



# HS-A Series

## Handy Scale Portable Weighing Systems



### Renewed, easy-to-use indicator

- The weight of the indicator is less than half.
- A new UI
- Built-in battery, no power required!
- With the built-in printer
- Saving data (USB memory for transferring data to PC)

This is a vehicle weight scale that can measure weight simply by setting the detectors on the road surface and riding the vehicle onto it.

### System Standards

<b>System Components</b>	See table below.
<b>Specifications of Indicator</b>	Note that the followings are the main specifications of the indicator.
<b>Display Values</b>	Integer (at the time of standard shipment) (Note) Before shipment, we are able to inspect the indicator which displays 1 digit after decimal point.
<b>Display Contents</b>	<ul style="list-style-type: none"> <li>Wheel load, axle load, left &amp; right, total weight</li> <li>Cross percentage display</li> <li>Wheel load, axle load, and left &amp; right weight can be displayed in "kg" or "%".</li> <li>Cross percentage display indicates the ratio of the weight of the right front wheel + left rear wheel, or the left front wheel + right rear wheel to the total weight.</li> </ul>
<b>Unit to Display</b>	kg (%)
<b>Printer</b>	Thermal roll paper (width: 58 mm, roll diameter: 38 mm, length: 19 m) Model: TP-S245L-1
<b>Power Supply</b>	10 to 30 VDC, max. 30 W 100 to 240 VAC (When using the accessory AC adapter for charging.)
<b>Operating Temperature</b>	Indicator: -10 to 40°C (Charging is from 0 to 40°C) Detector: -10 to 60°C *Use in an environment with no condensation. Avoid sudden temperature changes during storage and measurement.
<b>Place of Use</b>	Since the gravitational acceleration differs depending on the location of use, display errors may occur depending on the location of use. If the area of use has been determined in advance, please specify it when ordering.
<b>Note</b>	<ul style="list-style-type: none"> <li>Please measure on a horizontal paved surface with no unevenness on the installation surface. Do not allow foreign objects to be caught between the installation surface and the detectors. Measurement accuracy may be adversely affected. Please check the installation surface carefully before use.</li> <li>If there is vibration during measurement, the measured value may not be stable.</li> <li>The detectors are drip-proof. Submersion in puddles, environments where the product is exposed to water such as in rainy or snowy environments, and environments where the product is exposed to high-pressure water streams or water spray during high-pressure washing may cause malfunctions.</li> <li>The indicator has no protection class. Submersion in puddles, environments exposed to water such as in rainy or snowy, environments exposed to high-pressure water streams or water spray such as high-pressure washing, or use in hot or direct sunlight that exceeds the operating temperature range may cause malfunction.</li> </ul>

<b>Standard Accessories</b>	AC adapter (Included in HS-M-040A) Printer paper TP-S245L-1 (Included in HS-M-040A) Sensor soft case Cable bag
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### System Components

Model	Rated capacity	Maximum wheel load	System accuracy*1	Detectors and connection cables	Detector	Indicator	Connection cable length
HS-A-1001-4	Z5	4000 kg	1000 kg	4 units	HS1001-N	HS-M-040A	5 m
HS-A-1001-4	Z10	4000 kg	1000 kg		HS1001-N		10 m
HS-A-1002-4	Z5	8000 kg	2000 kg		HS1002-NA		5 m
HS-A-1002-4	Z10	8000 kg	2000 kg		HS1002-NA		10 m
HS-A-1003-4	Z5	12000 kg	3000 kg		HS1003-NA		5 m
HS-A-1003-4	Z10	12000 kg	3000 kg		HS1003-NA		10 m
HS-A-1005-4	Z5	20000 kg	5000 kg	4 units	HS1005-N	HS-M-040A	5 m
HS-A-1005-4	Z10	20000 kg	5000 kg		HS1005-N		10 m

\*1 System accuracy is when used at 25 ±10°C.

\*Z5 and Z10 are connection cable lengths. Z5: 5 m, Z10: 10 m.

\*Types with 2 or 3 exits can also be manufactured. (6 and 8-unit types are scheduled to be released within this year.)

## Specifications of Indicator

Measuring Target	Strain-gage load sensor
Channel	4
Bridge Excitation	5 VDC
Nonlinearity	Within $\pm 0.03\%$ FS
Indicated Value Accuracy	Within $\pm 0.1\%$ FS*1
Minimum Display Range	0.01 kg
Printer Type	Thermal
Printer	Wheel load, axle load, left & right, total weight, ratio percentage display, cross percentage display
Display	LCD
Operating Temperature	-10 to 40°C (0 to 40°C when charging)
Operating Humidity	20 to 80% (Non-condensing)
External Dimensions	363 W × 284 D × 121 H mm (Excluding protrusions)
Weight	Approx. 3.3 kg
Data Extraction Media	USB flash drive
Power Supply	10 to 30 VDC, max. 30 W 100 to 240 VAC (When charging with the supplied AC adapter)
Type of Battery	Lithium-ion battery
Battery Life	7 h or more (Ambient temperature: 25 $\pm$ 10°C, when using new battery)
Charging Time	7 h or less (Ambient temperature: 25 $\pm$ 10°C, when using new battery)

\*1 When calibrated with rated capacity [1000 kg] and rated output [1 mV/V].

**Standard Accessories** AC adaptor  
Printer paper TP-S245L-1

**Optional Accessories** Dummy plug PRC03-12A10-7M-ZDP

## Specifications of Detector

<b>Performance</b>	
Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.1\%$ RO
Hysteresis	Within $\pm 0.1\%$ RO
Repeatability	0.1% RO or less
Rated Output	Approx. 1.0 mV/V (2000 $\times$ 10 <sup>-6</sup> strain) HS1002-NA: Approx. 0.7 mV/V (1400 $\times$ 10 <sup>-6</sup> strain)

## Environmental Characteristics

Safe Temperature	-20 to 70°C (Non-condensing)
Compensated Temperature	-10 to 60°C (Non-condensing)
Temperature Effect on Zero	Within $\pm 0.01\%$ RO/°C
Temperature Effect on Output	Within $\pm 0.01\%$ /°C

## Electrical Characteristics

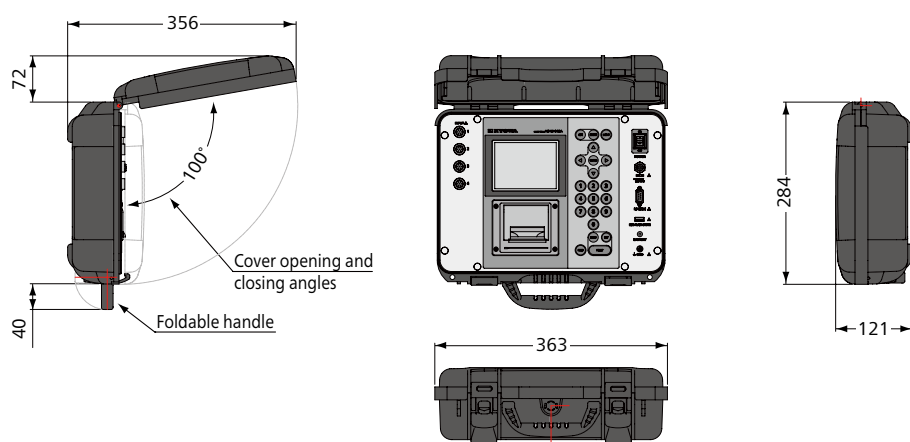
Safe Excitation	20 VDC
Recommended Excitation	1 to 10 VDC
Input Resistance	395 $\pm$ 5 $\Omega$
Output Resistance	350 $\pm$ 5 $\Omega$
Cable	4-conductor (0.3 mm <sup>2</sup> ) chloroprene shielded cable, 6 mm diameter by approx. 20 cm long (HS1005-N: approx. 25 cm), terminated with a connector plug NJW-207-AdF6 (Shield wire is connected to the case.)

## Mechanical Properties

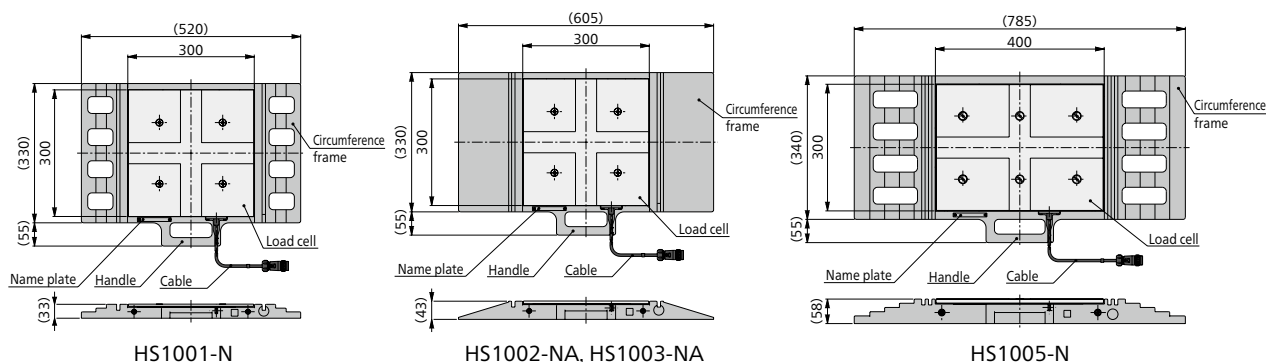
Safe Overloads	120%
Weight	See table below. (Including cable)
Degree of Protection	IP63 (JIS C 0920/IEC 60529) [Note] IP63 is not permanent. Waterproof performance could be decreased depending on the usage environment.

## Mechanical Properties

### Indicator



### Detectors



Models	Rated Capacity	Weight*
HS1001-N	1000 kg	Approx. 8 kg
HS1002-NA	2000 kg	Approx. 11 kg
HS1003-NA	3000 kg	
HS1005-N	5000 kg	Approx. 20 kg

\*Including cable.