

MAGNESCALE

digital gauge



Series DF800S

Key-Features:

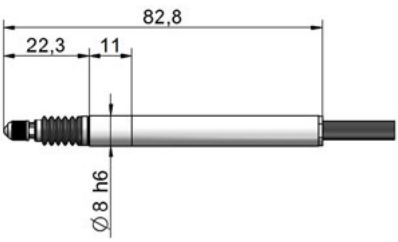
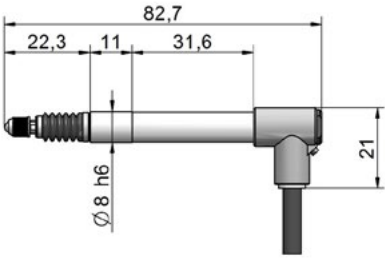
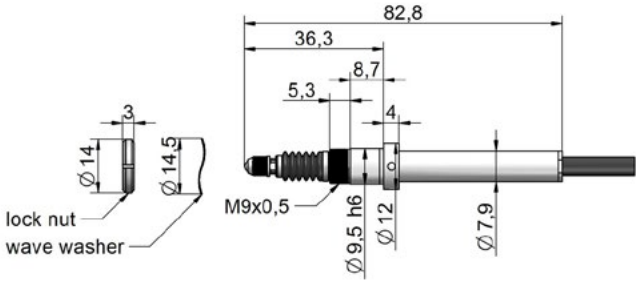
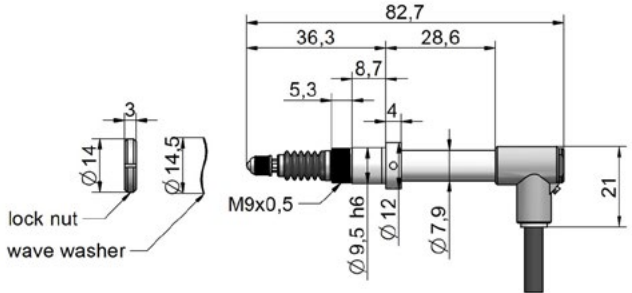
- Available measurement ranges: 5 and 12 mm
- Digital Tolerance Indicator MF-10 with Go/NoGo function
- Resolution 0.1 μm
- Linearity $\pm 0.5 \mu\text{m}$
- Integrated reference point
- Displacement speed up to 80 m/min
- Working temperature 0...+55 °C
- Protection class up to IP67
- Easy installation
- Resistant against water and oil

Content:

TECHNICAL DATA MAGNESCALE DF805S, DF812S

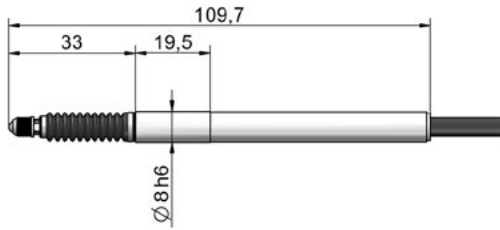
Model		DF805SR, DF805SFR	DF805SLR, DF805SFLR	DF812SR, DK812SFR	DF812SLR, DK812FLR
Measurement range	[mm]	5		12	
Resolution	[μm]			0.1	
Linearity (20°C)	[μm]			1	
Max. displacement speed	[m/min]			80	
Output		dedicated serial communication protocol			
Power supply	[VDC]	10...30, including ripple (p-p) 10 %			
Power consumption	[W]	≤ 1.2			
Reference point	[mm]	bei 1 ± 0.5 (über MF10 ausschaltbar)			
Working temperature	[°C]	0...55			
Storage temperature	[°C]	-20...60			
Spindle drive		spring push			
Measuring force horizontal (20°C)	[N]	0.40 ± 0.25		0.50 ± 0.3	
Measuring force upward (20°C)	[N]	0.35 ± 0.25		0.4 ± 0.3	
Measuring force downward (20°C)	[N]	0.45 ± 0.25		0.6 ± 0.3	
Protection class		IP66	IP54 (IP67 connected tube)	IP66	IP54 (IP67 connected tube)
Shock resistance		20...2000 Hz, 100 m/s ²			
Vibration resistance		1000 m/s ² , 11 ms			
Weight	[g]	approx. 30 (without interpolator, cable and connector)			
Life cycle		up to 130 million strokes (under specific test conditions)			
Feeler		Carbide ball tip, mounting screw M2,5 (different types available)			
Cable length Sensor-Interpolator	[m]	2			
Max. total length cable	[m]	20 when using extension cable CE34			

TECHNICAL DRAWING MAGNESCALE DF805S

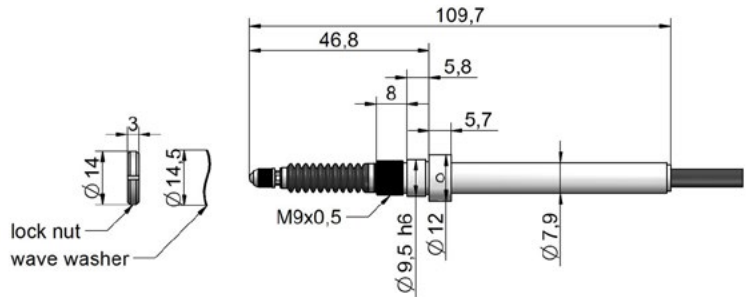
<p>DF805SR</p> 	<p>DF805SLR</p> 
<p>DF805SFR</p> 	<p>DF805SFLR</p> 

TECHNICAL DRAWING MAGNESCALE DF812S

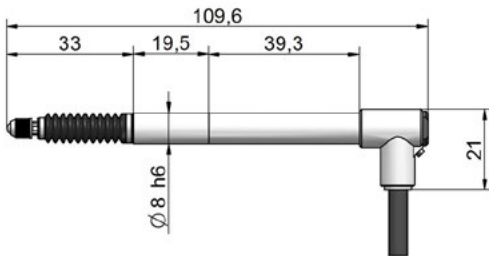
DF812SR



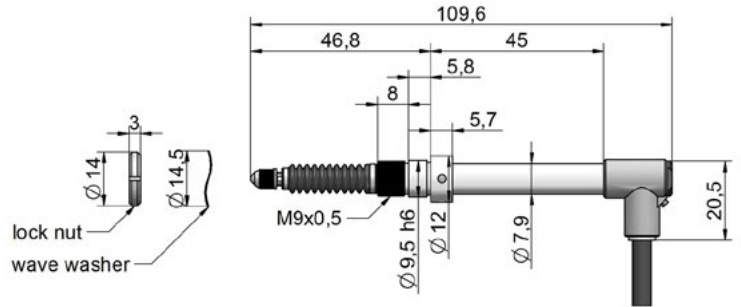
DF812SFR



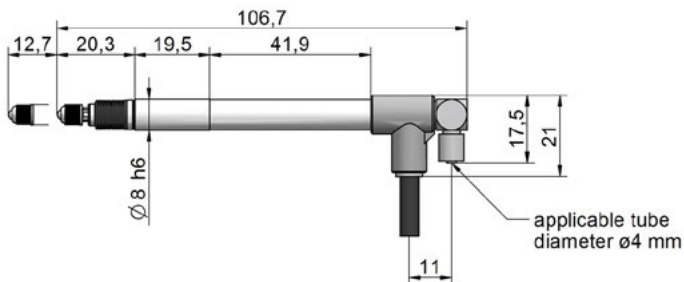
DF812SLR



DF812SFLR



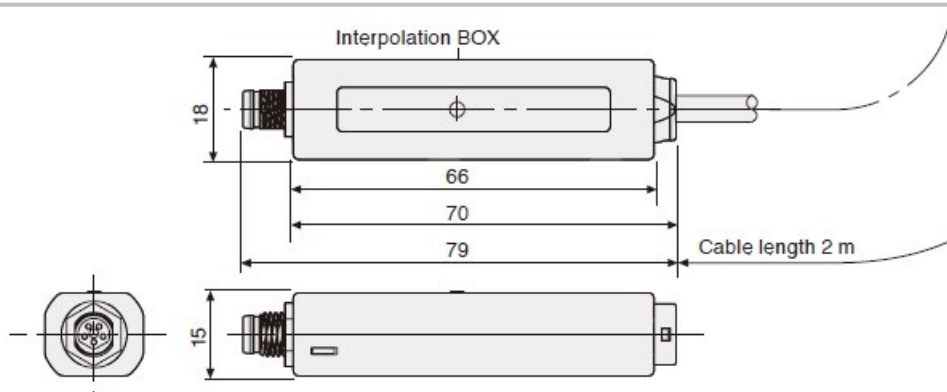
Hose elbow: only for DF8..SL (included in delivery)



Pneumatic push type model:

By exposing to air pressure the rod is being pushed out. If the supply of pressurised air is interrupted an internal spring makes sure that the rod is being pulled inside again (see drawing).

INTERPOLATOR UNIT

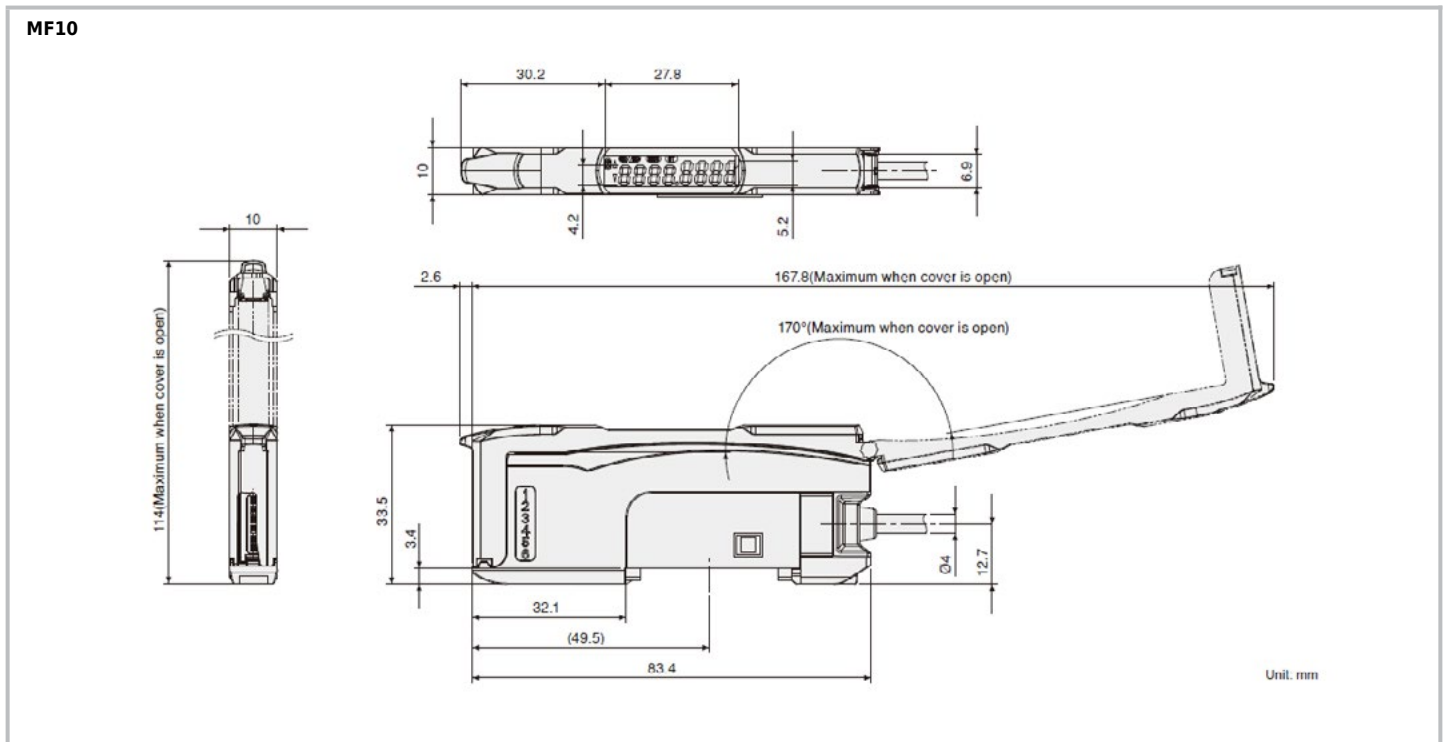


DIGITAL TOLERANCE INDICATOR MF10

Model		MF-10-P1	MF-10-P2 (Vorzugstyp)
Type		NPN output (Go = 0 V, connection to GND)	PNP output (Go = 30 V)
Number of Go/NoGo judgements outputs		2	
Number of external inputs		1	
Minimum display unit	[μ m]	0.1	
Power consumption	[mW]	power supply voltage 24 V normal mode: 2040, or less (current consumption \leq 85 mA) power saving ECO mode: 1920, or less (current consumption \leq 80 mA)	
Go/NoGo judgements output		load voltage: \leq 30 VDC, open collector output type load current: the total of the two outputs must be \leq 100 mA off-state current: \leq 0.1 mA	
Number of threshold memories		4	
Protection circuit		yes / yes	
Working temperature	[$^{\circ}$ C]	0...55	
Storage temperature	[$^{\circ}$ C]	-10...60	
Humidity		35% to 85% (no condensation)	
Weight	[g]	approx. 75	
Cable length	[m]	2	
Connection cable (MF-10 to Interpolator)		CE34 (see page 5)	

	Contact input (relay or switch)	Non-contact input (transistor)	Input time
NPN Typ	ON: Connection to 0 V (Outflow current: 1 mA or less) OFF: Open or short-circuited to Vcc	ON: 1.5 V, or less (Outflow current: 1 mA or less) OFF: Vcc -1.5 V to Vcc (Leakage current: 0.1 mA or less)	ON: 9 ms or more
PNP Typ	ON: Connection to Vcc (Sink current: 3 mA or less) OFF: Open or short-circuited to 0 V	ON: Vcc - 1.5 V to Vcc (Sink current: 3 mA or less) OFF: Vcc -1.5 V to Vcc (Leakage current: 0.1 mA or less)	Off: 9 ms or more

TECHNICAL DRAWING

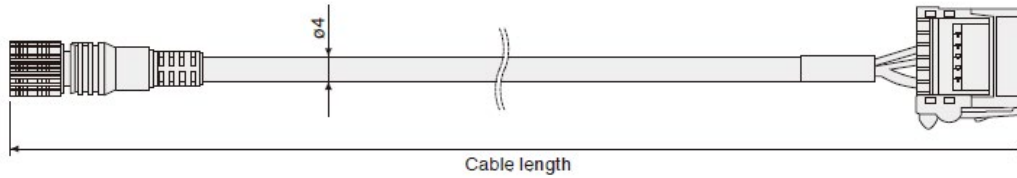


CONNECTION CABLE CE34

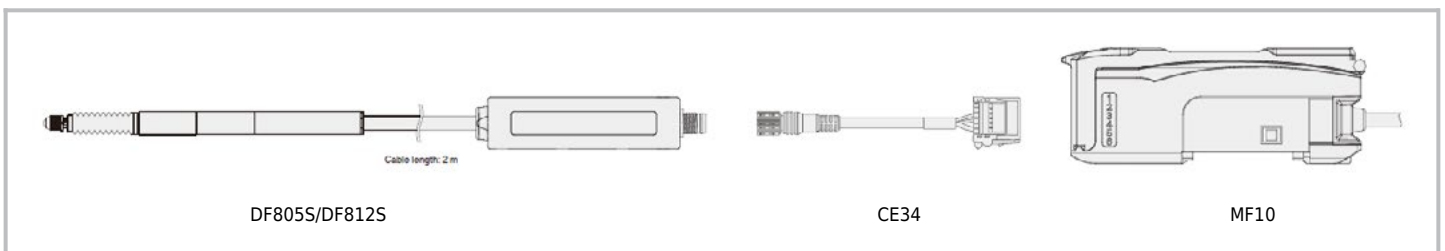
Available cable lengths

Model	CE34-005	CE34-02	CE34-05	CE34-10	CE34-15	CE34-20
Length [m]	0.5	2	5	10	15	20

Technical drawing



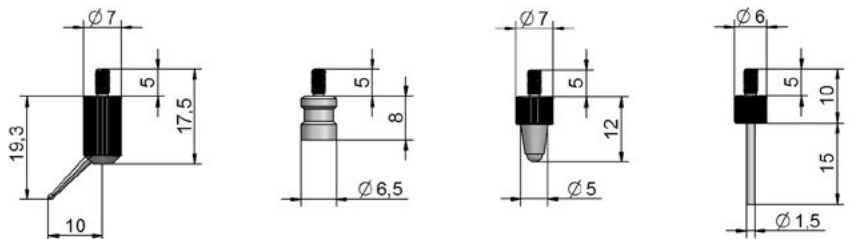
CONNECTION CHART



FEELER

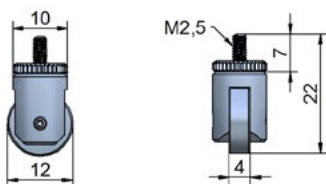
Feeler-Set DZ5100:

1. Off-center contact point: $\varnothing 1,0$ mm steel ball
2. Flat carbide contact point $\varnothing 6,5$ mm
3. Plastic ball contact point $\varnothing 3,0$ mm, nylon ball
4. Pin contact point $\varnothing 1,5$ mm



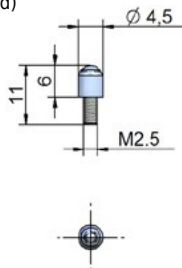
Roller DZ100:

Tolerance $< 3 \mu\text{m}/\text{turn}$



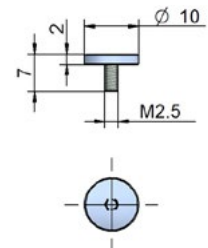
Tastkopf-01 *

Tastkopf-01: steel (standard)
 Tastkopf-01-HM: cemented carbide
 Tastkopf-01-R: ruby
 Tastkopf-01-K: ceramics



Tastkopf-02

Tastkopf-02: steel
 Tastkopf-02-HM: cemented carbide



* Material of the feeler balls:

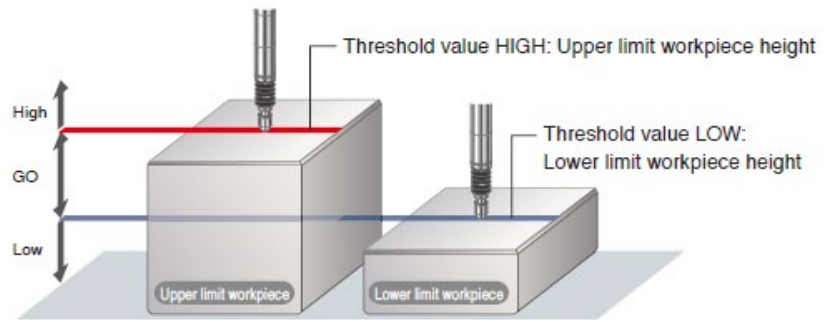
steel: for standard applications

ruby: much harder and wear resistant than steel, non-conductive, for all applications except for measuring on aluminium and cast iron

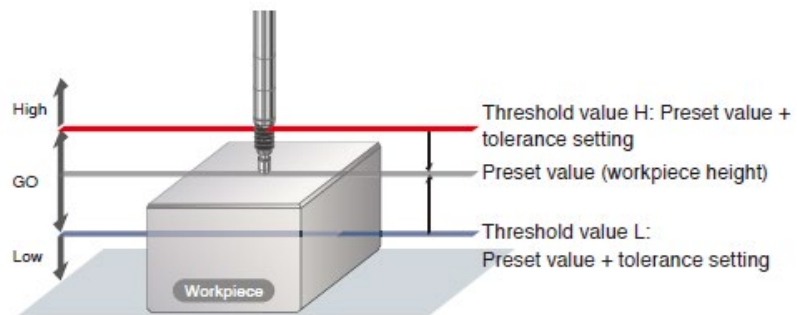
ceramics: comparable to ruby, best choice for measuring on aluminium and cast iron

EXAMPLE OF USE MF-10

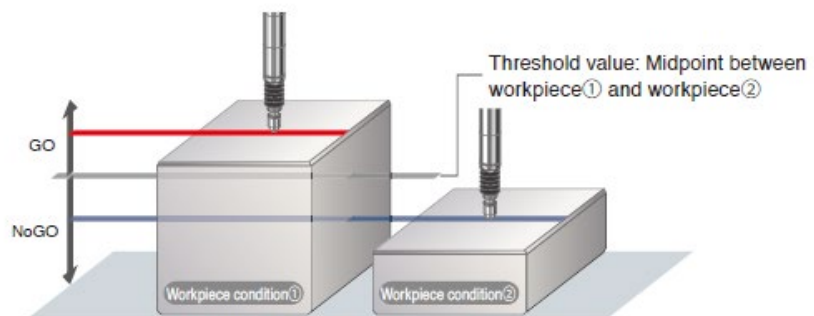
Setting the upper and lower limit range



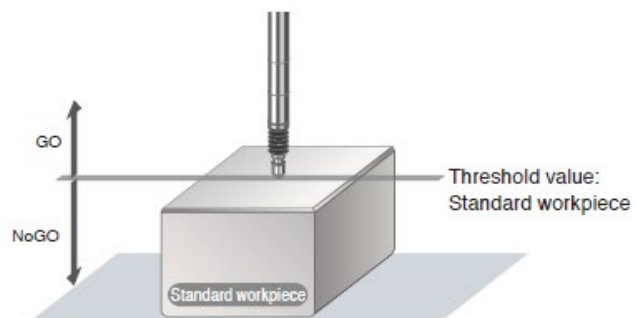
Setting the \pm tolerance relative to the work



Setting relative to a single reference

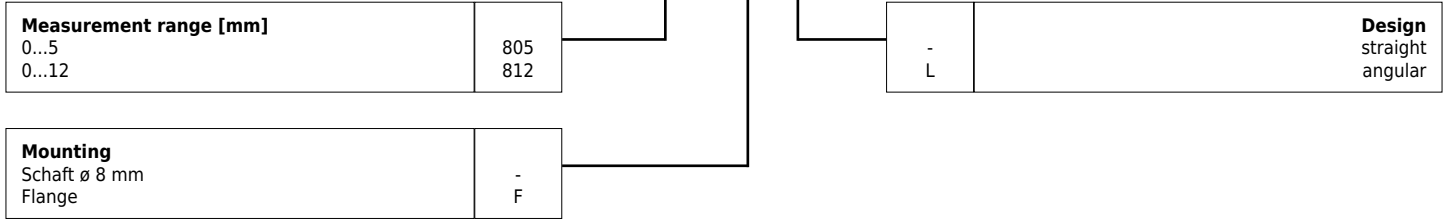


Setting the standard workpiece as the reference



ORDER CODE

DF - [] - S - [] - [] - R



OVERVIEW

DF805SR		DF812SR	
DF805SLR		DF812SLR	
DF805SFR		DF812SFR	
DF805SFLR		DF812SFLR	
MF-10-P1	NPN output (current sink)		
MF-10-P2	PNP output (current source)		
Connection cable for MF-10		Accessories	
CE34-005	Length 0.5 m	DZ100	Roller
CE34-02	Length 2 m	DZ5100	Feeler Set
CE34-05	Length 5 m	Tastkopf-01	Standard (included in delivery)
CE34-10	Length 10 m	Tastkopf-01-HM	Cemented carbide ball
CE34-15	Length 15 m	Tastkopf-01-R	Ruby ball
CE34-20	Length 20 m	Tastkopf-01-K	Ceramics ball
		Tastkopf-02	Steel plate
		Tastkopf-02-HM	Length

Important note:

In case of an order please always select a digital gauge, a tolerance indicator MF-10 and a cable CE34.

All 3 components are necessary for operating the measurement system.



Subject to change without prior notice.

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