

- A/B quadrature signal output with differential line driver
- Highly reliable Magnescale® principle
- Two types of power supply voltage + 5V DC and + 12 to + 24V DC
- Compact design (outside diameter  $\varnothing$  8 mm: DG805/ 810) and a line up to cover a wide measuring range (5 mm to 205 mm)

## Specifications (Gauges)

Model	DG805 BLM/BLE FLM/FILE	DG810 BM/BE FM/FE	DG810 BLM/BLE FLM/FILE	DG10 BPM/BPE	DG10 BSM/BSE	DG10 BNM/BNE	DG25 BPM/BPE	DG25 BSM/BSE	DG25 BNM/BNE	DG25 BLM/BLE
Measuring length L mm (inch)	5.2mm			10 mm			25 mm			
Resolution	0.5/ (1)/ (2)/ (5)/ (10) $\mu$ m (Switch-selectable)									
Accuracy (at 20 °C /68 °F)	$\pm 1 \mu$ m									
Measuring force (at 20 °C /68 °F)	Upward	0.35 $\pm$ 0.25N	0.4 $\pm$ 0.3N	All directions 4.9N or less		0.3 $\pm$ 0.25N	All directions 4.9N or less		0.4 $\pm$ 0.3N	
	Lateral	0.40 $\pm$ 0.25N	0.5 $\pm$ 0.3N			0.6 $\pm$ 0.3N			0.7 $\pm$ 0.35N	
	Downward	0.45 $\pm$ 0.25N	0.6 $\pm$ 0.3N			0.8 $\pm$ 0.35N			1 $\pm$ 0.4N	
Protection grade	—			IP64 equivalent		—		IP64 equivalent		—
Mounting stem diameter	$\varnothing$ 8 (0/ -0.009 mm)/ $\varnothing$ 0.31" (+0/ -0.0004") L type: $\varnothing$ 9.5(+0/-0.009 mm)/ $\varnothing$ 0.37" (+0/ -0.0004")			$\varnothing$ 20(0/ -0.013 mm)/ $\varnothing$ 0.79" (+0/ -0.0005")						
Lift lever	N/A			N/A		DZ161(Option)		N/A		DZ161(Option)
Air lifter	DZ801(Option) Note 1	N/A		DZ801(Option) Note 1		DZ174-010 (Option) Note 1		DZ174-025 (Option) Note 1		
Cable length	5 m/ 16.4"									
Operating temperature	0 to 50 °C / 32 °F to 122 °F									
Storage temperature	-20 to 60 °C / 4 °F to 140 °F									
Feeler	Feeler $\varnothing$ 3mm carbide ball with M2.5 x 0.45 screw on fitting end (DZ123)			Feeler $\varnothing$ 2.5 mm carbide ball with M2.5 x 0.45 screw on fitting end (DZ122)						
Mass (excl. cable unit)	20 g		40 g		100 g			200 g		

## Specifications (Gauges)

Model	DG50 BPM/BPE	DG50 BNM/BNE	DG100 BPM/BPE	DG100 BNM/BNE	DG110 BM/BE	DG155 BPM/BPE	DG205 BPM/BPE
Measuring length L mm (inch)	50 mm		100 mm		110 mm	155 mm	205 mm
Resolution	0.5/ (1)/ (2)/ (5)/ (10) $\mu$ m (Switch-selectable)						
Accuracy (at 20 °C /68 °F)	$\pm 1 \mu$ m			$\pm 2 \mu$ m		$\pm 2.5 \mu$ m	$\pm 3 \mu$ m
Measuring force (at 20 °C /68 °F)	Upward	—		All directions 9.3N or less	—	Resistance against slip: 2.7N (Do not have an internal spring)	
	Lateral	6.2N or less			1.8 $\pm$ 0.65N		
	Downward	0.9 $\pm$ 0.4N 1.3 $\pm$ 0.5N			2.7 $\pm$ 0.55N		
Protection grade	IP64 equivalent		—		IP64 equivalent		—
Mounting stem diameter	$\varnothing$ 20 (+0/-0.013 mm) / $\varnothing$ 0.79" (+0/ -0.0005")				$\varnothing$ 20 (+0/-0.03 mm) $\varnothing$ 0.79" (+0/-0.001")	$\varnothing$ 32 (+0/ -0.05 mm) $\varnothing$ 1.26" (+0/ -0.002")	
Lift lever	N/A		DZ161 (Option)		DZ161 (Option)		DZ161 (Option)
Air lifter	DZ174-050 (Option) Note 1						
Cable length	5m/ 16.4'				2 m/ 6.56'		5 m/ 16.4'
Operating temperature	0 to 50 °C / 32 °F to 122 °F						
Storage temperature	-20 to 60 °C / -4 °F to 140 °F						
Feeler	Feeler tipped with $\varnothing$ 2.5 mm carbide ball with M2.5 x 0.45 screw on fitting end (DZ122)		Feeler tipped with $\varnothing$ 2.5 mm carbide ball with M2.5 x 0.45 screw on fitting end (DZ121)				—
Magnetic feeler	N/A				DZ181 (Included) Attraction force : 10N		
Mass (excl. cable unit)	350 g		600 g		1150 g	1100 g	1300 g

Note1: Tubing for compressed air device can be attached

Note2: The measurement force values given apply when DZ-581 measuring force balancer is not used. By using a measuring force balancer (option), it is possible to reduce the measuring force to a minimum of 0.3N. The measuring force will be constant regardless of spindle position.

## Specifications (Interpolator)

Model	DG-M	DG-E
Power supply voltage	DC 5 V $\pm$ 5 % (Correspond to remote sensing function)	DC 11 V to 28 V (Correspond to remote sensing function)
Power consumption	300 mA (Maximum)	150 mA (Maximum)
Output interface	Based on EIA-422 (Line driver:AM 26C31 or equivalent)	
Output signal	A/B quadrature signal	
Resolution	0.5,1,2,5,10 $\mu$ m (0.00025",0.0005",0.001",0.0025",0.005") selectable	
Maximum response speed	1 m/s	
Minimum phase difference	200 ns	
Alarm	The output phase difference varies with the measuring speed.	
	A/B quadrature output of this probe turns to high impedance for 10 to 20 ms when excessive speed or cable disconnection alarm occurs.	
	If the cause is removed, the alarm signal is automatically reset.	
Output connector	MDR10214-52A2JL (3M)	
Dimensions	125 x 28 x 28 (mm) (not including projecting parts)	
Operating temperature	0 to 40/ 32 °F to 104 °F	
Storage temperature	-20 to 60/ -4 °F to 140 °F	
Mass (excl. cable and gauge part)	150 g	

Digital Gauge

# DG-M/E Series

## Dimensions

