

Elevator Speedometer EC-2100

Robust and high performance

- Analog output function
- Maximum value hold function
- Memory function
- Display of remaining battery level
- Auto power off function
- Wide measurement range up to 2,000 m/min
- Distance measurement function (option)
- Selectable measurement unit (mm or feet)



External detector
EC-0201 (option)

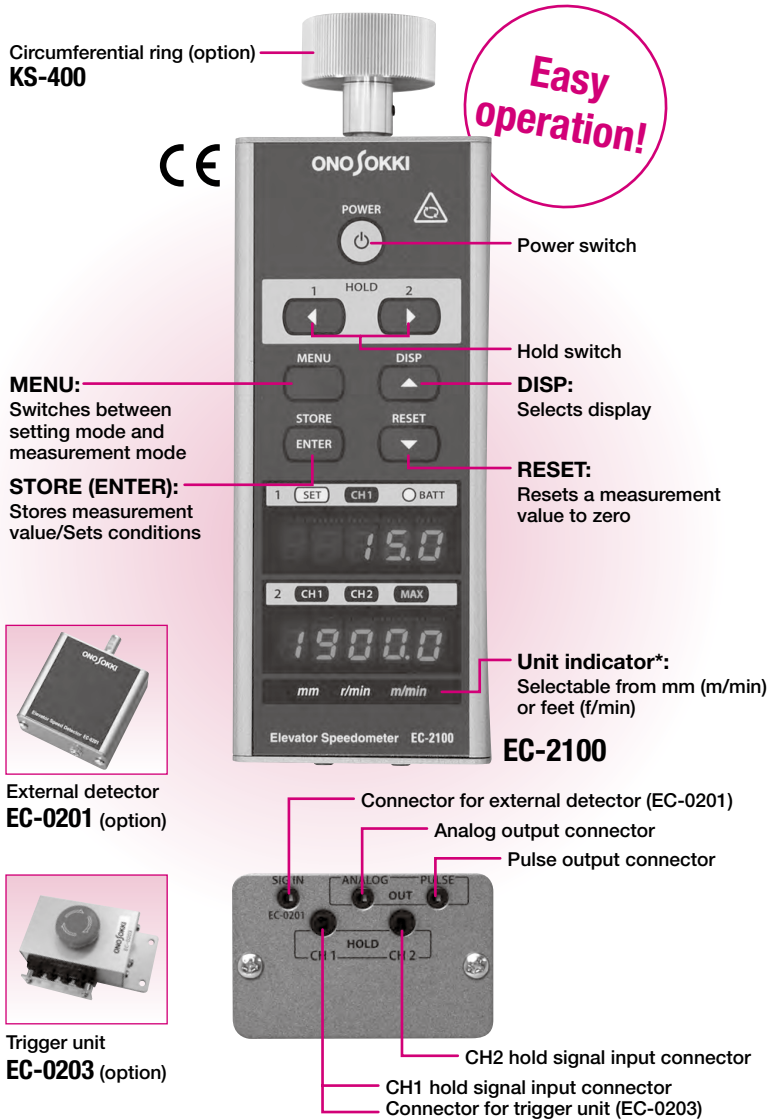
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Elevator Speedometer EC-2100

More functional elevator speedometer with higher performance!

As well as elevator speed, the EC-2100 also measures actual moving distance of an escalator after emergency stop operation.

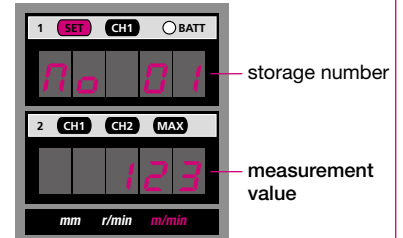
The EC-2100 is a compact, light weight and robust handheld speedometer designed for use in elevator adjustment, maintenance and inspection. It measures speed only by pressing a circumferential ring lightly to an elevator pulley or a handrail of an escalator. Distance also can be measured as an option.



New functions!

1 Memory function

Up to ten measurement results can be stored to the main unit. Selected measurement item and unit are lit up.



2 Analog output function

The voltage output with 0 to 1(V) is useful for data recording and graph creation on other secondary devices. F.S. setting can be freely made depending on the measurement object.

3 Maximum value hold function

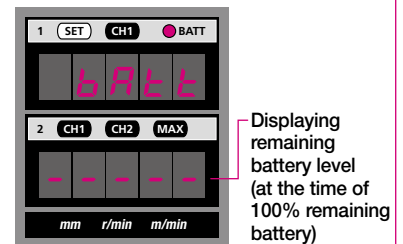
This function can hold the maximum value during measurement. The latest update value is displayed. It can be used with the external hold function.

4 Averaging function

This function enables averaging of speed (m/min) and rotation speed (r/min). The number of averaging times can be set up optionally from 1 to 200.

5 Display of remaining battery level function

This function provides against running out the battery on site.

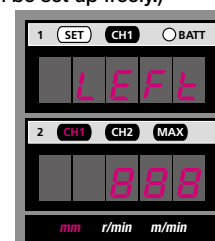


6 Auto power off function

A delay of three minutes after last button operation or signal input lets the EC-2100 automatically turn the power off for saving battery.

7 Distance measurement function EC-0202 (option)

The EC-0202 measures moving distance within the specified time. Plus/minus display shows the rotation direction. (Can be set up freely.)



*The EC-0202 will be installed at the time of purchase. Please consult us for details.

Improved performance!

1 Wide measurement range and higher-speed measurement

The measurement range of rotation is twice as many as the EC-900* (up to 2,000m/min), and only 1/10 calculation time of the EC-900* is required to save calculation time.

* EC-900: previous model of ONO SOKKI.

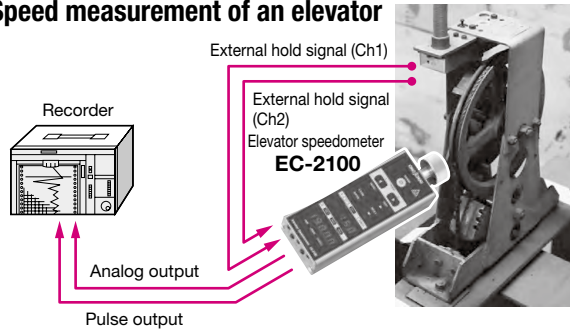
2 Applicable to CE marking

Noise-immune design to make accurate measurement even under strong noise environment.

For measurement of both an escalator and an elevator by the EC-2100!

Applications

• Speed measurement of an elevator



Make a measurement by attaching the circumferential ring to a pulley of governor or a rope. The instantaneous value is displayed by using the hold switch [1][2] on the main unit or using an external hold signal.

Maximum value measurement

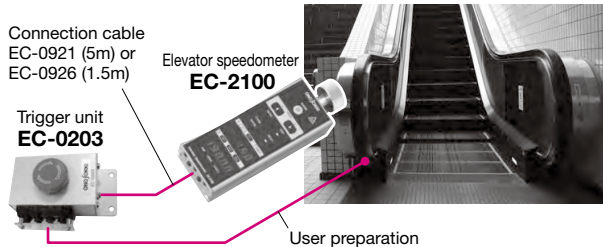
The maximum value during measurement can be held and displayed on the lower screen by [DISP] button.

Memory of the measurement results

The EC-2100 has memory function to store the measurement results to the main unit. The data of CH1, CH2 and MAX value are stored in rotation measurement (m/min, r/min), and the measurement value, sign and rotation direction in distance measurement (mm). The stored data can be read in the setting mode by [MENU] switch.

• Moving distance measurement of an escalator after emergency stop operation

(Distance measurement function: EC-0202,option)



Example of measurement results

When a leftward movement of a handrail is set as +



Moving distance of an escalator after emergency stop can be measured by pressing a circumferential ring to a handrail. Plus/minus display shows the rotation direction.

Measurement using trigger unit EC-0203 (option)

Connect the EC-2100 to an escalator by the EC-0203 trigger unit. Pushing the trigger button brings the escalator to an emergency stop and the measurement starts. When two seconds have passed after the measurement ends, the EC-2100 holds the measurement result and prevents miscount.

Measurement not using trigger unit

The hold switch [1][2] on the main unit starts and stops the measurement.

Specification

EC-2100 Elevator Speedometer

Measurement method	Contact type	
Measurement range	Speed*1	0.1 to 2,000.0 (m/min) or 1 to 6,500.0 (f/min)
	Rotation speed	1 to 20,000 (r/min)
	Distance (sold separately)*1	0 to ±999 (mm) or 0 to ±3.280 (feet)
	Note: Distance measurement up to ±5,000mm or ±9.999feet is available. However, measurement values more than ±999mm or ±3.280feet is not guaranteed.	
Measurement accuracy	±1 count	
Measurement time	10ms	
Display	5-digit red LED x 2 (upper and lower display)	
Display update time	100ms	
Resolution*1	0.1 (m/min) or 0.328 (f/min)*2, 0.1 (r/min) (the number of averaging times:10 or more), 1 (mm) or 0.001 (feet)	
Measurement unit*1	m/min or f/min, r/min, mm or feet (used for distance measurement, sold separately)	
Auto power off function	A delay of three minutes after last operation automatically lets the power off.	
Data hold function	Data hold of each channel (CH1, CH2, MAX).	
Averaging function	Number of averaging is selectable from 1 to 200 times	
Memory function	Up to ten measurement results can be stored to the main unit.	
Output section		
Analog output	Output signal	Instantaneous value after averaging processing
	Voltage range	0 to F.S./0 to 1V
	Conversion method	10-bit D/A conversion
	Linearity	±1% F.S.
	Output update time	10ms
	Output connector	ø2.5 pin-jack
Pulse output	Output method	Transistor output (open collector)
	Voltage withstanding	14V
	Current	20mA or less
	Number of pulses	600 pulses/rotation
	Logic	Negative logic
	Pulse width	Approx. 0.5 to 1.2µs
	Output connector	ø2.5 pin jack
	Output connector	ø2.5 pin jack
Detector section		
Number of generated pulses	150 pulses/rotation, slit reflection method	
Light source	Infrared-emitting diode	
Light receiving element	Photodiode	
Allowable load	Radial:5kg, thrust:5kg	
Bearing life	2 x 10 ⁷ r/min·h (at the time of maximum load within the specification)	
General specification		
Power supply	Type AA battery x 3 pieces	
Battery life	15 hours or more (continuous using at room temperature)	
Current consumption	100mA max. (power voltage 4.5V)	
Operating temperature range	0 to 45°C	
Storage temperature range	-10 to 60°C	
Outer dimensions	60 (W) x 162 (L) x 38 (D)mm (same as the EC-900)	
Weight	Approx. 423g (including batteries, not including circumferential ring)	
Accessories		
	• EC-0922 External hold signal cable (1.4m)	x 2 piece
	• EC-0925 Carrying case	x 1 piece
	• Hexagonal wrench (1.5mm between opposing side)	x 1 piece
	• Type AA battery	x 3 pieces

*1: The measurement unit is selectable from mm (m/min) or feet (f/min). Please specify the unit at the time of order.

*2: Displaying to the first decimal point.

EC-0201 External detector

Detection section		
The number of generated pulses	150 pulses/rotation slit reflection method	
Light source	Infrared-emitting diode	
Light receiving element	Photodiode	
Allowable load	Radial: 5kg, thrust: 5kg	
Bearing life	2 x 10 ⁷ r/min·h (at the time of maximum load within the specification)	
General specification		
Power supply	Supplied from the EC-2100 (uses the EC-0921 external detector signal cable)	
Operating temperature range	0 to 45 °C	
Storage temperature range	-10 to 60 °C	
Outer dimensions	60 (W) x 76 (L) x 38 (D)mm with jig mounting hole (4-M4 depth 8) (same as the EC-091)	
Weight	Approx. 214g	
Accessories		
	External detector signal cable EC-0921 (5m) x 1 piece (connection for the EC-2100 and the EC-0201)	

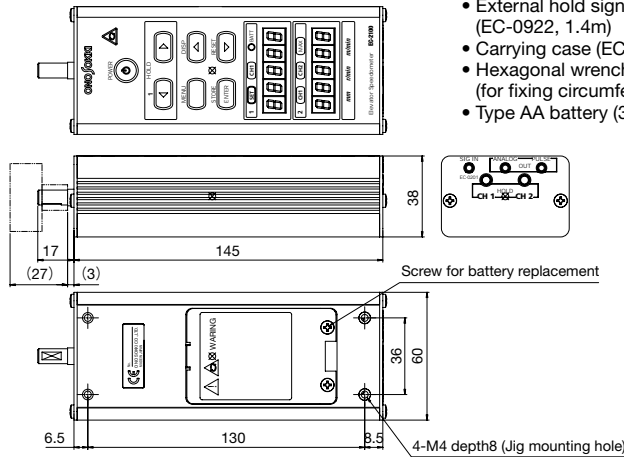
EC-0203 Trigger unit

Connecting section		
Connector	• Connection to the EC-2100 elevator speedometer CH1	
Terminal	• Connection cable: EC-0921 (5m) or EC-0926 (1.5m)	
	• Connection to an escalator	
	• B contact signal	
	• Push the button to be contact off.	
	* The cable between an escalator emergency stop device and the trigger unit: user preparation.	
Outer dimensions	50 (W) x 100 (L) x 47 (D)mm	
Accessories	Mounting fixture x 2 pieces	

Note: For your safety, fix the main unit or external detector (EC-0201) when the measurement range exceeds 1,000 m/min (10,000 r/min).

EC-2100 Elevator Speedometer

● Outer dimensions (unit: mm)



● Accessories

- External hold signal cable (EC-0922, 1.4m)
- Carrying case (EC-0925)
- Hexagonal wrench (for fixing circumferential ring)
- Type AA battery (3 pieces)

Options

Circumferential ring (wide type)
KS-400



Circumferential ring (narrow type)
KS-500



Circumferential ring (rubber coating wide type)
KS-0800



Rotating contact tip
KS-300



Relay shaft for rotating contact tip
EC-0924

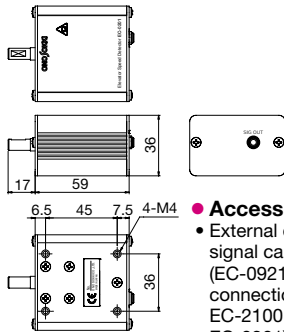


External hold signal detection switch
EC-001A



EC-0201 External detector

● Outer dimensions (unit: mm)

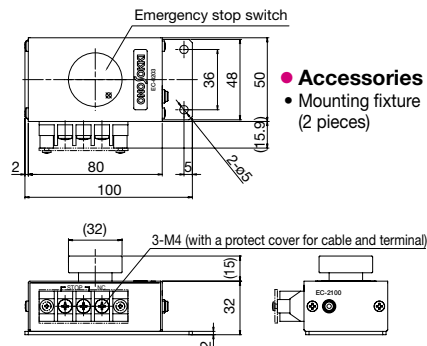


● Accessories

- External detector signal cable (EC-0921, 5m, connection for the EC-2100 and the EC-0201)

EC-0203 Trigger unit

● Outer dimensions (unit: mm)



● Accessories

- Mounting fixture (2 pieces)

- EC-0201 External detector
- EC-0202 Distance measurement function
- EC-0203 Trigger unit
- EC-0921 External detector signal cable (5m)
(Connection for the EC-2100 and EC-0201)
(Connection for the EC-2100 and EC-0203)
- EC-0922 External hold signal cable (1.4m) (2 pieces to a set)
- AX-501 Analog output cable (2m)
- EC-0923 Pulse output cable (2m)
- EC-0925 Carrying case
- EC-0926 Trigger unit cable (1.5m)

Offering a good solution for measuring the opening and closing door speed



HT-5510 Digital Handheld Speedometer

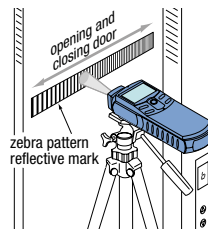
● Accessories

- HT-0502 Contact adapter x 1
- KS-300 Rotating contact tip x 1
- KS-200 Circumferential ring x 1
- High accurate zebra pattern reflective mark 1 (m) x 2
- Reflective mark (12mm x 12mm, 25 marks per one sheet) x 1 sheet
- Type AAA battery 1.5V x 4
- Carrying case x 1
- Instruction manual x 1

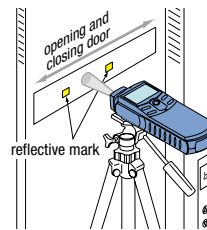
The HT-5510 Digital Handheld Speedometer measures opening and closing door speed and its time, such as an elevator, a train or a safety fence. An accurate zebra pattern reflective mark is attached to measure the speed, and a reflective mark to measure the time. It is also used for measurement of general rotating objects. Data recording can be available on a data logger using analog output and pulse output.

Measurement examples

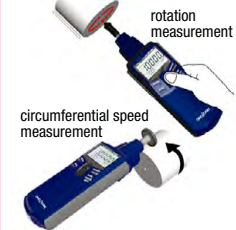
● Measuring speed of opening and closing door



● Measuring time of opening and closing door



● Measuring general rotating objects



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• Outer appearance and specifications are subject to change without prior notice.

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