

## MarCator | Dial and Digital Indicators

Whether mechanical or digital, dial indicators rank as some of the most commonly used measuring probes. MarCator dial indicators offer accurate measuring results, simple controls and a rugged construction for use on the shop floor.



# MarCator | Digital and Dial Indicators

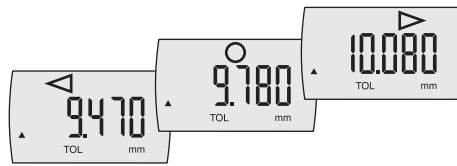
## Digital Dial Indicators with Reference System and Integrated Wireless

With MarCator 1086 Ri and 1087 Ri, Mahr sets standards in the dial gage product segment:

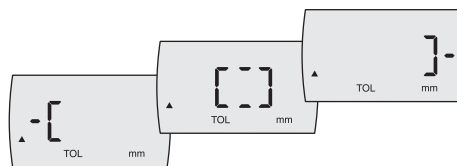
With the Reference System, MarCator indicators are immediately ready for measurement, as the zero position once set remains stored for all further measurements. And if you need to document your data, Integrated Wireless, the integrated energy-efficient radio system, offers you the optimal solution for transferring the measured values to the PC.

### Clear display

Tolerance display with measured value display. Display of the current value and the indicated tolerance.



Tolerance display without measured value display. Tolerance overrange or underrange is indicated exclusively by symbols.



### Universal SPC interface

**MarConnect** integrated wireless  
• **Integrated Wireless**  
Radio interface at the price of a cable

**USB**  
• **USB**  
No interface box necessary! Simple and cost-effective installation of multipoint measuring systems via USB hubs

**Digimatic**  
• **Digimatic**  
For connection to a digimatic compatible evaluation unit

**RS232C**  
• **Mahr Opto RS232C**  
For direct connection to a COM port on the PC

### Absolute function:

**ABS**  
Dial gage can be set to 0.000 in any position without losing reference to the preset value

### High operating reliability



**Lock function** prevents unintentional key operation. All keys or individual functions can be locked.

If a locked key is pressed, "LOC" appears in the numeric display.



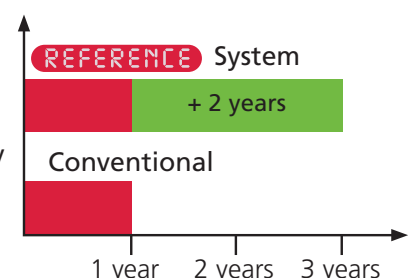
### IP protection class IP54 (optional)

- Protective cap at the end of the measuring pin
- Rubber bellows on measuring pin
- Sealed battery compartment

Code Letters	<b>IP</b>	International Protection
First numeral	<b>5</b>	Dust protection (from harmful dust deposits)
Second numeral	<b>4</b>	Protection against water splash in all directions

### 3-year battery life

The Reference System is particularly energy-efficient. Since almost no energy is required when the system is idle, **battery life is increased to 3 years\***.



\*When wireless transmission is deactivated

## One-Time Zeroing

### REFERENCE

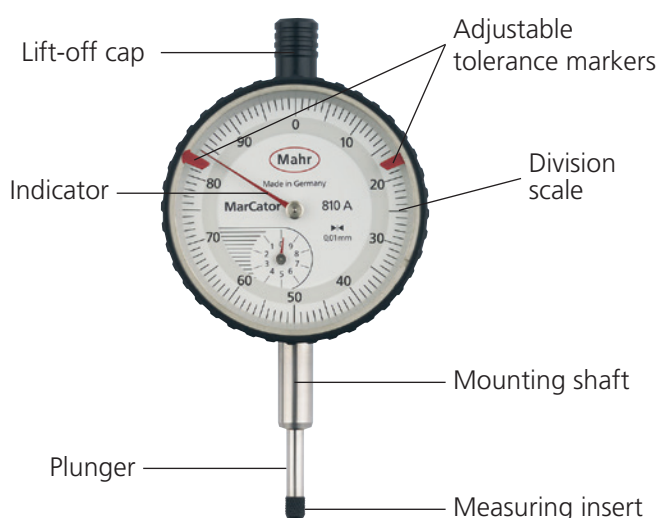
The digital indicators 1075 R, 1086 R(i) and 1087 R(i) are equipped with the innovative Reference System. Once the zero position has been set, it remains stored for all further measurements. This means that the instrument is immediately ready for measurement after pressing the ON button or simply by moving the measuring bolt. The need to reset the instrument to zero again after switching it on is no longer necessary like it is with conventional dial gages.

## MarConnect Integrated Wireless – Wireless Transmission at the Price of a Cable

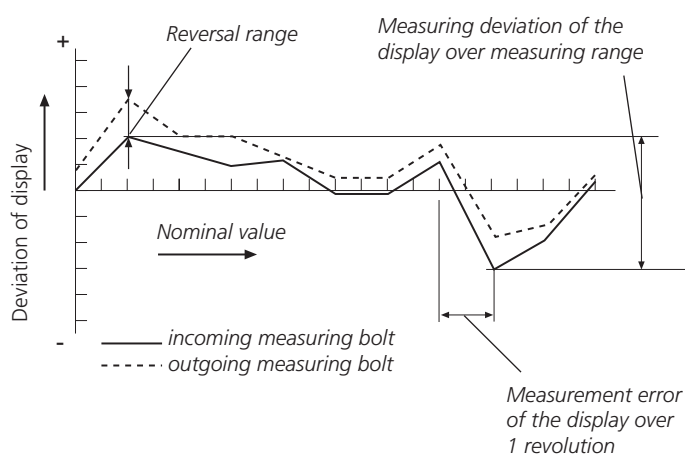


With Integrated Wireless, the integrated radio system from Mahr, you get wireless transmission at the price of a cable. Data acquisition with indicators is now even easier: Transfer your measurement data simply and without annoying cables directly into Microsoft Office Excel® or via keyboard code into any Windows program.

## MarCator | Terms

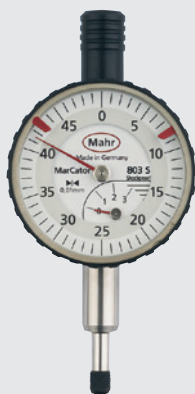


## Metrological Characteristics



## MarCator | Models

Small dial indicator 803 S



Dial indicator 810 S



Digital indicator 1075 R



Digital indicator 1087 Ri



# Millimes μMaxμm II

## Inductive Digital Comparator



### FUNCTIONS

- ON/OFF
- PRESET (for entering a numerical value)
- RESET (set display to zero)
- Selectable resolution
- Reversal of counting direction
- <0> (tolerance GO / NO GO display mode)
- mm/inch

### FEATURES

- Inductive absolute measuring system
- Large, high contrast display with numerical and scale display
- Control and display unit rotatable through 270°
- Zero point setting is retained even after switching off the dial indicator
- SoftwareMarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232C interface)
- **Digit height:** 8 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery operation
- **Package contains:** instruction manual, battery



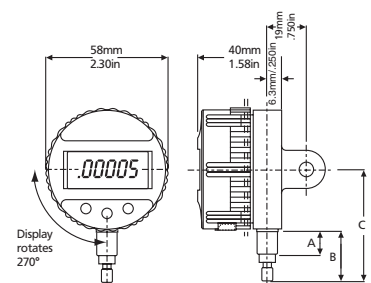
### Application:

For static measurements

### TECHNICAL DATA

Order no.	2034101	2034103	2034105	2034107
Product type	μMaxμm II			
Measuring range	mm	±1		
Measuring range	inch	± .040"		
Partial measuring range	mm	± 0.5		
Partial measuring range	inch	± .020"		
Resolution	mm	0.0002, 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02		
Resolution	inch	.00001", .00002", .00005", .0001", .0002", .0005", .001"		
Error limit	μm	± 5		
Error limit	inch	± .0002"		
Error limit in partial measuring range	μm	± 1.25		
Error limit in partial measuring range	inch	± .00005"		
Standard	Factory standard			
Measuring force	N	0.8 – 1.1		
IP protection category:	IP 54			

Order no.	a	b	c	a	b	c	Mounting shaft	Mounting shaft
	inch	inch	inch	mm	mm	mm	mm	inch
2034101	.46"	.95"	2.11"	11.7	24.1	53.6		.375"
2034103	1.5"	2.25"	3.41"	38	57.2	86.6		.375"
2034105	.46"	.95"	2.11"	11.7	24.1	53.6	8	
2034107	1.5"	2.25"	3.41"	38	57.2	86.6	8	



### ACCESSORIES

Order no.	Product name	Product type
2210555	Lug back	EBK-1010
2210556	Back panel with cylindrical holder, Ø = .5", l = 1"	EBK-1012
2210557	Back panel with threaded bore 1/4-28, Ø = 11/16", l = .5"	EBK-1013
2210558	Back panel with rack	EBK-1014
2210559	Back panel with adjustable holder	EBK-1016
2210561	Flat back panel	EBK-1018
2212878	Splash guard cover	ECV-1307-W2
2232570	Measuring force springs 0.35N	SP-351
2201833	Thread adapter, M2.5 male to #4-48 female threads	AD-185
4310103	Adapter bushing (.375" / 8 mm)	940
4346023	2000 USB Data connection cable USB (2 m)	2000 USB
4346021	Digimatic data cable (2 m)	2000 d
4346020	Data connection cable RS232C (2 m)	2000 r
4102230	e-Stick Receiver	e-Stick
4102232	2000 e Transmitter for e-Stick	2000 e



e-Stick



2000 e

# Millimess $\mu$ Max $\mu$ m II



## FUNCTIONS

- ON/OFF
- RESET (set display to zero)
- mm/inch
- Reversal of counting direction
- ABS (display can be set to zero without losing reference to preset)
- MAX/MIN memory for searching the reversal point
- TIR (MAX-MIN) for testing flatness and concentricity
- Factor (adjustable)
- HOLD (storage of measured values)



### Application:

For static and dynamic measurements

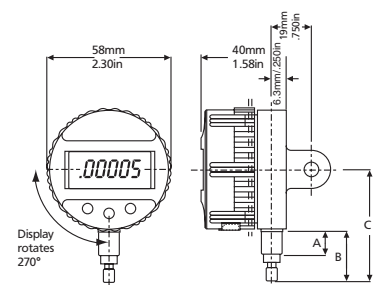
## TECHNICAL DATA

### FEATURES

- Inductive absolute measuring system
- Large, high contrast display with numerical and scale display
- Control and display unit rotatable through 270°
- Zero point setting is retained even after switching off the dial indicator
- SoftwareMarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 8 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery operation
- **Package contains:** instruction manual, battery

Order no.	2034201	2034203	2034205	2034207
Product type	$\mu$ Max $\mu$ m II			
Measuring range	mm	±1		
Measuring range	inch	± .040"		
Partial measuring range	mm	± 0.5		
Partial measuring range	inch	± .020"		
Resolution	mm	0.0002, 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02		
Resolution	inch	.00001", .00002", .00005", .0001", .0002", .0005", .001"		
Error limit	$\mu$ m	± 5		
Error limit	inch	± .0002"		
Error limit in partial measuring range	$\mu$ m	± 1.25		
Error limit in partial measuring range	inch	± .00005"		
Standard	Factory standard			
Measuring force	N	0.8 – 1.1		
IP protection category:	IP 54			

Order no.	a	b	c	a	b	c	Mounting shaft	Mounting shaft
	inch	inch	inch	mm	mm	mm	mm	inch
2034201	.46"	.95"	2.11"	11.7	24.1	53.6		.375"
2034203	1.5"	2.25"	3.41"	38	57.2	86.6		.375"
2034205	.46"	.95"	2.11"	11.7	24.1	53.6	8	
2034207	1.5"	2.25"	3.41"	38	57.2	86.6	8	



## ACCESSORIES



Order no.	Product name	Product type
2210555	Lug back	EBK-1010
2212878	Splash guard cover	ECV-1307-W2
4310103	Adapter bushing (.375" / 8 mm)	940
4346023	2000 USB Data connection cable USB (2 m)	2000 USB
4346021	Digimatic data cable (2 m)	2000 d
4346020	Data connection cable RS232C (2 m)	2000 r
4102232	2000 e Transmitter for e-Stick	2000 e
4102230	e-Stick Receiver	e-Stick
2210556	Back panel with cylindrical holder, $\varnothing = .5"$ , $l = 1"$	EBK-1012
2210557	Back panel with threaded bore 1/4-28, $\varnothing = 11/16"$ , $l = .5"$	EBK-1013
2210561	Flat back panel	EBK-1018
2210559	Back panel with adjustable holder	EBK-1016
2210558	Back panel with rack	EBK-1014
2232570	Measuring force springs 0.35N	SP-351

# Millimes μMaxμm II

## Inductive Digital Comparator



### FUNCTIONS

- ON/OFF
- RESET (set display to zero)
- mm/inch
- Reversal of counting direction
- ABS (display can be set to zero without losing reference to preset)
- MAX/MIN memory for searching the reversal point
- TIR (MAX-MIN) for testing flatness and concentricity
- Factor (adjustable)
- HOLD (storage of measured values)

### FEATURES

- Inductive absolute measuring system
- Large, high contrast display with numerical and scale display
- Control and display unit rotatable through 270°
- Zero point setting is retained even after switching off the dial indicator
- SoftwareMarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232C interface)
- **Digit height:** 8 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery operation
- **Package contains:** instruction manual, battery



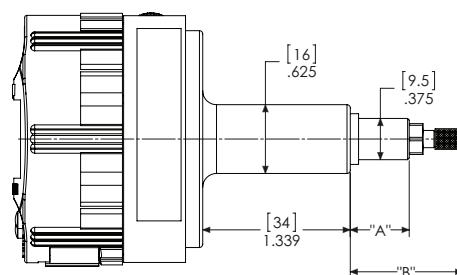
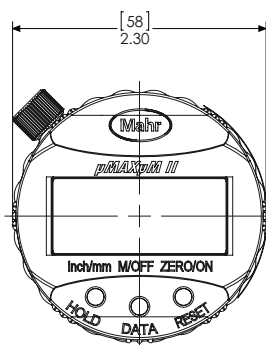
### Application:

- Vertical design with perpendicular measuring spindle
- For static and dynamic measurements

### TECHNICAL DATA

Order no.	2034401	
Product type	μMaxμm II	
Measuring range	mm	±1
Measuring range	inch	± .040"
Partial measuring range	mm	± 0.5
Partial measuring range	inch	± .020"
Resolution	mm	0.0002, 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02
Resolution	inch	.00001", .00002", .00005", .0001", .0002", .0005", .001"
Error limit	μm	± 5
Error limit	inch	± .0002"
Error limit in partial measuring range	μm	± 1.25
Error limit in partial measuring range	inch	± .00005"
Standard	Factory standard	
Measuring force	N	0.8 – 1.1
IP protection category:	IP 54	

Order no.	a	b	c	a	b	Mounting shaft
	inch	inch	inch	mm	mm	inch
2034401	.46"	.95"	2.11"	11.7	24.1	.375"



### ACCESSORIES

Order no.	Product name	Product type
2212878	Splash guard cover	ECV-1307-W2
2232570	Measuring force springs 0.35N	SP-351
2201833	Thread adapter, M2.5 male to #4-48 female threads	AD-185
4310103	Adapter bushing (.375" / 8 mm)	940
4346023	2000 USB Data connection cable USB (2 m)	2000 USB
4346021	Digimatic data cable (2 m)	2000 d
4346020	Data connection cable RS232C (2 m)	2000 r

# Millimes Maxµm III

## Inductive Digital Comparator

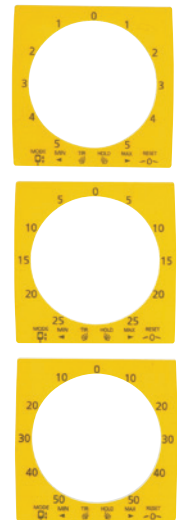


### FUNCTIONS

- RESET (set display to zero)
- mm/inch
- Reversal of counting direction
- RANGE (switch the measuring range and resolution)
- ABS (reference to the electrical zero point)
- TOL (enter tolerance limit values)
- MAX/MIN memory for searching the reversal point
- TIR (MAX-MIN) for testing flatness and concentricity
- HOLD (storage of measured values)

### FEATURES

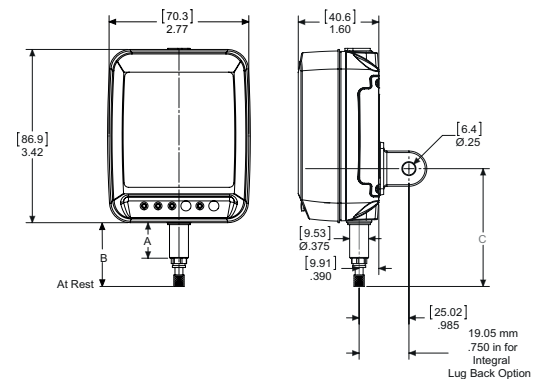
- Large, high contrast digital, analog and fan display for better readability while testing flatness and concentricity as well as for searching the reversal point in bores
- Interchangeable dials
- Inductive absolute measuring system
- Metal cast housing with robust buttons
- SoftwareMarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Energy supply:** Battery life approx. 4000 hrs.
- **Package contains:** interchangeable dials, battery, instruction manual



### TECHNICAL DATA

Order no.	2033101	2033103	2033105	2033107	2033102	2033104	2033106	2033108
Product type	Maxµm III							
Measuring range	mm	±1			±1.99			
Measuring range	inch	± .040"			± .100"			
Partial measuring range	mm	± 0.199						
Partial measuring range	inch	± .0199"						
Resolution	mm	0.0005, 0.001, 0.005			0.001, 0.005			
Resolution	inch	.00002", .00005", .0001", .0005"			.0001", .0005"			
Error limit	µm	± 10			± 14			
Error limit	inch	± .0004"			± .0007"			
Error limit in partial measuring range	µm	± 1						
Error limit in partial measuring range	inch	± .0001"						
Standard	Factory standard							
Overtravel	mm	0.8			1.3			
Measuring force	N	0.8 – 1.1						
Range of analog display	mm	± 5, ± 25, ± 50			± 25, ± 50			
Data output Maxµm	No output							
IP protection category:	IP 54							

Order no.	a	b	c	a	b	c	Mounting shaft	Mounting shaft
	inch	inch	inch	mm	mm	mm	mm	inch
2033101	.670"	1.42"	2.50"	17	36	63.5		.375"
2033103	1.5"	2.25"	3.33"	38	57	84.6		.375"
2033105	.670"	1.42"	2.50"	17	36	63.5	8	
2033107	1.5"	2.25"	3.33"	38	57	84.6	8	
2033102	.87"	1.84"	2.87"	22	47	73		.375"
2033104	1.5"	2.25"	3.33"	38	57	84.6		.375"
2033106	.87"	1.84"	2.87"	22	47	73	8	
2033108	1.5"	2.25"	3.33"	38	57	84.6	8	

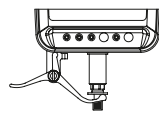


# Millimes Maxµm III

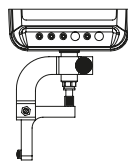
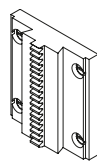
## Inductive Digital Comparator

### ACCESSORIES

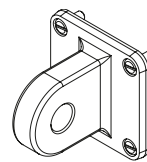
Order no.	Product name	Product type
2239138	Battery for Maxµm III Type CR 123A	
2209094	Lifting lever, left	EAS-1903
2210406	Right angle attachment - spring type ( $\pm .187''$ range)	EAT-1034-W1
2210407	Right angle attachment - spring type ( $\pm .060''$ range)	EAT-1035-W1
2210551	Back panel with rack	EBK-1005
2236895	Mounting block for back panel with rack	
2210552	Back panel with eyelets	EBK-1006
2210553	Back panel with adjustable holder	EBK-1007
2212877	Dust cover	ECV-1307-W1
2239040	Set of 3 inch and 3 metric scale overlay	
2217907	Spare screws for back panels	ESW-1252



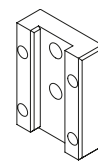
EAS-1903

EAT-1034-W1;  
EAT-1035-W1

EBK-1005



EBK-1006



EBK-1007



# Millimes Maxµm III

## Inductive Digital Comparator

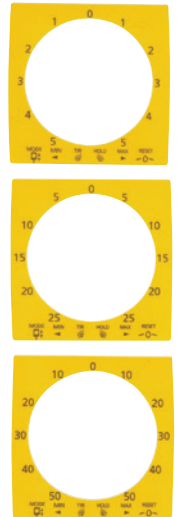


### FUNCTIONS

- RESET (set display to zero)
- mm/inch
- Reversal of counting direction
- RANGE (switch the measuring range and resolution)
- ABS (reference to the electrical zero point)
- TOL (enter tolerance limit values)
- MAX/MIN memory for searching the reversal point
- TIR (MAX-MIN) for testing flatness and concentricity
- HOLD (storage of measured values)

### FEATURES

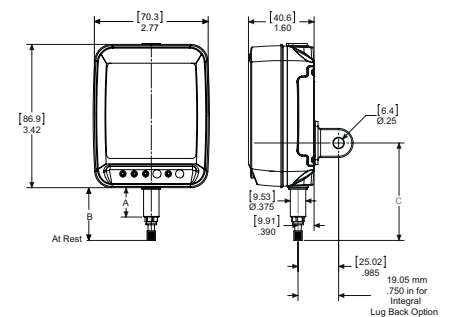
- Large, high contrast digital, analog and fan display for better readability while testing flatness and concentricity as well as for searching the reversal point in bores
- Interchangeable dials
- Inductive absolute measuring system
- Metal cast housing with robust buttons
- SoftwareMarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Data interface:** RS232C, Digimatic, USB
- **Energy supply:** Battery life approx. 4000 hrs.
- **Package contains:** interchangeable dials, battery, instruction manual



### TECHNICAL DATA

Order no.	2033111	2033113	2033115	2033117	2033112	2033114	2033116	2033118
Product type	Maxµm III							
Measuring range	mm	±1			±1.99			
Measuring range	inch	± .040"			± .100"			
Partial measuring range	mm	± 0.199						
Partial measuring range	inch	± .0199"						
Resolution	mm	0.0005, 0.001, 0.005			0.001, 0.005			
Resolution	inch	.00002", .00005", .0001", .0005"			.0001", .0005"			
Error limit	µm	± 10			± 14			
Error limit	inch	± .0004"			± .0007"			
Error limit in partial measuring range	µm	± 1						
Error limit in partial measuring range	inch	± .0001"						
Standard	Factory standard							
Overtravel	mm	0.8			1.3			
Measuring force	N				0.8 – 1.1			
Range of analog display	mm	± 5, ± 25, ± 50			± 25, ± 50			
Data output Maxµm	Data output 6 pin (E2)							
IP protection category:	IP 54							

Order no.	a	b	c	a	b	c	Mounting shaft	Mounting shaft
	inch	inch	inch	mm	mm	mm	mm	inch
2033111	.670"	1.42"	2.50"	17	36	63.5		.375"
2033113	1.5"	2.25"	3.33"	38	57	84.6		.375"
2033115	.670"	1.42"	2.50"	17	36	63.5	8	
2033117	1.5"	2.25"	3.33"	38	57	84.6	8	
2033112	.87"	1.84"	2.87"	22	47	73		.375"
2033114	1.5"	2.25"	3.33"	38	57	84.6		.375"
2033116	.87"	1.84"	2.87"	22	47	73	8	
2033118	1.5"	2.25"	3.33"	38	57	84.6	8	

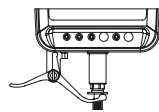


# Millimes Maxµm III

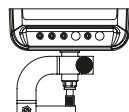
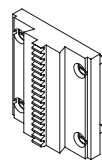
## Inductive Digital Comparator

### ACCESSORIES

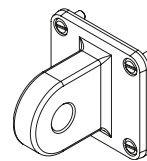
Order no.	Product name	Product type
2239138	Battery for Maxµm III Type CR 123A	
2209094	Lifting lever, left	EAS-1903
2210406	Right angle attachment - spring type ( $\pm .187''$ range)	EAT-1034-W1
2210407	Right angle attachment - spring type ( $\pm .060''$ range)	EAT-1035-W1
2210551	Back panel with rack	EBK-1005
2236895	Mounting block for back panel with rack	
2210552	Back panel with eyelets	EBK-1006
2210553	Back panel with adjustable holder	EBK-1007
2212877	Dust cover	ECV-1307-W1
2217907	Spare screws for back panels	ESW-1252
2239035	Digimatic data cable (2 m) (D, E1)	
2239036	Data cable RS232C (2 m) (D, E1)	
2121428	USB data cable (2 m) (E1)	
2200362	Foot switch for send data (Maxµm) or dynamic reset/zeroing (832), 1,5m / 5 ft cable	300-50
2240545	Maxµm III, unlock setup & unlock calibration key, (D, E1)	
2239040	Set of 3 inch and 3 metric scale overlay	



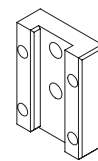
EAS-1903

EAT-1034-W1;  
EAT-1035-W1

EBK-1005



EBK-1006



EBK-1007

# Millimes Maxµm III

## Inductive Digital Comparator

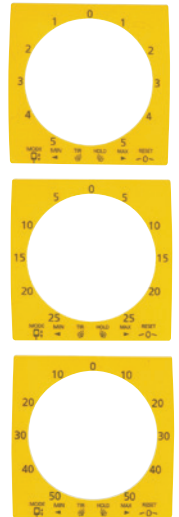


### FUNCTIONS

- RESET (set display to zero)
- mm/inch
- Reversal of counting direction
- RANGE (switch the measuring range and resolution)
- ABS (reference to the electrical zero point)
- TOL (enter tolerance limit values)
- MAX/MIN memory for searching the reversal point
- TIR (MAX-MIN) for testing flatness and concentricity
- HOLD (storage of measured values)

### FEATURES

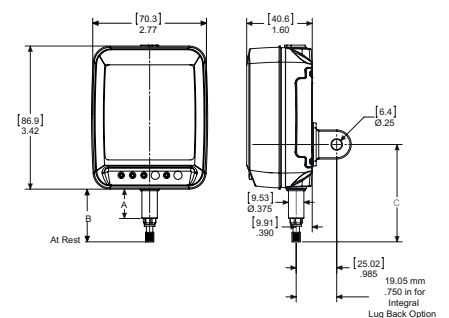
- Large, high contrast digital, analog and fan display for better readability while testing flatness and concentricity as well as for searching the reversal point in bores
- Interchangeable dials
- Inductive absolute measuring system
- Metal cast housing with robust buttons
- SoftwareMarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Data interface:** RS232C, USB
- **Energy supply:** Battery life approx. 4000 hrs.
- **Package contains:** interchangeable dials, battery, instruction manual



### TECHNICAL DATA

Order no.	2033121	2033123	2033125	2033127	2033122	2033124	2033126	2033128	
Product type	Maxµm III								
Measuring range	mm	±1			±1.99				
Measuring range	inch	±.040"			±.100"				
Partial measuring range	mm	± 0.199							
Partial measuring range	inch	± .0199"							
Resolution	mm	0.0005, 0.001, 0.005			0.001, 0.005				
Resolution	inch	.00002", .00005", .0001", .0005"			.0001", .0005"				
Error limit	µm	± 10			± 14				
Error limit	inch	± .0004"			± .0007"				
Error limit in partial measuring range	µm	± 1							
Error limit in partial measuring range	inch	± .0001"							
Standard	Factory standard								
Overtravel	mm	0.8			1.3				
Measuring force	N	0.8 – 1.1							
Range of analog display	mm	± 5, ± 25, ± 50			± 25, ± 50				
Data output Maxµm	Data output 10 pin (E2)								
IP protection category:	IP 54								

Order no.	a	b	c	a	b	c	Mounting shaft	Mounting shaft
	inch	inch	inch	mm	mm	mm	mm	inch
2033121	.670"	1.42"	2.50"	17	36	63.5		.375"
2033123	1.5"	2.25"	3.33"	38	57	84.6		.375"
2033125	.670"	1.42"	2.50"	17	36	63.5	8	
2033127	1.5"	2.25"	3.33"	38	57	84.6	8	
2033122	.87"	1.84"	2.87"	22	47	73		.375"
2033124	1.5"	2.25"	3.33"	38	57	84.6		.375"
2033126	.87"	1.84"	2.87"	22	47	73	8	
2033128	1.5"	2.25"	3.33"	38	57	84.6	8	

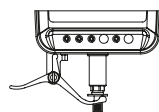


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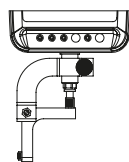
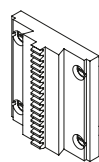
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### ACCESSORIES

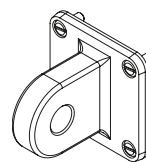
Order no.	Product name	Product type
2239138	Battery for Maxµm III Type CR 123A	
2209094	Lifting lever, left	EAS-1903
2210406	Right angle attachment - spring type ( $\pm .187''$ range)	EAT-1034-W1
2210407	Right angle attachment - spring type ( $\pm .060''$ range)	EAT-1035-W1
2210551	Back panel with rack	EBK-1005
2236895	Mounting block for back panel with rack	
2210552	Back panel with eyelets	EBK-1006
2210553	Back panel with adjustable holder	EBK-1007
2212877	Dust cover	ECV-1307-W1
2217907	Spare screws for back panels	ESW-1252
2239037	Digimatic data cable (2 m) (E2)	
2239038	Data connection cable RS232C (2 m) (E2)	
2200362	Foot switch for send data (Maxµm) or dynamic reset/zeroing (832), 1,5m / 5 ft cable	300-50
2239040	Set of 3 inch and 3 metric scale overlay	
2240547	Maxµm III, unlock setup & unlock calibration key, (E2)	
2209924	Hand switch for Hold/Reset	EAS-2867
2209925	Foot switch for Hold/Reset	EAS-2868
2121428	USB data cable (2 m) (E1)	



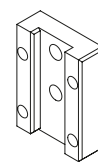
EAS-1903

EAT-1034-W1;  
EAT-1035-W1

EBK-1005



EBK-1006



EBK-1007