



DRO Linear Scales and Counters
Page 376



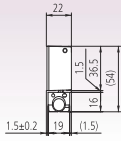
NC Linear Scales
Page 385



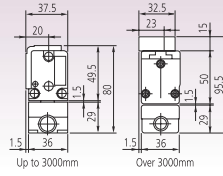
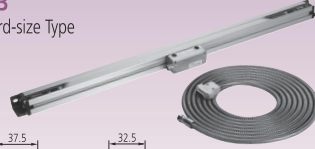
Scale Units
Page 390

DRO Linear Scales Selection Guide

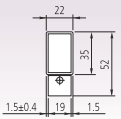
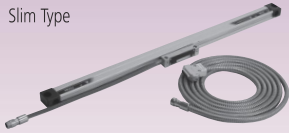
AT715
Absolute Type



AT103
Standard-size Type



AT113
Slim Type



Specifications

| Model | AT715 | AT103 | AT113 |
|---|--|--|--|
| Measurement method | Electromagnetic induction system | Photoelectric (transparent linear encoder) | |
| Light source | — | LED | |
| Receptor | — | Phototransistor | |
| Output wave form | — | 2-phase sine curves with a phase difference of 90° | |
| Effective length (for high accuracy type) | 100 - 3000mm | 1600 - 6000mm (1600 - 2000mm) | 100 - 1500mm (100 - 1500mm) |
| Accuracy* [high accuracy type] | ±5μm (Effective length: 100 - 500mm) ±7μm (Effective length: 600 - 1800mm) ±10μm (Effective length: 2000 - 3000mm) | (5+5L _e /1000)μm* ¹ [(3+3L _e /1000)μm] | (5+5L _e /1000)μm [(3+3L _e /1000)μm] |
| * Excluding quantizing error of ±1 count. | | | |
| Maximum response speed | 50m/min. | 120m/min.* ³ | 120m/min. |
| Scale reference point | — | At every 50mm interval | |
| Linear expansion coefficient | — | (8±1)×10 ⁻⁶ /°C | |
| Power supply | 5V±5% DC | 5V±5% DC | |
| Max. current consumption | 70mA | 70mA* ⁴ (60mA: AT113) | |
| Operating temperature | 0°C to 45°C | | |
| Storage temperature | -20°C to 70°C | | |
| Relative humidity | 20 - 80%RH | | |
| Head Cable length | — | — | * ⁶ |
| Sliding force | 5N or less | 5N or less | |
| Single cable* ⁵ | Standard accessory (refer to individual specifications for the length) | | |
| Dust/water protection level | IP67 | IP53 | |

*1: (5+8L_e/1000)μm for models over 3250mm effective length

*5: Vinyl-coated type single cable and extension cable are available on request.

*3: 50m/min. for models over 3250mm effective length

*6: AT103:0.3m

*4: 140mA for models over 3250mm effective length

DRO Linear Scales AT103



Specifications

| | |
|-----------------------------|--|
| Accuracy | (5+5L/1000) μ m L = Effective length (mm) |
| Output waveform | Two 90° phase-shifted sinusoidal signals (2Vpp) |
| Operation temperature | 0°C to 45°C |
| Power supply | 5V DC \pm 10% |
| Cross section | 80 x 37,5mm / 95,5 x 37,5mm |
| Max. drive speed | 120 m/min. |
| Signal period | 20 μ m |
| Scale reference points | every 50 mm |
| Dust/water protection level | IP53 |

Optional accessories

| No. | Description |
|-----------|-----------------------------|
| 09AAA033A | Extension Cable 2M |
| 09AAA033B | Extension Cable 5M |
| 09AAA033C | Extension Cable 7M |
| 174-183D | Linear Scale Counter KA-212 |
| 174-185D | Linear Scale Counter KA-213 |



Extension cable

Legend

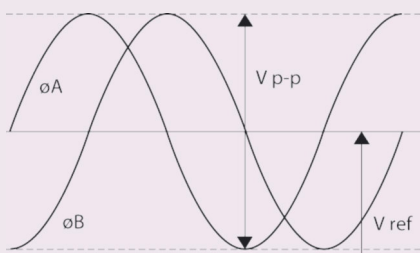
L0 Effective length

L1 Travel range

L2 Bore centre distance

L3 Total length

L4-L6 Support bracket position



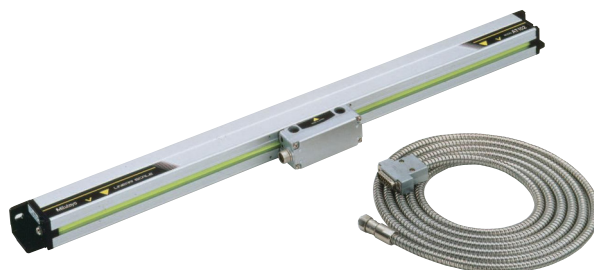
$V_{ref} \approx 2.5V$
 $V_{p-p} = 2V$

Output waveform

Sealed incremental - full size housing

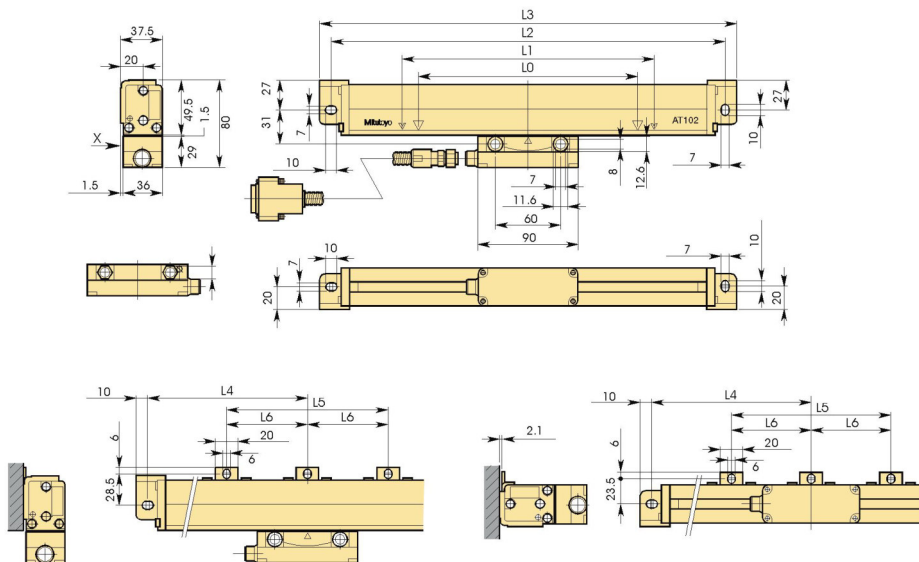
These linear scales offer : Sturdy construction-high resistance to vibration-protection rating are similar in upright and reclining position

- The innovative rubber lips keep out contaminants when you are using the scale in a machine shop.
- An armoured signal cable is used to connect the scale unit to the DRO counter, so you can operate it safely even in hostile environments.
- The signal cable outlet can be positioned on either side of the slider so you can connect the signal cable from either direction.



539-133-30

| No. | Cable length [m] | Effective Length | L ⁰ [mm] | L ¹ [mm] | L ² [mm] | L ³ [mm] | L ⁴ [mm] | L ⁵ [mm] | L ⁶ [mm] | Mass [kg] |
|------------|------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------|
| 539-133-30 | 5 | 1600 mm | 1600 | 1690 | 1818 | 1838 | | 610 | | 5,1 |
| 539-134-30 | 5 | 1700 mm | 1700 | 1790 | 1918 | 1938 | | 650 | | 5,3 |
| 539-135-30 | 5 | 1800 mm | 1800 | 1890 | 2018 | 2038 | | 670 | | 5,5 |
| 539-136-30 | 5 | 2000 mm | 2000 | 2100 | 2228 | 2248 | | 740 | | 6 |
| 539-137-30 | 5 | 2200 mm | 2200 | 2300 | 2428 | 2448 | | 800 | | 6,4 |
| 539-138-30 | 7 | 2400 mm | 2400 | 2500 | 2628 | 2648 | 1314 | 1300 | 650 | 7,1 |
| 539-139-30 | 7 | 2500 mm | 2500 | 2600 | 2728 | 2748 | 1364 | 1340 | 670 | 7,3 |
| 539-140-30 | 7 | 2600 mm | 2600 | 2700 | 2828 | 2848 | 1414 | 1400 | 700 | 7,5 |
| 539-141-30 | 7 | 2800 mm | 2800 | 2900 | 3028 | 3048 | 1514 | 1500 | 750 | 7,9 |
| 539-142-30 | 7 | 3000 mm | 3000 | 3100 | 3228 | 3248 | 1614 | 1600 | 800 | 8,3 |



DRO Linear Scales AT103

Sealed incremental - full size housing -larger measuring length

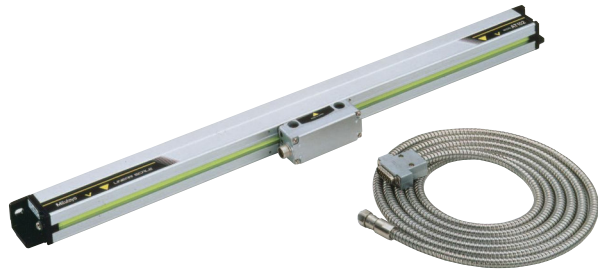
These linear scales offer : Sturdy construction-high resistance to vibration-protection rating are similar in upright and reclining position

- The innovative rubber lips keep out contaminants when you are using the scale in a machine shop.
- An armoured signal cable is used to connect the scale unit to the DRO counter, so you can operate it safely even in harsh environments.
- The signal cable outlet can be positioned on either side of the slider, so you can connect the signal cable from either direction.



Specifications

| | |
|-----------------------------|--|
| Accuracy | (5+8L/1000) μm L = Effective length (mm) |
| Output waveform | Two 90° phased-shifted sinusoidal signals (2Vpp) |
| Operation temperature | 0°C to 45°C |
| Power supply | 5V DC ± 10% |
| Cross section | 80 x 37,5mm / 95,5 x 37,5mm |
| Max. drive speed | 50 m/min. |
| Signal period | 20 μm |
| Scale reference points | every 50 mm |
| Dust/water protection level | IP53 |



539-143-30

| No. | Cable length [m] | Effective Length | L ⁰ [mm] | L ¹ [mm] | L ³ [mm] | L ⁴ [mm] | L ⁵ [mm] | L ⁶ [mm] | Mass [kg] |
|------------|------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------|
| 539-143-30 | 10 | 3250 mm | 3250 | 3350 | 3470 | 135 | 3200 | 800 | 10,8 |
| 539-144-30 | 10 | 3500 mm | 3500 | 3600 | 3720 | 160 | 3400 | 850 | 11,4 |
| 539-145-30 | 10 | 3750 mm | 3750 | 3850 | 3970 | 125 | 3720 | 930 | 12 |
| 539-146-30 | 10 | 4000 mm | 4000 | 4100 | 4220 | 110 | 4000 | 1000 | 12,6 |
| 539-147-30 | 10 | 4250 mm | 4250 | 4350 | 4470 | 135 | 4200 | 1050 | 13,2 |
| 539-148-30 | 10 | 4500 mm | 4500 | 4600 | 4720 | 160 | 4400 | 1100 | 13,8 |
| 539-149-30 | 15 | 4750 mm | 4750 | 4850 | 4970 | 85 | 4800 | 800 | 15,2 |
| 539-150-30 | 15 | 5000 mm | 5000 | 5100 | 5220 | 120 | 4980 | 830 | 15,8 |
| 539-151-30 | 15 | 5250 mm | 5250 | 5350 | 5470 | 125 | 5220 | 870 | 16,4 |
| 539-152-30 | 15 | 5500 mm | 5500 | 5600 | 5720 | 130 | 5460 | 910 | 17 |
| 539-153-30 | 15 | 5750 mm | 5750 | 5850 | 5970 | 135 | 5700 | 950 | 17,6 |
| 539-154-30 | 15 | 6000 mm | 6000 | 6100 | 6220 | 110 | 6000 | 1000 | 18,2 |



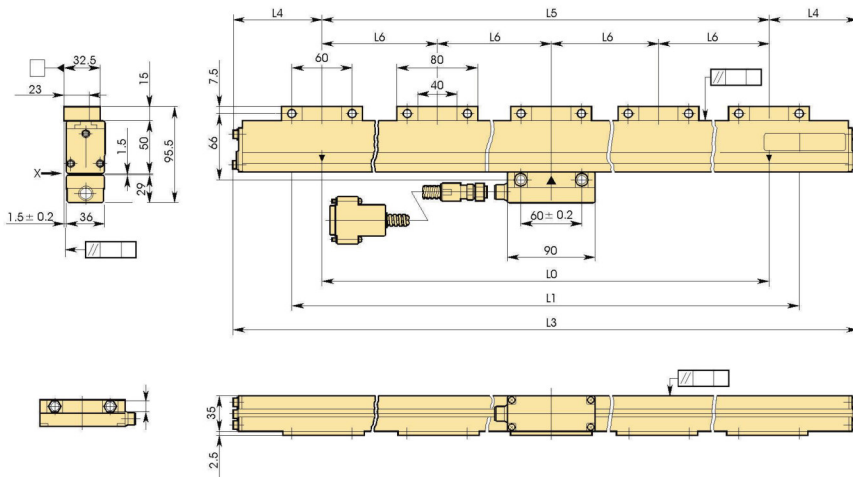
Extension cable

Legend

- L0 Effective length
- L1 Travel range
- L2 Bore centre distance
- L3 Total length
- L4-L6 Support bracket position



Please refer to the DRO leaflet for more details.



DRO Linear Scales AT113

Sealed incremental - slimline scale housing

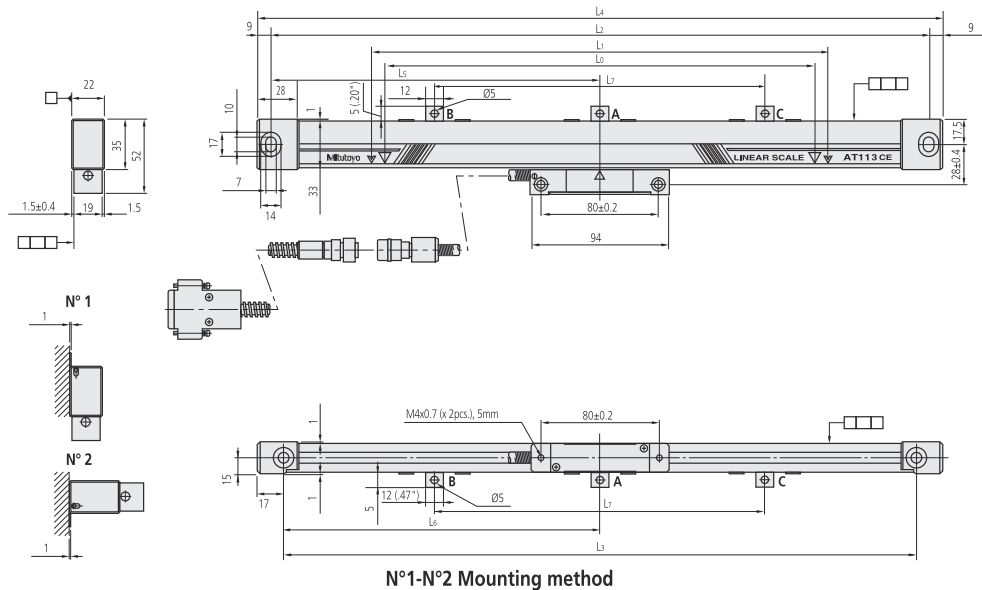
These linear scales are built for limited installation space

- Glass scale - Zero not coded
- Expansion factor $(8 \pm 1) \times 10^{-6}/K^{-1}$
- An armoured inox signal cable is used to connect the DRO counter



539-201-30

| No. | Cable length [m] | Effective Length | L ⁰ [mm] | L ¹ [mm] | L ² [mm] | L ³ [mm] | L ⁴ [mm] | L ⁵ [mm] | L ⁶ [mm] | L ⁷ [mm] | Mass [kg] |
|------------|------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------|
| 539-201-30 | 3,5 | 100 mm | 100 | 120 | 258 | 242 | 276 | | | | 0,9 |
| 539-202-30 | 3,5 | 150 mm | 150 | 170 | 308 | 292 | 326 | | | | 0,905 |
| 539-203-30 | 3,5 | 200 mm | 200 | 220 | 358 | 342 | 376 | | | | 0,943 |
| 539-204-30 | 3,5 | 250 mm | 250 | 270 | 408 | 392 | 426 | | | | 0,981 |
| 539-205-30 | 3,5 | 300 mm | 300 | 330 | 468 | 452 | 486 | | | | 1,027 |
| 539-206-30 | 3,5 | 350 mm | 350 | 380 | 518 | 502 | 536 | | | | 1,064 |
| 539-207-30 | 3,5 | 400 mm | 400 | 430 | 568 | 552 | 586 | | | | 1,102 |
| 539-208-30 | 3,5 | 450 mm | 450 | 480 | 618 | 602 | 636 | | | | 1,14 |
| 539-209-30 | 3,5 | 500 mm | 500 | 540 | 678 | 662 | 696 | 339 | 331 | | 1,86 |
| 539-211-30 | 3,5 | 600 mm | 600 | 640 | 778 | 762 | 796 | 389 | 381 | | 1,3 |
| 539-213-30 | 3,5 | 700 mm | 700 | 740 | 878 | 862 | 896 | 439 | 431 | | 1,3 |
| 539-215-30 | 3,5 | 800 mm | 800 | 840 | 978 | 962 | 996 | 489 | 481 | | 1,4 |
| 539-216-30 | 3,5 | 900 mm | 900 | 940 | 1078 | 1062 | 1096 | 539 | 531 | | 1,4 |
| 539-217-30 | 5 | 1000 mm | 1000 | 1040 | 1178 | 1162 | 1196 | 589 | 581 | | 1,9 |
| 539-218-30 | 5 | 1100 mm | 1100 | 1140 | 1278 | 1262 | 1296 | | 430 | | 1,9 |
| 539-219-30 | 5 | 1200 mm | 1200 | 1240 | 1378 | 1362 | 1396 | | 460 | | 2 |
| 539-220-30 | 5 | 1300 mm | 1300 | 1340 | 1478 | 1462 | 1496 | | 490 | | 2,2 |
| 539-221-30 | 5 | 1400 mm | 1400 | 1440 | 1578 | 1562 | 1596 | | 530 | | 2,2 |
| 539-222-30 | 5 | 1500 mm | 1500 | 1540 | 1678 | 1662 | 1696 | | 560 | | 2,2 |



Specifications

| | |
|-----------------------------|---|
| Accuracy | (5+5L/1000) μm L = Effective length (mm) |
| Output waveform | Two 90° phase-shifted sinusoidal signals (2Vpp) |
| Operation temperature | 0°C to 45°C |
| Power supply | 5V DC ± 10% |
| Cross section | 52 x 22mm |
| Max. drive speed | 120 m/min |
| Signal period | 20 μm |
| Scale reference points | every 50 mm |
| Dust/water protection level | IP53 |

Optional accessories

| No. | Description |
|-----------|-----------------------------|
| 09AAA033A | Extension Cable 2M |
| 09AAA033B | Extension Cable 5M |
| 09AAA033C | Extension Cable 7M |
| 174-183D | Linear Scale Counter KA-212 |
| 174-185D | Linear Scale Counter KA-213 |

Legend

- L0 Effective length
- L1 Travel range
- L2-L3 Mount interval
- L4 Overall length
- L5-L7 Support bracket position



Refer to the DRO System leaflet for more details.

DRO ABS Linear Scales AT715

Sealed Absolute - IP 67 protection - medium scale housing - specific for new and old manual machine

This linear scale is based on electro magnetic induction principle thus offering you high environment protection IP level, in the mean time reference point is not necessary after each power on.

Only compatible with KA series display units.



539-807N



Specifications

| | |
|-----------------------|---|
| Measuring method | Electromagnetic induction system |
| Accuracy | 100 to 500 mm ±5 µm; 600 to 1800 mm ±7 µm; 2000 to 3000 mm ±10 µm |
| Operation temperature | 0-45 °C |
| Power supply | 5V DC ± 10% |
| Cross section | 54 x 22mm |
| Max. drive speed | 50 m/min |
| Signal period | 20 µm |

Optional accessories

| No. | Description |
|-----------|-------------------------------|
| 09AAB674A | Extension Cable 2m, for AT715 |
| 09AAB674B | Extension Cable 5m, for AT715 |
| 09AAB674C | Extension Cable 7m, for AT715 |
| 174-185D | Linear Scale Counter KA-213 |
| 174-183D | Linear Scale Counter KA-212 |

| No. | Cable length [m] | Effective Length | L ¹ [mm] | L ² [mm] | L ³ [mm] | L ⁴ [mm] | L ⁵ [mm] | L ⁶ [mm] | L ⁷ [mm] | L ⁸ [mm] | Mass [kg] |
|----------|------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------|
| 539-801N | 3,5 | 100 mm | 120 | 258 | 242 | 278 | | | | | 0,7 |
| 539-802N | 3,5 | 150 mm | 170 | 308 | 292 | 328 | | | | | 0,75 |
| 539-803N | 3,5 | 200 mm | 220 | 358 | 342 | 378 | | | | | 0,8 |
| 539-804N | 3,5 | 250 mm | 270 | 408 | 392 | 428 | | | | | 0,85 |
| 539-805N | 3,5 | 300 mm | 330 | 468 | 452 | 488 | | | | | 0,9 |
| 539-806N | 3,5 | 350 mm | 380 | 518 | 502 | 538 | | | | | 0,95 |
| 539-807N | 3,5 | 400 mm | 430 | 568 | 552 | 588 | | | | | 1 |
| 539-808N | 3,5 | 450 mm | 480 | 618 | 602 | 638 | | | | | 1,05 |
| 539-809N | 3,5 | 500 mm | 540 | 678 | 662 | 698 | 339 | 331 | | | 1,1 |
| 539-811N | 3,5 | 600 mm | 640 | 778 | 762 | 798 | 389 | 381 | | | 1,2 |
| 539-813N | 3,5 | 700 mm | 740 | 878 | 862 | 898 | 439 | 431 | | | 1,3 |
| 539-814N | 3,5 | 750 mm | 780 | 918 | 902 | 938 | 459 | 451 | | | 1,35 |
| 539-815N | 3,5 | 800 mm | 840 | 978 | 962 | 998 | 489 | 481 | | | 1,4 |
| 539-816N | 3,5 | 900 mm | 940 | 1078 | 1062 | 1098 | 539 | 531 | | | 1,5 |
| 539-817N | 5 | 1000 mm | 1040 | 1178 | 1162 | 1198 | 589 | 581 | | | 1,65 |
| 539-818N | 5 | 1100 mm | 1140 | 1278 | 1262 | 1298 | 639 | 631 | 430 | | 1,75 |
| 539-819N | 5 | 1200 mm | 1240 | 1378 | 1362 | 1398 | 689 | 681 | 460 | | 1,85 |
| 539-820N | 5 | 1300 mm | 1340 | 1478 | 1462 | 1498 | 739 | 731 | 490 | | 1,95 |
| 539-821N | 5 | 1400 mm | 1440 | 1578 | 1562 | 1598 | 789 | 781 | 520 | | 2,05 |
| 539-822N | 5 | 1500 mm | 1540 | 1678 | 1662 | 1698 | 839 | 831 | 550 | | 2,15 |
| 539-823N | 5 | 1600 mm | 1640 | 1778 | 1762 | 1798 | 889 | 881 | 580 | 215 | 2,25 |
| 539-824N | 5 | 1700 mm | 1740 | 1878 | 1862 | 1898 | 939 | 931 | 610 | 230 | 2,35 |
| 539-825N | 5 | 1800 mm | 1840 | 1978 | 1962 | 1998 | 989 | 981 | 640 | 280 | 2,45 |
| 539-860N | 5 | 2000 mm | 2040 | 2178 | 2162 | 2198 | 1089 | 1081 | 740 | | |
| 539-861N | 5 | 2200 mm | 2240 | 2378 | 2362 | 2398 | 1189 | 1181 | 840 | | 2,85 |
| 539-862N | 7 | 2400 mm | 2440 | 2578 | 2562 | 2598 | 1289 | 1281 | 940 | | 3,05 |
| 539-863N | 7 | 2500 mm | 2540 | 2678 | 2662 | 2698 | 1339 | 1331 | 970 | | 3,15 |
| 539-864N | 7 | 2600 mm | 2640 | 2778 | 2762 | 2798 | 1389 | 1381 | 1000 | | 3,25 |
| 539-865N | 7 | 2800 mm | 2840 | 2978 | 2962 | 2998 | 1489 | 1481 | 1100 | | 3,45 |
| 539-866N | 7 | 3000 mm | 3040 | 3178 | 3162 | 3198 | 1589 | 1581 | 1200 | | 3,65 |

2 m extension cable is attached to eff. length >= 2400 mm

Legend

- L0 Effective length
- L1 Travel range
- L2-L4 Mounting hole pitch
- L5-L8 Middle support positions



Refer to the DRO System leaflet for more details.

Universal DRO KA-200 Counter

DRO counter for Linear Scales

This counter displays length indication transmitted from a linear scale.

The KA-Counter offers you the following benefits:

- Can be used as a "standard counter" or a "lathe counter" by modifying parameters.
- Downsizing, weight saving and multiple function have been realized.
- Sub display for easy operation.
- Text data can be output using the optional USB interface.
- The optional external interface RS-232C enables connection to a PC and a printer.



174-183D



174-185D

| No. | Axes | Mass |
|----------|------|---------|
| 174-183D | 2 | 1.25 kg |
| 174-185D | 3 | 1.33 kg |

| Functions | DRO counter for Linear Scales |
|---|-------------------------------|
| Diameter display | ● |
| 1/2 calculation | ● |
| mm/inch conversion | ● |
| Bolt-hole circle machining | ● |
| Scale reference points | ● |
| Linearity error compensation | ● |
| Zero approach function (Incremental mode) | ● |
| Addition of 2-scale data | ● |
| Coordinate system switching | ● |
| Error message | ● |
| Lower digit blanking out | ● |
| Measurement direction setting | ● |
| Memory backup | ● |
| Pitch machining | ● |
| Resolution setting | ● |
| Smoothing | ● |

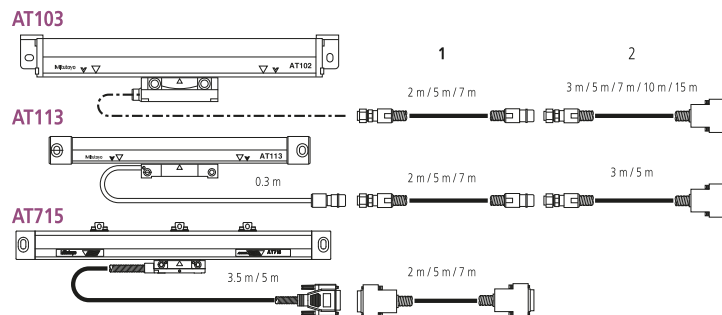
Specifications

| | |
|-----------------------|--|
| Display | 7-segment, 8-digit + sign + 8-character alphabet LED display |
| Resolution | With AT100 Series: 0,05 - 0,0001 mm With AT715: 0,01 - 0,001 mm |
| Dimensions (WxDxH) | 300 x 70 x 167 mm |
| Operation temperature | 0°C to 45°C |
| Macro functions | Rectangular drilling and round milling newly added |
| Main features | Feed speed display; taper machining function; tool data; multipoint compensation; scale check function; calculation function |
| Output (optional) | RS-232C / USB |

Optional accessories

| No. | Description |
|----------|---|
| 06ACB393 | Adapter C KA - LGF (OP) |
| 06ACB913 | Adapter A KA - LGF |
| 06AET993 | USB/RS 232 C code out unit |
| 09EAA094 | RS-232C Cable, DP1-VR/-VA to KA-Counter, 1m, 25 Pin Connector |
| 63AAA108 | RS-232C Signal Cable, D-Sub-25-D-Sub-9, 2m |
| 937179T | Footswitch for SPC |

DRO Extension cables selection guide



Overview of NC Linear Scales System

| | Model | Reference point | Absolute function | Output signal cycle of sinusoidal signal (μm) | Signal unit | No. of divisions | Resolution (μm) | Maximum response speed*1 (mm/s) | Minimum edge interval*2 (ns) | |
|-----------------------------|--------------------------------------|-----------------|-------------------|---|----------------|------------------|-----------------|---------------------------------|------------------------------|-----|
| Separate Type Linear Scales | ST36B ST36C (ST36A) (ST36D) | Yes | — | 4 | — (PSU-200) | 400 | 0.01 | 70 | 125 | |
| | | | | | | 200 | 0.02 | 150 | | |
| | | | | | | 80 | 0.05 | 360 | | |
| | ST46-EZA | Yes | — | 20 | — | 40 | 0.1 | 720 | 100 | |
| | | | | | | 400 | 0.05 | 450 | | |
| | | | | | | 200 | 0.1 | 900 | | |
| | | | | | | 40 | 0.5 | 2600 | | |
| | ABS ST700 | — | Yes | — | — | — | — | 0.1 | 5000 | — |
| | | | | | | | | — | 0.001 | |
| | ABS ST1300 | — | Yes | — | — | — | — | 0.01 | — | |
| Assembly Type Linear Scales | AT113 | Yes | — | 20 | PSU-200 | 200 | 0.1 | 800 | 125 | |
| | | | | | | 100 | 0.2 | 1600 | | |
| | | | | | | 80 | 0.25 | 2000 | | |
| | | | | | | 40 | 0.5 | | | |
| | | | | | | 20 | 1 | | | |
| | | | | | | 10 | 2 | | | |
| | | | | | | 8 | 2.5 | | | |
| | | | | | | 4 | 5 | | | |
| | AT211 | Yes | — | 20 | — | 200 | 0.1 | | 710 | 125 |
| | | | | | | 100 | 0.2 | 1400 | | |
| | | | | | | 40 | 0.5 | 2000 | | |
| | | | | | | 20 | 1 | | | |
| | | | | | | 8 | 2.5 | | | |
| | 4 | 5 | | | | | | | | |
| | ABS AT1100 | — | Yes | — | — | — | — | 0.05 | 3000 | — |
| ABS AT1300 | — | Yes | — | — | — | — | 0.001 | 3000 | — | |
| | | | | | | | 0.01 | | | |
| | | | | | | | 0.05 | | | |

*1 Maximum response speed of pulse output type uses the logical value (IC specification) with a margin of about 10%, and is limited depending on the scale response speed and resolution.

*2 For information on minimum edge interval, see "Explanation of Terms" on page 74.

The guaranteed value for minimum edge interval is +0%, -10%.

For some models, values other than shown above can also be selected.

*3 It depends on the interface.

NC Linear Scales ABS AT1300

ABSOLUTE®

Specifications

| | |
|-------------------------|--|
| Detection Method | Optical, Transmission double telecentric |
| Maximum effective range | 100 to 2200 mm S-Type/ 100 to 1000mm H-Type |
| Cross section | 66 x 23 mm / 24 x 65 mm |
| Response speed | 3000 mm/s |
| Resolution | 0,001/0,01/0,05 µm |
| Compatible interface | Fanuc, Mitsubishi, Mitutoyo, BiSS, DRIVE-CLiQ |



Refer to the NC System leaflet for more details

Absolute Scale Unit (Slim Type)

- High-rigidity (S-type) and high-accuracy (H-type) version available
- Outstanding resistance to contamination compared to conventional optical types by using a new detection principle
- Features a new coolant-proof design incorporating a high-performance rubber seal to provide higher reliability in the harsh factory environment.
- Delivers high accuracy and the outstanding resolution of 0,001 µm, the best-in-class in absolute scales.
- Allows space-saving design thanks to a slim form. (AT500-S and AT500-H are compatible with each other in installation.)
- Supports the interfaces of various manufacturers allowing a variety of system configurations



S-Type



H-Type

NC Linear Scales ST36

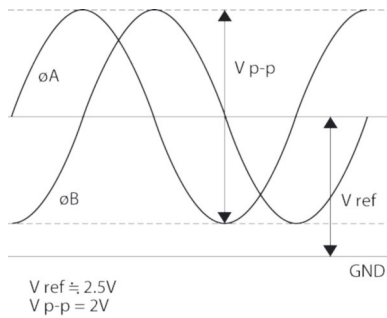
Open scales with Sine & Square-Wave Output

This is a high resolution, high accuracy, portable model designed for exposed installations. The ST36 offers you the following benefits:

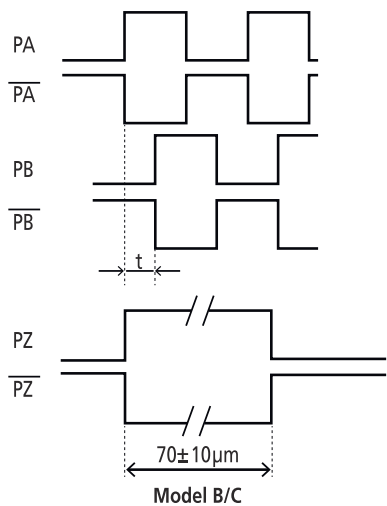
- High reliability with stable signal output.
- Outputs two-phase sinusoidal signal (signal pitch 4 μ m) and two-phase square-wave signal simultaneously.
- Outputs two-phase sinusoidal signal (signal pitch 4 μ m) and two-phase square-wave signal simultaneously.
- You are provided with a compact interface box as standard. Installation dimensions are available from Mitutoyo – please contact.



ST36



Model A/C



Specifications

| | |
|------------------------|---|
| Accuracy | 10 - 300 mm $\pm 0,5 \mu m$ |
| | 350 - 500 mm $\pm 1 \mu m$ |
| | 600 - 1000 mm $\pm 2 \mu m$ |
| | 1100 - 3000 mm $\pm 2 \mu m/m$ |
| Output waveform | Two 90° phase-shifted sinusoidal signals 2Vpp (Model A and C) |
| | Two 90° phase-shifted square-wave signals (Model B and C) RS422 Line Driver |
| Scale reference points | 10 - 75 mm Center point scale |
| | 100 - 3000 mm every 50 mm |
| Max. drive speed | 1200 mm/sec |
| Power supply | 5V DC $\pm 10\%$ |
| Signal period | 8 μm |
| Cross section | 22 x 14,9 mm |
| Resolution | 0,01; 0,02; 0,05; 0,1 μm |
| Signal period | 4 μm |



Refer to the NC System leaflet for more details

NC Linear Scales ST46-EZA

Specifications

| | |
|----------------------------------|---|
| Effective range | 10 to 3000 mm |
| Output signal | Type B: 2-phase square wave signals, reference point pulse, external reset input Type C: 2-phase square wave signals, reference point pulse, 2 phase sinusoidal signal |
| Scale reference point | With scale reference point (50 mm pitch, 10 to 80 mm: Center point) |
| Operating temperature / humidity | 0 to 40°C, 20 to 80% RH (no condensation) |
| Storage temperature / humidity | -20 to 60°C, 20 to 80% RH (no condensation) |
| Power supply voltage | 5VDC \pm 5% |
| Cross section | 12,5 x 12,1mm / 17,1 x 14mm / 20 x 9,33mm (depends on the type) |
| Maximum response speed | 2,6 m/s (at sine wave amplitude -3dB) |
| Internal expansion coefficient | (8 \pm 1) x 10 ⁻⁶ °C |
| Scale specifications | Grating pitch 20 μ m, Material: metal tape (Glass on request) |

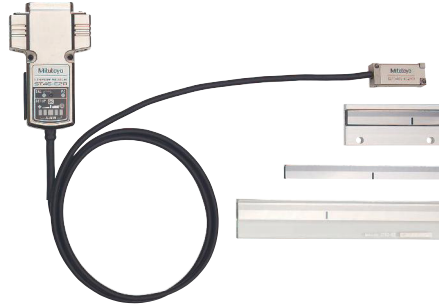


Refer to the NC System leaflet for more details

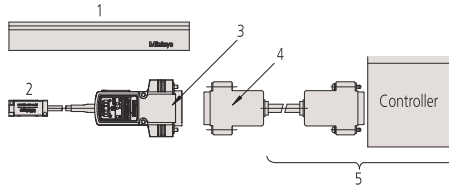
Fotoelectric metal tape linear scales

- Grating pitch 20 μ m
- Zero reference not coded
- Output signal sinusoidal 2Vpp or square wave signal(RS 422) sticky or double sided tape version
- LED display function anomalie

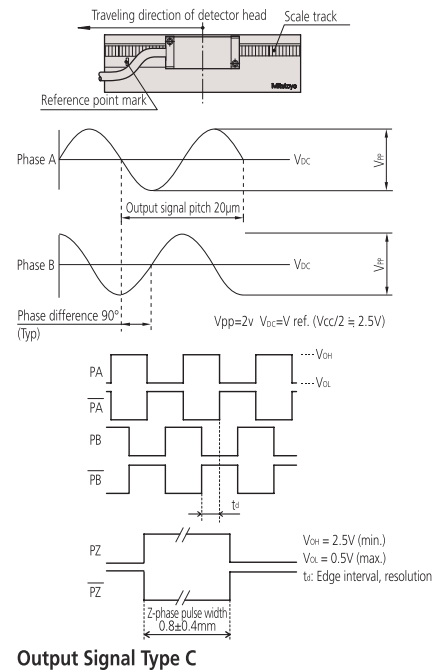
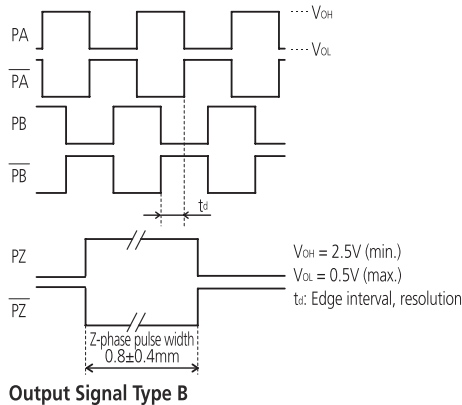
| No. | Detection Method |
|----------------|---|
| ST46EZA Type B | Reflective photoelectric linear encoder |
| ST46EZA Type C | Reflective photoelectric linear encoder |



ST46-EZA



1: Main scale; 2: Detector unit; 3: Output connector (included); 4: Feedback cable; 5: To be supplied by customer (feedback cable/controller)



NC Linear Scales ABS ST700

Electromagnetic induction Absolute Scale

ABSOLUTE scales have eliminated the need to re-establish the origin. The ST700 offers you the following benefits:

- It is optimized for the control of linear motors.
- Optimized for high-speed, high-acceleration control.
- A non-contact detection system ensures a long service life for your product.
- Signal adjustment at installation is automatically performed with dedicated software.



Specifications

| | |
|-----------------------|---|
| Detection Method | Electromagnetic induction |
| Effective Length | 100mm - 3000 mm (3200mm - 6000mm optional) |
| Accuracy | (5+5L/1000)µm |
| Response speed | 5000 mm/s |
| Applicable Interfaces | Fanuc, Mitsubishi, Yaskawa, Panasonic, Mitutoyo |
| Cross section | 28 x 18,6mm |
| Resolution | 0,1 µm |



Refer to the NC System leaflet for more details

NC Linear Scales ABS ST1300

High-speed, high-resolution Absolute Tape Scales

Long, fast and diverse connectivity.

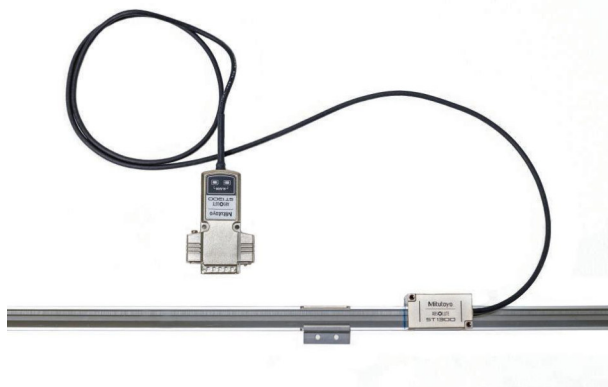
- Realizes a 12m maximum effective length, 8-m/s max. response speed and 1nm minimum resolution.
- Extensive interface compatibility. See specifications below for details.
- Outstanding robustness against contamination compared to earlier photoelectric types achieved using a new detection principle.
- Choice between double-sided tape, fixed-ends and center mounting methods
- Signal validation program facilitates mounting adjustment and maintenance



Double-ended mounting type



Double-sided tape mounting type



Center mounting type

Specifications

| | |
|-------------------------|---|
| Max. response speed | 8 m/s (Varies according to the interface) |
| Detection Method | Optical |
| Maximum effective range | 12 m (depending on mounting type) |
| Accuracy | 10 µm/m (± 5µm) |
| Cross section | 22 x 30,1 or 22 x 25,45 mm (depending on mounting type) |
| Min. resolution | 1 nm / 10 nm |
| Scale specifications | Metal tape |
| Applicable Interfaces | FANUC, Mitsubishi, Yaskawa, Panasonic, Mitutoyo |



Refer to the NC System leaflet for more details

NC Linear Scales AT211



Specifications

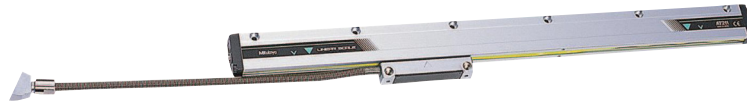
| | |
|----------------------|---|
| Accuracy | 100 to 1500 mm (3+3L/1000) μm (standard type) (2+2L/1000) μm (high-accuracy type) 500 to 1500 mm (3+3L/1000) μm L = Effective range (mm) |
| Output waveform | Two 90° phase-shifted quadrature signals (RS422) Differential line driver |
| Power supply voltage | 5V DC \pm 10% |
| Cross section | 58 x 20mm / 52 x 22mm |
| Max. drive speed | up to 120 m/min |
| Resolution | 0,1; 0,5; 1 μm |
| Signal period | 20 μm |



Refer to the NC System leaflet for more details

Sealed incremental - slimline size housing - high traverse speed-with very high repeatability

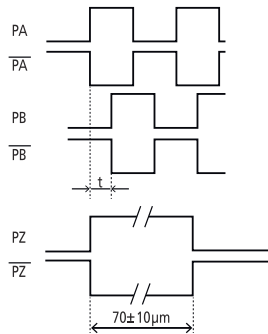
- 20 μm grating pitch-output signal square wave (RS 422)
- suggested resolution 1 - 0,5 μm
- high traverse speed
- Accuracy - standard version: from 100 up to 1500 mm \pm 3 μm
- Accuracy - high repeatability from 100 up to 500 mm \pm 2 μm
- Protection from IP 53 up to IP 64 (pressure device connection)



AT211A



AT211B



NC Linear Scales ABS AT1100



Specifications

| | |
|-------------------------|--|
| Detection Method | Electromagnetic induction |
| Maximum effective range | 3040 mm |
| Accuracy | 3+5L/1000) μm L= 140 to 2040 mm (5+5L/1000) μm L= 2240 to 3040 mm |
| Cross section | 85 x 37mm |
| Response speed | 3 m/s |
| Resolution | 0.05 μm |
| Compatible interface | FANUC, Mitsubishi, Siemens, Mitutoyo |



Refer to the NC System leaflet for more details

Electromagnetic induction Absolute Scale

- New design to avoid infiltration of coolant and dust using a rubber highly resistant to coolant attack for highest reliability
- Widest sensor-to-scale air gap for electromagnetic induction scales of 0,4 mm - 4 times wider than conventional optical or electromagnetic encoder
- Increased air gap reduces the likelihood of failure due to the accumulation of contaminants and is one of the world's largest to be found in a machine tool scale
- De facto standard frame multipoint mounting method has been adopted to provide high resistance to vibration and shock
- 6 times higher accuracy than previous scales due to improved signal processing technology
- Compatible with the high-speed serial interface from leading machine-tool companies, allowing direct connection to an NC controller



Horizontal ABSOLUTE Scale Coolant Proof IP66

You can use this scale unit in adverse environments with water and cutting oil due to its new detection method (electromagnetic induction).

- Specially designed output cables are developed to maintain the water resistant structure.
- You will have no overspeed error since the ABSOLUTE scale does not depend on counting scale graduations.
- Once an absolute zero (origin) point is set, the Digimatic Scale Unit shows the absolute distance from this point when it is powered on, rather than „0“.



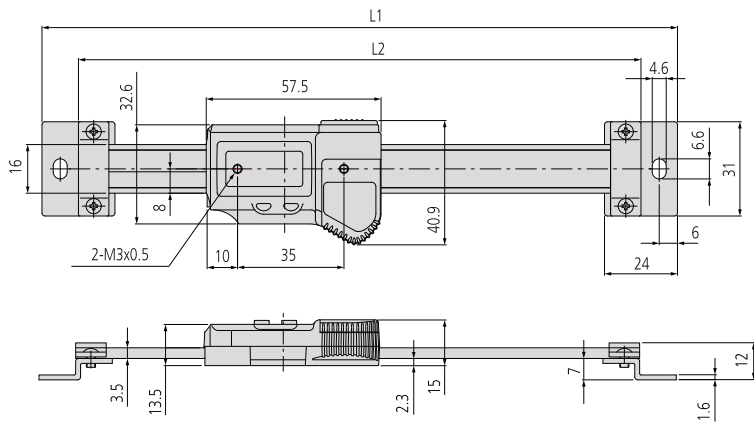
572-600



572-601

Metric

| No. | Range [mm] | Accuracy | L1 [mm] | L2 [mm] | Mass [kg] |
|---------|------------|----------|---------|---------|-----------|
| 572-600 | 0 - 100 | 0,03 mm | 209 | 185 | 0,39 |
| 572-601 | 0 - 150 | 0,03 mm | 259 | 235 | 0,41 |
| 572-602 | 0 - 200 | 0,03 mm | 311 | 287 | 0,43 |



| Functions | |
|-------------------|--|
| ORIGIN (ABS-Zero) | |
| Low voltage alarm | |
| Data output | |

Specifications

| | |
|---------------------|-----------|
| Repeatability | 0,01 mm |
| Max. response speed | Unlimited |

Optional accessories

| No. | Description |
|-----------|---|
| 02AZD790A | Connection Cable A for U-WAVE, with Data Button for IP Caliper Type |
| 05CZA624 | Digimatic Cable with Data Button IP Type, 1 m, Caliper Type |
| 05CZA625 | Digimatic Cable with Data Button IP Type, 2 m, Caliper Type |
| 06AFM380A | USB Input Tool Direct (Digimatic to USB), 2m Cable, Digimatic/Digimatic 2, with Data Button IP Caliper Type |

Consumable spares

| No. | Description |
|----------|--------------------|
| 63AAA800 | Battery SR44 1,5 V |

Horizontal ABSOLUTE Scale Standard

ABSOLUTE®

This unit has an ABSOLUTE capacitive-type scale.

- The ZERO point is set only once and is stored as the absolute ZERO point until the next battery replacement.
- You can make the highest precision measurements even at the highest drive speed.
- The display has large characters, making it easy to read.

| Functions | |
|-------------------|---|
| ON/OFF | ● |
| Low voltage alarm | ● |
| Data output | ● |
| ORIGIN | ● |

Specifications

Max. response speed Unlimited

Optional accessories

| No. | Description |
|-----------|---|
| 02AZD790C | Connection Cable C for U-WAVE, Straight, with Data Button |
| 06AFM380C | USB Input Tool Direct (Digimatic to USB), 2m Cable, Digimatic/Digimatic 2, Straight, with Data Button |
| 905338 | Digimatic Cable, Flat Straight Type, 1 m |
| 905409 | Digimatic Cable, Flat Straight Type, 2 m |
| 905689 | Digimatic Cable, Flat L-Shape Type, 1 m |
| 905690 | Digimatic Cable, Flat L-Shape Type, 2 m |
| 905691 | Digimatic Cable, Flat L-Shape Right Type, 1 m |
| 905692 | Digimatic Cable, Flat L-Shape Right Type, 2 m |
| 905693 | Digimatic Cable, Flat L-Shape Left Type, 1 m |
| 905694 | Digimatic Cable, Flat L-Shape Left Type, 2 m |
| 959143 | Data Hold Unit, for Digital Caliper |
| 959149 | Digimatic Cable, Straight, Data Button, 1 m |
| 959150 | Digimatic Cable, Straight, Data Button, 2 m |

Consumable spares

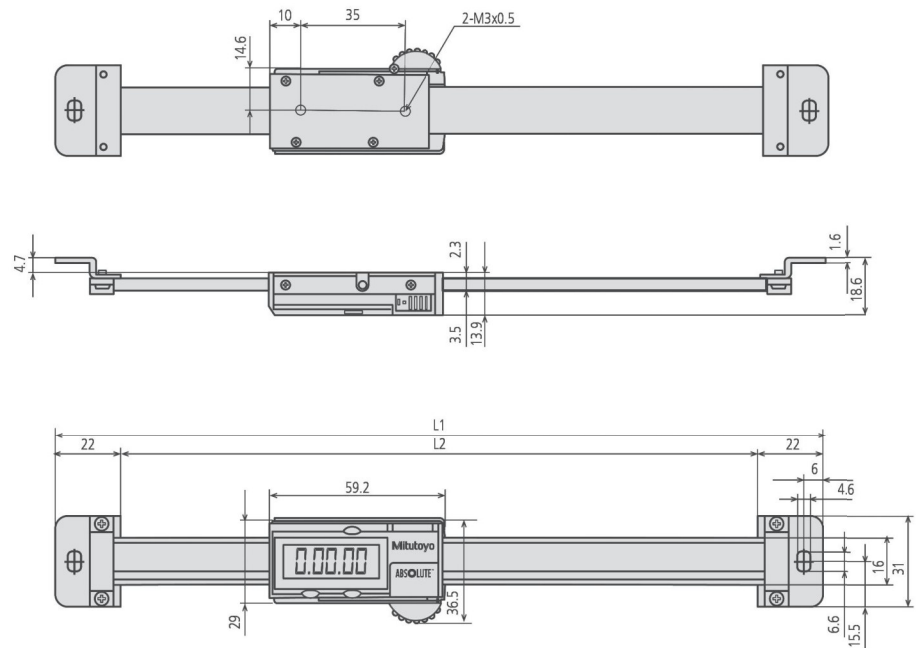
| No. | Description |
|----------|--------------------|
| 63AAA800 | Battery SR44 1,5 V |



572-202-30

Metric

| No. | Range [mm] | Accuracy | L1 [mm] | L2 [mm] | Mass [kg] |
|------------|------------|----------|---------|---------|-----------|
| 572-200-30 | 0 - 100 | 0,03 mm | 209 | 185 | 0,23 |
| 572-201-30 | 0 - 150 | 0,03 mm | 259 | 235 | 0,25 |
| 572-202-30 | 0 - 200 | 0,03 mm | 311 | 287 | 0,27 |
| 572-203-10 | 0 - 300 | 0,04 mm | 444 | 420 | 0,37 |



100-200 mm

Horizontal ABSOLUTE Scale Measurement Direction Switching

This unit has an ABSOLUTE capacitive-type scale. It offers you the following benefits:

- The ZERO point is set only once and is stored as the ABSOLUTE ZERO point until the next battery replacement.
- You can make the highest precision measurements even at the highest drive speed.
- The display has large characters, making it easy to read.

ABSOLUTE®

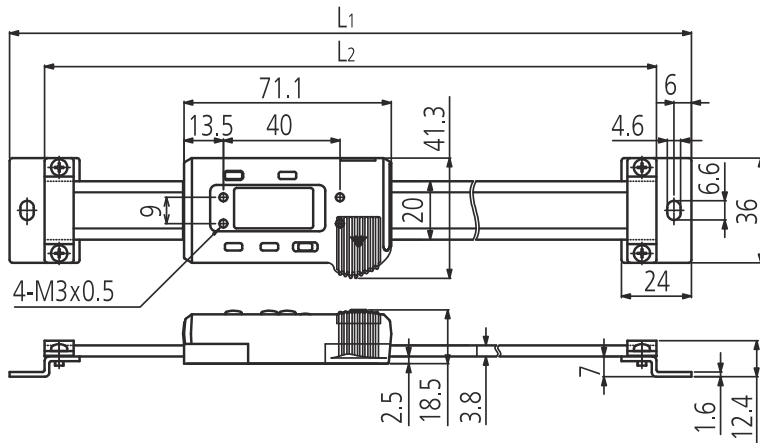


572-461

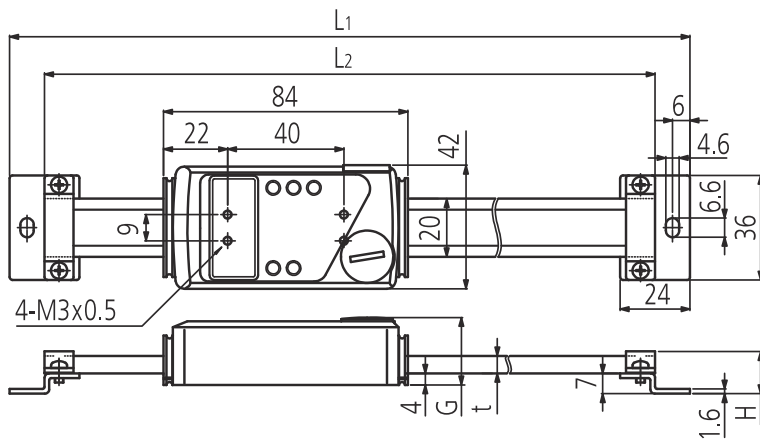
Metric

Without diameter function, with reversible counting direction

| No. | Range [mm] | Accuracy | t [mm] | L1 [mm] | L2 [mm] | H [mm] | Mass [kg] |
|---------|------------|----------|--------|---------|---------|--------|-----------|
| 572-460 | 0 - 100 | 0,03 mm | | 244 | 220 | | 0,25 |
| 572-461 | 0 - 150 | 0,03 mm | | 294 | 270 | | 0,28 |
| 572-462 | 0 - 200 | 0,03 mm | | 344 | 320 | | 0,31 |
| 572-463 | 0 - 300 | 0,04 mm | | 444 | 420 | | 0,37 |
| 572-464 | 0 - 450 | 0,04 mm | 6 | 594 | 570 | 14,6 | 0,76 |
| 572-465 | 0 - 600 | 0,05 mm | 6 | 774 | 750 | 14,6 | 0,9 |
| 572-466 | 0 - 800 | 0,06 mm | 10 | 974 | 950 | 18,6 | 1,71 |
| 572-467 | 0 - 1000 | 0,07 mm | 10 | 1174 | 1150 | 18,6 | 2,04 |



100-300 mm



450-1000 mm

| Functions | |
|---|---|
| ON/OFF | ● |
| DATA (output with cable) / HOLD (display value) | ● |
| Low voltage alarm | ● |
| Data output | ● |
| ORIGIN | ● |

Specifications

Max. response speed Unlimited

Optional accessories

| No. | Description |
|-----------|---|
| 02AZD790C | Connection Cable C for U-WAVE, Straight, with Data Button |
| 06AFM380C | USB Input Tool Direct (Digimatic to USB), 2m Cable, Digimatic/Digimatic 2, Straight, with Data Button |
| 905338 | Digimatic Cable, Flat Straight Type, 1 m |
| 905409 | Digimatic Cable, Flat Straight Type, 2 m |
| 905689 | Digimatic Cable, Flat L-Shape Type, 1 m |
| 905690 | Digimatic Cable, Flat L-Shape Type, 2 m |
| 905691 | Digimatic Cable, Flat L-Shape Right Type, 1 m |
| 905692 | Digimatic Cable, Flat L-Shape Right Type, 2 m |
| 905693 | Digimatic Cable, Flat L-Shape Left Type, 1 m |
| 905694 | Digimatic Cable, Flat L-Shape Left Type, 2 m |

Consumable spares

| No. | Description |
|----------|--------------------|
| 63AAA800 | Battery SR44 1,5 V |

Horizontal ABSOLUTE Scale Diameter Function

ABSOLUTE®

- The ZERO point is set only once and is stored as the ABSOLUTE ZERO point until the next battery replacement
- You can make the highest precision measurements even at the highest drive speed.

| Functions |
|---|
| ON/OFF |
| DATA (output with cable) / HOLD (display value) |
| Low voltage alarm |
| Data output |
| Diameter function |
| ORIGIN |

Specifications

Max response speed Unlimited

Optional accessories

| No. | Description |
|-----------|---|
| 02AZD790C | Connection Cable C for U-WAVE, Straight, with Data Button |
| 06AFM380C | USB Input Tool Direct (Digimatic to USB), 2m Cable, Digimatic/Digimatic 2, Straight, with Data Button |
| 905338 | Digimatic Cable, Flat Straight Type, 1 m |
| 905409 | Digimatic Cable, Flat Straight Type, 2 m |
| 905689 | Digimatic Cable, Flat L-Shape Type, 1 m |
| 905690 | Digimatic Cable, Flat L-Shape Type, 2 m |
| 905691 | Digimatic Cable, Flat L-Shape Right Type, 1 m |
| 905692 | Digimatic Cable, Flat L-Shape Right Type, 2 m |
| 905693 | Digimatic Cable, Flat L-Shape Left Type, 1 m |
| 905694 | Digimatic Cable, Flat L-Shape Left Type, 2 m |

Consumable spares

| No. | Description |
|----------|--------------------|
| 63AAA800 | Battery SR44 1,5 V |

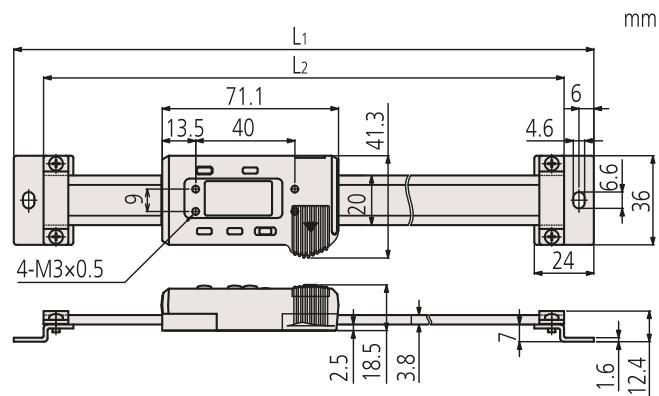


572-483-10

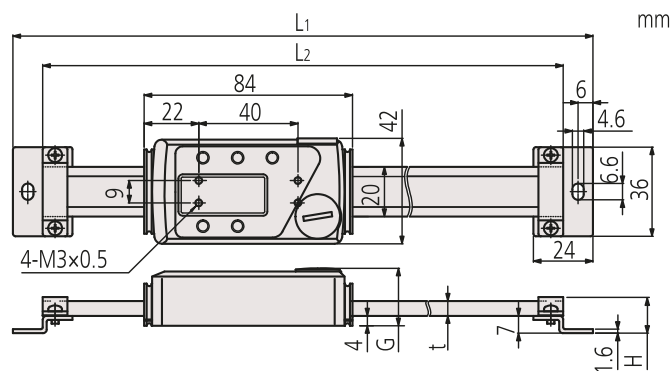
Metric

Horizontal multi-function type with diameter displaying function

| No. | Range [mm] | Accuracy | L1 [mm] | L2 [mm] | H [mm] | t [mm] | Mass [kg] |
|------------|------------|----------|---------|---------|--------|--------|-----------|
| 572-480-10 | 0 - 100 | 0,03 mm | 244 | 220 | | | 0,25 |
| 572-481-10 | 0 - 150 | 0,03 mm | 294 | 270 | | | 0,28 |
| 572-482-10 | 0 - 200 | 0,03 mm | 344 | 320 | | | 0,31 |
| 572-483-10 | 0 - 300 | 0,04 mm | 444 | 420 | | | 0,37 |
| 572-484-10 | 0 - 450 | 0,04 mm | 594 | 570 | 14,6 | 6 | 0,76 |
| 572-485-10 | 0 - 600 | 0,05 mm | 774 | 750 | 14,6 | 6 | 0,9 |
| 572-486-10 | 0 - 800 | 0,06 mm | 974 | 950 | 18,6 | 10 | 1,71 |
| 572-487-10 | 0 - 1000 | 0,07 mm | 1174 | 1150 | 17,8 | 10 | 2,04 |



100-300 mm



450-1000 mm

Vertical ABSOLUTE Scale Standard

This unit has an ABSOLUTE capacitive-type scale.

It offers you the following benefits:

- The ZERO point is set only once and is stored as the absolute ZERO point until the next battery replacement.
- You can make the highest precision measurements even at the highest drive speed.
- The display has large characters, making it easy to read.

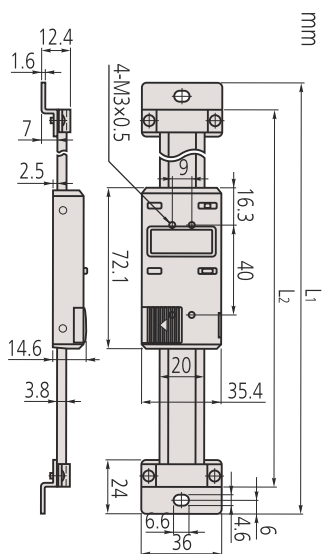
ABSOLUTE®



572-302-10

Metric

| No. | Range [mm] | Accuracy | L1 [mm] | L2 [mm] | Mass [kg] |
|------------|------------|----------|---------|---------|-----------|
| 572-300-10 | 0 - 100 | 0,03 mm | 244 | 220 | 0,25 |
| 572-301-10 | 0 - 150 | 0,03 mm | 294 | 270 | 0,28 |
| 572-302-10 | 0 - 200 | 0,03 mm | 344 | 320 | 0,31 |
| 572-303-10 | 0 - 300 | 0,04 mm | 444 | 420 | 0,37 |



| Functions | |
|-------------------|---|
| ON/OFF | ● |
| Low voltage alarm | ● |
| Data output | ● |
| ORIGIN | ● |

Specifications

Max. response speed | Unlimited

Optional accessories

| No. | Description |
|-----------|---|
| 02AZD790C | Connection Cable C for U-WAVE, Straight, with Data Button |
| 06AFM380C | USB Input Tool Direct (Digimatic to USB), 2m Cable, Digimatic/Digimatic 2, Straight, with Data Button |
| 905338 | Digimatic Cable, Flat Straight Type, 1 m |
| 905409 | Digimatic Cable, Flat Straight Type, 2 m |
| 905689 | Digimatic Cable, Flat L-Shape Type, 1 m |
| 905690 | Digimatic Cable, Flat L-Shape Type, 2 m |
| 905691 | Digimatic Cable, Flat L-Shape Right Type, 1 m |
| 905692 | Digimatic Cable, Flat L-Shape Right Type, 2 m |
| 905693 | Digimatic Cable, Flat L-Shape Left Type, 1 m |
| 905694 | Digimatic Cable, Flat L-Shape Left Type, 2 m |
| 959143 | Data Hold Unit, for Digital Caliper |
| 959149 | Digimatic Cable, Straight, Data Button, 1 m |
| 959150 | Digimatic Cable, Straight, Data Button, 2 m |

Consumable spares

| No. | Description |
|----------|--------------------|
| 63AAA800 | Battery SR44 1,5 V |

Vertical ABSOLUTE Scale Measurement Direction Switching

ABSOLUTE®

This unit has an ABSOLUTE capacitive-type scale. It offers you the following benefits:

- The ZERO point is set only once and is stored as the absolute ZERO point until the next battery replacement.
- The display has large characters, making it easy to read.
- Measurement direction switching function is included.

| Functions | |
|---|---|
| ORIGIN (ABS-Zero) | ● |
| ON/OFF | ● |
| DATA (output with cable) / HOLD (display value) | ● |
| Data output | ● |

Specifications

Max. response speed Unlimited

Optional accessories

| No. | Description |
|-----------|---|
| 02AZD790C | Connection Cable C for U-WAVE, Straight, with Data Button |
| 06AFM380C | USB Input Tool Direct (Digimatic to USB), 2m Cable, Digimatic/Digimatic 2, Straight, with Data Button |
| 905338 | Digimatic Cable, Flat Straight Type, 1 m |
| 905409 | Digimatic Cable, Flat Straight Type, 2 m |
| 905689 | Digimatic Cable, Flat L-Shape Type, 1 m |
| 905690 | Digimatic Cable, Flat L-Shape Type, 2 m |
| 905691 | Digimatic Cable, Flat L-Shape Right Type, 1 m |
| 905692 | Digimatic Cable, Flat L-Shape Right Type, 2 m |
| 905693 | Digimatic Cable, Flat L-Shape Left Type, 1 m |
| 905694 | Digimatic Cable, Flat L-Shape Left Type, 2 m |

Consumable spares

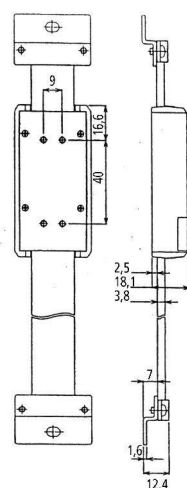
| No. | Description |
|----------|--------------------|
| 63AAA800 | Battery SR44 1,5 V |



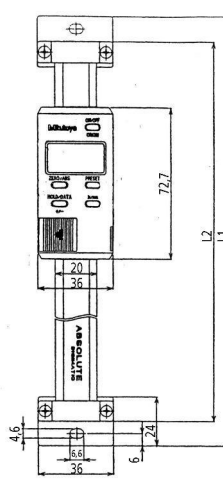
572-560

Metric

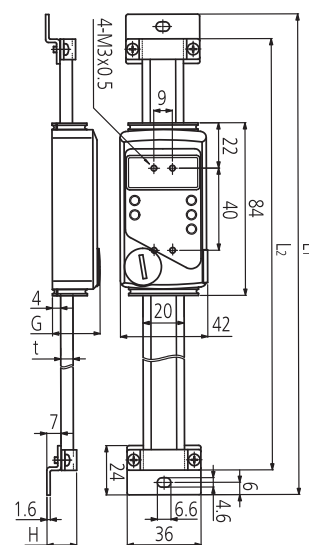
| No. | Range [mm] | Accuracy | L1 [mm] | L2 [mm] | H [mm] | t [mm] | Mass [kg] |
|---------|------------|----------|---------|---------|--------|--------|-----------|
| 572-560 | 0 - 100 | 0,03 mm | 244 | 220 | | | 0,25 |
| 572-561 | 0 - 150 | 0,03 mm | 294 | 270 | | | 0,28 |
| 572-562 | 0 - 200 | 0,03 mm | 344 | 320 | | | 0,31 |
| 572-563 | 0 - 300 | 0,04 mm | 444 | 420 | | | 0,37 |
| 572-564 | 0 - 450 | 0,04 mm | 594 | 570 | 14,6 | 6 | 0,76 |
| 572-565 | 0 - 600 | 0,05 mm | 774 | 750 | 14,6 | 6 | 0,9 |
| 572-566 | 0 - 800 | 0,06 mm | 974 | 950 | 18,6 | 10 | 1,71 |
| 572-567 | 0 - 1000 | 0,07 mm | 1174 | 1150 | 18,6 | 10 | 2,04 |



100-300 mm



450-1000 mm



Vertical ABSOLUTE Scale Diameter Function

ABSOLUTE®

This unit has an ABSOLUTE capacitive-type scale.

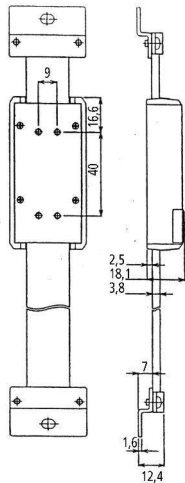
- The ZERO point is set only once and is stored as the absolute ZERO point until the next battery replacement.
- The display has large characters, making it easy to read.
- Diameter measurement function is included.



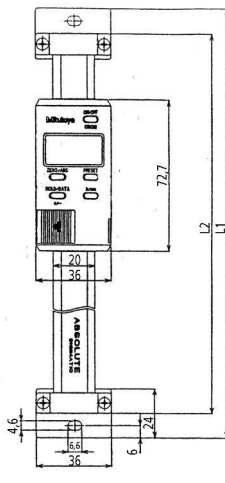
572-580

Metric

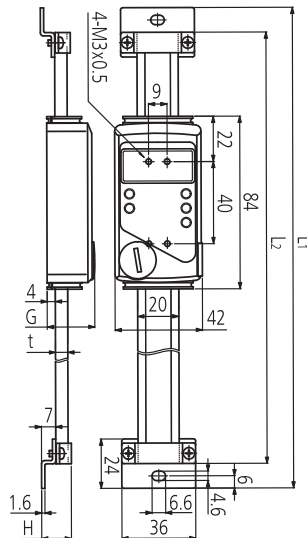
| No. | Range [mm] | Accuracy | L1 [mm] | L2 [mm] | H [mm] | t [mm] | Mass [kg] |
|------------|------------|----------|---------|---------|--------|--------|-----------|
| 572-580-10 | 0 - 100 | 0,03 mm | 244 | 220 | | | 0,25 |
| 572-581-10 | 0 - 150 | 0,03 mm | 294 | 270 | | | 0,28 |
| 572-582-10 | 0 - 200 | 0,03 mm | 344 | 320 | | | 0,31 |
| 572-583-10 | 0 - 300 | 0,04 mm | 444 | 420 | | | 0,37 |
| 572-584-10 | 0 - 450 | 0,04 mm | 594 | 570 | 14,6 | 6 | 0,76 |
| 572-585-10 | 0 - 600 | 0,05 mm | 774 | 750 | 14,6 | 6 | 0,9 |
| 572-586-10 | 0 - 800 | 0,06 mm | 974 | 950 | 18,6 | 10 | 1,71 |
| 572-587-10 | 0 - 1000 | 0,07 mm | 1174 | 1150 | 18,6 | 10 | 2,04 |



100-300 mm



450-1000 mm



| Functions | |
|---|---|
| ON/OFF | ● |
| DATA (output with cable) / HOLD (display value) | ● |
| Low voltage alarm | ● |
| Data output | ● |
| Diameter function | ● |
| ORIGIN | ● |

Specifications

Max. drive speed Unlimited

Optional accessories

| No. | Description |
|-----------|---|
| 02AZD790C | Connection Cable C for U-WAVE, Straight, with Data Button |
| 06AFM380C | USB Input Tool Direct (Digimatic to USB), 2m Cable, Digimatic/Digimatic 2, Straight, with Data Button |
| 905338 | Digimatic Cable, Flat Straight Type, 1 m |
| 905409 | Digimatic Cable, Flat Straight Type, 2 m |
| 905689 | Digimatic Cable, Flat L-Shape Type, 1 m |
| 905690 | Digimatic Cable, Flat L-Shape Type, 2 m |
| 905691 | Digimatic Cable, Flat L-Shape Right Type, 1 m |
| 905692 | Digimatic Cable, Flat L-Shape Right Type, 2 m |
| 905693 | Digimatic Cable, Flat L-Shape Left Type, 1 m |
| 905694 | Digimatic Cable, Flat L-Shape Left Type, 2 m |

Consumable spares

| No. | Description |
|----------|--------------------|
| 63AAA800 | Battery SR44 1,5 V |