

PG Type

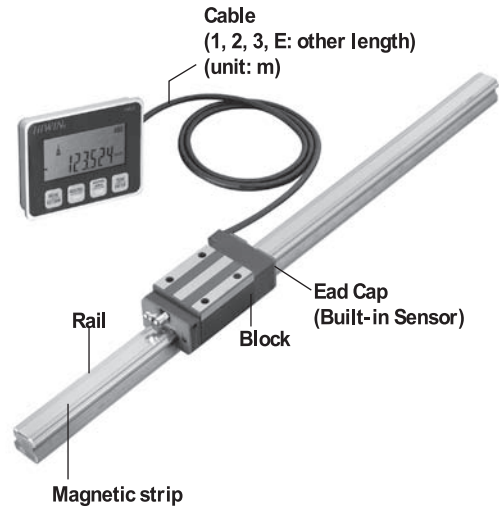
2-9 PG Type - Positioning Guideway

(1) Construction

The PG is a linear guideway assembly integrated with a magnetic encoder for position measurement.

(2) Features

1. Additional components are completely internal, thus saving installation space.
2. Maintains high rigidity as well as high accuracy.
3. Both the sensor and the magnetic strip are protected from externally harmful contaminants such as dust, iron chips, etc.
4. Non-contact measuring sensor for longer life.
5. Can measure distances up to 30 m.
6. Can withstand humid, and high-temperature environments in oily, dusty, and high vibration applications.
7. High resolution
8. Easy to install



2-9-1 Model Number of PG Type

PGH W 25 C A E 1/2 T 1600 E ZA P I / II / E2 + KK + 03 + Position measuring module

Positioning Guideway Series : PGH

Block Type :
 W : Flange Type
 H : Square Type
 L : Square Type (Low)

Model Size :
 20, 25, 30, 35, 45, 55

Load Type :
 C : Heavy Load
 H : Super Heavy Load

Block Mounting Type :
 A : From Top
 B : From Bottom
 C : Top or Bottom

E : Special Block
 None : Standard Block

Total No. of Blocks with Sensor for one Rail

No. of Blocks per Rail

Rail Mounting Type :
 R : From Top
 T : From Bottom

Continued in next page (P.127)

Cable Length :
 01=1m; 02=2m
 03=3m; 10=10m

Dustproof : DD, ZZ, KK

E2 : Self Lubricant Block
 Blank: Standard Block

No. of Rails per Axis

No. of Rails with Magnetic Strip

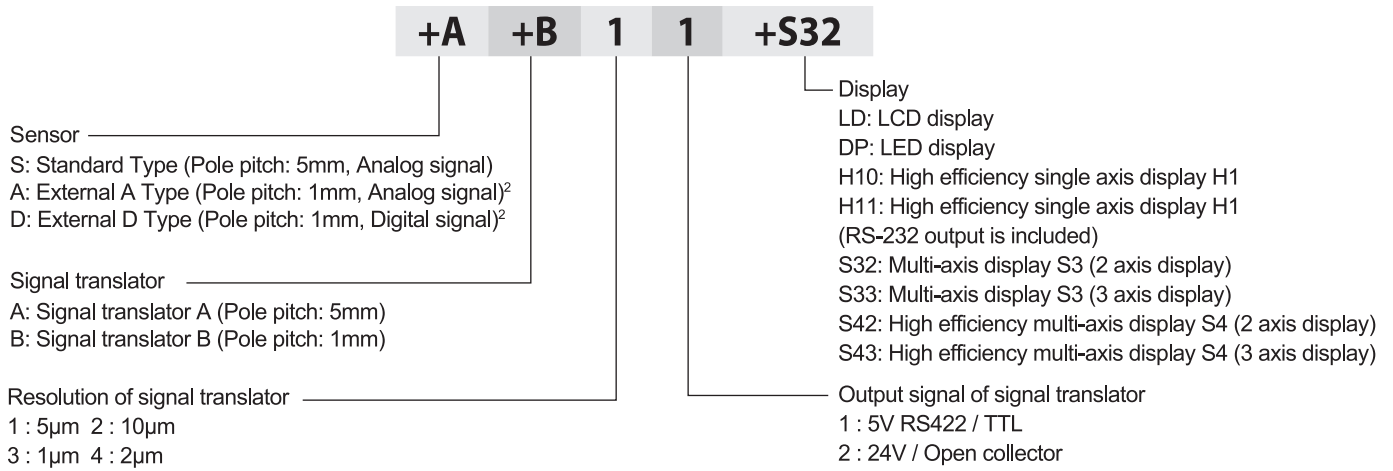
Precision Code : C, H,P, SP, UP

Preload Code :
 Z0, ZA, ZB

E : Special Rail
 None : Standard Rail

Rail Length (mm)

Position measuring module¹ (Continued from last page, P. 126)



Note: 1. See table 2-9-1 for the help of selecting the components for the position measuring module.
 2. External type sensors (A and D) are only available for size 20 and 25.

Table 2-9-1 The help of selecting the components for the position measuring module.

Sensor	Signal translator	Resolution of signal translator	Output signal of signal translator	Display	
S: Standard Type (Pole pitch: 5mm, Analog signal)	A: Signal translator A (Pole pitch: 5mm)	1:5 μ m 2:10 μ m	1:5V RS422/TTL 2:24V/Open collector	H10: High efficiency single axis display H1	
				H11: High efficiency single axis display H1 (RS-232 output is included)	
				S32: Multi-axis display S3 (2 axis display)	
				S33: Multi-axis display S3 (3 axis display)	
				S42: High efficiency multi-axis display S4 (2 axis display)	
				S43: High efficiency multi-axis display S4 (3 axis display)	
	Connect with 1 display (LD, DP, H10 or H11) without signal translator A	LD: LCD display DP: LED display H10: High efficiency single axis display H1 H11: High efficiency single axis display H1 (RS-232 output is included)			
A: External A Type (Pole pitch: 1mm, Analog signal)	B: Signal translator B (Pole pitch: 1mm)	1:5 μ m 2:10 μ m 3:1 μ m 4:2 μ m	1:5V RS422/TTL 2:24V/Open collector	S32: Multi-axis display s3 (2 axis display)	
				S33: Multi-axis display s3 (3 axis display)	
				S42: High efficiency multi-axis display s4 (2 axis display)	
				S43: High efficiency multi-axis display s4 (3 axis display)	
				Connect with 1 display (H10 or H11) without signal translator B	H10: High efficiency single axis display H1 H11: High efficiency single axis display H1 (RS-232 output is included)
				D: External D Type (Pole pitch: 1mm, Digital signal)	Connect with 1 display (H10, H11, S32, S33, S42 or S43) without signal translator B
H11: High efficiency single axis display H1 (RS-232 output is included)					
S32: Multi-axis display s3 (2 axis display)					
S33: Multi-axis display s3 (3 axis display)					
S42: High efficiency multi-axis display s4 (2 axis display)					
S43: High efficiency multi-axis display s4 (3 axis display)					

Note: The Standard Type sensor "S" must be connected with one of the corresponding displays (LD, DP, H10, H11) if the signal translator A is not selected. Otherwise, the displays are selectable. (Also selectable for the external type sensors)

PG Type

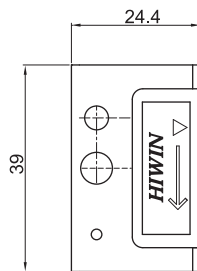
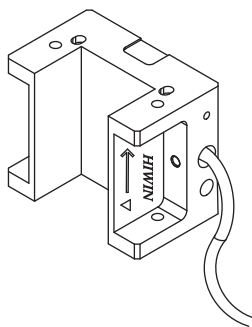
2-9-2 Technical data for PG-Type

(1) Sensor technical data

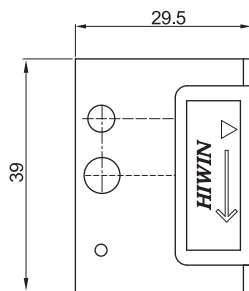
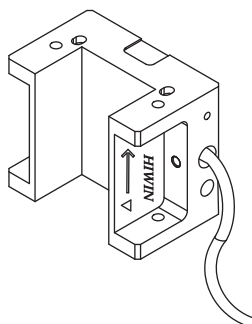
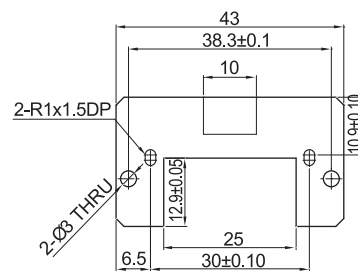
Table 2-9-2 Technical data for the sensor

Specification	Type	External	
	Standard	A type (analog signal)	D type (digital signal)
Resolution	5mm	1mm	1 μm
Repeatability	±20 μm	±3 μm	±2 μm
Reference signal	-	1mm/pulse	1mm/pulse
Max. speed	10m/sec	10m/sec	7m/sec
Output signal	SIN/COS 50mVp-p	SIN/COS 1Vp-p	5V RS422/TTL
Max. output frequency	2KHz	10KHz	1.75MHz
Input power	3.3VDC±5%	5VDC±5%	5VDC±5%
Input current	0.1A	0.1A	0.1A
Operating temperature	0°C~50°C	0°C~50°C	0°C~50°C
Storage temperature	-5°C~70°C	-5°C~70°C	-5°C~70°C
IP class	IP67	IP67	IP67

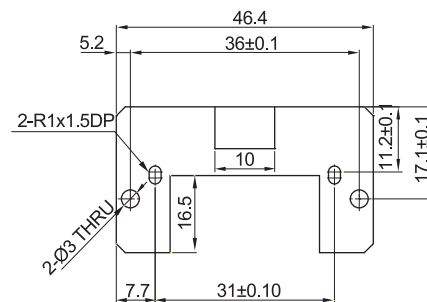
o Dimensions for the external type sensor



Note: Only available for size 20





Note: Only available for size 25



(2) Signal translator technical data

Table 2-9-3 Technical data for the signal translator

Type		
Specification	Signal translator A	Signal translator B
Resolution	5 or 10 μm	1 μm , 2 μm , 5 μm , 10 μm
Accuracy	$\pm[80 \mu\text{m}+15 \mu\text{m}/\text{m}\times\text{L}]$, L: Scale Length (m)	$\pm 20 \mu\text{m}/\text{m}$
Repeatability	$\pm 10 \mu\text{m}$	$\pm 3 \mu\text{m}$
Max. speed	1.2m/sec	5m/sec
Input signal	SIN/COS 50mV	SIN/COS 1Vp-p
Output signal	5V RS422 / TTL or 24V/Open collector	5V RS422/TTL or 24V/Open collector
Max. output frequency	60KHz (Resolution 5 μm)	1.25MHz (Resolution 1 μm)
Input power	5VDC $\pm 5\%$ / 24VDC $\pm 10\%$	5VDC $\pm 5\%$ / 24VDC $\pm 10\%$
Input current	0.5A	0.5A
Operating temperature	0 $^{\circ}\text{C}$ ~ 50 $^{\circ}\text{C}$	0 $^{\circ}\text{C}$ ~ 50 $^{\circ}\text{C}$
Storage temperature	-5 $^{\circ}\text{C}$ ~ 70 $^{\circ}\text{C}$	-5 $^{\circ}\text{C}$ ~ 70 $^{\circ}\text{C}$
IP class	IP43	IP43

○ Dimensions of signal translator A

