

Diesel Engine Tachometers

GE-1400

For diesel engine measurement applications

HT-6100

External sensor input type

For diesel engine and general rotating objects



GE-1400



HT-6100

ONO SOKKI

GE-1400

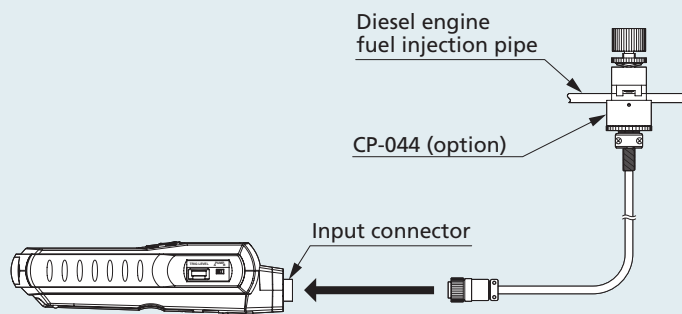
Diesel Engine Tachometer

For diesel engine measurement applications

- 1 Built-in memory function**
20 data (MAX) can be saved to memory.
- 2 Three outputs— analog, monitor and pulse— provided as standard**
Use the analog output function to record the number of rotations, the monitor output function to check the sensor's detection waveform, and the pulse output function to output rotation synchronization signals.
- 3 Large LCD with backlight**
(Character height: 10.2 mm)
- 4 Trigger adjustment function provided**
- 5 Can be mounted on a tripod**
The tachometer can be fixed to a tripod for continuous measurement.



Measurement method



Specifications			
Applicable engines	Four-cycle diesel engines		
Detection method	Detection of the pulsation generated by the injection pipe at the time of fuel injection		
Compatible detector	CP-044 (option)		
Calculation method	Cycle calculation method		
Measurement time	Within 1 s + the time required for one cycle		
Display	5-digit LCD, with backlight (character height: 10.2 mm)		
Display update time	1 ±0.2 s		
Measurement units	r/min, r/s		
Measurement range	400 to 8000 r/min (r/s is the range when the r/min measurement value is divided by 60)		
Measurement accuracy	Displayed value * x (±0.02%) ±1 count * The displayed value is the count value excluding figures after the decimal point.		
Measurement functions	Memory function	20 data (MAX)	
	Over-range function	The over-range alarm (ERROR mark) is displayed when the measured value exceeds the display range.	
	Rotation upper limit alarm function	The upper limit alarm (↑ mark) is displayed when the number of rotations exceeds the preset upper limit value.	
	Trigger level adjustment function	A rotary dial at the right-hand side of the device is used to adjust the trigger level.	
Output section	Analog output	Description of output function	Output with respect to the displayed rotation values
		Output voltage	0 to 1 V/0 to FS (FS is freely selectable)
		Conversion method	10-bit D/A conversion
		Linearity	±1%/FS
		Output update time	Within 50 ms + the time required for 1 cycle
		Temperature stability	±0.05%/FS/°C (span & zero)
		Setting error	±0.5%/FS
	Monitor output	Description of output function	Analog output for monitoring purposes after waveform reshaping of the sensor signal
		Load resistance	At least 100 kΩ

Output section	Pulse output	Output voltage	Hi level: At least +4.5 V Lo level: Up to +0.5 V
		Output logic	Positive logic
		Load resistance	At least 100 kΩ
General specifications	Power source	Four AAA alkaline batteries or exclusive AC adapter (PB-7080, Option)	
	Battery life	At least 16 hours (when the backlight is OFF) At least 8 hours (when the backlight is ON)	
	Low battery alarm indicator	A low battery alarm (LOW mark) is displayed when the battery voltage falls below 4.4 V.	
	Operating temperature range	0 to 40°C	
	Storage temperature range	-10 to 50°C	
	Outer dimensions	186.5 (W) x 47.5 (H) x 66 (D) mm	
	Weight (including batteries)	Approx. 280 g	
Accessories	Signal cable (AX-501)	1	
	AAA alkaline batteries	4	
	Carrying case	1	

Note: Please refer to the User's Manual for the operating procedures.

CP-044 Specifications		*Option (sold separately)
Applicable engines	Diesel engines	
Detection method	A piezoelectric element is used to detect pulsation at the time of fuel injection	
Applicable pipe diameter	ø4 to 8 mm	
Piezoelectric element withstand compressive pressure	1,960 bar	
Measurement range	400 to 6000 r/min	
Operating temperature range	0 to +80°C	
Weight	Approx. 120 g	
Output cable length	Approx. 4.9 m	

HT-6100

Handheld Digital Tachometer

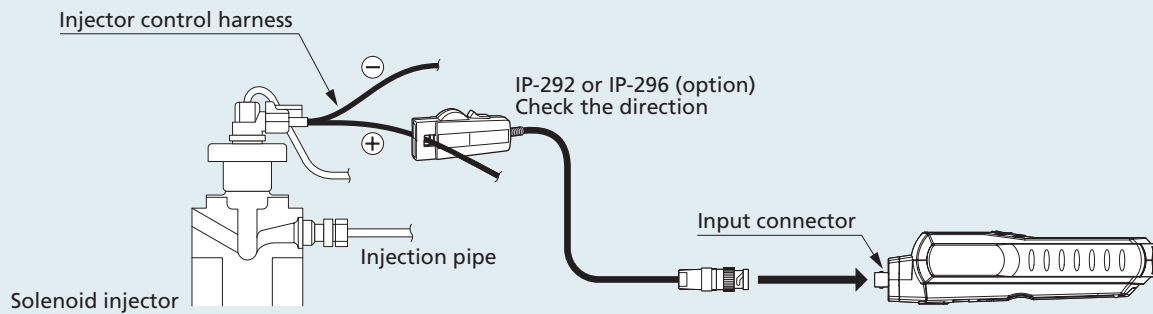
For the measurement of diesel engine
and of various rotating objects (external sensor input type)

- 1 Can be used with various sensors**
The HT-6100 can be used with the optional IP-292, IP-296, IP-3000 detectors, as well as with TTL signal output detectors.
- 2 Three outputs— analog, monitor and pulse— provided as standard**
Use the analog output function to record the number of rotations, the monitor output function to check the sensor's detection waveform, and the pulse output function to output rotation synchronization signals.
- 3 Built-in peak hold function**
The maximum and minimum values can be displayed during measurement.
- 4 Large LCD with backlight**
(Character height: 10.2 mm)
- 5 Built-in memory function**
20 data (MAX) can be saved to memory.
- 6 Can be mounted on a tripod**
The tachometer can be fixed to a tripod for continuous measurement.



HT-6100

Measurement method



Specifications

Applicable engines	Diesel engine, general rotating objects		
Compatible detectors	IP-292, IP-296, IP-3000, TTL signal output detectors		
Object of measurement	Ignition coil, primary/secondary ignition cables, ECU rotation pulses (5-V)		
Calculation method	Cycle calculation method		
Measurement time	Within 1 s + the time required for one cycle		
Display	5-digit LCD, with backlight (character height: 10.2 mm)		
Display update time	1 ± 0.2 s		
Measurement units	r/min (when the IP-292, IP-296 or IP-3000 detector has been selected) r/min, r/s, m/min, ms, COUNT (when a TTL signal output detector has been selected)		
Measurement ranges		IP-292, IP-296, IP-3000	TTL signal output detector
	r/min	120 to 20000	100 to 99999
	r/s	—	1.66 to 999.99
	m/min	—	0.3 to 9999.9
	COUNT	—	0 to 99999
	ms	—	0.6 to 300.0
Measurement accuracy	*The number of pulses per rotation (0.5 to 200.0 P/R) is freely selectable.		
	Displayed value × (±0.02%) ± 1 count * The displayed value is the count value excluding figures after the decimal point. The measurement accuracy of the line speed depends on the rotational (r/min) accuracy.		
Measurement functions	Peak hold function	Maximum value (MAX), minimum value (MIN)	
	Memory function	20 data (MAX)	
	Over-range function	The over-range alarm (ERROR mark) is displayed when the measured value exceeds the display range.	
	Rotation upper limit alarm function	The upper limit alarm (↑ mark) is displayed when the number of rotations exceeds the preset upper limit value.	
	Line speed calculation function	Calculates the line speed from the preset diameter value (mm) and the measured number of rotations	
	Accumulating function	Provides a cumulative count of the input signal pulses	
	Cycle measurement function	Measures the input pulse cycle (however, when the cycle is less than 1 s, measures the mean value of the input pulses)	
	Trigger level adjustment function	A rotary dial at the right-hand side of the device is used to adjust the trigger level.	

Output section	Analog output	Description of output function	Output with respect to the displayed rotation values	
		Output voltage	0 to 1 V/0 to FS (FS is freely selectable)	
		Conversion method	10-bit D/A conversion	
		Linearity	±1%/FS	
		Output update time	Within 50 ms + the time required for 1 cycle	
		Temperature stability	±0.05%/FS/°C (span & zero)	
	Monitor output	Description of output function	Analog output for monitoring purposes after waveform reshaping of the sensor signal	
		Load resistance	At least 100 kΩ	
	Pulse output	Output voltage	Hi level: At least +4.5 V Lo level: Up to +0.5 V	
		Load resistance	At least 100 kΩ	
General specifications	Power source	Four AAA alkaline batteries or exclusive AC adapter (PB-7080, Option)		
	Battery life	At least 16 hours (when the backlight is OFF) At least 8 hours (when the backlight is ON)		
	Low battery alarm indicator	A low battery alarm (LOW mark) is displayed when the battery voltage falls below 4.4 V.		
	Operating temperature range	0 to 40°C		
	Storage temperature range	-10 to 50°C		
	Outer dimensions	189.5 (W) × 47.5 (H) × 66 (D) mm		
	Weight (including batteries)	Approx. 280 g		
	Accessories	AAA alkaline batteries	4	Carrying case

Options (sold separately)

For the GE-1400	Diesel engine rotation detector CP-044		For the SE-2500 and HT-6100	AC adapter PB-7080	Signal cable (For both analog and pulse output signals) AX-501
	Ignition detector IP-292	Ignition detector IP-296		Magnetic stand/Stand jig HT-0522/0521A	Tripod LA-0203A
For the HT-6100	Ignition detector IP-3000		(shown with tachometer mounted)		

*Separate detectors are required for the GE-1400 and HT-6100.

External diagrams

(Unit: mm)

<p>▼ GE-1400</p>	<p>▼ HT-6100</p>
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*Outer appearance and specifications are subject to change without prior notice.

URL: <http://www.onosokki.co.jp/English/english.htm>

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