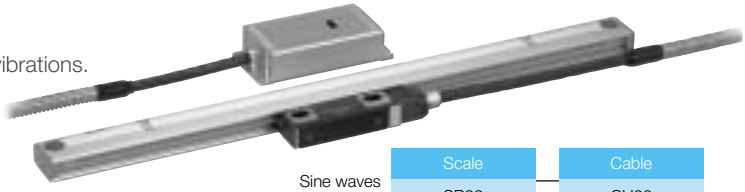
SR

SR33

Magnescale® Incremental

The scale boasts superior speed and accuracy in addition to its conventional high level of reliability in a hostile environment

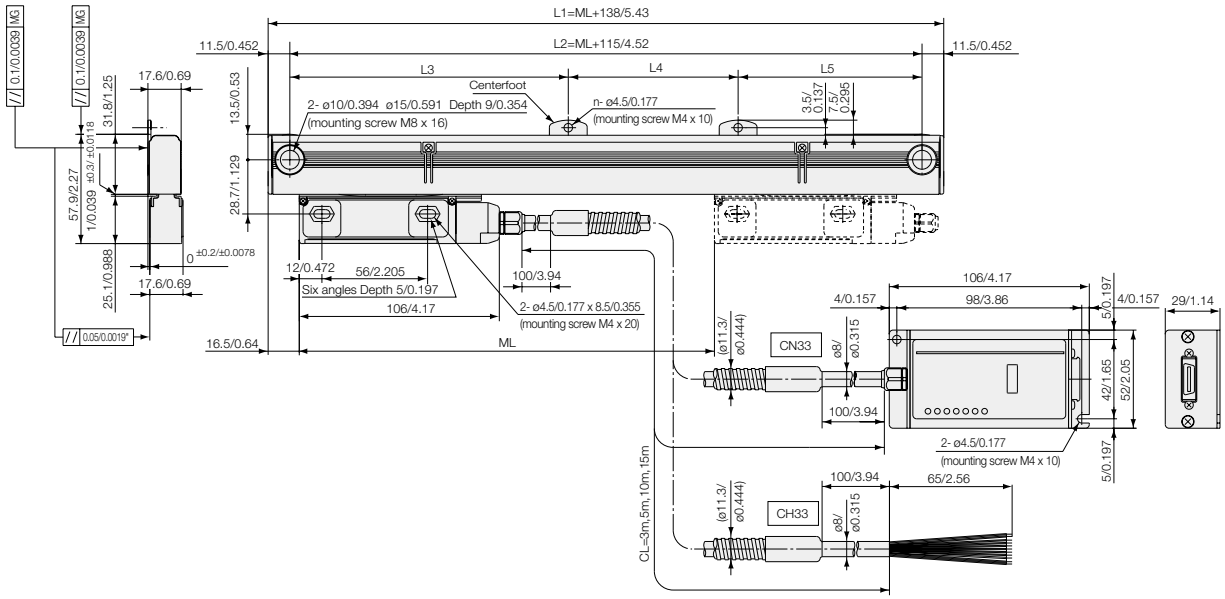
- Magnetic principle
- Excellent resistance to workshop conditions. Resistance to oil, dirt and vibrations.
- Stable output of 40µm low-distortion sine waves and enhanced interpolation accuracy achieved by a magnetic head exclusively developed for the SR33.
- Resolution: 0.05µm to 1µm
- Accuracy: 3+3 ML / 1000µm p-p, 5+5 ML / 1000µm p-p
- The resolution of the A/B quadrature signals can be switched between 0.05,0.1,0.5 and 1µm with CN33 Interpolator for SR33.



Sine waves	Scale	Cable
	SR33	CH33

A/B quadrature	Scale	Cable
	SR33	CN33

Dimensions



ML	70	120	170	220	270	320	370	420	470	520	570	620	720	770	820	920	1020	1140	1240	1340	1440	1540	1640	1740	1840	2040
L1	208	258	308	358	408	458	508	558	608	658	708	758	858	908	958	1058	1158	1278	1378	1478	1578	1678	1778	1878	1978	2178
L2	185	235	285	335	385	435	485	535	585	635	685	735	835	885	935	1035	1135	1255	1355	1455	1555	1655	1755	1855	1955	2155
L3	-	-	-	-	-	-	-	-	-	-	-	-	417.5	442.5	467.5	517.5	567.5	627.5	677.5	727.5	520	550	585	620	650	720
L4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	520	550	585	620	650	720
L5	-	-	-	-	-	-	-	-	-	-	-	-	417.5	442.5	467.5	517.5	567.5	627.5	677.5	727.5	515	555	585	615	655	715
n	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2

*1 ML: Measuring length
*2 CL: Cable length
*3 MG: Machine guide
*4 Center foot: 1 foot for ML ≧720 mm
2 feet for ML ≧1440 mm

Unit : mm/inch

Specifications

Model	SR33	SR33 with CN33
Measuring length (ML)(mm/inch)	70,120,170,220,270,320,370,420,470,520,570,620,720,770,820,920,1020,1140,1240,1340,1440,1540,1640,1740,1840,2040 (2.76",4.72",6.69",8.66",10.63",12.6",14.57",16.54",18.5",20.4",22.4",24.4",28.3",30.3",32.2",36.2",40.1",44.88",48.81",52.7",56.69",60.62",64.5",68.5",72,44",80.3")	
Output signal	Sine wave (1Vp-p)	A/B/Z quadrature
Signal pitch	40 µm	-
Resolution	-	0.05/0.1/0.5/1µm(selectable using a switch)
Minimum phase difference	-	62.5,125,187.5, 250 ns*3
Accuracy*1 *2	3+3 ML /1000µm p-p, 5+5 ML /1000µm p-p	
Reference point*2	One point (1 mm unit), Multi point (40 mm pitch), Reference mark (absolute position value is established with a maximum traverse of 20 mm)	
Maximum response speed	150m/min	150m/min Resolution 1µm Minimum phase difference: 250 ns
Vibration resistance (50-3000 Hz)	150m/s^2	
Impact resistance (11 ms)	350m/s^2	
Thermal expansion coefficient	(12 ± 1) x10 $^{-6}$/°C	
Protective design grade	Equivalent to IP54 (when air is not supplied) /Equivalent to IP65 (when air is supplied) CN33: no grade	
Operating temperature range	0 to 50°C / 32 to 122°F	
Power supply voltage	DC +5V±5%	
Power consumption	150mA (at 120 Ω termination)	400mA (at 120 Ω termination)
Output cable length	150m max.(when using CH33)	30m max.(selected based on the length of CN33)

*1 at 20°C / 68°F *2 Specified upon ordering. *3 For wider phase difference,please consult on our sales.

Model	CH33-**CP	CH33-**CE	CN33-**CP	CN33-**CE
Description	Cable with open end	Cable with open end	Cable with interpolator	Cable with interpolator
Cable length	3,5,10,15m/9.8',16.4',32.8',49.2'			
Material	PVC	PU	PVC	PU
Armor	YES	YES	YES	YES

*Please consult with our sales for the cable length other than above.