



GS31

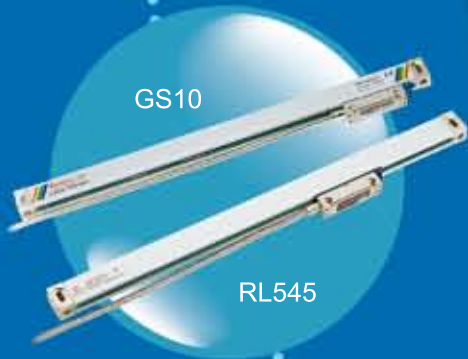
RL471



RD-17



RD-15M



GS10

RL545



ES-1M



GS20

RL665



Linear Encoder Digital Readout System



Resson is a professional company to develop and produce precision Digital Readouts and Linear Encoders in Taiwan. From the beginning, Resson ultimate objective was to provide the best products and services to satisfy requirement of its customers.

In order to provide its customers with products of the highest quality, Resson is committed to the continuous improvement of its products, manufacturing processes, working environment and the skills of its people. all its tests are based on internationally accepted quality standards. And the accuracy of Linear Encoder is controlled by laser technology. You can trust that you will be satisfied when you use Resson Digital Readout and Linear Encoder for increasing the productivity and value of your products.



High Noise Immunity, Powerful Adaptability of electrical source, Reliable and Stable

Resson's conclusive statement of producing experience of linear encoders and digital readouts: If want to have reliable & durable products, reduce maintenance, to make high-quality products, the key-points are not only depend on advanced technology of electronics and assembling but also have to select best material. Therefore, our company selects the best quality of material and components approved by field to make reliable and durable products.



State of the Art Electronics Technology

We adopt in-house designed 16 bit IC that fabricated with $0.35\ \mu\text{m}$ CMOS technology, greatly reduce the components, lower the system power consumption and improve reliability.

Advanced Production Technology

We adopt SMT assembling technology. A II components are allated and soldered by computer controlled.

High Durability Switch Membrane

The Autotex series polyester film from UK's AUTTYPE Ltd. is used as the key membrane, Autotex polyester film is known as the highest quality membrane film available among the membrane switch manufacturing industry. Autotex film offer excellent chemical resistance to most commonly used industry solvent and excellent switch life.

High noise immunity & EMC design

We adopt doubles tages noise filter for transducer signals input noise filtering which offer very wide frequency band width (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 RD-Series to ensure highest possible performance in noise immunity to the electrical source.

Adaptable to poor electrical source

Based on Resson's designing experience, low power consumption approach is keeping be used in the system design of digital readout. The system is approved as the best reliable, stable, anti-high voltage impact and high noise immunity. Besides, use of the combined capacitor-varistor noise filters in the power supply system to enhance noise immunity and anti-high voltage impact.

RD-11~RD-14
Certificate



RD-15
Certificate



RD-16
Certificate



ES-1M/ES-6E
Certificate

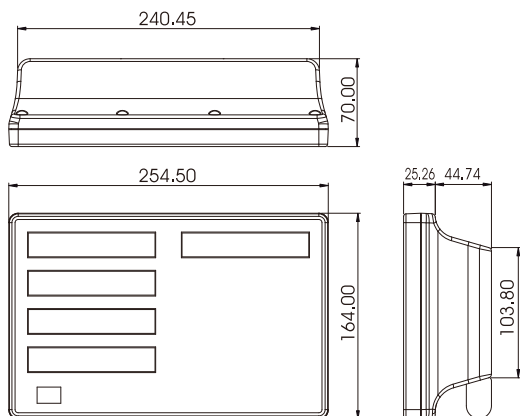


ES-2/ES-3/ES-4/ES-5
Certificate

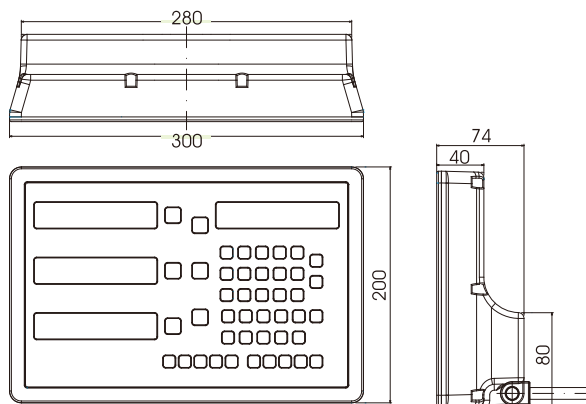


Dimensions

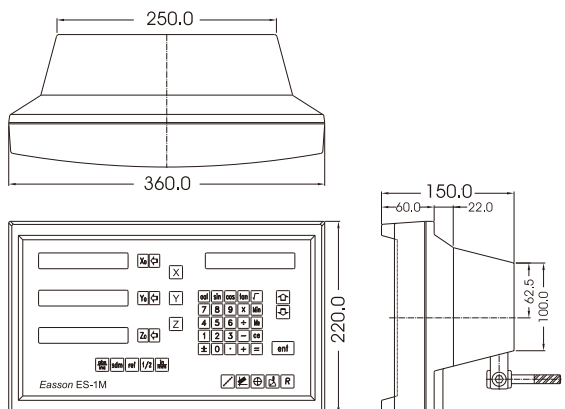
RD-11/12/13/14/16



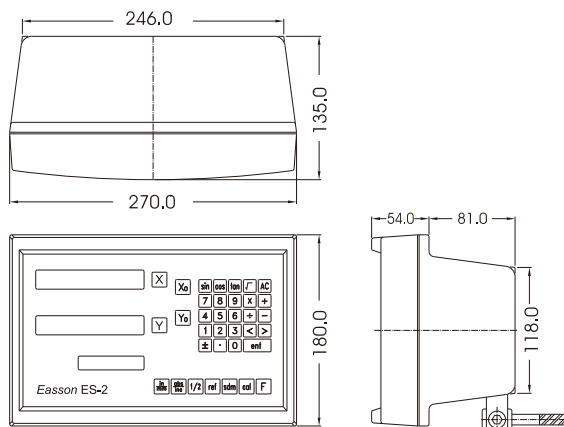
RD-15



ES-1M/6E

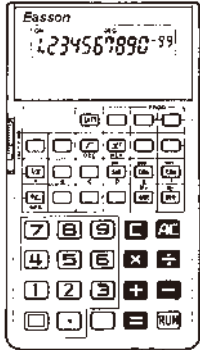


ES-2/3/4/5

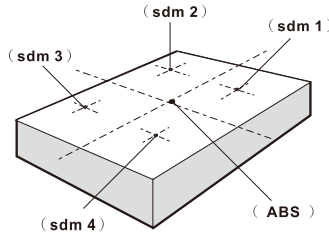


CALCULATOR

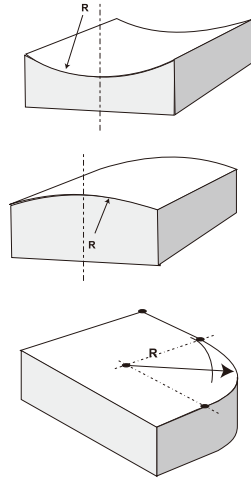
easy to use same as commercially available scientific calculators calculated result can be stored or transfer to any display axis.



SDM-Sub-datum memory



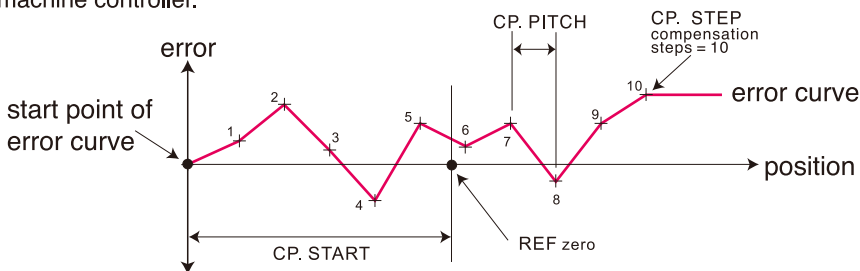
R-Tool positioning for machining arcs



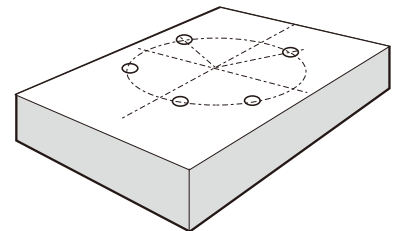
NON LINEAR ERROR COMPENSATION

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

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

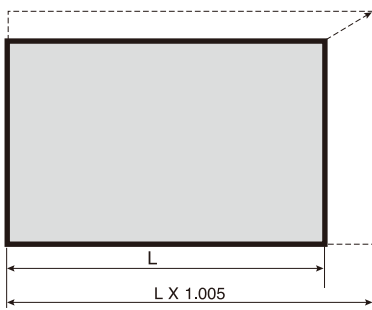


PCD-Tool positioning for Pitch Circle Diameter



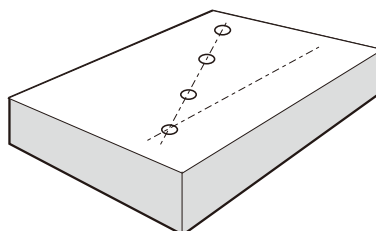
SHRINK-

for resize your workplace



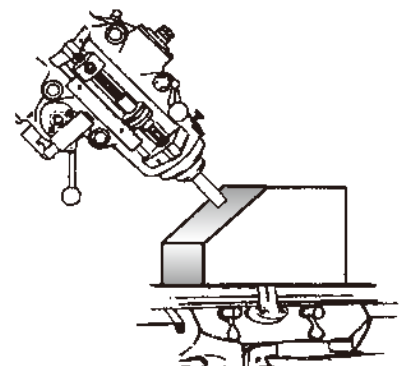
L-HOLL-

Tool positioning for a line of holes

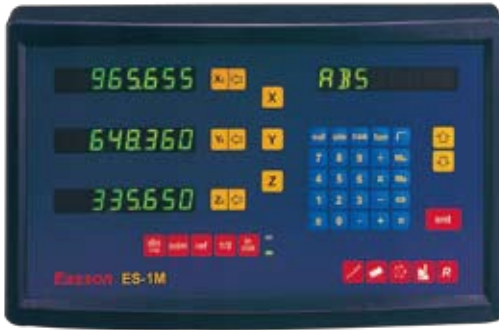


INCL-

inclined surface datum tool positioning for machining an inclined surface



Easson ES-1M Milling / Axis : 2、3 / Resolution : 0.005mm



- | | | | |
|----------------|---------|-----------------------|------------|
| X | PRESET | | PCD |
| X0 ← | RESET | | L-HOLE |
| abs inc | ABS/INC | | INCL |
| ref | Ref | | SMOOTH R |
| In mm | IN/MM | R | R |
| sdm | SDM | cal | CALCULATOR |
| 1/2 | 1/2 | M_{in} | SHRINK |

Easson ES-2 Milling / Axis : 2 / Resolution : 0.005mm



- | | | | |
|----------------|---------|------------|------------|
| X | PRESET | cal | CALCULATOR |
| X0 | RESET | F | R/PCD |
| abs inc | ABS/INC | | |
| ref | Ref | | |
| In mm | IN/MM | | |
| sdm | SDM | | |
| 1/2 | 1/2 | | |












Easson ES-3 Standard / Axis : 1、2、3 / Resolution : 0.005mm (0.001mm Option)



- | | | | |
|----------------|---------|--|------------------------|
| X | PRESET | | DIAMETER/RADIUS |
| X0 | RESET | | RS-232 OUTPUT (OPTION) |
| abs inc | ABS/INC | | |
| ref | Ref | | |
| In mm | IN/MM | | |
| 1/2 | 1/2 | | |















Easson ES-4 Grinding / Axis : 1、2 / Resolution : 0.001mm



- | | | | |
|---|---------|---|-------------------------------|
|  | PRESET |  | CALCULATOR |
|  | RESET |  | DIGITAL FILTER |
|  | ABS/INC |  | NON LINEAR ERROR COMPENSATION |
|  | Ref |  | DIAMETER/RADIUS |
|  | IN/MM | | |
|  | SDM | | |
|  | 1/2 | | |












Easson ES-5 2D Measuring / Axis : 2 / Resolution : 0.001mm



- | | | | |
|---|----------------|---|-----------------------------|
|  | PRESET |  | POINT |
|  | RESET |  | LINE |
|  | ABS/INC |  | CIRCLE |
|  | IN/MM |  | INTERSECTION (POINT, ANGLE) |
|  | SDM |  | DISTANCE |
|  | 1/2 |  | ANGLE |
|  | RS-232C OUTPUT |  | POINT-LINE |

Easson ES-6E EDM / Axis : 3 / Resolution : 0.005mm



- | | | | |
|---|---------|---|----------------------------|
|  | PRESET |  | PCD |
|  | RESET |  | L-HOLE |
|  | ABS/INC |  | INCL |
|  | Ref |  | I/O PORT-ZERO RELAY OUTPUT |
|  | IN/MM |  | CALCULATOR |
|  | SDM | | |
|  | 1/2 | | |

Resson RD-11M Milling / Axes : 2、3 / Resolution : 0.005mm



- | | | | |
|--|----------------|--|------------------------------|
| | Preset | | PCD pitch circle diameter |
| | Clear zero | | LHOLE line hole positioning |
| | in/mm display | | INCL inclined machining |
| | ABS / INC | | smooth R |
| | Centering(1/2) | | simple R |
| | ref memory | | SHRINK shrinkage calculation |
| | 199 subdatum | | Built in Calculator |

- Linear error compensation
- power off memory

Resson RD-12S Standard / Axes : 1、2、3 / Resolution : 0.005mm



- | | |
|--|----------------|
| | Preset |
| | Clear zero |
| | in/mm display |
| | ABS / INC |
| | Centering(1/2) |
| | ref memory |
| | 199 subdatum |

- Linear error compensation
- power off memory

Resson RD-13L Lathe / Axes : 1、2 / Resolution : 0.005mm











- | | | | |
|--|----------------|--|----------------------------|
| | Preset | | Rsdius/Diameter for X Axis |
| | Clear zero | | Cone-cone Measurement |
| | in/mm display | | |
| | ABS / INC | | |
| | Centering(1/2) | | |
| | ref memory | | |
| | 199 subdatum | | |

- Linear error compensation
- power off memory















Resson RD-14G Grinding / Axes : 1、2 / Resolution : 0.001mm



- | | |
|--|---|
|  Preset |  Vibration filtering |
|  Clear zero | |
|  in/mm display | |
|  ABS / INC | |
|  Centering(1/2) | |
|  ref memory | |
|  199 subdatum | |
- Linear error compensation
 - Non Linearerror compensation
 - power off memory

Resson RD-15M Milling / Axes : 2、3











- | | |
|--|--|
|  Preset |  PCD pitch circle diameter |
|  Clear zero |  LHOLE line hole positioning |
|  in/mm display |  INCL inclined mahining |
|  ABS / INC |  smooth R |
|  Centering(1/2) |  simple R |
|  ref memory |  SHRINK shrinkage calculation |
|  199 subdatum |  Built in Calculator |
- Linear error compensation
 - Non Linearerror compensation
 - power off memory

Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm

Resson RD-15S Standard / Axes : 1、2、3



- | | |
|--|--|
|  Preset |  199 subdatum |
|  Clear zero |  RS-232C Output |
|  in/mm display | |
|  ABS / INC | |
|  Centering(1/2) | |
|  ref memory | |
- Linear error compensation
 - Non Linearerror compensation
 - power off memory

Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm

Resson RD-15E EDM / Axes : 3



Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm

- | | | | |
|--|----------------|--|-----------------------------|
| | Preset | | PCD pitch circle diameter |
| | Clear zero | | LHOLE line hole positioning |
| | in/mm display | | INCL inclined mahining |
| | ABS / INC | | Z relay output |
| | Centering(1/2) | | Built in Calculator |
| | ref memory | | |
| | 199 subdatum | | |

- Linear error compensation
- Non Linearerror compensation
- power off memory

Resson RD-15L Lathe / Axes : 1、2、3



Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm

- | | | | |
|--|----------------|--|-----------------------------|
| | Preset | | RS-232C Output |
| | Clear zero | | ZT axes summation |
| | in/mm display | | Rsdius/ Diameter for X Axis |
| | ABS / INC | | Tool error compensation |
| | Centering(1/2) | | |
| | ref memory | | |
| | 199 subdatum | | |

- Linear error compensation
- Non Linearerror compensation
- power off memory

Resson RD-15Q 2D Measuring / Axes : 2、3



Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm


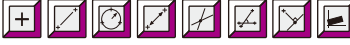











- | | | | | | |
|--|----------------|-------------------------------|------------------|--|--|
| | Preset | <u>Geometric calculations</u> | | | |
| | Clear zero | | | | |
| | in/mm display | | RS-232C Output | | |
| | ABS / INC | | Polar display | | |
| | Centering(1/2) | | Rsdius/ Diameter | | |
| | ref memory | | Store function | | |
| | 199 subdatum | | Recall function | | |

- Linear error compensation
- Non Linearerror compensation
- power off memory

Resson RD-15P Projector / Axes : 3



Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm











- | | |
|--|---|
|  Preset | Geometric calculations

 RS-232C Output
 Polar display
 Rsdia/ Diameter
 Store function
 Recall function |
|  Clear zero | |
|  in/mm display | |
|  ABS / INC | |
|  Centering(1/2) | |
|  ref memory | |
|  199 subdatum | |

- Linear error compensation
- Non Linear error compensation
- power off memory

Resson RD-15G Grinding / Axis : 1、2、3












Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm

- | | |
|--|---|
|  Preset |  RS-232C Output
 Vibration filtering
 Rsdia/ Diameter for X Axis |
|  Clear zero | |
|  in/mm display | |
|  ABS / INC | |
|  Centering(1/2) | |
|  ref memory | |
|  199 subdatum | |

Resson RD-16S Standard / Axes : 4



Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm

- | | |
|--|---|
|  Preset |  RS-232C Output
 Z、Z1 Axes summation |
|  Clear zero | |
|  in/mm display | |
|  ABS / INC | |
|  Centering(1/2) | |
|  ref memory | |
|  199 subdatum | |

- Linear error compensation
- Non Linear error compensation
- power off memory

Resson RD-16M Milling / Axes : 4



Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm

- Preset
- Clear zero
- in/mm display
- ABS / INC
- Centering(1/2)
- ref memory
- 199 subdatum
- PCD pitch circle diameter
- LHOLE line hole positioning
- INCL inclined mahining
- smooth R
- simple R
- SHRINK shrinkage calculation
- Built in Calculator

- power off memory
- Linear error compensation
- Non Linearerror compensation

Resson RD-17 Standard / Axes : 3



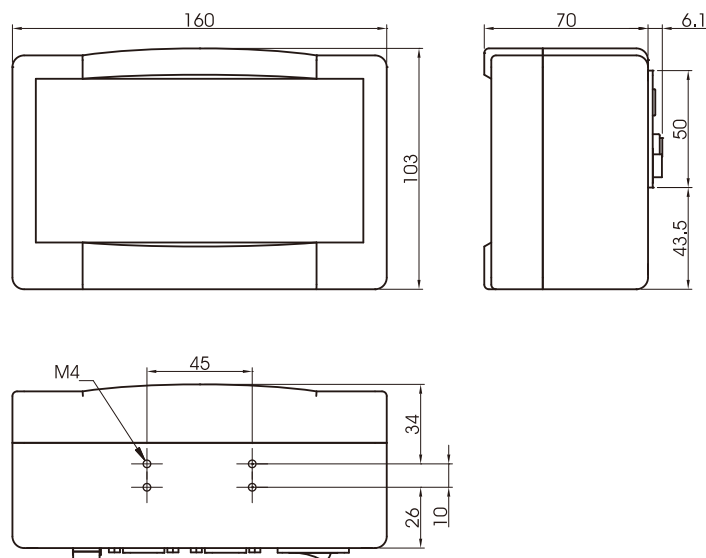
Resolution : 0.05mm / 0.02mm / 0.01mm
 0.005mm / 0.002mm / 0.001mm
 0.0005mm / 0.0002mm / 0.0001mm

Specification:

- Clear zero
- Centering(1/2)
- ref memory
- ABS/INC
- Mm/inch display
- Rotary encoder readout
- RS-232C output
- USB output

- Axis: 3 (2 or 1)
- Linear encoder or Rotary encoder
- Linear error compensation
- Rotary encoder error compensation
- Set up direction
- Rotary encoder angle display
- Baud set: 1200, 2400, 4800, 9600, 19200, 38400
- Resolution: 0.05 / 0.02 / 0.01mm
 0.005 / 0.002 / 0.001mm
 0.0005 / 0.0002 / 0.0001mm
- Each Axis can be used alone by different resolution of Linear Encoder or Rotary Encoder.
- Each axis can be used alone by digital display (x.xxx) or angle display (x° xx' xx")

Dimension:(mm)



Easson & Resson series readout cabinet functions listing

MODEL		ES-1M	ES-2	ES-3	ES-4	ES-5	ES-6E	RD-11M	RD-12S	RD-13L	RD-14G	RD-15M	RD-15S	RD-15L	RD-15E	RD-15Q	RD-15P	RD-15G	RD-16M	RD-16S	RD-17		
No. of connectable Axis	one Axis			●	●				●	●	●		●	●				●					
	two Axes	●	●	●	●	●		●	●	●	●	●	●	●		●		●					
	three Axes	●		●			●	●	●			●	●	●	●	●	●	●				●	
	four Axes																		●	●			
Resolution	0.001mm			■	●	●					●												
	0.005mm	●	●	●			●	●	●	●													
	0.05/0.02/0.01/ 0.005/0.002/ 0.001/0.0005/ 0.0002/0.0001mm											●	●	●	●	●	●	●	●	●	●	●	
Basic Functions	- Clear zero			●																		●	
	- Centering (1/2)			●																		●	
	- in / mm display			●																		●	
	- Coordinate entry			●																		●	
	- ABS / INC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	- power off memory			●																		●	
	- 199 subdatum			●																		●	
	- ref memory			●																		●	
R Function	simple R	●	●					●				●							●				
	smooth R	●						●				●							●				
Built in Calculator	●	●		●		●	●					●			●				●				
PCD pitch circle diameter	●	●				●	●					●			●				●				
LHOLE line hole positioning	●					●	●					●			●				●				
INCL inclined machining	●						●					●			●				●				
SHRINK Shrinkage calculation	●					●	●					●							●				
Radius / Diameter			●	●						●				●					●				
Z · T Axes summation														●							●		
Linear error compensation	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Non Linear error compensation				●	●						●	●	●	●	●	●	●	●	●	●	●	●	
Z relay output						●									●								
Rotary encoder readout																		●				●	
Vibration filtering				●							●								●				
Geometric calculations					●											●	●						
RS232C Output					●							■	■	■	■	●	●	■	■	■	■	●	
Remote Controller					■							■	■	■	■	■	■	■	■	■	■		
115v/230v , 50Hz/60Hz	●	●	●	●	●	●																	
100v~240v , 50Hz/60Hz								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

● Standard

■ Option

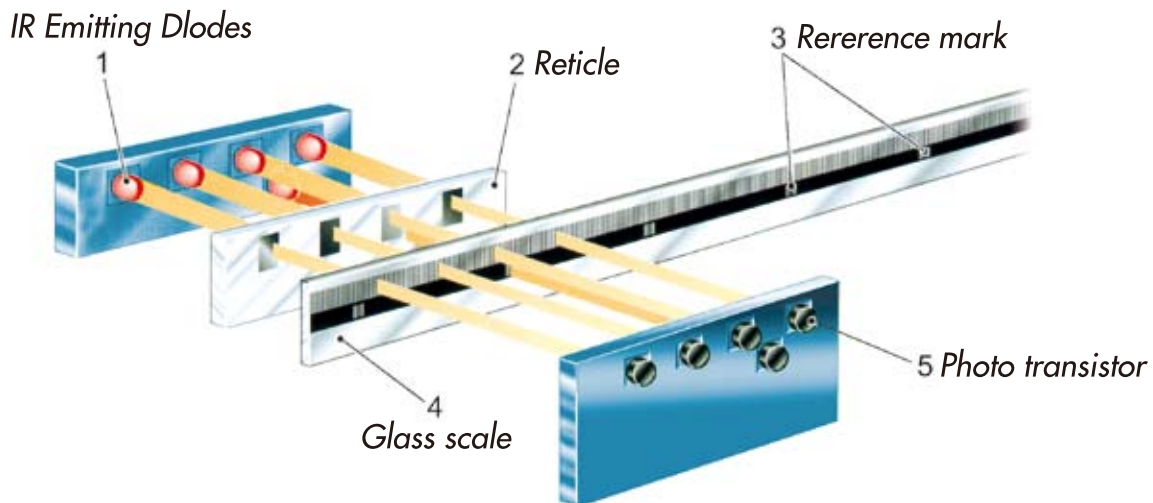
GS / RL Incremental Linear Encoders

Oil Resistance, High Elastic, Anti-Aging & Protecting Seals

- The plastic seals are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.

The Most Advanced Optical Measuring System

- The sliding construction of read head is adopted the most reliable and durable design of 5 piece bearing to ensure the optical sensor can slide smoothly and stably on encoder.
- The spring's geometrical design is analyzed preciously by mechanic mold and makes of high quality steel spring from Germany. To ensure the optical sensor system could slide closely and no any pulsation under high speed move.
- All bearings meet P5 level of Japanese JIS spec, to ensure slide smoothly, low pulsation and durable.
- Adopt high-effective AlGaAs infrared emitter make in USA. strong and stable signal and reliable.



GS30 RL475

Incremental linear encoder Measuring resolution : 0.005mm



GS30

RL475

Measuring range	GS30 Linear Encoder (scale)	
	TTL	RS-422
50 mm	GS30T005	GS30D005
100 mm	GS30T010	GS30D010
150 mm	GS30T015	GS30D015
200 mm	GS30T020	GS30D020
250 mm	GS30T025	GS30D025
300 mm	GS30T030	GS30D030
350 mm	GS30T035	GS30D035
400 mm	GS30T040	GS30D040
450 mm	GS30T045	GS30D045
500 mm	GS30T050	GS30D050
550 mm	GS30T055	GS30D055
600 mm	GS30T060	GS30D060
650 mm	GS30T065	GS30D065
700 mm	GS30T070	GS30D070
讀數頭	GS30T	RL475D

Measuring range	RL475 Linear Encoder (scale)	
	TTL	RS-422
70 mm	RL475T007	RL475D007
120 mm	RL475T012	RL475D012
170 mm	RL475T017	RL475D017
220 mm	RL475T022	RL475D022
270 mm	RL475T027	RL475D027
320 mm	RL475T032	RL475D032
370 mm	RL475T037	RL475D037
420 mm	RL475T042	RL475D042
470 mm	RL475T047	RL475D047
520 mm	RL475T052	RL475D052
570 mm	RL475T057	RL475D057
620 mm	RL475T062	RL475D062
670 mm	RL475T067	RL475D067
720 mm	RL475T072	RL475D072
讀數頭	RL475T	RL475D

Specification

- Measuring length : GS30 - 50mm~700mm / 50mm
RL475 - 70mm~720mm / 50mm
- Accuracy : $\pm 10 \mu\text{m/m}$
- Uni-directional repeatability : 0.002mm
- Bi-directional repeatability : 0.005mm
- Material : Glass
- Grating period : $20 \mu\text{m}$
- Expansion coefficient : $8 \text{ ppm}/^\circ\text{C}$
- Traversing speed : 60m/min
- Slide Carrier System : Vertical five bearings supporting system
- Output signals : TTL / EIA-422-A (RS422)
- Signals period : $20 \mu\text{s}$
- Electrical connection : 3m (STD) , other (OPT)
- Power supply : DC $5\text{V} \pm 5\%$
- Operating temperature : $0\sim 50^\circ\text{C}$
- Reference mark : GS30 (One reference mark at mid point)
RL475 3 (Two reference mark at end point ,
One reference mark at mid point)
- Protection : DIN 40050 IP53

Single Seals Design

- The plastics seals of RL-475,GS-30 glass grating linear transducer are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.



GS31 RL471 Incremental linear encoder

Measuring resolution : 0.001mm



GS31

RL471

Measuring range	GS31 Linear Encoder (scale)	
	TTL	RS-422
50 mm	GS31T005	GS31D005
100 mm	GS31T010	GS31D010
150 mm	GS31T015	GS31D015
200 mm	GS31T020	GS31D020
250 mm	GS31T025	GS31D025
300 mm	GS31T030	GS31D030
350 mm	GS31T035	GS31D035
400 mm	GS31T040	GS31D040
450 mm	GS31T045	GS31D045
500 mm	GS31T050	GS31D050
550 mm	GS31T055	GS31D055
600 mm	GS31T060	GS31D060
650 mm	GS31T065	GS31D065
700 mm	GS31T070	GS31D070
讀數頭	GS31T	RL471D

Measuring range	RL471 Linear Encoder (scale)	
	TTL	RS-422
70 mm	RL471T007	RL471D007
120 mm	RL471T012	RL471D012
170 mm	RL471T017	RL471D017
220 mm	RL471T022	RL471D022
270 mm	RL471T027	RL471D027
320 mm	RL471T032	RL471D032
370 mm	RL471T037	RL471D037
420 mm	RL471T042	RL471D042
470 mm	RL471T047	RL471D047
520 mm	RL471T052	RL471D052
570 mm	RL471T057	RL471D057
620 mm	RL471T062	RL471D062
670 mm	RL471T067	RL471D067
720 mm	RL471T072	RL471D072
讀數頭	RL471T	RL471D

Specification

- Measuring length : GS31 - 50mm~700mm / 50mm
RL471 - 70mm~720mm / 50mm
- Accuracy : $\pm 8 \mu\text{m/m}$
- Uni-directional repeatability : 0.002mm
- Bi-directional repeatability : 0.003mm
- Material : Glass
- Grating period : $20 \mu\text{m}$
- Expansion coefficient : $8 \text{ ppm}/^\circ\text{C}$
- Traversing speed : 50m/min
- Slide Carrier System : Vertical five bearings supporting system
- Output signals : TTL / EIA-422-A (RS422)
- Signals period : $4 \mu\text{m}$
- Electrical connection : 3m (STD) , other (OPT)
- Power supply : DC 5V $\pm 5 \%$
- Operating temperature : 0~50°C
- Reference mark : GS31 (One reference mark at mid point)
RL471 3 (Two reference mark at end point , One reference mark at mid point)
- Protection : DIN 40050 IP53

Single Seals Design

- The plastics seals of RL-471,GS-31 glass grating linear transducer are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.



GS35 RL470

Incremental linear encoder Measuring resolution : 0.0005mm



GS35

RL470

Measuring range	GS35 Linear Encoder (scale)	
	TTL	RS-422
50 mm	GS35T005	GS35D005
100 mm	GS35T010	GS35D010
150 mm	GS35T015	GS35D015
200 mm	GS35T020	GS35D020
250 mm	GS35T025	GS35D025
300 mm	GS35T030	GS35D030
350 mm	GS35T035	GS35D035
400 mm	GS35T040	GS35D040
450 mm	GS35T045	GS35D045
500 mm	GS35T050	GS35D050
550 mm	GS35T055	GS35D055
600 mm	GS35T060	GS35D060
650 mm	GS35T065	GS35D065
700 mm	GS35T070	GS35D070
讀數頭	GS35T	RL470D

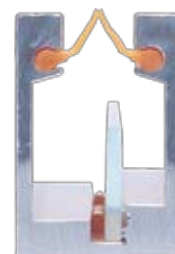
Measuring range	RL470 Linear Encoder (scale)	
	TTL	RS-422
70 mm	RL470T007	RL470D007
120 mm	RL470T012	RL470D012
170 mm	RL470T017	RL470D017
220 mm	RL470T022	RL470D022
270 mm	RL470T027	RL470D027
320 mm	RL470T032	RL470D032
370 mm	RL470T037	RL470D037
420 mm	RL470T042	RL470D042
470 mm	RL470T047	RL470D047
520 mm	RL470T052	RL470D052
570 mm	RL470T057	RL470D057
620 mm	RL470T062	RL470D062
670 mm	RL470T067	RL470D067
720 mm	RL470T072	RL470D072
讀數頭	RL470T	RL470D

Specification

- Measuring length : GS35 - 50mm~700mm / 50mm
RL470 - 70mm~720mm / 50mm
- Accuracy : $\pm 6 \mu\text{m/m}$
- Uni-directional repeatability : 0.002mm
- Bi-directional repeatability : 0.002mm
- Material : Glass
- Grating period : $20 \mu\text{m}$
- Expansion coefficient : $8 \text{ ppm}/^\circ\text{C}$
- Traversing speed : 20m/min
- Slide Carrier System : Vertical five bearings supporting system
- Output signals : TTL / EIA-422-A (RS422)
- Signals period : $2 \mu\text{s}$
- Electrical connection : 3m (STD) , other (OPT)
- Power supply : DC $5\text{V} \pm 5\%$
- Operating temperature : $0\sim 50^\circ\text{C}$
- Reference mark : GS35 (One reference mark at mid point)
RL470 3 (Two reference mark at end point ,
One reference mark at mid point)
- Protection : DIN 40050 IP53

Single Seals Design

- The plastics seals of RL-470,GS-35 glass grating linear transducer are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.



GS10 RL545

Incremental linear encoder Measuring resolution : 0.005mm



GS10

RL545

Measuring range	GS10 Linear Encoder (scale)	
	TTL	RS-422
50 mm	GS10T005	GS10D005
100 mm	GS10T010	GS10D010
150 mm	GS10T015	GS10D015
200 mm	GS10T020	GS10D020
250 mm	GS10T025	GS10D025
300 mm	GS10T030	GS10D030
350 mm	GS10T035	GS10D035
400 mm	GS10T040	GS10D040
450 mm	GS10T045	GS10D045
500 mm	GS10T050	GS10D050
550 mm	GS10T055	GS10D055
600 mm	GS10T060	GS10D060
650 mm	GS10T065	GS10D065
700 mm	GS10T070	GS10D070
750 mm	GS10T075	GS10D075
800 mm	GS10T080	GS10D080
850 mm	GS10T085	GS10D085
900 mm	GS10T090	GS10D090
950 mm	GS10T095	GS10D095
1000 mm	GS10T100	GS10D100
讀數頭	GS10T	RL545D

Measuring range	RL545 Linear Encoder (scale)	
	TTL	RS-422
70 mm	RL545T007	RL545D007
120 mm	RL545T012	RL545D012
170 mm	RL545T017	RL545D017
220 mm	RL545T022	RL545D022
270 mm	RL545T027	RL545D027
320 mm	RL545T032	RL545D032
370 mm	RL545T037	RL545D037
420 mm	RL545T042	RL545D042
470 mm	RL545T047	RL545D047
520 mm	RL545T052	RL545D052
570 mm	RL545T057	RL545D057
620 mm	RL545T062	RL545D062
670 mm	RL545T067	RL545D067
720 mm	RL545T072	RL545D072
770mm	RL545T077	RL545D077
820mm	RL545T082	RL545D082
870mm	RL545T087	RL545D087
920mm	RL545T092	RL545D092
970mm	RL545T097	RL545D097
1020mm	RL545T102	RL545D102
讀數頭	RL545T	RL545D

Specification

- Measuring length : GS10 - 50mm~1000mm / 50mm
RL545 - 70mm~1020mm / 50mm
- Accuracy : $\pm 10 \mu\text{m/m}$
- Uni-directional repeatability : 0.002mm
- Bi-directional repeatability : 0.005mm
- Material : Glass
- Grating period : $20 \mu\text{m}$
- Expansion coefficient : $8 \text{ ppm}/^\circ\text{C}$
- Traversing speed : 60m/min
- Slide Carrier System : Vertical five bearings supporting system
- Output signals : TTL / EIA-422-A (RS422)
- Signals period : $20 \mu\text{s}$
- Electrical connection : 3m (STD) , other (OPT)
- Power supply : DC $5\text{V} \pm 5\%$
- Operating temperature : $0\sim 50^\circ\text{C}$
- Reference mark : GS10 (One reference mark at mid point)
RL545 3 (Two reference mark at end point ,
One reference mark at mid point)
- Protection : DIN 40050 IP53

Double Seals Design

- The plastics seals of RL-545,GS-10 glass grating linear transducer are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.



GS11 RL541 Incremental linear encoder

Measuring resolution : 0.001mm



GS11

RL541

Measuring range	GS11 Linear Encoder (scale)	
	TTL	RS-422
50 mm	GS11T005	GS11D005
100 mm	GS11T010	GS11D010
150 mm	GS11T015	GS11D015
200 mm	GS11T020	GS11D020
250 mm	GS11T025	GS11D025
300 mm	GS11T030	GS11D030
350 mm	GS11T035	GS11D035
400 mm	GS11T040	GS11D040
450 mm	GS11T045	GS11D045
500 mm	GS11T050	GS11D050
550 mm	GS11T055	GS11D055
600 mm	GS11T060	GS11D060
650 mm	GS11T065	GS11D065
700 mm	GS11T070	GS11D070
750 mm	GS11T075	GS11D075
800 mm	GS11T080	GS11D080
850 mm	GS11T085	GS11D085
900 mm	GS11T090	GS11D090
950 mm	GS11T095	GS11D095
1000 mm	GS11T100	GS11D100
讀數頭	GS11T	RL541D

Measuring range	RL541 Linear Encoder (scale)	
	TTL	RS-422
70 mm	RL541T007	RL541D007
120 mm	RL541T012	RL541D012
170 mm	RL541T017	RL541D017
220 mm	RL541T022	RL541D022
270 mm	RL541T027	RL541D027
320 mm	RL541T032	RL541D032
370 mm	RL541T037	RL541D037
420 mm	RL541T042	RL541D042
470 mm	RL541T047	RL541D047
520 mm	RL541T052	RL541D052
570 mm	RL541T057	RL541D057
620 mm	RL541T062	RL541D062
670 mm	RL541T067	RL541D067
720 mm	RL541T072	RL541D072
770mm	RL541T077	RL541D077
820mm	RL541T082	RL541D082
870mm	RL541T087	RL541D087
920mm	RL541T092	RL541D092
970mm	RL541T097	RL541D097
1020mm	RL541T102	RL541D102
讀數頭	RL541T	RL541D

Specification

- Measuring length : GS11 - 50mm~1000mm / 50mm
RL541 - 70mm~1020mm / 50mm
- Accuracy : $\pm 8 \mu\text{m/m}$
- Uni-directional repeatability : 0.002mm
- Bi-directional repeatability : 0.003mm
- Material : Glass
- Grating period : $20 \mu\text{m}$
- Expansion coefficient : $8 \text{ ppm}/^\circ\text{C}$
- Traversing speed : 50m/min
- Slide Carrier System : Vertical five bearings supporting system
- Output signals : TTL / EIA-422-A (RS422)
- Signals period : $4 \mu\text{s}$
- Electrical connection : 3m (STD) , other (OPT)
- Power supply : DC 5V $\pm 5 \%$
- Operating temperature : 0~50°C
- Reference mark : GS11 (One reference mark at mid point)
RL541 3 (Two reference mark at end point ,
One reference mark at mid point)
- Protection : DIN 40050 IP53

Double Seals Design

- The plastics seals of RL-541,GS-11 glass grating linear transducer are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.



GS15 RL540

Incremental linear encoder Measuring resolution : 0.0005mm



GS15

RL540

Measuring range	GS15 Linear Encoder (scale)	
	TTL	RS-422
50 mm	GS15T005	GS15D005
100 mm	GS15T010	GS15D010
150 mm	GS15T015	GS15D015
200 mm	GS15T020	GS15D020
250 mm	GS15T025	GS15D025
300 mm	GS15T030	GS15D030
350 mm	GS15T035	GS15D035
400 mm	GS15T040	GS15D040
450 mm	GS15T045	GS15D045
500 mm	GS15T050	GS15D050
550 mm	GS15T055	GS15D055
600 mm	GS15T060	GS15D060
650 mm	GS15T065	GS15D065
700 mm	GS15T070	GS15D070
750 mm	GS15T075	GS15D075
800 mm	GS15T080	GS15D080
850 mm	GS15T085	GS15D085
900 mm	GS15T090	GS15D090
950 mm	GS15T095	GS15D095
1000 mm	GS15T100	GS15D100
讀數頭	GS15T	RL540D

Measuring range	RL540 Linear Encoder (scale)	
	TTL	RS-422
70 mm	RL540T007	RL540D007
120 mm	RL540T012	RL540D012
170 mm	RL540T017	RL540D017
220 mm	RL540T022	RL540D022
270 mm	RL540T027	RL540D027
320 mm	RL540T032	RL540D032
370 mm	RL540T037	RL540D037
420 mm	RL540T042	RL540D042
470 mm	RL540T047	RL540D047
520 mm	RL540T052	RL540D052
570 mm	RL540T057	RL540D057
620 mm	RL540T062	RL540D062
670 mm	RL540T067	RL540D067
720 mm	RL540T072	RL540D072
770mm	RL540T077	RL540D077
820mm	RL540T082	RL540D082
870mm	RL540T087	RL540D087
920mm	RL540T092	RL540D092
970mm	RL540T097	RL540D097
1020mm	RL540T102	RL540D102
讀數頭	RL540T	RL540D

Specification

- Measuring length : GS15 - 50mm~1000mm / 50mm
RL540 - 70mm~1020mm / 50mm
- Accuracy : $\pm 6 \mu\text{m/m}$
- Uni-directional repeatability : 0.002mm
- Bi-directional repeatability : 0.002mm
- Material : Glass
- Grating period : $20 \mu\text{m}$
- Expansion coefficient : $8 \text{ ppm}/^\circ\text{C}$
- Traversing speed : 20m/min
- Slide Carrier System : Vertical five bearings supporting system
- Output signals : TTL / EIA-422-A (RS422)
- Signals period : $2 \mu\text{s}$
- Electrical connection : 3m (STD) , other (OPT)
- Power supply : DC 5V $\pm 5 \%$
- Operating temperature : $0\sim 50^\circ\text{C}$
- Reference mark : GS15 (One reference mark at mid point)
RL540 3 (Two reference mark at end point ,
One reference mark at mid point)
- Protection : DIN 40050 IP53

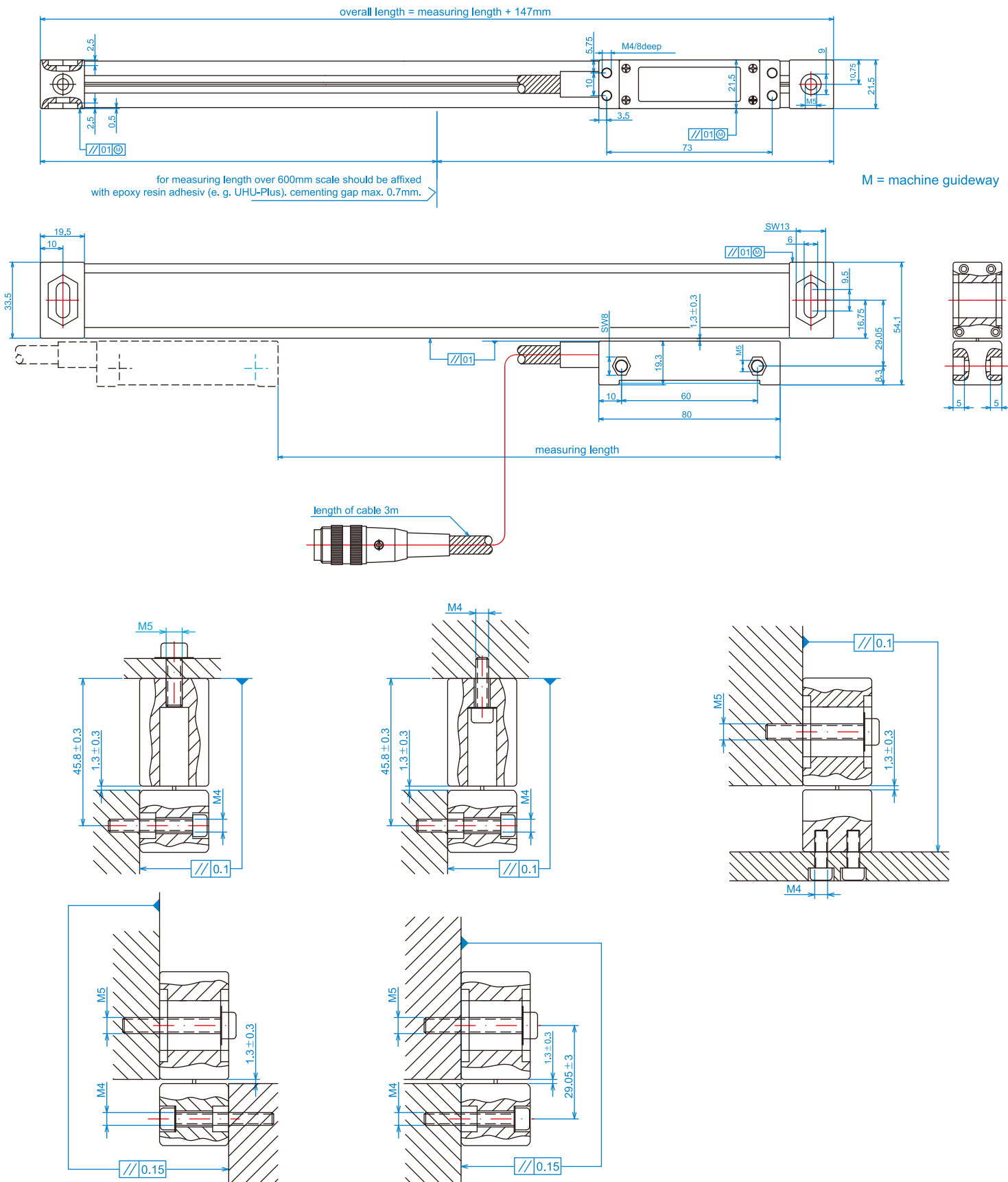
Double Seals Design

- The plastics seals of RL-540,GS-15 glass grating linear transducer are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.



GS10 GS11 GS15
RL545 RL541 RL540

Dimensions:
 Mounting tolerances- Mounting possibilities



GS20 RL665

Incremental linear encoder Measuring resolution : 0.005mm



Measuring range	GS20 Linear Encoder (scale)	
	TTL	RS-422
1000 mm	GS20T100	GS20D100
1100 mm	GS20T110	GS20D110
1200 mm	GS20T120	GS20D120
1300 mm	GS20T130	GS20D130
1400 mm	GS20T140	GS20D140
1500 mm	GS20T150	GS20D150
1600 mm	GS20T160	GS20D160
1700 mm	GS20T170	GS20D170
1800 mm	GS20T180	GS20D180
1900 mm	GS20T190	GS20D190
2000 mm	GS20T200	GS20D200
2100 mm	GS20T210	GS20D210
2200 mm	GS20T220	GS20D220
2300 mm	GS20T230	GS20D230
2400 mm	GS20T240	GS20D240
2500 mm	GS20T250	GS20D250
2600 mm	GS20T260	GS20D260
2700 mm	GS20T270	GS20D270
2800 mm	GS20T280	GS20D280
2900 mm	GS20T290	GS20D290
3000 mm	GS20T300	GS20D300
讀數頭	GS20T	RL665D

Measuring range	RL665 Linear Encoder (scale)	
	TTL	RS-422
320 mm	RL665T032	RL665D032
370 mm	RL665T037	RL665D037
420 mm	RL665T042	RL665D042
470 mm	RL665T047	RL665D047
520 mm	RL665T052	RL665D052
620 mm	RL665T062	RL665D062
720 mm	RL665T072	RL665D072
770 mm	RL665T077	RL665D077
820 mm	RL665T082	RL665D082
870 mm	RL665T087	RL665D087
920 mm	RL665T092	RL665D092
1040 mm	RL665T104	RL665D104
1140 mm	RL665T114	RL665D114
1240 mm	RL665T124	RL665D124
1340 mm	RL665T134	RL665D134
1440 mm	RL665T144	RL665D144
1540 mm	RL665T154	RL665D154
1640 mm	RL665T164	RL665D164
1740 mm	RL665T174	RL665D174
1840 mm	RL665T184	RL665D184
1940 mm	RL665T194	RL665D194
2040 mm	RL665T204	RL665D204
2140 mm	RL665T214	RL665D214
2240 mm	RL665T224	RL665D224
2340 mm	RL665T234	RL665D234
2440 mm	RL665T244	RL665D244
2540 mm	RL665T254	RL665D254
2640 mm	RL665T264	RL665D264
2840 mm	RL665T284	RL665D284
3040 mm	RL665T304	RL665D304
讀數頭	RL665T	RL665D

Specification

- Measuring length : GS20 - 1000mm~3000mm
RL665 - 320mm~3040mm
- Accuracy : $\pm 10 \mu\text{m/m}$
- Uni-directional repeatability : 0.002mm
- Bi-directional repeatability : 0.005mm
- Material : Glass
- Grating period : $20 \mu\text{m}$
- Expansion coefficient : $8 \text{ ppm}/^\circ\text{C}$
- Traversing speed : 60m/min
- Slide Carrier System : 45° five bearings supporting system
- Output signals : TTL / EIA-422-A (RS422)
- Signals period : $20 \mu\text{s}$
- Electrical connection : 5m (STD) , other (OPT)
- Power supply : DC $5\text{V} \pm 5\%$
- Operating temperature : $0\sim 50^\circ\text{C}$
- Reference mark : GS20 (One reference mark at mid point)
RL665 3 (Two reference mark at end point ,
One reference mark at mid point)
- Protection : DIN 40050 IP53

Double Seals Design

- The plastics seals of RL-665,GS-20 glass grating linear transducer are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.



GS21 RL661 Incremental linear encoder

Measuring resolution : 0.001mm



GS21

RL661

Measuring range	GS21 Linear Encoder (scale)	
	TTL	RS-422
1000 mm	GS21T100	GS21D100
1100 mm	GS21T110	GS21D110
1200 mm	GS21T120	GS21D120
1300 mm	GS21T130	GS21D130
1400 mm	GS21T140	GS21D140
1500 mm	GS21T150	GS21D150
1600 mm	GS21T160	GS21D160
1700 mm	GS21T170	GS21D170
1800 mm	GS21T180	GS21D180
1900 mm	GS21T190	GS21D190
2000 mm	GS21T200	GS21D200
2100 mm	GS21T210	GS21D210
2200 mm	GS21T220	GS21D220
2300 mm	GS21T230	GS21D230
2400 mm	GS21T240	GS21D240
2500 mm	GS21T250	GS21D250
2600 mm	GS21T260	GS21D260
2700 mm	GS21T270	GS21D270
2800 mm	GS21T280	GS21D280
2900 mm	GS21T290	GS21D290
3000 mm	GS21T300	GS21D300
讀數頭	GS21T	RL661D

Measuring range	RL661 Linear Encoder (scale)	
	TTL	RS-422
320 mm	RL661T032	RL661D032
370 mm	RL661T037	RL661D037
420 mm	RL661T042	RL661D042
470 mm	RL661T047	RL661D047
520 mm	RL661T052	RL661D052
620 mm	RL661T062	RL661D062
720 mm	RL661T072	RL661D072
770 mm	RL661T077	RL661D077
820 mm	RL661T082	RL661D082
870 mm	RL661T087	RL661D087
920 mm	RL661T092	RL661D092
1040 mm	RL661T104	RL661D104
1140 mm	RL661T114	RL661D114
1240 mm	RL661T124	RL661D124
1340 mm	RL661T134	RL661D134
1440 mm	RL661T144	RL661D144
1540 mm	RL661T154	RL661D154
1640 mm	RL661T164	RL661D164
1740 mm	RL661T174	RL661D174
1840 mm	RL661T184	RL661D184
1940 mm	RL661T194	RL661D194
2040 mm	RL661T204	RL661D204
2140 mm	RL661T214	RL661D214
2240 mm	RL661T224	RL661D224
2340 mm	RL661T234	RL661D234
2440 mm	RL661T244	RL661D244
2540 mm	RL661T254	RL661D254
2640 mm	RL661T264	RL661D264
2840 mm	RL661T284	RL661D284
3040 mm	RL661T304	RL661D304
讀數頭	RL661T	RL661D

Specification

- Measuring length : GS21 - 1000mm~3000mm
RL661 - 320mm~3040mm
- Accuracy : $\pm 8 \mu\text{m/m}$
- Uni-directional repeatability : 0.002mm
- Bi-directional repeatability : 0.003mm
- Material : Glass
- Grating period : $20 \mu\text{m}$
- Expansion coefficient : $8 \text{ ppm}/^\circ\text{C}$
- Traversing speed : 50m/min
- Slide Carrier System : 45° five bearings supporting system
- Output signals : TTL / EIA-422-A (RS422)
- Signals period : $4 \mu\text{s}$
- Electrical connection : 5m (STD) , other (OPT)
- Power supply : DC $5\text{V} \pm 5\%$
- Operating temperature : $0\sim 50^\circ\text{C}$
- Reference mark : GS21 (One reference mark at mid point)
RL661 3 (Two reference mark at end point ,
One reference mark at mid point)
- Protection : DIN 40050 IP53

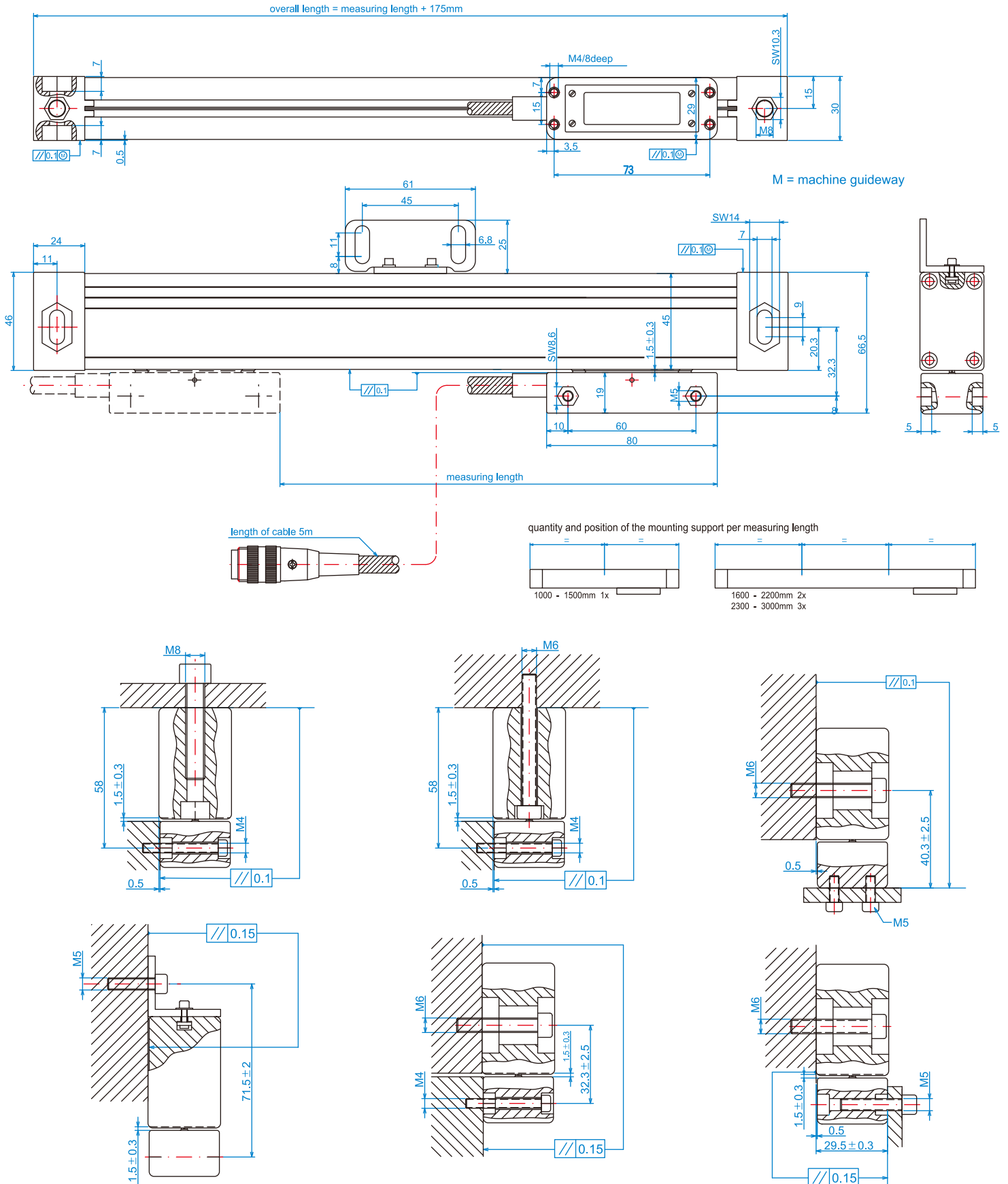
Double Seals Design

- The plastics seals of RL-661,GS-21 glass grating linear transducer are using our innovative material to offer superior oil resistance, high elastic recovery properties and high durability, carefully designed lips geometry offer low slides resistance.



GS20 **GS21**
RL665 **RL661**

Dimensions:
 Mounting tolerances- Mounting possibilities

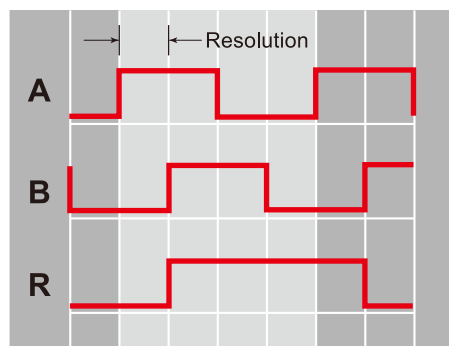


GS / RL Output signals

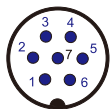
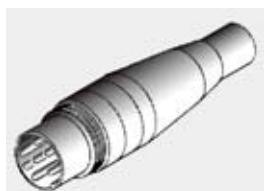
Square wave singals

The sinusoidal signals from photovoltaic detector are converted into A square B square wave signals by Schmitt-Trigger circuit or interpolation electronic circuits and the output format are TTL Level or RS-422 Line differential.(LD)

TTL



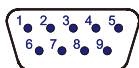
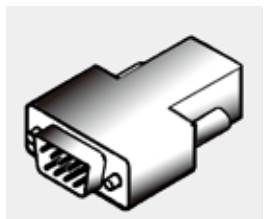
Din 7pins connector



Pin	Signals	Line Color
1	OV	white
2	N/C	
3	A	green
4	B	blue
5	5V	brown
6	R	gray
7	Inner shield	

N/C : No Connection

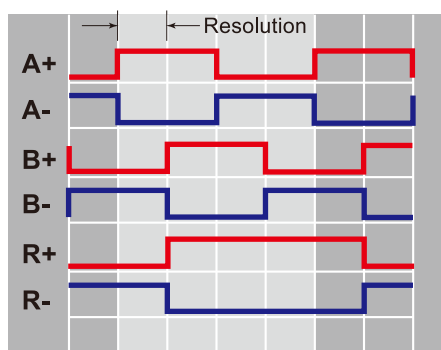
D-sub 9pins connector



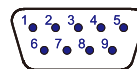
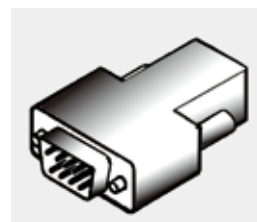
Pin	Signals	Line Color
1	N/C	
2	OV	white
3	N/C	
4	Inner shield	
5	N/C	
6	A	green
7	5V	brown
8	B	blue
9	R	gray

N/C : No Connection

EIA-422-A(RS-422)



D-sub 9pins connector



Pin	Signals	Line Color
1	A-	yellow
2	OV	white
3	B-	red
4	Inner shield	
5	R-	pink
6	A+	green
7	5V	brown
8	B+	blue
9	R+	gray



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