for diesel lubricating testing instruments. It is centered around a microcontroller for functional control, measurement sequence management, data processing, and result display. By employing reciprocal counting technology, it achieves high-precision measurements across the full range. This device offers stable performance, comprehensive functionality, a wide measurement range, high sensitivity, a large dynamic range, excellent precision, compact size, and high reliability.

Functions: Frequency measurement, period measurement, time measurement, frequency ratio, pulse width, counting, and self-calibration. Time interval and pulse

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width measurements incorporate multiple average measurements within a fixed gate. Frequency measurements support multiple averaging, maximum value, minimum value, standard deviation, maximum deviation (maximum minus minimum), single deviation (from preset value), and PPM calculations. Storage and recall functions are included.

Specification

Technical Details	
Frequency Measurement Range	0–50 MHz / 100 MHz (single channel, switchable to 50 MHz / 1000 MHz)
Frequency Resolution	9 digits/second
Period Measurement Range	20ns-7000s
Time Measurement Range	40ns-7000s
Dynamic Range	30 mVrms – 1.5 Vrms (sine wave, 0.14 mHz – 100 MHz)
Measurement Accuracy	$\pm 2 \times 10^{-8}$ / gate
Coupling Mode	Channel 1: AC or DC
Input Impedance	Channel 1: 1 M Ω 45 pF or 50 Ω
Trigger Level	Arbitrarily set between -2.50 V and +2.50 V
Time Base	5 MHz temperature-controlled crystal oscillator
Stability	Better than 1×10^{-8} / day
External Time Base	5 MHz or 10 MHz (automatic switching)