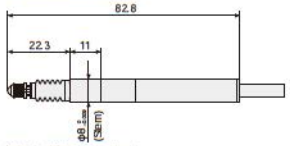
DK DK805S

Resolution 0.1μm | Resolution 0.5μm | Stem φ8 | Stroke 5mm | Output A/B phase

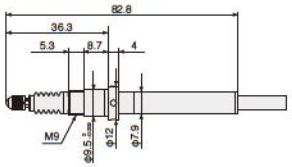
* DK805SAR/DK805SAR5/DK805SBR/DK805SBR5

DK805SAR/DK805SAR5
DK805SBR/DK805SBR5

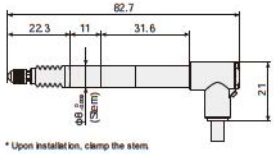


* Upon installation, clamp the stem.

DK805SAFR/DK805SAFR5
DK805SBFR/DK805SBFR5

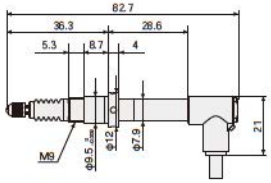


DK805SALR/DK805SALR5
DK805SBLR/DK805SBLR5

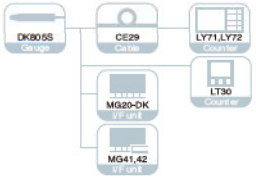


* Upon installation, clamp the stem.

DK805SAFLR/DK805SAFLR5
DK805SBFLR/DK805SBFLR5



Unit: mm



Specifications

Model	High-resolution models		General-purpose resolution models	
	DK805SAR, DK805SALR DK805SAFR, DK805SAFLR	DK805SBR, DK805SBLR DK805SBFR, DK805SBFLR	DK805SAR5, DK805SALR5 DK805SAFR5, DK805SAFLR5	DK805SBR5, DK805SBLR5 DK805SBFR5, DK805SBFLR5
Measuring range	5 mm			
Maximum resolution	0.1 μm		0.5 μm	
Accuracy (at 20°C/68°F)	1 μm		1.5 μm	
Measuring force (at 20°C/68°F)	Upward: 0.35±0.25 N Horizontal: 0.40±0.25 N Downward: 0.45±0.25 N			
Maximum response speed	80 m/min	42 m/min	250 m/min	100 m/min
Reference point	Position at spindle movement of 1mm			
Reference-point response speed	Same as the noted maximum response speed			
Output	A/B/reference point Voltage-differential line driver output (conforming to EIA-422)			
Spindle drive system	Spring push Vacuum suction (DK805SALR/SAFLR/SBLR/SBFLR/SALR5/SAFLR5/SBLR5/SBFLR5)			
Number of cycles tested*1	60 million			
Protection grade*2	Straight model: IP66, right-angle model: IP64 (IP67*3)			
Vibration resistance	20 to 2000 Hz 100 m/s²			
Impact resistance	1000 m/s² 11 ms			
Operating temperature	0 to 50 °C			
Storage temperature	−20 to 60 °C			
Power supply	5 VDC±5 %			
Power consumption	1 W			
Mass*4	Approx. 30 g			
Output cable length	2.4 m			
Feeler	Carbide ball tip, Mounting screw M2.5		Steel ball tip, Mounting screw M2.5	
Accessories	Instruction Manual, +P M4 × 5 screw (2pc), tightening nut, clamp spanner, wave washer, mounting pin 1 each (DK8**S*F** only) Hose elbow 1 pc (DK8**S*L** only), one spanner			

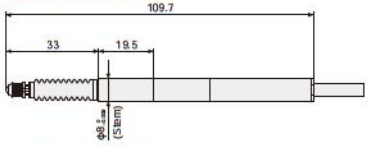
*1 Under specific test conditions defined by Magnescale Co., Ltd. *2 Excluding the interpolation box and connector
*3 When φ4 mm tube is connected for right-angle model *4 Excluding cable section and interpolation box

DK DK812S

Resolution 0.1μm | Resolution 0.5μm | Stem φ8 | Stroke 12mm | Output A/B phase

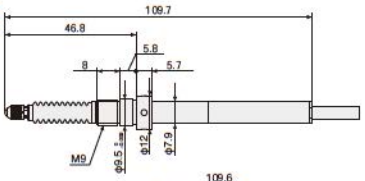
* DK812SAR/DK812SAR5/DK812SBR/DK812SBR5

DK812SAR/DK812SAR5
DK812SBR/DK812SBR5

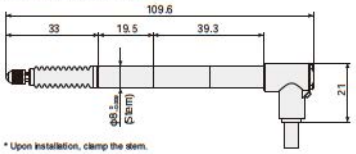


* Upon installation, clamp the stem.

DK812SAFR/DK812SAFR5
DK812SBFR/DK812SBFR5

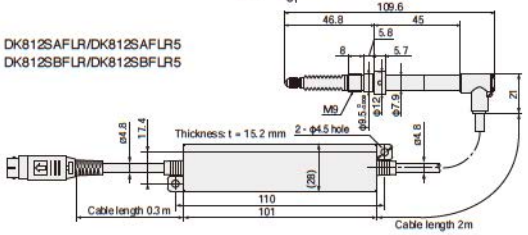


DK812SALR/DK812SALR5
DK812SBLR/DK812SBLR5

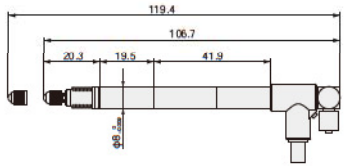


* Upon installation, clamp the stem.

DK812SAFLR/DK812SAFLR5
DK812SBFLR/DK812SBFLR5

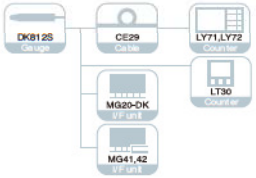


DK812SAVR/DK812SAVR5
DK812SBVR/DK812SBVR5
(Pneumatic push model)



* Upon installation, clamp the stem.

Unit: mm



Specifications

Model	High-resolution models		General-purpose resolution models	
	DK812SAR, DK812SALR DK812SAFR, DK812SAFLR DK812SAVR	DK812SBR, DK812SBLR DK812SBFR, DK812SBFLR DK812SBVR	DK812SAR5, DK812SALR5 DK812SAFR5, DK812SAFLR5 DK812SAVR5	DK812SBR5, DK812SBLR5 DK812SBFR5, DK812SBFLR5 DK812SBVR5
Measuring range	12 mm			
Maximum resolution	0.1 μm		0.5 μm	
Accuracy (at 20°C/68°F)	1 μm		1.5 μm	
Measuring force (at 20°C/68°F)	Upward: 0.4±0.3 N Horizontal: 0.5±0.3 N Downward: 0.6±0.3 N	0.6±0.5 N (Pneumatic push type) 0.7±0.5 N (Pneumatic push type) 0.8±0.5 N (Pneumatic push type)		
Maximum response speed	80 m/min	42 m/min	250 m/min	100 m/min
Reference point	Position at spindle movement of 1mm			
Reference-point response speed	Same as the noted maximum response speed			
Output	A/B/reference point Voltage-differential line driver output (conforming to EIA-422)			
Spindle drive system	Spring push Pneumatic push (DK812SAVR/SBVR/SAVR5/SBVR5) Vacuum suction (DK812SALR/SAFLR/SBLR/SBFLR/SALR5/SAFLR5/SBLR5/SBFLR5)			
Number of strokes*1	60 million			
Protection grade*2	Straight model: IP66, right-angle model: IP64 (IP67*3)			
Vibration resistance	20 to 2000 Hz 100 m/s²			
Impact resistance	1000 m/s² 11 ms			
Operating temperature	0 to 50 °C			
Storage temperature	−20 to 60 °C			
Power supply	5 VDC±5 %			
Power consumption	1 W			
Mass*4	Approx. 30 g			
Output cable length	2.4 m			
Feeler	Carbide ball tip, Mounting screw M2.5		Steel ball tip, Mounting screw M2.5	
Accessories	Instruction Manual, +P M4 × 5 screw (2pc), tightening nut, clamp spanner, wave washer, mounting pin 1 each (DK8**S*F** only) Hose elbow 1 pc (DK8**S*L** only), one spanner			

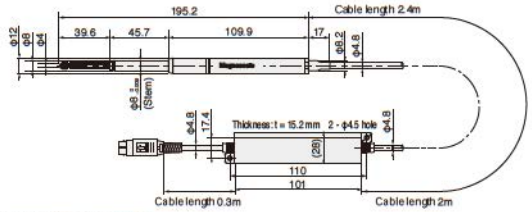
*1 Under specific test conditions defined by Magnescale Co., Ltd. Pneumatic push Model: 30 million time *2 Excluding the interpolation box and connector
*3 When φ4 mm tube is connected for right-angle model *4 Excluding cable section and interpolation box

DK DK830S

Resolution 0.1μm | Stem φ8 | Stroke 30mm | Output A/B phase

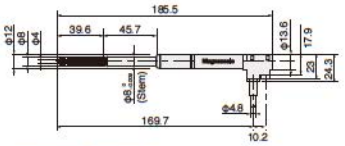
* DK830SR

DK830SR



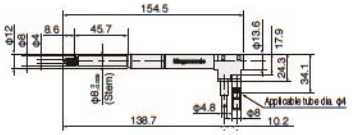
* Upon installation, clamp the stem.

DK830SLR



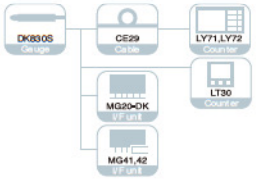
* Upon installation, clamp the stem.

DK830SVR



* Upon installation, clamp the stem.

Unit: mm



Specifications

Model	Straight model	Right angle model	Pneumatic push type
	DK830SR	DK830SLR	DK830SVR
Measuring range	30 mm		
Maximum resolution	0.1 μm (0.5 μm resolution can also be selectable as special specifications.)		
Accuracy (at 20°C/68°F)	1.3 μm		1.7 μm
Measuring force (at 20°C/68°F)	Upward: 0.5±0.35 N Horizontal: 0.6±0.35 N Downward: 0.7±0.35 N		Upward: 0.5±0.35 N Horizontal: 0.6±0.35 N Downward: 0.7±0.35 N
Maximum response speed	80 m/min		
Reference point	Position at spindle movement of 1mm		
Reference-point response speed	Same as the noted maximum response speed		
Output	A/B/reference poin Votage-differential line driver output (conforming to EIA-422)		
Spindle drive system	Spring push		Pneumatic push
Achieved number of strokes*1	60 million		30 million
Protection grade*2	IP53	IP53/IP67*3	
Vibration resistance	20 to 2000 Hz 100 m/s²		
Impact resistance	1000 m/s² 11 ms		
Operating temperature	0 °C to 50 °C		
Storage temperature	−20 °C to 60 °C		
Power supply	5 VDC±5 %		
Power consumption	1 W		
Mass*4	Approx. 70 g		Approx. 80 g
Output cable length	2.4 m		
Feeler	Carbide ball tip, Mounting screw M2.5		
Accessories	Instruction Manual, +P M4 × 5 screw (2pc)		

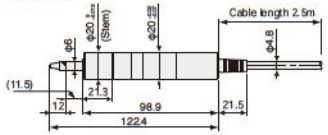
*1 Under specific test conditions defined by Magnescale Co., Ltd. *2 Excluding the interpolation box and connector
*3 When the bellows set (optional accuracy) is mounted *4 Excluding cable section and interpolation box

DK DK10/25

Resolution 0.5μm | Stem φ20 | Stroke 10mm | Stroke 25mm | Output A/B phase

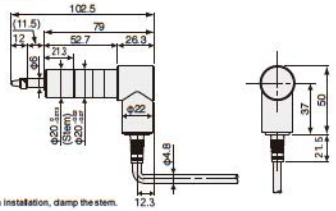
* DK50NR5/PR5

DK10NR5/PR5



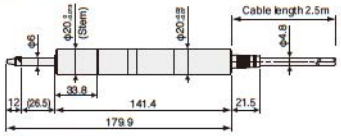
* Upon installation, clamp the stem.

DK10PLR5



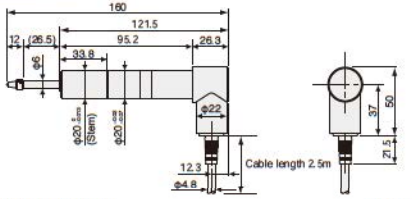
* Upon installation, clamp the stem.

DK25NR5/PR5



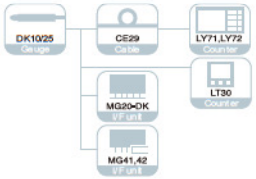
* Upon installation, clamp the stem.

DK25NLR5/PLR5



* Upon installation, clamp the stem.

Unit: mm



Specifications

Model	Standard model	Protected type model		Standard model	Protected type model	Standard model	Protected type model
	DK10NR5	DK10PR5	DK10PLR5	DK25NR5	DK25PR5	DK25NLR5	DK25PLR5
Measuring range	10 mm			25 mm			
Maximum resolution	0.5 μm						
Accuracy (at 20°C/68°F)	2 μm						
Measuring force (at 20°C/68°F)	Upward: 0.3±0.25 N Horizontal: 0.6±0.3 N Downward: 0.8±0.35 N	4.9 N or less		Upward: 0.4±0.3 N Horizontal: 0.7±0.35 N Downward: 1±0.4 N	4.9 N or less	Upward: 0.4±0.3 N Horizontal: 0.7±0.35 N Downward: 1±0.4 N	4.9 N or less
Maximum response speed	250 m/min						
Reference point	Position at spindle movement of 1 mm						
Reference-point response speed	Same as the noted maximum response speed						
Output	A/B/reference point Vdtage-differential line driver output (conforming to EIA-422)						
Spindle drive system	Spring push						
Protection grade*1	IP50	IP64		IP50	IP64	IP50	IP64
Vibration resistance	10 to 2000 Hz 150 m/s²						
Impact resistance	1500 m/s² 11 ms						
Operating temperature	0 to 50 °C						
Storage temperature	−20 to 60 °C						
Power supply	5 VDC±5 %						
Power consumption	1 W						
Mass*2	Approx. 230 g			Approx. 300 g			
Output cable length	2.4 m						
Feeler	Carbide ball tip, Mounting screw M2.5						
Accessories	Instruction Manual, +P M4 × 5 screw (2pc)						

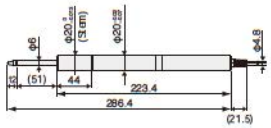
*1 Excluding the interpolation box and connector
*2 Excluding cable section and interpolation box

DK DK50/100

Resolution 0.5μm | Stem ϕ20 | Stroke 50mm | Stroke 100mm | Output A/B phase

* DK50NR5/PR5

DK50NR5/PR5

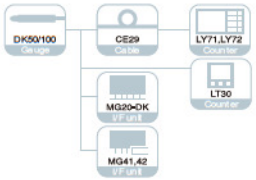


*Upon installation, clamp the stem.

DK100NR5/PR5

*Upon installation, clamp the stem.

Unit: mm



Specifications

Model	Standard model DK50NR5	Protected type model DK50PR5	Standard model DK100NR5	Protected type model DK100PR5
Measuring range	50 mm		100 mm	
Maximum resolution	0.5 μm			
Accuracy (at 20°C/68°F)	2 μm		4 μm	
Measuring force (at 20°C/68°F)	Upward: – Horizontal: 0.9±0.4 N Downward: 1.3±0.5 N	6.2 N or less	Upward: – Horizontal: 1.8±0.65 N Downward: 2.7±0.55 N	9.3 N or less
Maximum response speed	250 m/min			
Reference point	Position at spindle movement of 1 mm			
Reference-point response speed	Same as the noted maximum response speed			
Output	A/B/reference point Voltage-differential line driver output (conforming to EIA-422)			
Spindle drive system	Spring push			
Protection grade*1	IP50	IP64	IP50	IP64
Vibration resistance	10 to 2000 Hz 150 m/s²			
Impact resistance	1500 m/s² 11 ms			
Operating temperature	0 to 50 °C			
Storage temperature	–20 to 60 °C			
Power supply	5 VDC±5 %			
Power consumption	1 W			
Mass*2	Approx. 360 g		Approx. 630 g	
Output cable length	2.4 m			
Feeler	Carbide ball tip, Mounting screw M2.5			
Accessories	Instruction Manual, +P M4 × 5 screw (2pc)			

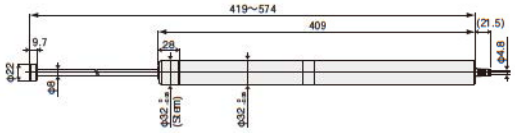
*1 Excluding the interpolation box and connector
*2 Excluding cable section and interpolation box

DK DK155/205

Resolution 0.5μm | Stem ϕ32 | Stroke 155mm | Stroke 205mm | Output A/B phase

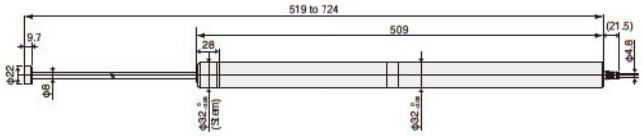
* DK155PR5

DK155PR5



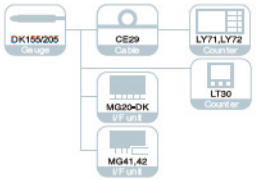
* Upon installation, clamp the stem.

DK205PR5



* Upon installation, clamp the stem.

Unit: mm



Specifications

Model	DK155PR5	DK205PR5
Measuring range	155 mm	205 mm
Maximum resolution	0.5 μm	
Accuracy (at 20°C/68°F)	5 μm	6 μm
Maximum response speed	250 m/min	
Reference point	Position at spindle movement of 5 mm	
Reference-point response speed	Same as the noted maximum response speed	
Output	A/B/reference point Voltage-differential line driver output (conforming to EIA-422)	
Spindle drive system	None	
Protection grade*1	IP64	
Vibration resistance	10 to 2000 Hz 150 m/s²	
Impact resistance	1500 m/s² 11 ms	
Operating temperature	0 to 50 °C	
Storage temperature	–20 to 60 °C	
Power supply	5 VDC±5 %	
Power consumption	1 W	
Mass*2	Approx. 1100 g	Approx. 1300 g
Output cable length	2.4 m	
Surface to be measured	Soft magnetic material	
Magnetically attachable feeler	Magnetic attraction: 10 N, resistance against horizontal slip: 2.7 N. Provided with a ϕ4 mm carbide ball tip	
Spindle*3	ϕ8 mm, radial swing: 0.04 mm max.	
Accessories	Instruction Manual, +P M4 × 5 screw (2pc)	

*1 Excluding the interpolation box and connector
*2 Excluding cable section and interpolation box
*3 The spindle weighs about 400 g.