



Linear Scales ST422

SERIES 579 — Compact Type

SPECIFICATIONS

Model	ST422
Detection method	Reflective photoelectric linear encoder
Output signal	2-phase sinusoidal signals, 2-phase square wave signals
Main scale grating pitch	40μm
Signal output pitch	40μm
Effective range	10 to 3000mm
Accuracy (20°C)*1	±1μm, ±2μm, ±3μm/m
Resolution	0.2μm/ 0.5μm/ 1μm/ 5μm (Selectable with internal switch)
Scale reference point	Center point (10 to 75mm)/ 50mm pitch (100mm or more)
Maximum response speed	5000mm/s (varies depending on the setting)
Minimum edge-to-edge interval	125ns/ 250ns/ 500ns/ 1μs (selectable with internal switch)
Operating temperature/ humidity range	0 to 40°C, RH 20 to 80% (no condensation)
Storage temperature/ humidity range	-20 to 60°C, RH 20 to 80% (no condensation)
Head cable length	1m

*1:

Effective range	Accuracy
300mm or less	±1μm
500mm or less	±2μm
1000mm or less	±3μm
3000mm or less	±3μm/m

Dimensions of scale units

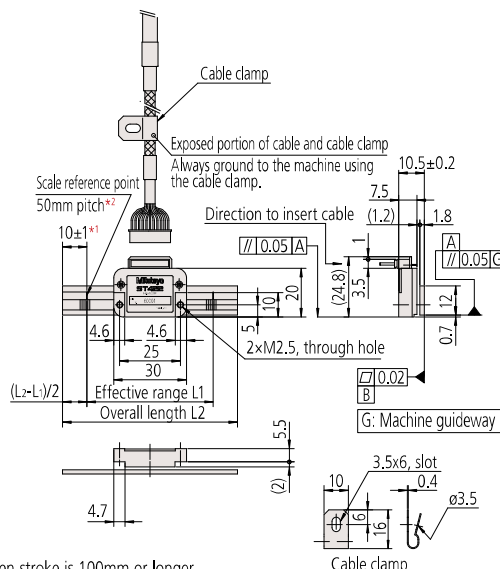
Order No.	Code	Effective range L1 (mm)	Overall length L2 (mm)	Scale fixing pitch L3 (mm)	Retaining spring A	Retaining spring B
579-631	ST422-10	10	30	—	—	—
579-632	ST422-25	25	45	—	—	—
579-633	ST422-50	50	70	—	—	—
579-634	ST422-75	75	95	—	—	—
579-635	ST422-100	100	120	—	—	—
579-636	ST422-150	150	170	—	—	—
579-637	ST422-200	200	220	—	—	—
579-638	ST422-250	250	270	—	—	—
579-639	ST422-300	300	320	—	—	—
579-640	ST422-350	350	370	—	—	—
579-641	ST422-400	400	440	100	1 pc.	4 pcs.
579-642	ST422-450	450	490	75	1 pc.	6 pcs.
579-643	ST422-500	500	540	80	1 pc.	6 pcs.
579-644	ST422-600	600	640	100	1 pc.	6 pcs.
579-645	ST422-700	700	740	85	1 pc.	8 pcs.
579-646	ST422-800	800	840	100	1 pc.	8 pcs.
579-647	ST422-900	900	940	90	1 pc.	10 pcs.

Order No.	Code	Effective range L1 (mm)	Overall length L2 (mm)	Scale fixing pitch L3 (mm)	Retaining spring A	Retaining spring B
579-648	ST422-1000	1000	1040	100	1 pc.	10 pcs.
579-649	ST422-1100	1100	1140	90	1 pc.	12 pcs.
579-650	ST422-1200	1200	1240	100	1 pc.	12 pcs.
579-651	ST422-1300	1300	1340	130	1 pc.	10 pcs.
579-652	ST422-1400	1400	1440	100	1 pc.	14 pcs.
579-653	ST422-1500	1500	1540	125	1 pc.	12 pcs.
579-654	ST422-1600	1600	1640	100	1 pc.	16 pcs.
579-655	ST422-1700	1700	1740	120	1 pc.	14 pcs.
579-656	ST422-1800	1800	1840	100	1 pc.	18 pcs.
579-657	ST422-2000	2000	2040	100	1 pc.	20 pcs.
579-658	ST422-2200	2200	2240	100	1 pc.	22 pcs.
579-659	ST422-2400	2400	2440	100	1 pc.	24 pcs.
579-660	ST422-2500	2500	2540	95	1 pc.	26 pcs.
579-661	ST422-2600	2600	2640	100	1 pc.	26 pcs.
579-662	ST422-2800	2800	2840	100	1 pc.	28 pcs.
579-663	ST422-3000	3000	3040	100	1 pc.	30 pcs.

- The maximum response speed is 5000mm/s. (When resolution is 1μm and the minimum edge interval is 125ns.)
- Ultra-compact detector control unit allows use in applications where space-saving design is important.
- The maximum effective measurement length of 3000mm enables use on large machines.
- Simultaneous output of 2-phase square wave signals (maximum resolution: 0.2μm) and 2-phase sinusoidal wave signals (main signal: 40μm) is available.
- LED function for indicating signal errors.
- Equipped with scale reference point output.

ST422 Scale unit mounting dimensions

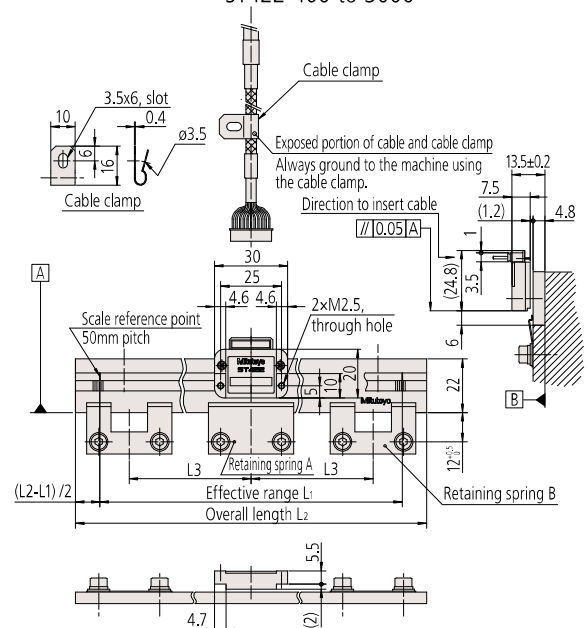
- ST422-10 to 350 (Adhesive fixing type) *3



- *1 When stroke is 100mm or longer
 *2 One center point when stroke is 10 to 75mm
 *3 For information on fixing methods for adhesive fixing type

- ST422-400 to 3000

Unit: mm



- Any scale size drawings are available on request.