

Separate-type Absolute Linear Scale ST700 Series

Featuring enhanced environmental resistance

Bulletin No. 1764



Optimized for linear motor applications

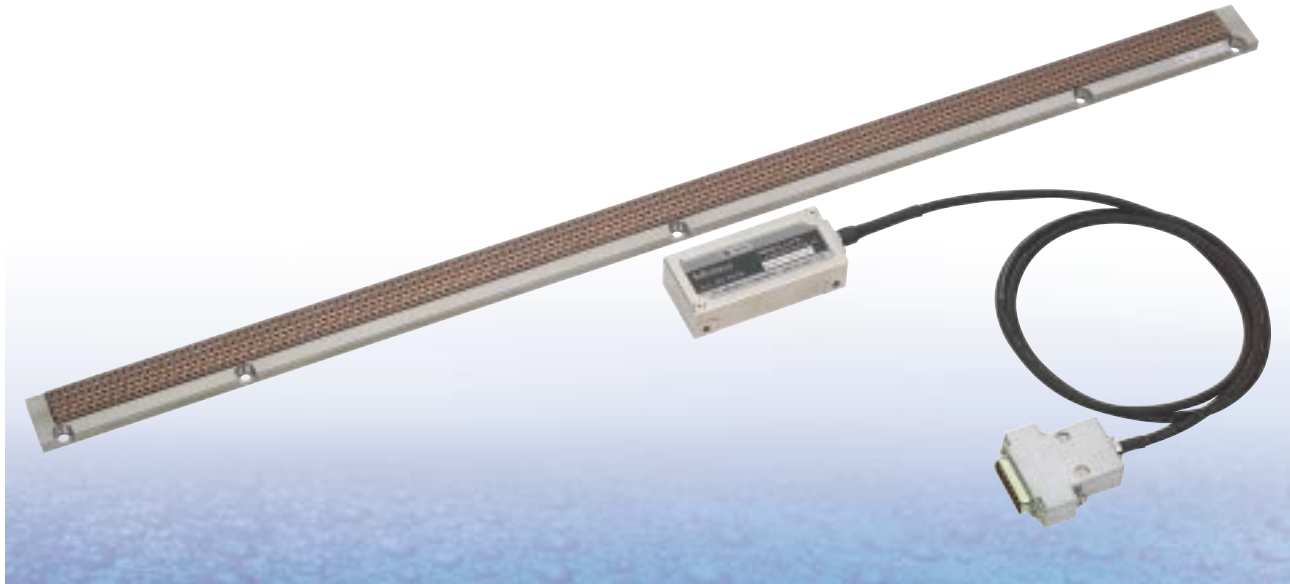
A separate-type Absolute Series Linear Scale compatible with various makes of servo amplifiers.

Highly resistant to water and oil contamination

Electromagnetic induction detector design provides enhanced resistance to environmental contamination.

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Mitutoyo Absolute Linear Scale Line — Now enhanced with separate-type models



Features

- Absolute scales eliminate need to restore origin.
- Optimized for control of linear motors.
- Optimized for high-speed, high-acceleration control.
- Provides high resistance to water and oil contamination.
- Non-contact detection provides longer service life.
- Dedicated software automatically performs signal adjustment upon installation.

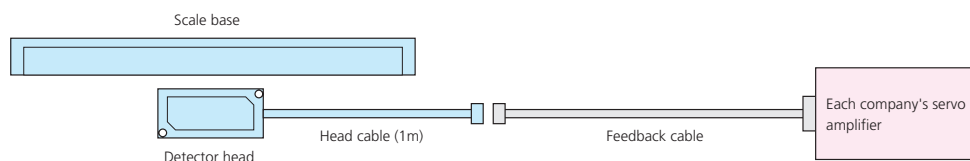
List of Compatible Servo Amplifiers

Model No.	Servo amplifier
ST741A	Mitsubishi Electric Corporation's MELSERVO MR-J2S series
ST781A	Yasukawa Electric Mfg. Co., Ltd. Σ III series
ST771A	Matsushita Electric Industrial Co., Ltd. Panasonic's MINAS A4 series
ST701A	Servo amplifiers compatible with Mitutoyo standard interface

Specifications

Item	Specifications
Detecting method	Electromagnetic induction type absolute position detecting method
Maximum effective measuring length	1800mm
Accuracy (20°C)	$8+(5L/1000)\mu\text{m}$ L: Effective length
Maximum feed speed	5m/s
Maximum feed acceleration	50m/s^2 (5G)
Thermal expansion coefficient	$(12.0\pm 1.5) \times 10^{-6}/^\circ\text{C}$
Operating temperature/humidity	0 to 50°C/20 to 80%RH
Storing temperature/humidity	-20 to 70°C/20 to 80%RH
Head cable length	1m
Maximum head cable length	29m (Total length of head cable and feedback cable)
EMC (Electromagnetic Compatibility)	CE mark compatible

Configuration



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* Consult Mitutoyo for the specification of feedback cables.

Mounting Dimensions

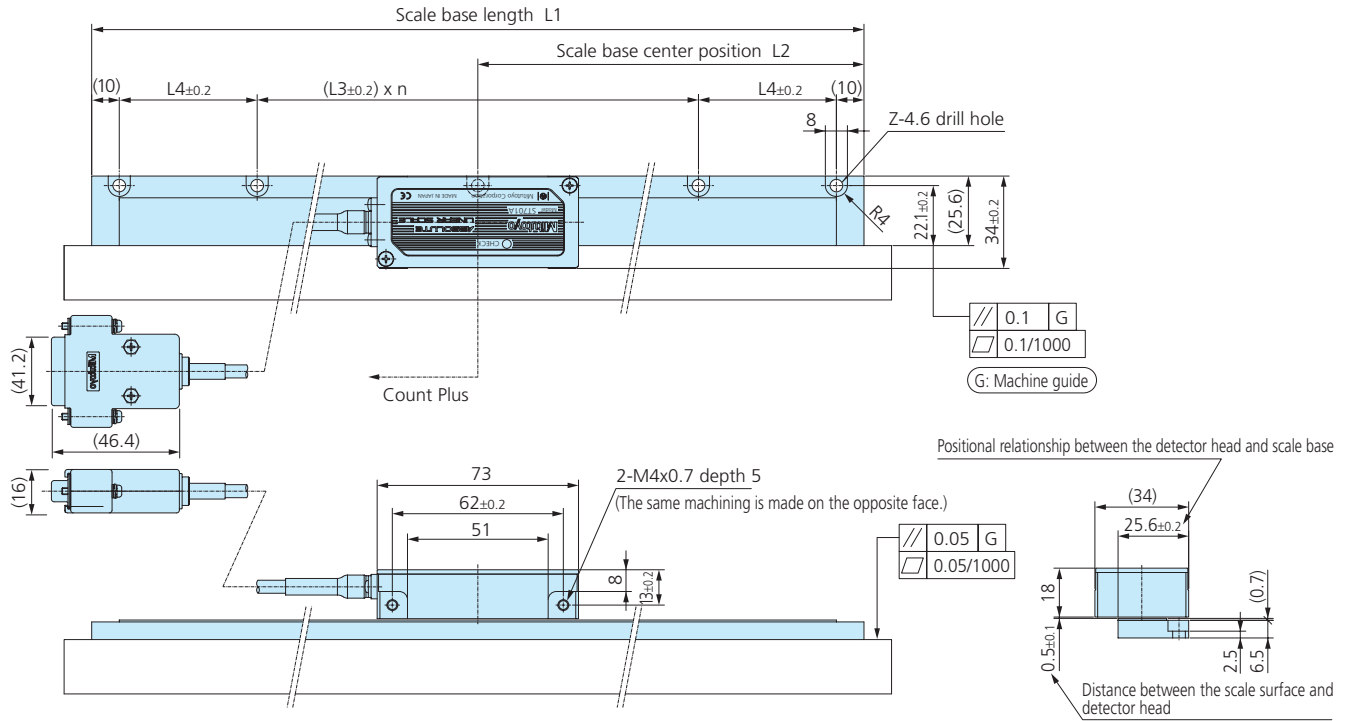


Table of scale units dimensions

Effective measuring length (mm)	Maximum traveling amount (mm)	L1 (mm)	L2 (mm)	L3 (mm)	n	L4 (mm)	z
4" (100)	4.33" (110)	7.09" (180)	3.54" (90)	3.15" (80)	(2)	-	3
8" (200)	8.27" (210)	11.02" (280)	5.51" (140)	5.12" (130)		-	
12" (300)	12.20" (310)	14.96" (380)	7.48" (190)	7.09" (180)		-	
16" (400)	16.14" (410)	18.90" (480)	9.45" (240)	9.06" (230)		-	
20" (500)	20.08" (510)	22.83" (580)	11.42" (290)	7.87" (200)	(2)	3.15" (80)	5
24" (600)	24.02" (610)	26.77" (680)	13.39" (340)			5.12" (130)	
28" (700)	27.95" (710)	30.71" (780)	15.35" (390)			7.09" (180)	
32" (800)	31.89" (810)	34.65" (880)	17.32" (440)			9.06" (230)	
36" (900)	35.83" (910)	38.58" (980)	19.29" (490)		(4)	3.15" (80)	7
40" (1000)	39.76" (1010)	42.52" (1080)	21.26" (540)			5.12" (130)	
44" (1100)	43.70" (1110)	46.46" (1180)	23.23" (590)			7.09" (180)	
48" (1200)	47.64" (1210)	50.39" (1280)	25.20" (640)		(6)	9.06" (230)	9
51" (1300)	51.57" (1310)	54.33" (1380)	27.17" (690)			3.15" (80)	
55" (1400)	55.51" (1410)	58.27" (1480)	29.13" (740)			5.12" (130)	
59" (1500)	59.45" (1510)	62.20" (1580)	31.10" (790)			7.09" (180)	
63" (1600)	63.39" (1610)	66.14" (1680)	33.07" (840)	9.06" (230)			
67" (1700)	67.32" (1710)	70.08" (1780)	35.04" (890)	(8)	3.15" (80)	11	
71" (1800)	71.26" (1810)	74.02" (1880)	37.01" (940)		5.12" (130)		



Note:

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