







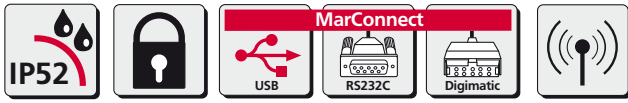


MarCator. Digital Indicators (Long range)

OVERVIEW

Functions of Digital Indicators		1075 R	1075 R	1075 R	μMaxμm II XL
					
Catalog page		5 - 38	5 - 38	5 - 38	5 - 40
Measuring ranges		12.5 mm / .5"	12.5 mm / .5"	12.5 mm / .5"	12.5 mm / .5" 25 mm / 1" 50 mm / 2" 100 mm / 4"
Resolution	metric inch metric inch metric inch metric inch metric inch metric inch metric inch metric inch	0.01 mm .0005"	0.005 mm .0001"	0.001 mm .00005"	0.0002 mm .00001" 0.0005 mm .00002" 0.001 mm .00005" 0.002 mm .0001" 0.005 mm .0002" 0.01 mm .0005" 0.02 mm .001" 0.05 mm .002" 0.1 mm .005"
Mounting shank		8h6	8h6	8h6	8h6 / 3/8"
Protection class	IP class acc. to IEC 60529				
Functions:					
ON/OFF		●	●	●	●
Set display to zero		●	●	●	●
Switch between mm/inch		●	●	●	●
Reversal of counting direction		●	●	●	●
Enter numerical value	PRESET	●	●	●	●
Data		●	●	●	●
ABS/REL-switchable					●
Tolerance display					●
Dynamic measuring functions	MIN, MAX MAX-MIN (TIR)				●
2-point difference					●
Search for reversal point	START/STOP				●
Factor set / adjust					●
Analog display					●
Switch the analog value					●
Key lock function LOC		●	●	●	Optional
Data output:	USB	●	●	●	●
	Digimatic	●	●	●	●
	Opto RS232C	●	●	●	●
Control output:					

Digital Indicators 1075 R



REFERENCE



Features

Functions:

- ON/OFF
- RESET (Set display to zero)
- mm/inch
- Reversal of counting direction
- PRESET (for entering a numerical value)
- DATA (data transmission with a data connection cable)
- LOCK-Function: Individual buttons can be locked
- Auto-OFF (selectable)
- Immediate measurement due to the Reference system
- Max measuring speed 1.5 m/sec (60"/sec)
- MarConnect Data output: choose either USB, OPTO RS232C, Digimatic
- High contrast Liquid Crystal Display with 12 mm high digits
- Operating temperature 10-40°C
- Class of protection IP52 according to IEC 60529

Scope of supply:
Battery,
Operating instructions

Reference System - Just set once to zero

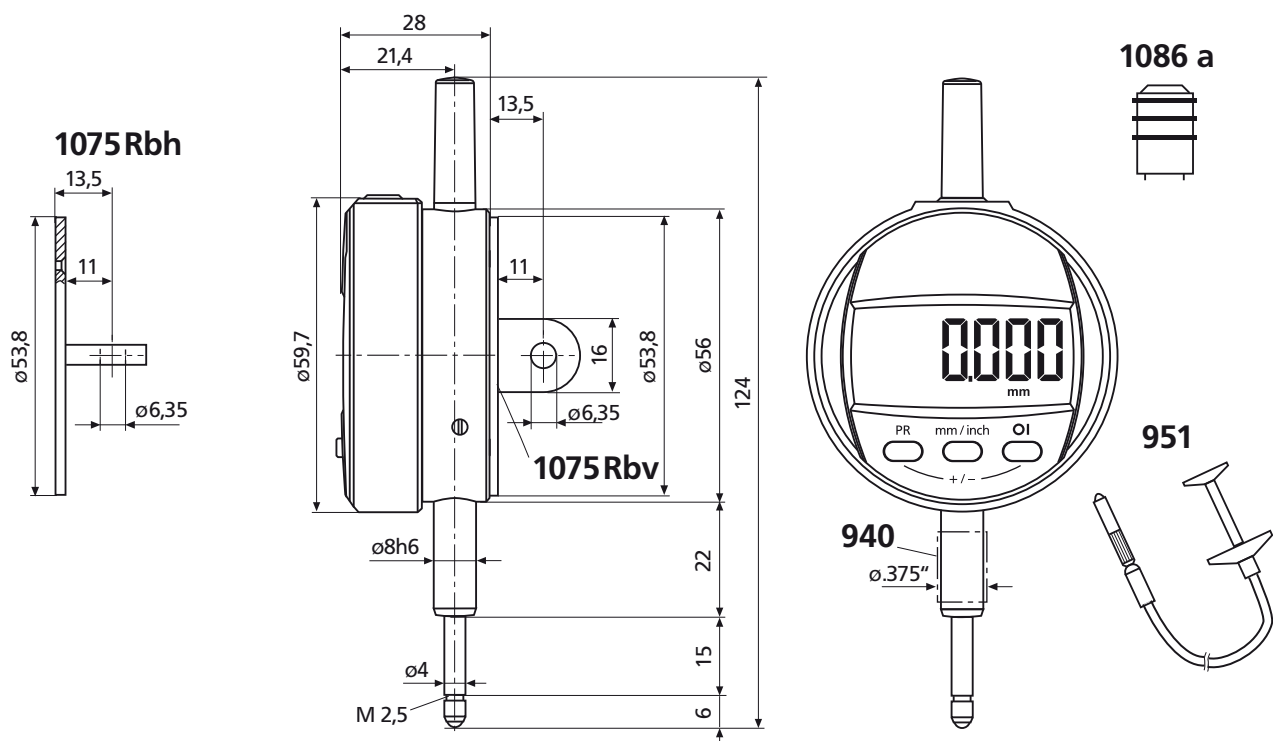
REFERENCE The new Digital Indicators 1075 R are equipped with the innovative Reference-System. The zero position only has to be set one time: once it is set, the zero remains stored for all further measurements. Therefore, when the indicator is switched ON or the measuring spindle is moved the indicator is immediately ready for measurement; thus the need to reset as with a conventional indicator is now obsolete.

Technical Data

Measuring range		Resolution		Span of error G *	Measuring force			Weight	Order no.
mm	(inch)	mm	/ inch	mm	N			g	
12.5	(.5")	0.01	/ .0005"	0.020	0.5	-	1	180	4336010
12.5	(.5")	0.005	/ .0001"	0.015	0.5	-	1	180	4336020
12.5	(.5")	0.001	/ .00005"	0.005	0.5	-	1	180	4336030

* in any zero point

Technical Data

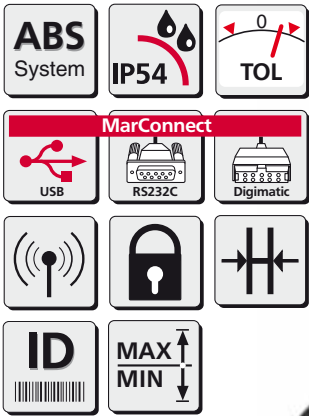


Shown with Mounting Lug, not included.

Accessories

	Order no.	Additional Accessories	Page
Battery 3V , Type CR 2032	4102520	Contact Points 901-913	5-52
Data Connection Cable USB (2 m)	16 EXu 4102357	Special Holder 941	5-53
Data Connection Cable Opto RS232C (2 m), with SUB-D jack 9-pin	16 EXr 4102410	Sensor Lever 943	5-53
Data Connection Cable Digimatic (2 m). Flat plug 10-pin	16 EXd 4102411	Accessories for Data Processing see Chapter 11	
Adapter Bush for adapting mounting shank 8h6 mm to inch bore .375"	940 4310103		
Cable Release to raise the measuring spindle	951 4372000		
Lifter Protection Cap	1086 a 4337320		
Lug Back , horizontal	1075 Rbh 4336041		
Lug Back , vertical	1075 Rbv 4336042		

μMax^μm® II XL Digital Indicators



Features

Functions:

- All the benefits of the μMax^μm II series indicator series, but with long measuring ranges
- Inch/Metric – operator selectable with switchable resolution
- Normal / Reverse Sensing
- Preset capabilities to view actual size
- High resolution digital readout and analog bar graph – digital display shows deviation from zero or actual dimension size (Preset)
- Lightweight, contamination resistant – ruggedly built to withstand hard use – gasketed case, crystal and stem assemblies resist fluid contamination
- MarConnect data output: USB, OPTO RS232C, Digimatic
- Auto-power down – provides extremely low battery consumption, assuring long life from readily available commercial batteries
- Unilateral Tolerances
- Go/NoGo Display Feature (Preset)

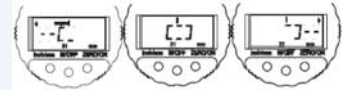
Mode A:

Actual value + bargraph
Display of tolerance



Mode B:

GO/NOGO display



Advanced Functions:

- Dynamic mode operation: Max, Min, TIR
- Two point difference measurement – provides comparison of two readings or measuring locations
- - Calculate the distance between 2 measured values
- Multiplier factor for ratio measurements
- Hold function – holds reading on display until ready to resume measuring
- Data output with serial number identification capability
- Data output with selectable continuous output or single request of reading(s)

Optional Factory Configured Features:

- Locked Multiplier factor for ratio measurements
- Disabled sleep mode (manual ON/OFF)
- Locked inch or mm display unit
- Power up in inch or mm unit on battery change
- Setup mode lockout with password entry

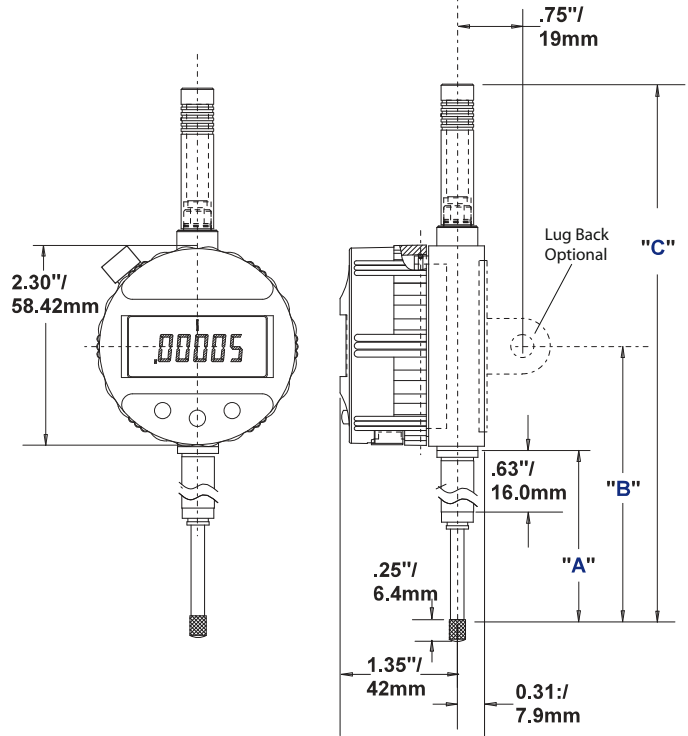
Technical Data

Model	Range	Resolution mm / inch	Accuracy mm / inch	Stem diameter	Stem Length mm / inch	Order no
US Version	0.5"	multiple selections: Low:	0.0005 / 0.0002"	0.375"	16 / 0.63"	2034252
US Version	1.0"			0.375"	16 / 0.63"	2034212
World Version	12.5 mm	0.1 / 0.005"	0.0005 / 0.0002"	8 mm	16 / 0.63"	2034258
World Version	25 mm	High:		8 mm	16 / 0.63"	2034218
World Version*	25 mm	0.0002 / 0.00001"		8 mm	16 / 0.63"	2034410
World Version	50 mm	Low: 0.2 / .01"	0.008 / 0.00032"	8 mm	16 / 0.63"	2034229
World Version	100 mm	High: 0.0002 / 0.00001"	0.009 / 0.00036"	8 mm	16 / 0.63"	2034249

* No Spring Version

Technical Data

Display Range:	12.5 mm .5"	25 mm 1.0"	50 mm 2.0"	100 mm 4.0"
Spindle Range:	12.8 mm .515"	25.9 mm 1.020"	51 mm 2.02	102 mm 4.02"
Gaging Force:	3 to 4 oz		7 to 14 oz	
	0 to 1.0 N at center of travel		2.0 to 3.4 N at center of travel	
Weight:	200 g (7 oz)		283 / 340 g (10 / 12 oz)	
Spindle Velocity:	6"/sec. (1.5m/s) max			
Temperature				
Operating:	5° to 54°C / 40° to 130°F			
Storage:	-17° to 60°C / 0° to 140°F			
Repeatability:	± 1 LSD (Least Significant Digit)			
Battery Life:	7000 hours ~ 12 months normal usage*			
	* normal usage = 12hr/day x 7day/wk			
Power:	3 Volt Lithium coin cell (2 per unit) Type CR2450, Order no. EBY1018			
Display:	Rotates through 270°			
Contact Point:	(PT-223 radiused tip, 4-48 thread, furnished on .375" dia. Stem model)			
	EPT-1037-W1 radiused tip, M2.5 thread furnished on 8mm dia. stem model			



For contact points please refer to pages 5-22, 5-27, 5-52 & 5-53

Range	A		B		C			
	mm	inch	mm	inch	mm	inch		
12.5	12.5	.5"	35.1	1.38"	68.6	2.7"	128.27	5.05"
25	25	1.0"	47.5	1.87"	81.3	3.2"	153.7	6.05"
50	50	2.0"	72.6	2.86"	153	6.0"	275.6	10.85"
100	100	4.0"	123	4.88"	253	9.9"	427	16.80"

Accessories

	Order no.		Order no.
Backs:		Other Hardware:	
Flat Back (Standard on all models)	EBK-1018	Splash Cover	ECV-1307-W2
Lug Back (Horizontal / Vertical) .5" & 1" models	BK-183	Adaptor Bushing (8 mm to 3/8")	BU-197
Lug Back (Horizontal / Vertical) 2" & 4" models	BK-383	Thread Adaptor (M2.5 to 4-48 thread)	AD-185
Post Back (0.5" dia. x 1" long)	BK-2093	Lifting Lever (.05" tp 1.0" models)	SP-351
Screw Back (11/16" dia x 0.5", 1/4-28 thread)	BK-692		
Adj. Slide Back (0.5" slot, 1/4-20 thread)	BK-531	Right hand style	ELR-1092
Adj. Rack Back*	BK-93	Left hand style (offset use only)	ELR-1093
<i>*used on AT-28 or AT-116 - Sold seperately</i>		Ox-bow style (page 6-13)	LR-40
Data Interface:		Adaptor Back	EPL-1914
USB Cable (for MarCom or PC, 2m length)	4346023		
RS232 Cable (10 pin plug, 2m length)	4346020		
Digimatic Cable (10 pin plug, 2m length)	4346021		
Transmitter (Mahr t, used w/ FM1 Receiver)	2121369		

For further mounting accessories refer to page 6-13

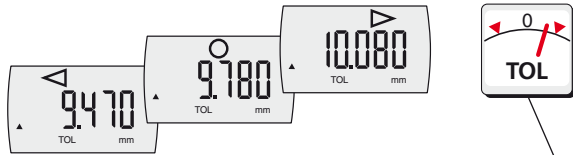
MarCator 1086 R

► | The new Digital Indicator **MarCator** 1086 R. With the large display and the integrated tolerance function, your measurement results are clearly visual. | ◀

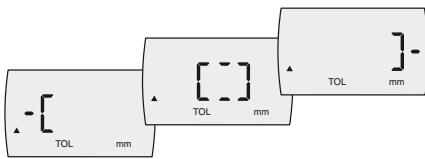
Clear display

Tolerance indication with the displayed value

Displayed is the actual measured value and the tolerance zone position



Tolerance indication without the value in the display. In and Out of tolerance will be indicated in the display as a symbol.



IP Protection class IP54 (optional)

- Protection cap is sealed
- Rubber bellows for the measuring spindle
- Sealed battery compartment

Code Initial	IP	International Protection
First Numeral	5	Dust protected
Second Numeral	4	Protection against splash water in all directions



Error free operation



Lock function: This prevents unintentional activation of an operating button. Either all the operating buttons or only certain individual buttons can be locked. If a locked operating button is pressed the "LOC" symbol will appear in the display.

Universal Data-Interface



• USB

No interface box is required! Simple and inexpensive way to set up a multiple measuring instruments via a USB hub



• Digimatic

To connect a Digimatic compatible evaluation instrument



• Mahr Opto RS232C

For direct connection to a COM port on a PC

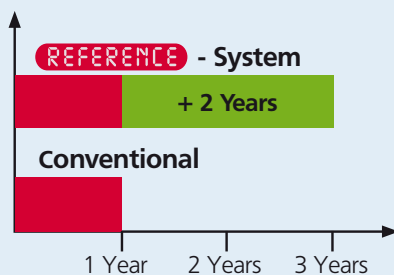


Absolute function:

Digital Indicator can be set in any position to 0.000 without losing the reference to the preset value.

Battery service life is 3 years

The new Reference system is extremely energy efficient as when the caliper is in standby mode; almost no power is required, thus **extending the life of the battery up to 3 years.**



Just set once to zero

REFERENCE

The new Digital Indicators 1086 R are equipped with the innovative Reference-System. The zero position only has to be set one time: once it is set, the zero remains stored for all further measurements. Therefore, when the indicator is switched ON or the measuring spindle is moved the indicator is immediately ready for measurement; thus the need to reset as with a conventional indicator is now obsolete.

Digital Indicators MarCator 1086 R / 1086 ZR, Resolution 0.01 mm / .0005"



REFERENCE



12.5 mm



25 mm



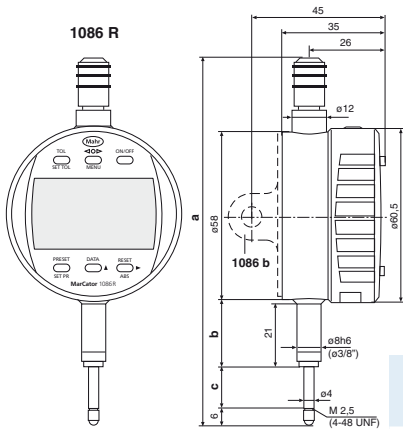
50 mm

Features

Functions:

- ON/OFF
- RESET (Set display to zero)
- mm/inch
- Reversal of the counting direction
- PRESET (Allows the entry of any value using set buttons)
- TOL (Enter tolerance limit values)
- ABS (Display can be set to zero, without losing the reference to the Preset value)
- <0> (Tolerance GO / NO GO display mode)
- DATA (when connected with a data connection cable)
- Factor (adjustable)
- Immediate measurement due to the Reference system
- Individual buttons can be locked - Lock Function
- Operating and display unit (bezel) can be rotated 280°
- High contrast LCD with 11 mm high digits
- Inductive measuring system, battery life ca. 2000 hrs.
- Maximum measuring speed 1.5 m/s (60"/s)
- Lifter protection cap on the measuring spindle
- MarConnect data output: choose either USB, OPTO RS232C, Digimatic
- Operating temperature 10 - 40°C
- Class of protection IP42 in accordance to IEC 60529

Supplied with:
Battery, operating instructions



Dimensions

Measuring range		a	b	c
mm	(inch)	mm	mm	mm
12.5	(.5")	126.3	23	13.5
25	(1")	153.4	26.8	26.5
50	(2")	267.3	40	52
100	(4")	420.3	91	103

Technical Data

Measuring range		Resolution	Span of error*	Repeatability	Measuring force	Weight	Mounting shank	Order no.
mm	(inch)	mm / inch	mm	mm	N	g	dia.	
12.5	(.5")	0.01 / .0005"	0.02	0.01	0.65 - 0.90	130	8h6	4337130
25	(1")	0.01 / .0005"	0.02	0.01	0.65 - 1.15	140	8h6	4337131
50	(2")	0.01 / .0005"	0.02	0.01	1.25 - 2.70	190	8h6	4337132
100	(4")	0.01 / .0005"	0.02	0.01	1.60 - 3.50	235	8h6	4337133
12.5	(.5")	0.01 / .0005"	0.02	0.01	0.65 - 0.90	150	3/8"	4337155
25	(1")	0.01 / .0005"	0.02	0.01	0.65 - 1.15	160	3/8"	4337156

* in any zero point

Digital Indicators MarCator 1086 R / 1086 ZR, Resolution 0.001 mm / .00005"



REFERENCE



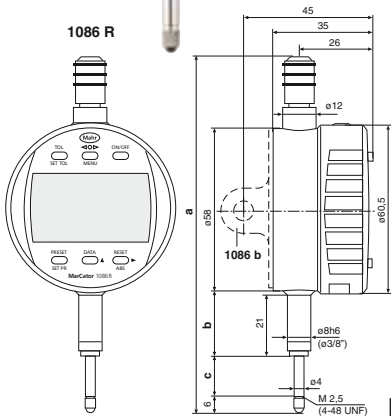
12.5 mm



25 mm



50 mm



Dimensions

Measuring range		a	b	c
mm	(inch)	mm	mm	mm
12.5	(.5")	126.3	23	13.5
25	(1")	153.4	26.8	26.5
50	(2")	267.3	40	52
100	(4")	420.3	91	103

Features

Functions:

- ON/OFF
- RESET (Set display to zero)
- mm/inch
- Reversal of the counting direction
- PRESET (Allows the entry of any value using set buttons)
- TOL (Enter tolerance limit values)
- ABS (Display can be set to zero, without losing the reference to the Preset value)
- <0> (Tolerance GO / NO GO display mode)
- DATA (when connected with a data connection cable)
- Factor (adjustable)
- Immediate measurement due to the Reference system
- Individual buttons can be locked - Lock Function
- Operating and display unit (bezel) can be rotated 280°
- High contrast LCD with 11 mm high digits
- Inductive measuring system, battery life ca. 2000 hrs.
- Maximum measuring speed 1.5 m/s (60"/s)
- Lifter protection cap on the measuring spindle
- MarConnect data output: choose either USB, OPTO RS232C, Digimatic
- Operating temperature 10 - 40°C
- Class of protection IP42 in accordance to IEC 60529

Supplied with:
Battery, operating instructions

Technical Data

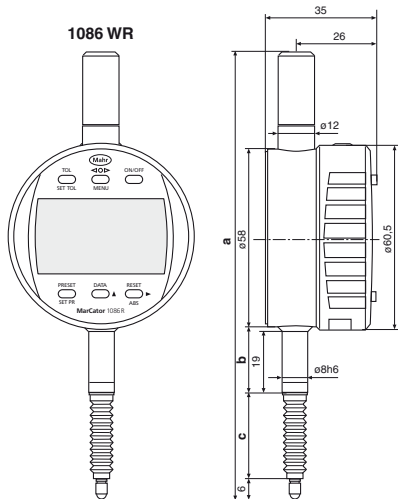
Measuring range		Resolution	Span of error*	Repeatability	Measuring force	Weight	Mounting shank	Order no.
mm	(inch)	mm / inch	mm	mm	N	g	dia.	
12.5	(.5")	0.001 / .00005"	0.005	0.002	0.65 - 0.90	130	8h6	4337120
25	(1")	0.001 / .00005"	0.005	0.002	0.65 - 1.15	140	8h6	4337121
50	(2")	0.001 / .00005"	0.008	0.002	1.25 - 2.70	190	8h6	4337122
100	(4")	0.001 / .00005"	0.009	0.002	1.60 - 3.50	235	8h6	4337123
12.5	(.5")	0.001 / .00005"	0.005	0.002	0.65 - 0.90	150	3/8"	4337150
25	(1")	0.001 / .00005"	0.005	0.002	0.65 - 1.15	160	3/8"	4337151

* in any zero point

Digital Indicators MarCator 1086 WR, Waterproof version



REFERENCE



Dimensions

Measuring range		a	b	c
mm	(inch)	mm	mm	mm
12.5	(.5")	144.3	23	28.6
25	(1")	193.2	26.8	50

Features

Functions:

- ON/OFF
- RESET (Set display to zero)
- mm/inch
- Reversal of the counting direction
- PRESET (Allows the entry of any value using set buttons)
- TOL (Enter tolerance limit values)
- ABS (Display can be set to zero, without losing the reference to the Preset value)
- <0> (Tolerance GO / NO GO display mode)
- DATA (when connected with a data connection cable)
- Factor (adjustable)
- Immediate measurement due to the Reference system
- Individual buttons can be locked - Lock Function
- Operating and display unit (bezel) can be rotated 280°
- High contrast LCD with 11 mm high digits
- Inductive measuring system, battery life ca. 2000 hrs.
- Maximum measuring speed 1.5 m/s (60"/s)
- Sealed protection cap
- Measuring spindle is sealed with a rubber bellows, thus preventing contamination by liquids and impurities
- MarConnect data output: choose either
USB
OPTO RS232C
Digimatic
- Operating temperature 10 - 40°C
- Class of protection IP54 in accordance to IEC 60529

Supplied with:
Battery, operating instructions

Technical Data

Measuring range		Resolution		Span of error*		Repeatability		Measuring force		Weight	Order no.
mm	(inch)	mm	/ inch	mm		mm		N		g	
12.5	(.5")	0.001	/ .00005"	0.005		0.002		0.65 - 1.40		135	4337140
25	(1")	0.001	/ .00005"	0.005		0.002		1.00 - 2.25		145	4337141
12.5	(.5")	0.01	/ .0005"	0.02		0.01		0.65 - 1.40		135	4337145
25	(1")	0.01	/ .0005"	0.02		0.01		1.00 - 2.25		145	4337146

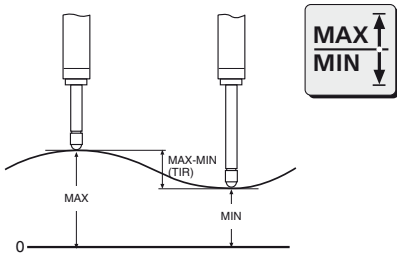
* in any zero point

MarCator 1087 R




► | The new Digital Indicator **MarCator** 1087 R. The multi-functional Digital Indicator with a combined analog and digital display as well as tolerance and dynamic measuring functions. | ◀

Dynamic measuring functions

- **MAX-MIN**-Function ideal for testing flatness and concentricity
- **MAX** and / or **MIN** for searching the reversal point

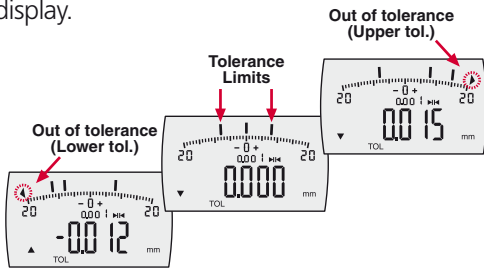



Universal Data-Interface

- 
• USB
 No interface box is required! Simple and inexpensive way to set up a multiple measuring instruments via a USB hub
- 
• Digimatic
 To connect a Digimatic compatible evaluation instrument
- 
• Mahr Opto RS232C
 For direct connection to a COM port on a PC

Clear display Tolerance indication

The integrated bar graph visualizes the tolerance deviation. The out of tolerance; whether above the upper or below the lower tolerance limit is represented by arrows shown in the display.



- 
Absolute function:
 Digital Indicator can be set in any position to 0.000 without losing the reference to the preset value.

Just set once to zero


REFERENCE The new Digital Indicators 1087 R are equipped with the innovative Reference-System. The zero position only has to be set one time: once it is set, the zero remains stored for all further measurements. Therefore, when the indicator is switched ON or the measuring spindle is moved the indicator is immediately ready for measurement; thus the need to reset as with a conventional indicator is now obsolete.

Battery service life is 3 years

The new Reference system is extremely energy efficient as when the caliper is in standby mode; almost no power is required, thus extending the life of the battery up to 3 years.

System	Service Life
REFERENCE - System	1 Year + 2 Years = 3 Years
Conventional	1 Year

Error free operation

 **Lock function:** This prevents unintentional activation of an operating button. Either all the operating buttons or only certain individual buttons can be locked. If a locked operating button is pressed the "LOC" symbol will appear in the display.

Digital Indicators MarCator 1087 R / 1087 ZR, with analog display



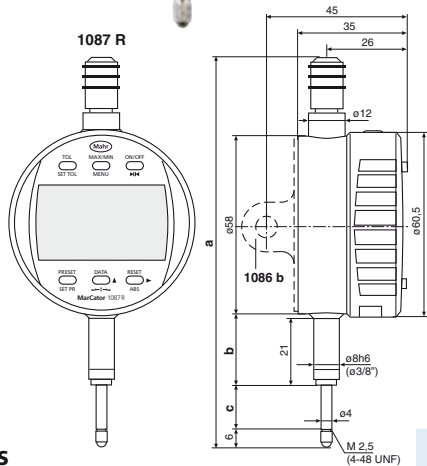
REFERENCE



12.5 mm



25 mm



Dimensions

Measuring range		a	b	c
mm (inch)		mm	mm	mm
12.5 (.5")		126.3	23	13.5
25 (1")		153.4	26.8	26.5

Analog display

Readings	Display range
mm / inch	mm / inch
0.001 / .00005	± 0.02 / ± .001
0.002 / .0001	± 0.04 / ± .002
0.004 / .0005	± 0.08 / ± .01
0.01 / .001	± 0.2 / ± .02

Features

Functions:

- ON/OFF
- RESET (Set display to zero)
- mm/inch
- Reversal of the counting direction
- PRESET (Allows the entry of any value using set buttons)
- TOL (Enter tolerance limit values)
- Tolerance band max, 1.6 mm
- MAX/MIN memory, ideal for searching the reversal point
- TIR (MAX-MIN) ideal for testing concentricity and flatness
- ABS (Display can be set to zero, without losing the reference to the Preset value)
- 0 (Set analog display to zero)
- DATA (when connected with a data connection cable)
- Factor (adjustable)
- Immediate measurement due to the Reference system
- Individual buttons can be locked - Lock Function
- Operating and display unit (bezel) can be rotated 280°
- High contrast LCD with 8.5 mm high digits
- Inductive measuring system, battery life ca. 2000 hrs.
- Maximum measuring speed 1.5 m/s (60"/s)
- MarConnect data output: choose either
USB
OPTO RS232C
Digimatic
- Operating temperature 10 - 40°C
- Class of protection IP42 in accordance to IEC 60529

Supplied with:
Battery, operating instructions

Technical Data

Measuring range	Resolution	Span of error*	Repeatability	Measuring force	Weight	Mounting shank	Order no.
mm (inch)	mm / inch	mm	mm	N	g	dia.	
12.5 (.5")	0.001 / .00005"	0.005	0.002	0.65 - 0.90	140	8h6	4337160
25 (1")	0.001 / .00005"	0.005	0.002	0.65 - 1.15	150	8h6	4337161
12.5 (.5")	0.001 / .00005"	0.005	0.002	0.65 - 0.90	150	3/8"	4337170
25 (1")	0.001 / .00005"	0.005	0.002	0.65 - 1.15	160	3/8"	4337171

* in any zero point

MarCator 1088

► | The new Digital Indicator **MarCator 1088**. Tolerance monitoring is simplified with the changing of the color in the background lit display. | ◀

Dynamic measuring functions

- MAX-MIN memory: ideal for testing flatness and concentricity
- MAX-MIN memory: for searching the reversal point



Tolerance function:
clearly visual tolerance excess due to the change of color in the background lit display.



Universal Data-Interface



- **USB**
No interface box is required!
Simple and inexpensive way to set up a multiple measuring instruments via a USB hub



- **Digimatic**
To connect a Digimatic compatible evaluation instrument



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



Control output can be connected to a SPS



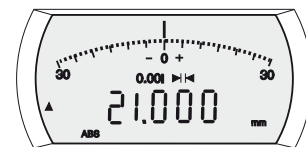
Absolute function:
Digital Indicator can be set in any position to 0.000 without losing the reference to the preset value.

Protection class IP54 according to IEC 60529. Especially suited for use in a manufacturing environment (excludes measuring range 50 mm)



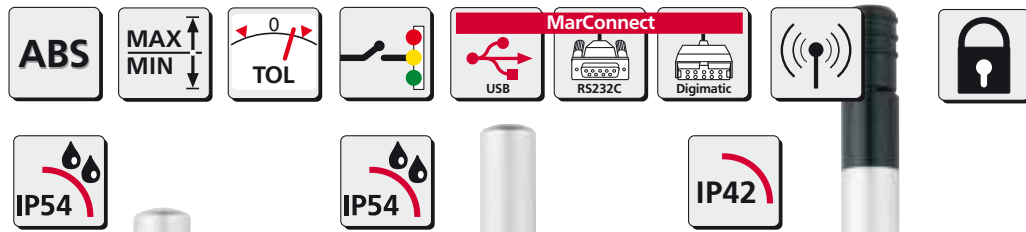
Code Initial	IP	International Protection
First Numeral	5	Dust protected
Second Numeral	4	Protection against splash water in all directions

Analog display



Readings (switchable)		Display range	
mm	inch	mm	inch
0.001	.00005"	± 0.030	± .0015"
0.002	.0001"	± 0.060	± .0030"
0.005	.0005"	± 0.150	± .0150"
0.01	.001"	± 0.30	± .030"

Digital Indicators MarCator 1088 / 1088 W, with analog display



Features

- Functions:**
- ON/OFF
 - RESET (set digital and analog displays to zero)
 - 0 - (set analog display to zero)
 - PRESET (enter any numerical values)
 - DATA (data transmission)
 - mm/inch-switchable
 - Factor (adjustable)
 - Reversal of counting direction (switch value in digital display)
 - MAX-MIN memory, ideal for searching the reversal point
 - MAX-MIN memory, e.g. for testing flatness and concentricity
 - TOL (Enter tolerance limit values)
 - Tolerance band max, 1.6 mm
 - LOCK: operating functions can be blocked via PC-Software
 - Power supply via the main power adapter
 - MarConnect data output: USB, OPTO RS232C, or Digimatic
 - Can be remotely operated via the interface (Opto RS232C)
 - Control output compatible to Dial Comparators with limit contacts
 - Operating and display unit (bezel) can be rotated 280°
 - Class of protection IP54 in accordance to IEC 60529
 - Operating temperature 5 - 40°C
 - High contrast backlit LCD with 6.5 mm high digits
 - Analog display with 4 mm pointer ensures better visual recognition, ideal when checking concentricity or flatness as well as searching for the reversal point when measuring bores
 - Supplied with: Mains adapter, rubber bellows, operating instructions

Technical Data

Measuring range	Resolution	Measuring force	Span of error*	Protection class	Order no.	Order no.
mm	mm / inch	N	mm		230 V	115 V
12.5	0.001 / (.5") / .00005"	0.65 - 1.40	0.005	IP54	4337000	4337010
25	0.001 / (1") / .00005"	1.00 - 2.25	0.005	IP54	4337001	4337011
50	0.001 / (2") / .00005"	1.25 - 2.7	0.008	IP42	4337002	4337012

* in any zero point

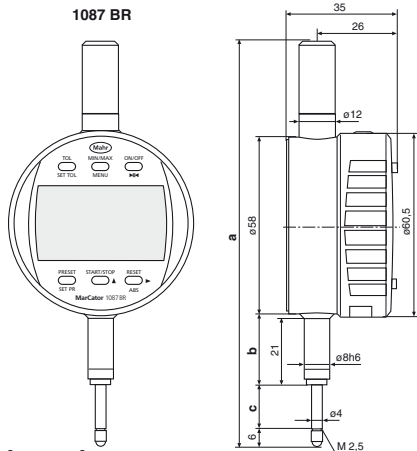
Digital Indicator MarCator 1087 BR for 2 point inside measurement



REFERENCE



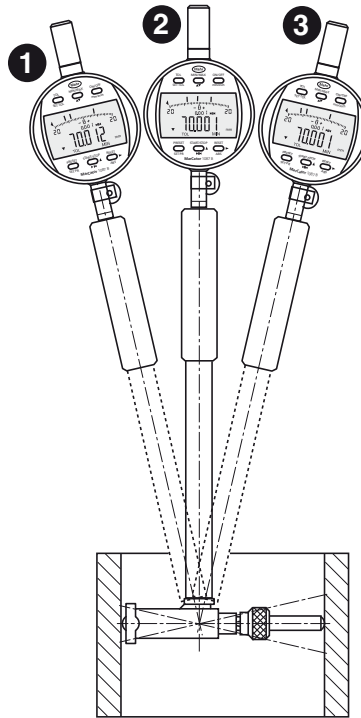
12.5 mm



Dimensions

Measuring range	a	b	c
mm (inch)	mm	mm	mm
12.5 (.5")	131	23	13.5

Example of application



With a 2 point inside measuring instrument the point of reversal is automatically determined through rocking back and forth. The actual value is detected and stored by the MIN function and indicated in the display (3).

Features

Functions:

- ON/OFF
- RESET (Set the display to zero) mm/inch
- Reversal of the counting direction
- PRESET (Allows the entry of any value using set buttons)
- TOL (Enter tolerance limit values)
- Tolerance band max. 1.6 mm
- START/STOP for searching the reversal point
- MAX/MIN memory, ideal for searching the reversal point
- ABS (Display can be set to zero, without losing the reference to the Preset value)
- 0 (Set analog display to zero)
- DATA (when connected with a data connection cable)
- Factor (adjustable)
- Immediate measurement due to the Reference system
- Individual buttons can be locked - Lock Function
- Operating and display unit (bezel) can be rotated 280°
- High contrast LCD with 8.5 mm high digits
- Inductive measuring system, battery life ca. 2000 hrs.
- Maximum measuring speed 1.5 m/s (60"/s)
- Sealed protection cap
- MarConnect data output: choose USB, OPTO RS232C, Digimatic
- Operating temperature 10 - 40°C
- Class of protection IP42 in accordance to IEC 60529
- Supplied with: Battery, operating instructions

Analog display

Readings		Display range	
mm	inch	mm	inch
0.001	.00005"	± 0.02	± .001"
0.002	.0001"	± 0.04	± .002"
0.004	.0005"	± 0.08	± .01"
0.01	.001"	± 0.2	± .02"

Technical Data

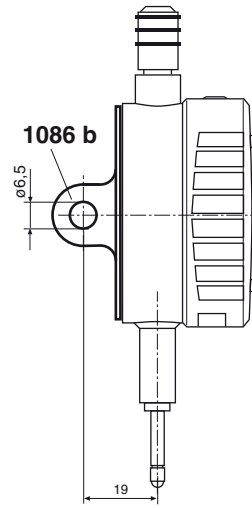
Measuring range	Resolution	Span of error*	Repeatability	Measuring force	Weight	Mounting shank	Order no.
mm (inch)	mm / inch	mm	mm	N	g	dia.	
12.5 (.5")	0.001 / .00005"	0.005	0.002	0.65 - 0.90	140	8h6	4337162

* in any zero point

Accessories for MarCator 1086 R, 1087 R and 1088

Accessories for MarCator 1086 R and 1087 R

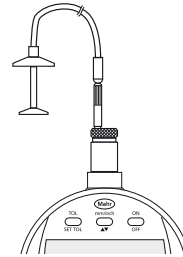
	Order no.
Battery 3V , Type CR 2450	4884464
Data Connection Cable USB (2 m)	16 EXu 4102357
Data Connection Cable Opto RS232C (2 m), with SUB-D jack 9-pin	16 EXr 4102410
Data Connection Cable Digimatic (2 m). Flat plug 10-pin	16 EXd 4102411
Mounting Lug	1086 b 4337421
Rubber bellows for 1086 W - 12.5 mm	4337472
Rubber bellows for 1086 W - 25 mm	4337474



Accessories for MarCator 1088

	Order no.
Data Connection Cable USB (2 m)	2000 usb 4346023
Data Connection Cable Opto RS232C (2 m), with SUB-D jack 9-pin	2000 r 4346020
Data Connection Cable Digimatic (2 m). Flat plug 10-pin	2000 d 4346021
Cable to connect control output to an SPS	2000 sps 4346031
Mounting Lug	1085 b 4336310
Rubber bellows for 1088 W - 12.5 mm	4337472
Rubber bellows for 1088 W - 25 mm	4337474
Control Instrument for remote control operation	2000 sg 4346035

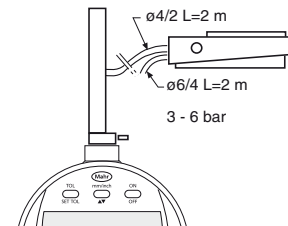
1085 a



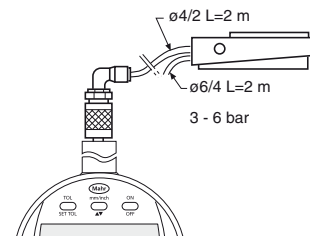
Accessories for MarCator 1086 R, 1087 R and 1088

	Order no.
Cable Release for measuring ranges 12.5 and 25 mm	1085 a 4336311
Pneumatic Lifter for measuring ranges 12.5 and 25 mm	1082 p 4336237
Pneumatic Lifter for measuring ranges 50 and 100 mm	1082 p 4336230
Additional Accessories	Page
Contact Points	901-913 5-52
Special Holder	941 5-53
Sensor Lever	943 5-53

1082 p (12.5/25)



1082 p (50/100)



Accessories for Data Processing see Chapter 11

Contact Points and Accessories for Dial Indicators, Dial Comparators and Probes

Standard Contact Points 901

Ball dia. 3 mm

Catalog no.		Order no.
901	with steel ball	4360001
901 H	with carbide ball	4360002
901 R	with ruby ball	4360003

Spherical Contact Points 902 Flat Contact Points 903

902	902 H	903	903 H
Steel	Carbide contact face	Steel	Carbide tipped
Length mm	Order no.	Order no.	Order no.
4	4360007	-	4360070
6	4360009	-	4360071
8	4360010	4360040	4360072
10	4360011	4360041	4360073
12	4360012	4360042	4360074
15	4360013	4360043	4360075
20	4360014	4360044	4360076
25	4360015	4360045	4360077
30	4360016	4360046	4360300
35	4360017	4360047	4360078
40	4360019	4360049	4360310
45	4360026	4360050	4360303
50	4360018	4360048	4360079
55	4360031		
65	4360035		
75	4360020		
85	4360036		
95	4360029		

Ball Contact Point 906 H

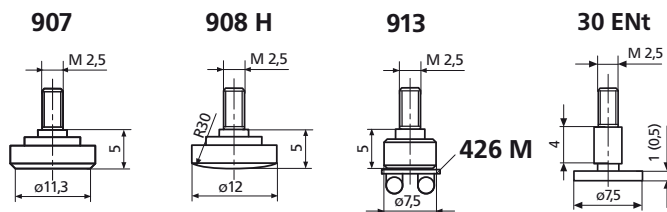
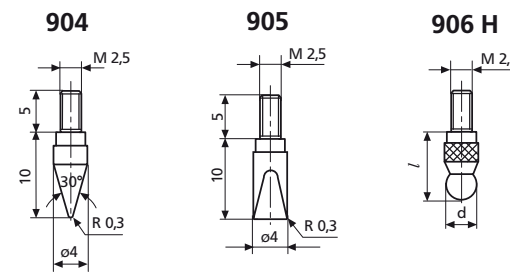
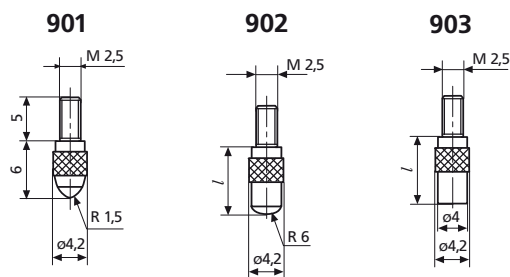
with carbide ball, accuracy ball dia. 0/-6µm

Ball dia. d mm	l mm	Order no.	Ball dia. d mm	l mm	Order no.
1	8.5	4360150	5.5	9	4360161
1.25	8.5	4360151	6	9	4360162
1.5	8.5	4360152	6.35 (1/4")	9	4360163
1.75	8.5	4360153	6.5	10	4360164
2	8.5	4360154	7	10	4360165
2.5	8.5	4360155	7.5	11	4360166
3	8.5	4360156	8	11	4360167
3.5	8.5	4360157	8.5	12	4360168
4	8.5	4360158	9	12	4360169
4.5	8.5	4360159	10	13	4360170
5	9	4360160			

Contact Rollers 909

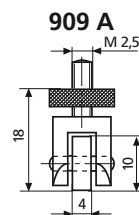
Concentricity error 3 µm

	Order no.
Cylindrical Roller	909 A 4360220
Radiused Roller, R = 5 mm	909 B 4360221



Special Contact Points

	Order no.
Conical Contact Points, Steel	904 4360130
Carbide tipped	904 H 4360131
Wedge Shaped Contact Points, Steel	905 4360140
Carbide tipped	905 H 4360141
Flat Contact Points, Steel, A = 1 cm²	907 4360200
Carbide tipped, dia. 7 mm	907 H 4360201
Spherical Contact Points, Steel	908 4360210
Carbide tipped	908 H 4360211
Flat Contact Point, for mounting	
Pin Gage Holder 426 M for measuring threads using three-wire method	913 4360400
Disc Type anvil thickness 0.5 mm, hardened	30 ENT 4126310
Disc Type anvil thickness 1 mm, hardened	30 ENT 4882022



Contact Points and Accessories for Dial Indicators, Dial Comparators and Probes

Measuring Attachment 910 H

	Order no.
with parallel adjustable carbide blades	910 H 4360230

Pin Contact Point 911

dia. 1.5 mm, flat

Length l mm	Order no.	Length l mm	Order no.
15	4360280	35	4360284
20	4360281	40	4360285
25	4360282	50	4360286
30	4360283		

Pin Contact Point 911 H

	Order no.
Carbide tipped, dia 1 mm, flat	911 H1 4360240
Carbide tipped, dia 1.5 mm, flat	911 H2 4360241

Measuring Spindle Extensions 912

Length l mm	Order no.	Length l mm	Order no.
10	4360250	35	4360254
15	4360251	50	4360255
20	4360252	75	4360256
25	4360253	100	4360257

Special Holder 941

For all types of measuring equipment
 For placing a dial indicator at a certain distance or angle
 Travel of the measuring spindle 3 mm
 Contact Point 901 (interchangeable)

Straight Holder 941 G

Mounting shank length l_1 mm	Order no.
25	4365000
50	4365001
75	4365002

Angular Holder 941 W

Order no.	l_2 mm	Order no.	l_2 mm	Order no.	l_2 mm
Angle $\alpha=45^\circ$	53.7	Angle $\alpha=60^\circ$	49.3	Angle $\alpha=90^\circ$	34.5
4365010		4365020		4365030	
4365011		4365021		4365031	
4365012		4365022		4365032	

Transmission error with the 941 W
 max. 1%;
 for travel 3 mm = 0.03 mm

Sensor Level 943

	Order no.
For testing concentricity in bore holes as well as difficult to reach outside diameters To be inserted in a measuring stand with a lifting device Contact Point 901 interchangeable Travel ± 1 mm	4367000

