Latest Generation Absolute System
Assembly Type Linear Scale
ABS AT1100

Environmental Resistance beyond the Usual
Environmental Resistance
Defying Conventional Wisdom
Newly released Scale Unit

Outstanding Environmental Resistance
This scale unit leverages Mitutoyo’s unique electromagnetic induction technology to provide excellent resistance to oil and water compared with the optical linear encoder type, elevating the ABS AT1100 to the level of a highly reliable NC machine-tool scale suitable for tough shop floor conditions.

Robust Dustproof/Waterproof Structure
Additional factors in providing the high performance of the ABS AT1100 are the innovative shaping and location of the detector track in the aluminum frame and the extreme coolant resistance of the track-seal material. Together these combine in a highly effective first defence against contamination of the scale and sensor even in extremely severe installation environments.

World's Largest Air Gap
The sensor-to-scale air gap is approximately 0.4mm, around 4 times as wide as that of the conventional optical or electromagnetic induction design. This is yet another factor that makes issues due to dust or oil contamination unlikely to arise. This air gap is actually the largest in the world for a machine-tool scale.
<table>
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<th>Specifications</th>
<th>ABS AT1100</th>
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<tbody>
<tr>
<td>Detection method</td>
<td>Electromagnetic induction</td>
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<tr>
<td>Maximum effective range</td>
<td>3040mm</td>
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<tr>
<td>Resolution</td>
<td>0.05µm</td>
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</table>
| Accuracy (at 20 °C)                  | $\frac{(3+5L/1000)\mu m}{L=140\text{ to }2040\text{mm}}$  
$\frac{(5+5L/1000)\mu m}{L=2240\text{ to }3040\text{mm}}$ |
| Maximum response speed               | 3 m/s                                          |
| Cross-section size                   | 85x37 (mm)                                     |
| Thermal expansion coefficient        | $\approx 6\pm 1.5\times 10^{-6} / K$           |
| Vibration resistance (at 55 to 2000Hz)| 20g                                            |
| Impact resistance (at 11ms, 1/2sin)  | 35g $L=140$ to 2040mm                          
30g $L=2240$ to 3040mm               |
| Compatible interfaces *1             | FANUC Corporation’s Serial αi Interface        
Mitsubishi Electric Corporation’s High-speed Serial Interface |

*1: For details about connection of any applicable system, please be sure to contact each manufacturer for confirmation.
Whatever your challenges are, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.

Find additional product literature and our product catalogue

http://www.mitutoyo.co.jp/global.html

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