SECTION TWO

SPECIFICATIONS

2.1   Flutter Measurement Section

Measurement frequency   10Hz ∿ 300kHz
range

Measurement center
frequency tuning

Automatic tuning	Tuning time: Within 2s after applying input signal. Tuning accuracy: ±1% with respect to input center frequency. Automatic retuning is performed if the center frequency varies more than ±5% (with retuning requiring no more than 1s).
Manual tuning	Any desired frequency may be tuned to using key operations.
Input level range	30mV ∿ 30Vrms
Input impedance	100kΩ, unbalanced

Measurement range

Drift	0.03% ∿ 30% (minimum resolution: 0.001%). Indicated on a 5 digit display.
Wow/flutter	0.01, 0.03, 0.1, 0.3, 1, 3, 10, 30% fullscale (8 ranges). Indicated on a 5 digit display (minimum resolution: 0.0001%).

Indication methods

Drift	Peak value indication
Flutter	Peak value indication ··· true peak indication. Rms indication ··· dynamic characteristics corresponding to JIS. Peak value indication ··· dynamic characteristics conforming to IEC (CCIR, DIN, ANSI, IEE, EIAJ).

Frequency characteristics

Drift	DC ∿ 0.5Hz
Flutter	Auditory weighting: To meet IEC and JIS standards. Non-auditory weighting: 0.5Hz ∿ Measurement frequency/4.3 −3dB+1dB. 0.5Hz ∿ Measurement frequency/10 −3dB+1dB. Rolloff: Low range: −6dB/oct or greater. High range: −15dB/oct or greater.

Lowpass filter

Lowpass filter	−24dB/oct
Automatic setting	Automatic setting to 1/4 or 1/10 of measurement frequency.
Manual setting	Any desired frequency using key operations. 3 digit setting (within range 1.00Hz ∿ 99.9kHz).
Frequency setting accuracy	−3dB+2dB attenuation at the cutoff frequency.

Memory measurement

Measurement method	Peak hold of flutter values.
Measurement time	1 ∿ 99s, settable in 1s steps (3 ∿ 99s for CCIR, DIN and JIS measurements).

Measurement time setting accuracy	Within $\pm5\%$
Start method	Local mode: Single or repeat Remote mode: Single
Reading time	Single mode: Up until start trigger is applied. Repeat mode: Up until completion of next measurement.
Sampling measurement	Digital display of the meter indication at any interval above the minimum of 20ms.
Digital drift display	Indicated every 1s on the counter display.
Measurement accuracy	$\pm5 \times 10^{-5}$
Digital flutter display	Indicated from the end of one measurement to the beginning of the next measurement,
Measurement accuracy	Memory measurement: $\pm2\%$ of fullscale. Sampling measurement: $\pm5\%$ of fullscale.

Outputs

Drift output	$+1VDC\pm5\%$ with respect to fullscale in each range. Output impedance: $600\Omega\pm20\%$
Flutter output	No lowpass filtering (1% ∿ 30%): $1Vrms\pm10\%$ with respect to fullscale in each range. Output impedance: $600\Omega\pm20\%$ Lowpass filtering: $1Vrms\pm5\%$ of fullscale in each range. Output impedance: $600\Omega\pm20\%$
Recorder output	$1VDC\pm5\%$ of fullscale in each range.

External filter	External filter output Output impedance: 600Ω+20%, 0.1Vrms+10% of fullscale in each range. External filter input Input impedance: 100kΩ+20%, unbalanced, 0.1Vrms+10% of fullscale in each range.

Sync input

Sync input level	TTL, Positive logic
Sync pulse width	5ms or less
Measurement wow/ flutter	0.1% or greater

2.2 Frequency and Rpm Measurement Section

Measurement frequency range	Counter-only mode: 1Hz ⌁ 1MHz
	Flutter mode: 10Hz ⌁ 300kHz
Input level range	100mV ⌁ 30Vrms
Input impedance	100kΩ+20%, unbalanced
Reference frequency accuracy	3×10^{-6}

Frequency counter

Display	5 digits (1s interval)
Measurement range	1.0000Hz ⌁ 999.99kHz
Measurement accuracy	$\pm 5 \times 10^{-5}$

Frequency counter

Display	5 digits (1s interval)
Measurement range	1.0000rpm ⌁ 99999rpm (The output frequency of the transducer used to measure rpm must be within the measurement frequency range).

No. of rpm transducer pulses	10 ∿ 9990 pulses (in 10 pulse steps) 1 Pulse (single)
Measurement accuracy	$\pm 5 \times 10^{-5}$

F-V Output

Measurement range	1Hz ∿ 1MHz in 5 ranges 1 ∿ 100Hz, 100Hz ∿ 1kHz, 1 ∿ 10kHz, 10 ∿ 100kHz, 100kHz ∿ 1MHz
Output timing	Output for every period of the input signal (100Hz, 1kHz, 10kHz, 100kHz). Output for every 10 periods of the input signal (1MHz).
DC Output voltage	10.0VDC$\pm$5% for fullscale of each range.
Output impedance	600Ω $\pm$20%
Digital output	12-Bit binary code: positive logic Print command: Negative logic Measurement start signal: Negative logic Fanout: 2 TTL loads

2.3 General Specifications

GP-IB Interface functions	SH1, AH1, T50, L3, LE0, SR1, RL1, PP0, DC1, DT1, C0.
Control	All panel control functions are provided.
Data output	Drift (%) Flutter (%) Frequency (Hz, kHz) . Rpm
Status register	Display of measurement in progress, presence of input signal and errors.

Power supply	100/115/215/230VAC±10%
Outer dimensions	Approx. 430(W) x 115(H) x 420(D)mm
Weight	Approx. 11kg