

ES-8 Digital Readouts

Concluded from our years experience in digital readout system manufacturing, in order to achieve high reliability and durability, not only the electronics and mechanical system design are important, it is also essential that the system must be constructed with highest possible specifications material at advanced production technology. Therefore, despite the serious market competition which keep driving the price of digital readout system lower and lower. ES-8 approach the market differently, we have chosen to reduce our cost by state of the art electronics design, efficient production management and the low overhead cost of our own factory in China, this substantial savings make possible that ES-8 are constructed with highest possible specifications and relatively expensive material & component to achieve high reliability and durability.

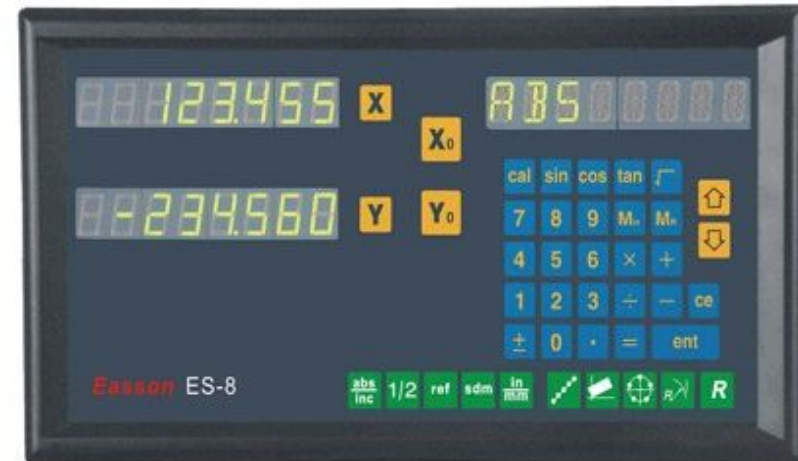
【High noise immunity & EMC design】



Latest triple stages noise filter is used in ES-8 for transducer signals input noise filtering which offer very wide frequency bandwidth (1KHz - 1000MHz) noise attenuation.

Extreme careful PCB and component layout that strictly follows all known rules to achieve highest possible noise immunity and EMC performance.

Linear power supply is used in ES-8 to ensure highest possible performance in noise immunity to the electrical source.



【Adaptable to poor electrical source】

Low power consumption approach is used in the system design of ES-8, therefore, even ES-8 is designed for very wide voltage supply range (160V~260V / 80V ~ 130V) operation, linear power supply can still be used without serious heat generation, linear power supply offer excellent noise immunity and proven highest reliability. Use of the combined capacitor-varistor noise filters in the power supply system to ensure highest possible noise and surge immunity to poor electrical source.

【High Durability Switch Membrane】

The Autotex series polyester film from UK's AUTOTYPE Ltd. is used as the key membrane of ES-8. Autotex polyester film is known as the highest quality, highest specification membrane film available among the membrane switch manufacturing industry.

【State of the Art Electronics Technology】

Our latest in-house design 16 bit 3 axes counting ASIC that fabricated with 0.35um CMOS technology is used in ES-8, greatly reduce the number of component counts, lower the system power consumption and improve reliability.



【Advanced Production Technology】

SMT assembling process is used in manufacturing of ES-8, all components are soldered by our in-house computerized control soldering machines to achieve high quality soldering.



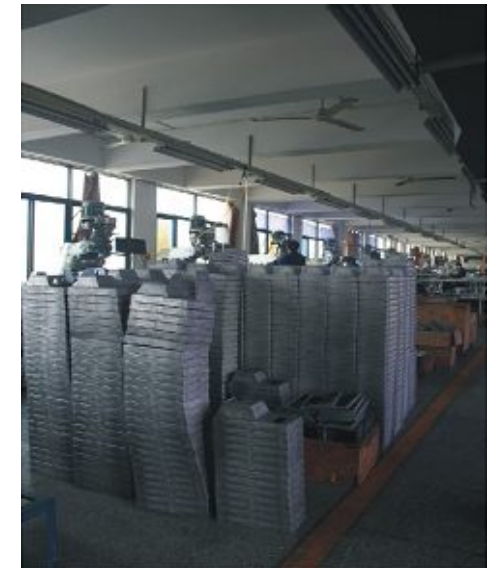
【Totally Sealed Enclosure】

The enclosure of ES-8 is totally sealed to protect the electronics circuitry against the hazardous environment in shop floor, such as dust, evaporated coolant, fume from EDM machining and etc.



【Robust Aluminum Casing】

The front plate of ES-8 is built by an 1.5mm thickness electroplated steel, ES-8's enclosure is built by pressurized injection forming aluminum case to provide high quality robust casing, electrostatic powder spray paint is used in ES-8 to provide hard, scrape resistance, long lasting surface finish.

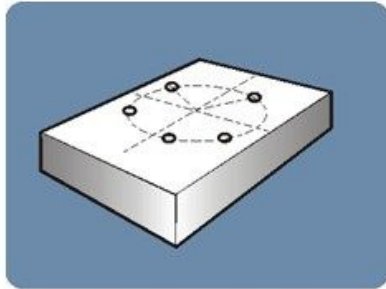


【Ultra Low Temperature Rise Transformer】

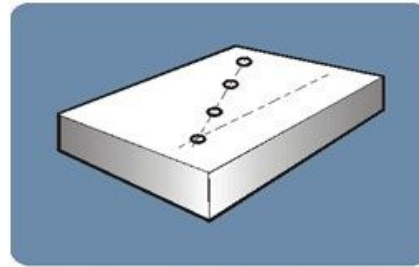
To reduce the total heat generation inside the ES-8 in order to obtain long working life. An ultra low temperature rise transformer that construct with very



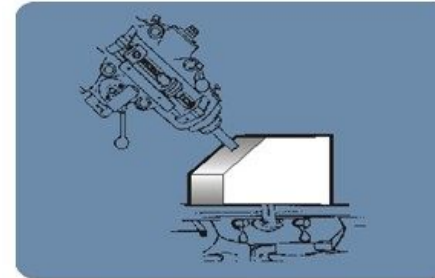
◆ ES-8 Advanced Functions



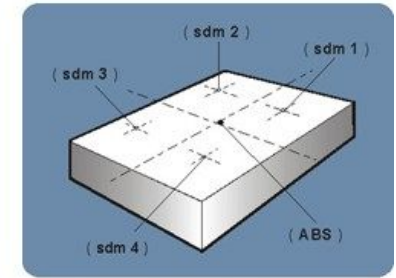
PCD Pitch circle Diameter function



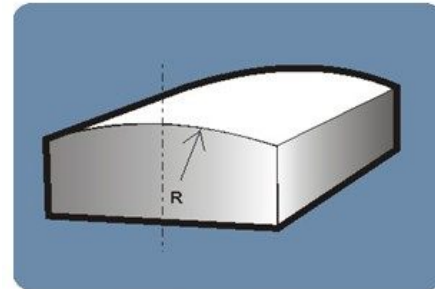
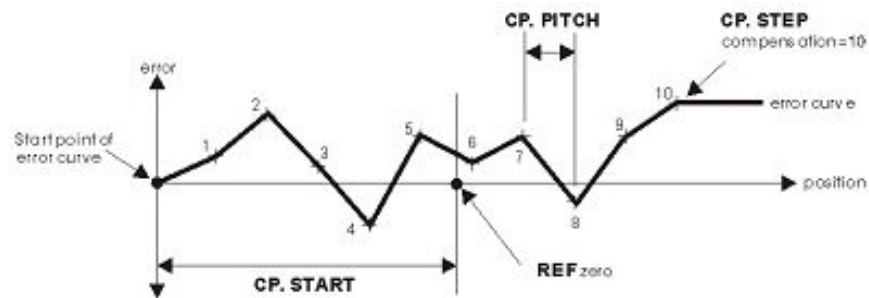
LHOLE line Hole positioning function



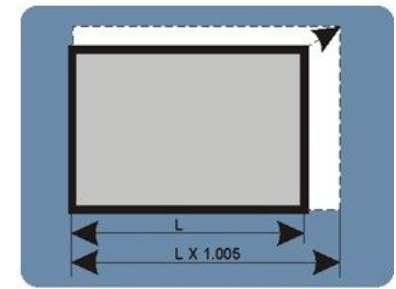
INCL Inclined machining function



SDM 199 subdatum memory function



R function



SHRINK shrinkage calculation function

◆ Non linear error compensation

In the application where very high accuracy is essential, such as grinding machine, boring machine, measuring instrument and etc. It is very costly and also very difficult to build the machine body to achieve the required micron grade accuracy.

ES-8 offers a cost effective way to improve the display accuracy by non-linear error compensation. The non-linear error compensation function of ES-8 is very similar to the non-linear error compensation that commonly found in CNC machine controller.

◆ Vibration filtering function

High accuracy and high resolution (1mm) display are essential for grinder application. However, under the high resolution display, the last digit display may keep toggling caused by the vibration of the machine during the machining process, especially in large grinder.

The innovative vibration filtering function can filter the display toggles to obtain a more comfortable readings, and hence reduces human mistake.

Function		Model	General machine use					Special machine use		
		ES-8M miller	ES-8B borer	ES-8G grinder	ES-8L lather	ES-8E EDM	ES-8W wirecut	ES-8P projector	ES-8G3 3X grinder	ES-8T toolsetter
Axis	Two Axes	●	●	●	●		●	●		●
	Three Axes	●	●	●	●	●			●	
Resolution		5um	1um	1um	5um	5um	5um	1um	1um	1um
Enhanced EMI algorithm						■	■			
Basic function	-Clear zero									
	-centering (1/2)									
	-in/mm display									
	-coordinate entry	■	■	■	■	■	■	■	■	
	-abs/inc									
	-power off memory									
	-199 subdatum									
-REF memory										
Built in calculator		■				■				
PCD pitch circle diameter		■	■			■	■			
LHOLE line hole positioning		■	■			■	■			
INCL inclined machining		■				■				
SHRINK shrinkage calculation		■								
R function	Simple R	■								
	Smooth R	■								
Linear error compensation		■	■	■	■	■	■	■	■	■
None linear error compensation			■	■				■		■
Vibration filtering				■						
XZ axes summation					■					
Z relay output						■				
Rotary encoder readout									■	
RS232 output							■			■
Geometric calculation							■			■
Zero guage setup										■

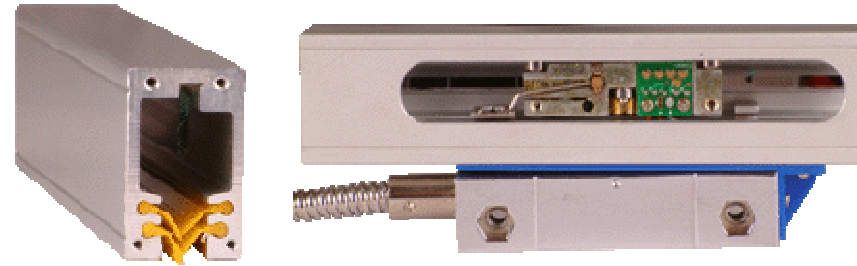
All packed by the carton of 40 x 25 x18 (cm), weight 6 kg



Easson GS linear optical scales

【Advanced optical Measuring system】

The slide carrier of the GS series scales, use a five bearing design for optical grating linear transducer which has been proven as the most reliable system design in today's market. The glass grating slide ways are lapped, and JIS standard P5 grade bearings are used to achieve smooth and accurate movement and long working life.

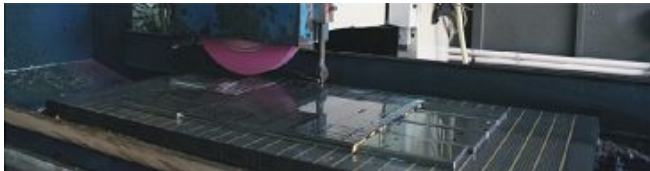


【Double Seals Design】

The plastics seals of GS series scales use an innovative material to offer superior oil resistance, high elastic recovery properties and durability. Carefully designed lips geometry offer low slide resistance

【100%Laser calibration】

All glass grating transducers are individually inspected and calibrated by our in-house laser calibrator to ensure accuracy comply 100% with the specifications.



glass polishing>



<scales machining



double sealing lips>

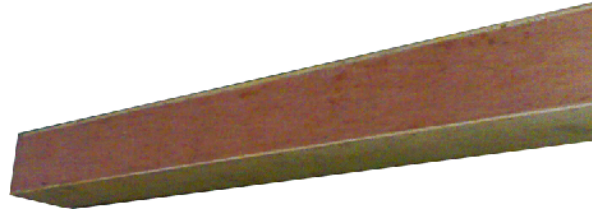
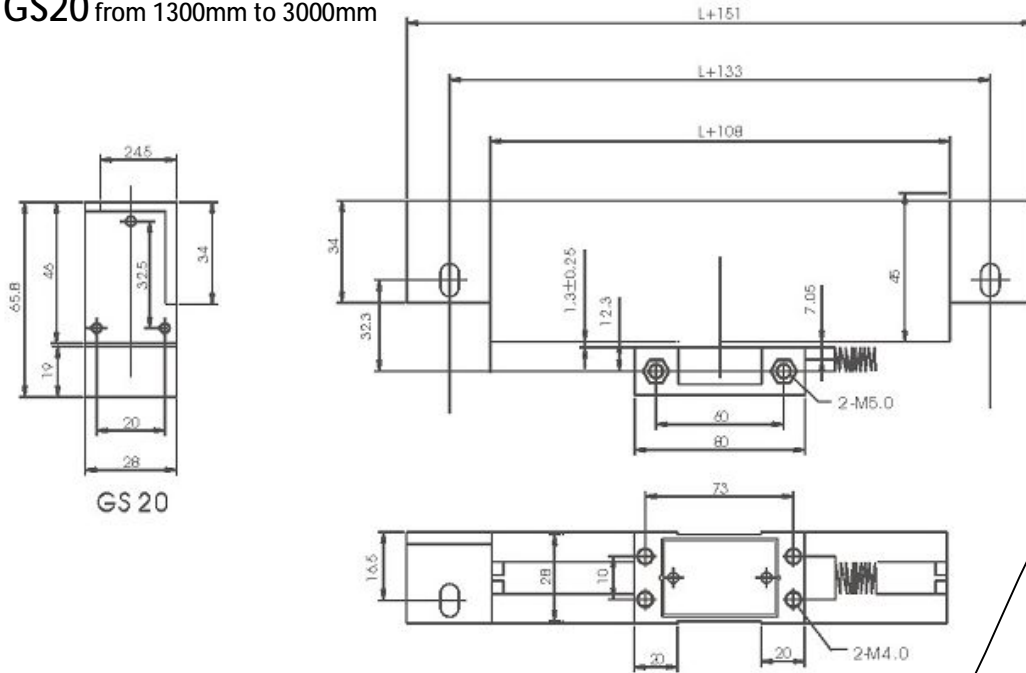


<reader heads

		GS10	GS11	GS12	GS13	GS20	GS21	GS22	GS23	GS30	GS31	GS32	GS33
Measuring Standard		Glass Scale-Grating period:20um(0.020mm)											
Optical Detecting System		Transmissive Infrared system -: wavelength : 880nm											
Slide Carrier System		Vertical five bearings supporting system				45' five bearings supporting system				Vertical five bearings supporting system			
Resolution		5um	1um	5um	1um	5um	1um	5um	1um	5um	1um	5um	1um
Measurement Length	100-1200mm	Every 50mm per length specification								Every 50mm per length specification upto 500mm			
	1300-3000mm					Every 100mm per length specification							
Accuracy	100-450mm	±6um	±4um	±6um	±4um					±6um	±4um	±6um	±4um
	500-800mm	±10um	±8um	±10um	±8um								
	1050-1200mm	±15um	±12um	±15um	±12um								
1300-3000mm						±25um							
Repeatability		2um(0.002mm)											
Hystersis		3um(0.003mm)											
Protection		DIN 40050 IP53											
Power Supply		DC 5V ±5%											
Output Signals		TTL	TTL	ELA-422-A	ELA-422-A	TTL	TTL	ELA-422-A	ELA-422-A	TTL	TTL	ELA-422-A	ELA-422-A

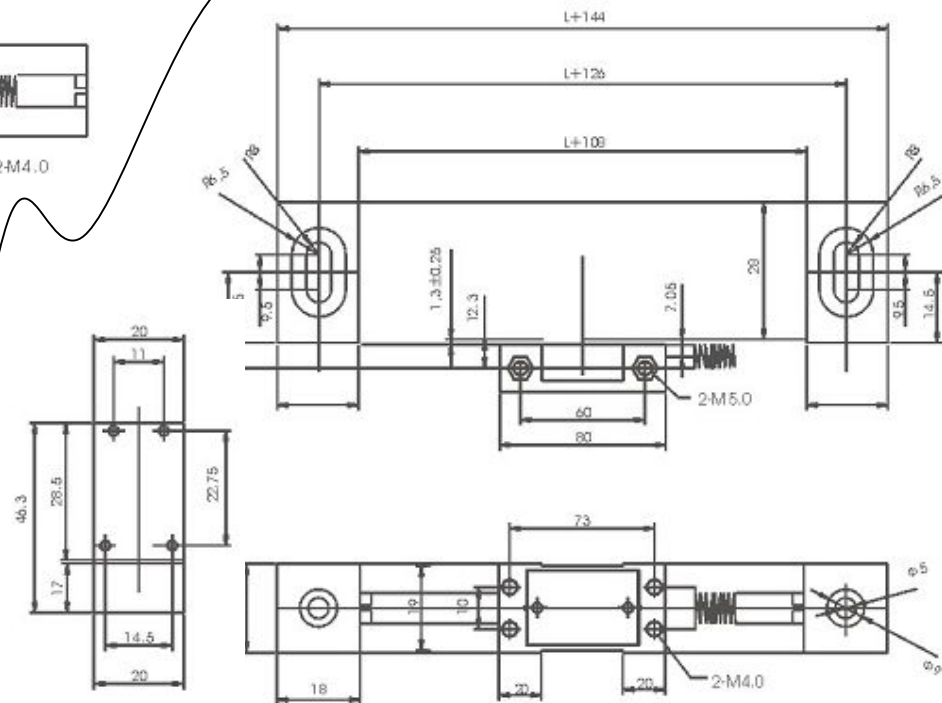


GS20 from 1300mm to 3000mm

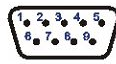


Packed by plywood that free of fumigation

GS30 FROM 50mm to 500mm



◆ connectors



DSUB 9
9 pin male connector

Pin	Signal	Cable	422A	Color
1	---	---	A	Yellow
2	0V	Orange	0V	White
3	---	---	B	Red
4	Gnd	Ground	Gnd	Ground
5	---	---	R	Black
6	A	Yellow	A	Green
7	5V	Red	5V	Brown
8	B	Green	B	Blue
9	R	Brown	R	Gray



DIN 7
7 pin male connector

Pin	Color	Signal
1	Orange	0V
2	---	---
3	Yellow	A
4	Green	B
5	Red	5V
6	Brown	R
7	Ground	Gnd
外壳	Ground	Gnd