Simple-function Type Digital Indicators
ABS Digimatic Indicator
ID-S Series

Simple, cost-effective and easy-to-use Digimatic indicators. Choose long-life battery or everlasting solar powered models.
The ID-S series of ABS Digimatic indicators is made up of single-function type digital indicators: the ID-SS, which is the world’s first solar-powered Digimatic indicator, and the ID-SX, which is powered by a button-type battery. These Digimatic indicators have a measuring range of 12.7 mm, and indicators that can display resolutions of 0.01 mm and 0.001 mm are included in the lineup. For the ID-SX, some of models are available and provide IP53* dust/water protection level specifications.

All the Digimatic indicators in this series are compact, with approximately the same size as a standard dial indicator. They employ large liquid crystal displays with character heights of 9 mm, and the large buttons are easy to press and make all the functions easy to operate. Furthermore, even though these models are priced competitively, the Digimatic data output function makes it possible to use them in statistical process control, networked measurement, and other similar systems.

* For more information about IP53 models, refer to page 6-7.

The Nakatsugawa Plant, situated in an industrial park amid the lush greenery of Nakatsugawa city in Gifu prefecture, is a dedicated site covering work from development to production of measuring instruments such as dial indicators, test indicators, and Digimatic indicators. It was opened in 1997 as the twelfth Mitutoyo plant in Japan. Mitutoyo brand products, which are shipped with cutting-edge industrial technology and equipment, have been evaluated as first-class on a worldwide basis, and our customers know they can depend on their reliability.

* Based on Mitutoyo’s data valid as of August 2012.
These compact Digimatic indicators are approximately the same size as a standard dial indicator, so they can easily be used to replace such indicators. The solar-powered ID-SS eliminates the need for battery replacement, so just as with dial indicators there is no fear of the instrument losing power at an inconvenient time.

These Digimatic indicators employ Mitutoyo’s proprietary ABS (absolute) sensor, which makes it possible to restore the origin point even if the power is turned off. This eliminates the need to perform origin matching each time the power is turned on. Furthermore, this sensor ensures that overspeed errors do not occur, which improves reliability.

To take account of the wide application range of these indicators, we have provided three types of lifting accessories (options) to match different uses. Furthermore, we have provided a rich variety of contact points, stands, data processing-related parts, and other accessories.

These Digimatic indicators use large liquid crystal digital displays with a large character height (9 mm) for easy visibility.

These Digimatic indicators feature large, easy-to-use pushbuttons that provide the user with direct access to the minimal functionality set.

An inspection certificate on which the inspection data at the time of shipment is written is included as standard. (The inspection certificate cannot be used to acquire calibration certificates because the date of purchase cannot be specified on the inspection certificate.)

For a fee, Mitutoyo can calibrate measuring equipment and issue a calibration certificate providing proof of traceability with the standard used during the calibration. Contact Mitutoyo for details.

To take account of the wide application range of these indicators, we have provided three types of lifting accessories (options) to match different uses. Furthermore, we have provided a rich variety of contact points, stands, data processing-related parts, and other accessories.
ABS Solar-Powered Digimatic Indicator
ID-SS  New

Solar power supply
An environmentally friendly measuring instrument that does not require batteries, eliminating the hassle and cost of battery replacement. Can operate under minimum light conditions of 40 lux-lower than the level needed inside a warehouse.

Large reserve power capacity
A large reserve of power (when fully charged) enables you to use the indicator for long periods of time under light conditions below the minimum level.
(Can be used for approx. 3.5 hours on a full charge.)

Origin recorded even if display disappears
The indicator includes an ABS (absolute) sensor that allows the previously set origin to be restored even if the display disappears due to insufficient light, making it easy to resume measurement. This feature makes ID-SS ideal for extended measurement sessions.

SOLAR

* Patent pending in Japan, the United States, the European Union, and China.
* Design registered in Japan, the United States, the European Union, and China.
### Specifications

<table>
<thead>
<tr>
<th>Metric</th>
<th>ISO/JIS/DIN Type</th>
<th>ASME/ANSI/AGD Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order No.</td>
<td>Range</td>
<td>Resolution</td>
</tr>
<tr>
<td>543-500</td>
<td>12.7 mm</td>
<td>0.001 mm</td>
</tr>
<tr>
<td>543-500B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>543-505</td>
<td></td>
<td>0.01 mm</td>
</tr>
<tr>
<td>543-505B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inch/Metric</th>
<th>Range</th>
<th>Resolution</th>
<th>Accuracy*1</th>
<th>Back type</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order No.</td>
<td>5.5&quot;/12.7 mm</td>
<td>.00005&quot;/0.001mm</td>
<td>±0.001&quot;/0.003mm</td>
<td>With lug</td>
<td>150g</td>
</tr>
<tr>
<td>543-501</td>
<td></td>
<td></td>
<td>±0.001&quot;/0.002mm</td>
<td>Flat</td>
<td>140g</td>
</tr>
<tr>
<td>543-501B</td>
<td></td>
<td></td>
<td>±0.001&quot;/0.002mm</td>
<td>Flat</td>
<td>165g</td>
</tr>
<tr>
<td>543-502</td>
<td></td>
<td></td>
<td>±0.001&quot;/0.002mm</td>
<td>Flat</td>
<td>140g</td>
</tr>
<tr>
<td>543-502B</td>
<td></td>
<td></td>
<td>±0.001&quot;/0.002mm</td>
<td>Flat</td>
<td>140g</td>
</tr>
<tr>
<td>543-506</td>
<td></td>
<td>.00005&quot;/0.001mm</td>
<td>±0.001&quot;/0.02mm</td>
<td>With lug</td>
<td>140g</td>
</tr>
<tr>
<td>543-506B</td>
<td></td>
<td></td>
<td>±0.001&quot;/0.02mm</td>
<td>Flat</td>
<td>140g</td>
</tr>
<tr>
<td>543-507</td>
<td></td>
<td>.00005&quot;/0.001mm</td>
<td>±0.001&quot;/0.02mm</td>
<td>With lug</td>
<td>165g</td>
</tr>
<tr>
<td>543-507B</td>
<td></td>
<td></td>
<td>±0.001&quot;/0.02mm</td>
<td>Flat</td>
<td>140g</td>
</tr>
</tbody>
</table>

*1 These values apply at 20°C, and do not include ±1 count allowance for quantization error.

*2 Overall magnification and linearity

### Common specifications

- Display: 6-digit LCD, sign
- Contact point: Spherical tip SR = 1.5 mm (carbide tipped)
- Measuring force: 1.5 N or lower
- Usable orientation: All
- Power supply: Solar cell (for indoor use)
- Minimum operating light: 40lux
- Reserve capacity allows a fully charged ID-SS to be used for about 3.5 hours under light conditions below the minimum level.
- Charging time required depends on the environment, but it usually takes about 1.5 hours for a fully discharged ID-SS to fully recharge under light conditions of 500lux.
- Maximum response speed: No limit (scan-type measurement is not supported)
- Operating temperature range: 0 to 40°C
- Storage temperature range: -10 to 60°C

### Features

- Origin set (zero-set): The display can be zeroed at any chosen position.
- Direction switching: The measuring direction can be switched.
- in/mm reading (inch/mm models only)
- Measurement data output: These indicators have a measurement data output socket, which makes it possible to output Digimatic data to the DP-1VR mini processor or to a PC through an input tool. Furthermore, the U-WAVE measurement data wireless communication system can be used to wirelessly input measurement data to a PC.
- Error warning

### Dimensions

<table>
<thead>
<tr>
<th>ISO/JIS/DIN Type</th>
<th>ASME/ANSI/AGD Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Dimensions ISO/JIS/DIN Type" /></td>
<td><img src="image2" alt="Dimensions ASME/ANSI/AGD Type" /></td>
</tr>
</tbody>
</table>

### Optional accessories

- **Lifting**
  - Lifting lever
    - No.21EZA198 (ISO/JIS/DIN Type)
    - No.21EZA199 (ASME/ANSI/AGD Type)
  - Lifting knob
    - No.21EZA105 (ISO/JIS/DIN Type)
    - No.21EZA150 (ASME/ANSI/AGD Type)
  - Lifting cable (No. 540774)
- **SPC connecting cables**
  - 1m (No. 905338)
  - 2m (No. 905409)
- **Data processing products**
- **Contact points for Mitutoyo dial indicators**
- **Backs for Mitutoyo standard (2 series) dial indicators**
- **Stands**

### Table of recommended lighting levels

<table>
<thead>
<tr>
<th>Luminance (lux)</th>
<th>Location (permissible work)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500</td>
<td>Very detailed visual work</td>
</tr>
<tr>
<td>750</td>
<td>Detailed visual work; design and drawing work</td>
</tr>
<tr>
<td>500</td>
<td>Regular visual work such as work carried out in a factory; monitoring work such as using instrument panels and control panels</td>
</tr>
<tr>
<td>300</td>
<td>Administrative work carried out in a warehouse</td>
</tr>
<tr>
<td>200</td>
<td>Control rooms, bathrooms, and places where light manual work is carried out</td>
</tr>
<tr>
<td>150</td>
<td>Work such as loading, unloading, and shifting loads</td>
</tr>
<tr>
<td>100</td>
<td>Hallways, corridors, entrances and exits, and warehouses</td>
</tr>
<tr>
<td>50</td>
<td>Indoor emergency staircases</td>
</tr>
</tbody>
</table>
Digital Indicator with Simplified Key Functions and Reasonable price

ABS Digimatic Indicator ID-SX

Type emphasizing cost performance
This indicator uses a button-type battery (SR44), stresses ease of use, and comes with the minimum of functionality. Indicators that can display measurements at resolutions of 0.01 mm and 0.001 mm are included in the lineup.

IP53 dust/water protection level
Some of models are also available and provides IP53 dust/water protection level specifications. See below:

543-794, 543-794B  
543-795, 543-795B  
543-796, 543-796B

ABS (absolute) sensor
These Digimatic indicators employ Mitutoyo’s proprietary ABS (absolute) sensor, which makes it possible to restore the origin point even if the power is turned off. This eliminates the need to perform origin matching each time the power is turned on. Furthermore, this sensor ensures that overspeed errors do not occur, which improves reliability.

Long battery life
One button battery (SR44) provides approximately 20,000 hours of continuous use for resolution .0005”/0.01mm models.
### Specifications

<table>
<thead>
<tr>
<th>Metric</th>
<th>(5'\times 12.7) mm</th>
<th>(150) mm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Order No.</strong></td>
<td><strong>Range</strong></td>
<td><strong>Resolution</strong></td>
</tr>
<tr>
<td>543-791</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
</tr>
<tr>
<td>543-791B</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
</tr>
<tr>
<td>543-792</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
</tr>
<tr>
<td>543-792B</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
</tr>
<tr>
<td>543-793</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
</tr>
<tr>
<td>543-793B</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
</tr>
<tr>
<td>543-794</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
</tr>
<tr>
<td>543-794B</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
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<tr>
<td>543-795</td>
<td>.00005(^*)/.001mm</td>
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<td>543-795B</td>
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<td>543-796</td>
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<td>543-797</td>
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<td>543-799</td>
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<tr>
<td>543-799B</td>
<td>.00005(^*)/.001mm</td>
<td>a/.0001(^*)/.003mm</td>
</tr>
</tbody>
</table>

### Features

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- **Direction switching:** The measuring direction can be switched.
- **In/mm reading (inch/mm models only):** Measurement data output. These indicators have a measurement data output socket, which makes it possible to output measurement to the DP-1VR mini processor or to a PC through an input tool. Furthermore, the U-WAVE measurement data wireless communication system can be used to wirelessly input measurement data to a PC.
- **Error warning**

### Optional accessories

- **Lifting**
  - Lifting lever: No.21EZA189 (ISO/JIS/DIN Type), No.21EZA199 (ASME/ANSI/AGD Type)
  - Lifting knob: No.21EZA105 (ISO/JIS/DIN Type), No.21EZA150 (ASME/ANSI/AGD Type)
  - Lifting cable: No. 540774
- **SPC connecting cables**
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### IP53 dust/water protection level

- **Level 5: Dust protection**
  - While complete protection against invasion of dust is not provided, protection is adequate to prevent dust amounts that would inhibit the prescribed operations and safety of the electronic equipment.
- **Level 3: Protection against spraying water**
  - The product suffers no harmful effects when subjected to water sprayed at an angle of up to 60 degrees on both sides.
- For details on the dust/water protection level test conditions, please refer to IEC 60529:2001 and JIS C 0920:2003.

### Common specifications

- **Display:** 6-digit LCD, sign
- **Contact point:** Spherical tip SR = 1.5 mm (carbide tipped)
- **Power supply:** SR44, part No. 939882
- **Maximum response speed:** No limit (scan-type measurement is not supported)
- **Operating temperature range:** 0 to 40°C
- **Storage temperature range:** -10 to 60°C

### Dimensions

[Diagram showing dimensions]
A rich variety of Digimatic indicators

1. ID-CX: A standard digital indicator
2. ID-N/B: A waterproof product with a slim body 35 mm wide and equipped with a large range of functions
3. ID-H: Product with a remote control, high measurement accuracy, and equipped with a large range of functions
4. ID-U: General-purpose product with a measuring range of 25.4 mm
5. ID-CRB: Product with a built-in calculation function
6. ID-CA: Product with a peak hold function
7. ID-CGB: Dedicated product designed for bore gages