Mahr | Production Metrology

Product Catalog
2020

Production Metrology Product Catalog 2020

Solutions for your measurement challenges

Innovative solutions for every measuring task – that's what Mahr offers you.
All products combine proven precision and high efficiency to make your work as productive as possible.

Mahr | Product Catalog

Your global partner for **efficient quality assurance**

It’s in our DNA

Mahr stands for maximum precision, modern technologies and a worldwide presence. As a manufacturer of innovative production metrology, we have been supporting our customers for more than 150 years, both in the measuring room and in production. This experience has made us experts in quality assurance for the automotive industry, mechanical engineering, aerospace, optics, and many other sectors. From manual calipers through to fully automated measuring stations: all of our products are built on the passion and expertise of our 2,000 plus employees worldwide.

Boosting productivity

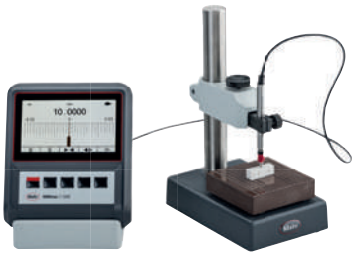
As your global partner for quality assurance, we offer you products and solutions that combine proven precision with high efficiency. Short measuring times and high usability speed up your workflows. By strategically combining different measuring methods, we solve several tasks with only one system – and in one clamping. Innovative software tools and a wide variety of interfaces ensure that Mahr metrology meets the requirements of modern production. The productivity of your quality assurance is our goal.

Mahr

4 MarCal
Calipers

50 Digimar
Height Measuring Instruments

68 Micromar
Micrometers



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Electrical and Pneumatic
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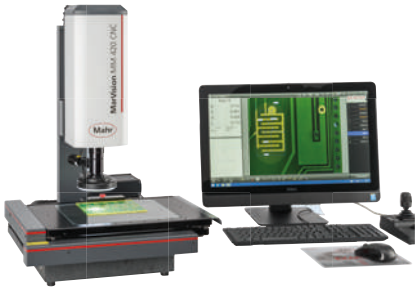


588 MarVision
Optical Measuring Instruments

614

MarSolution
Customized Metrology

Measurement solutions as individual as your measurement task - tailored to your requirements for operability, reliability and speed.

624

Mahr Services

A worldwide network of subsidiaries and agencies makes Mahr strong in the field of service. We offer product-supporting services and more.

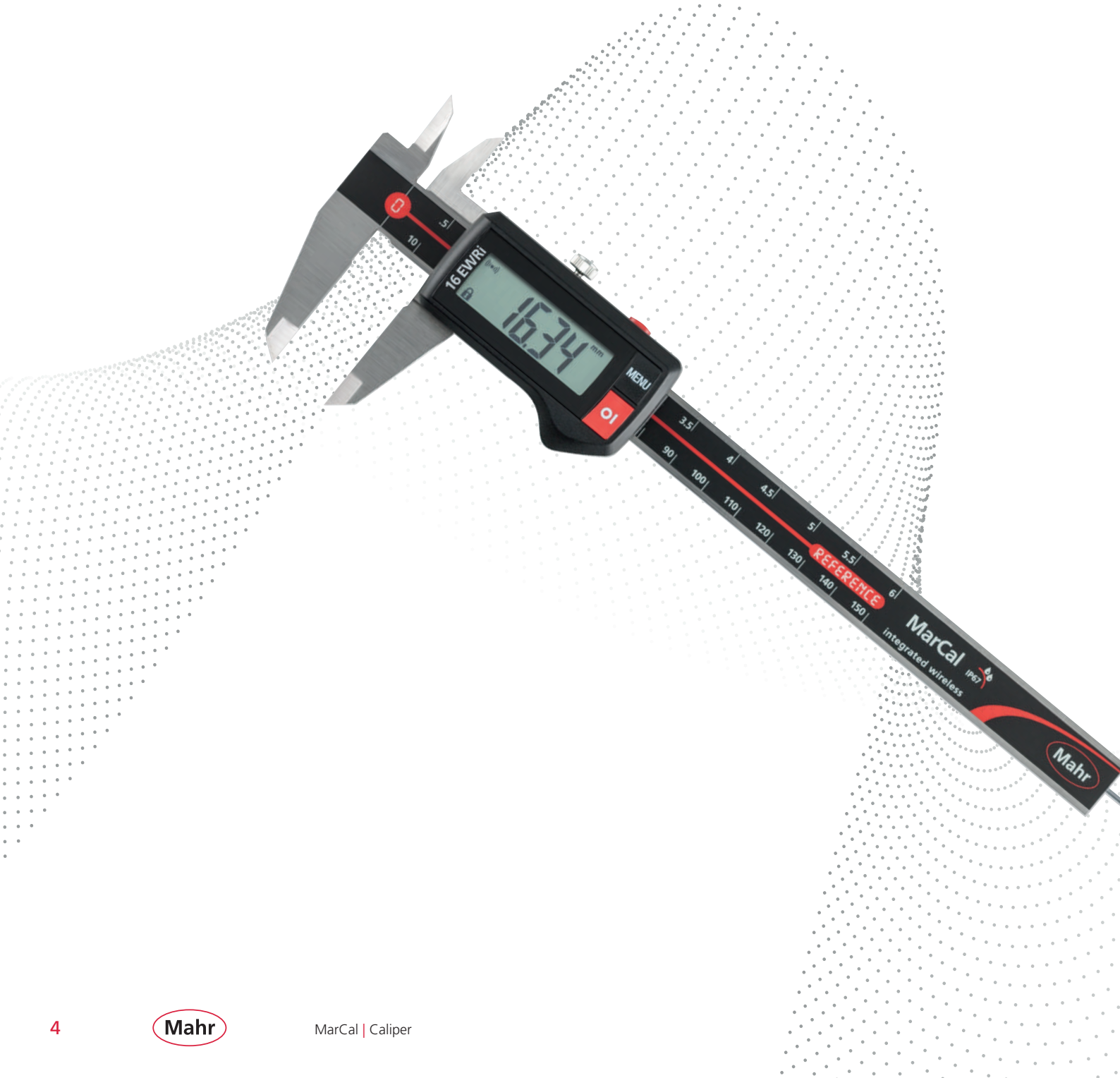
635

New Products

In this supplementary catalog section you will be able to find our newest product releases.

MarCal | Caliper

Calipers are some of the most important measuring instruments in production metrology due to their versatility and ease-of-use. Digital devices are simple to operate and easy to read. In addition, they enable fast and uncomplicated data acquisition.



Overview MarCal Caliper 6

Calipers

MarCal 16 EWRi / 16 EWR 10
Waterproof Caliper with Digital Display

MarCal 16 ER 13
With Digital Display

MarCal 16 U 15
With Dial Face

MarCal 16 FN / 16 GN / 16 N / 16 DN 16
With Line Scale (Vernier)

Universal Calipers

MarCal 16 EWRi-V / 16 EWR-V / 18 EWR-V 18

Workshop Calipers

MarCal 18 EWR / 18 ESA 37
With Digital Display

MarCal 18 NA / 18 N / 18 DN 39
With Line Scale (Vernier)

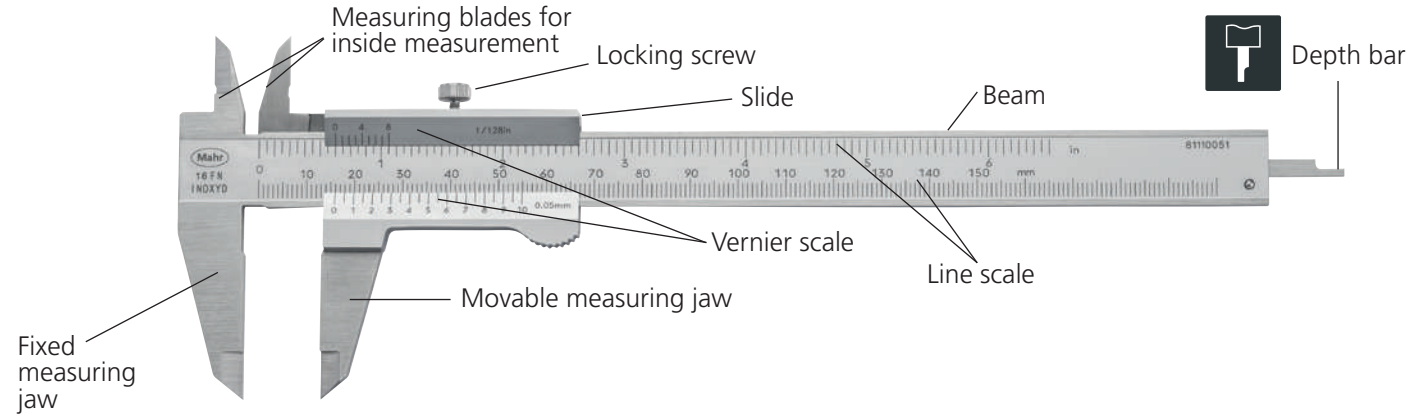
Digital Depth Gage

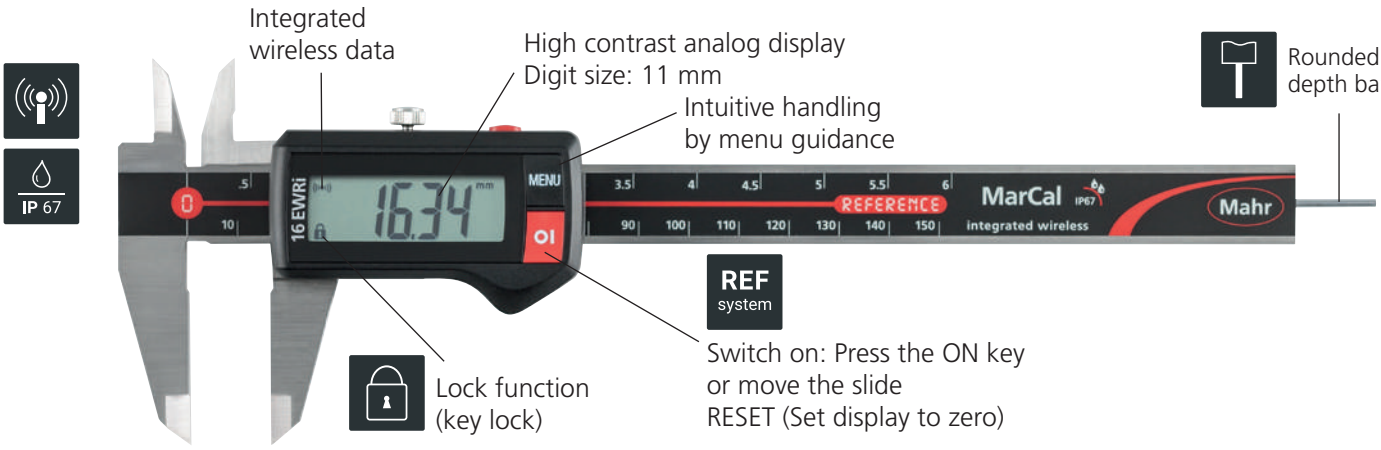
MarCal 30 EWRi / 30 EWR 42
Waterproof Caliper with Digital Display

MarCal 30 N 44
With Line Scale (Vernier)

MarCal 30 EWRi-D / 30 EWR-D / 30 EWRi-N / 30 EWR-N / 30 EWRi-U / 30 EWR-U 45
Special Depth Gage with Digital Display

MarCal | Terms

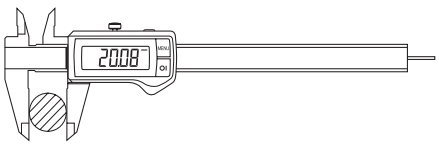




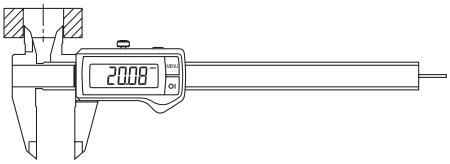
MarCal | Types of measurement

16 series calipers (e.g. 16 EWRi, 16 U, 16 FN) can be used to conduct 4 different types of measurements:

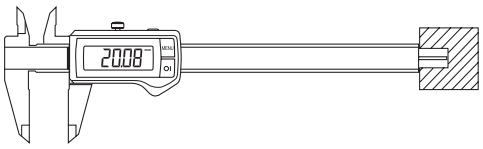
a) Outside measurement



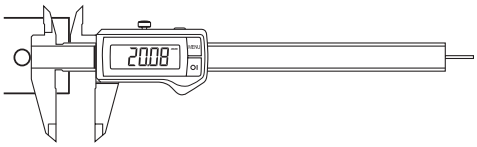
b) Inside measurement



c) Depth measurement



d) Step (Distance) measurement



Error limits G according to DIN 862

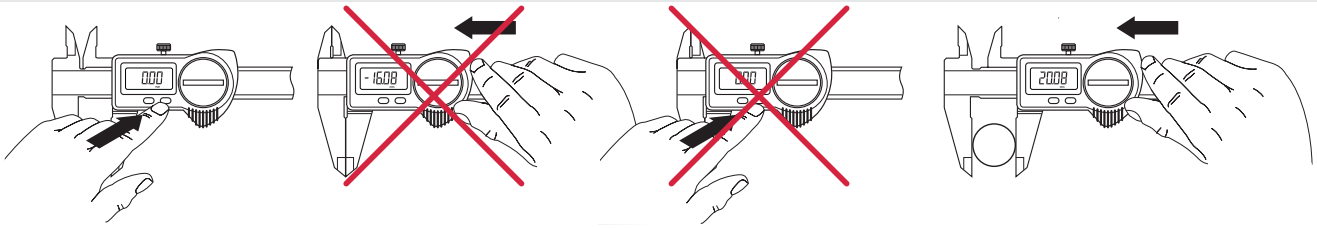
Measuring length	Error limits G in µm		
	Scale interval and/or vernier interval		Resolution
mm	0.1 and 0.05	0.02	0.01
50	50	20	20
100			
200		30	30
300			
400	60		
500	70		
600	80		
700	90	40	40
800	100		
900	110		
1000	120		
1200	140	50	—
1400	160	60	
1600	180		
1800	200		
2000	220		

MarCal - The innovative Reference System

All Mahr digital calipers with this REF system logo are equipped with the innovative Reference System. The zero position only has to be set once: after setting the zero position, the zero remains stored for all further measurements. Therefore, once the caliper is switched ON or the slide is moved the caliper is immediately ready for measurement. Once the caliper is initially set to zero, there is no need to reset to zero each time the caliper is turned on.

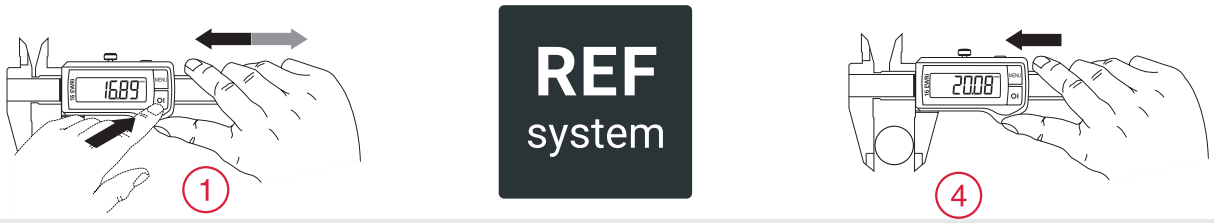
Conventional

① Switch ON ② Close the measuring jaws ③ Set to zero ④ Results of measurement



REF system

① Switch ON ② Results of measurement



Press the ON key or move the slide

IP Protection classes

First digit is the degree of protection according to IEC 60529 – against particles, contaminants and dusta

0	Not protected
1	Particles > 50.0 mm
2	Particles > 12.5 mm
3	Particles > 2.5 mm
4	Particles > 1.0 mm
5	Dust protected
6	Dust tight

Second digit is the degree of protection according to IEC 60529 (approximate) – against wet conditions (fluids)

0	Not protected
1	Falling water drops - vertical
2	Falling water drops - tilted < 15°
3	Spray water < 60°
4	Water splashing from all directions
5	Water jets from all directions
6	Powerful water jets
7	Temporary immersion in water
8	Continuous immersion in water

IP 67

Example
IP67 means that the product is dust tight and is protected against temporary immersion in water.

MarCal | The new Generation

Waterproof Digital Calipers with the Reference System and Integrated Wireless

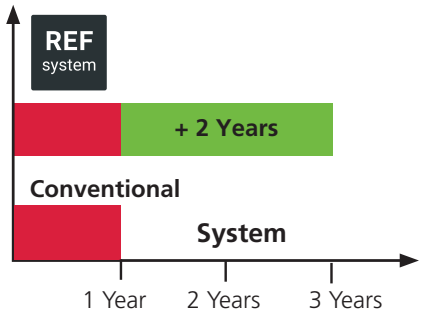
Security due to the Reference Lock function

- Zero-position is secured
- Operating error is not possible

The digital caliper MarCal 16 EWRi Reference is equipped with a LOCK function. With this key lock, the zero position is secured and operating error is avoided.

Battery service life is 3 years

The new Reference System is extremely energy efficient because of its standby mode feature; almost no power is required, thus extending the life of the battery up to 3 years*.



** When Integrated Wireless is deactivated*

Superior quality of the guideways

Only MarCal calipers have lapped guideway surfaces, that guarantee an even and sensitive run of the slide. Additionally, the service life of the caliper increases, compared to a ground guideway due to the greater contact area on the guideway surface.

Surface of the guideway

Mahr
Lapped guideway

Competitor A
Ground guideway

Competitor B
Ground guideway

MarConnect Integrated Wireless

Wireless data transmission for the price of a data cable.
Mahr's Integrated Wireless, users have a new Integrated Wireless data transmission system for the price of a data cable. Data acquisition with digital calipers is now even simpler: simply transmit your measured data directly into Microsoft Office Excel® or any Windows program with a keyboard code.

Secure data transmission

With Integrated Wireless, your data will be transferred to the digital indicator, which is confirmed with a message in the digital indicator's display The message will show whether the sent data has been transferred correctly, and/or whether you are in the reception range of the i-Stick.

Ergonomic design

The handy non-slip thumb support of the MarCal 16 EWRi ensures, even in contaminated working conditions, trouble-free handling and therefore reliable measuring results.

The high-contrast display with 11 mm sized digits enables accurate, fatigue-free reading of the measurement results.

Excellent resistance against dust, coolant and lubricants

IP 67

Due to the outstanding protection against dust and water, the digital caliper MarCal 16 EWRi Reference delivers precise and secure results, even in the most difficult workshop conditions. The finished plastic components have an outstanding chemical resistance.

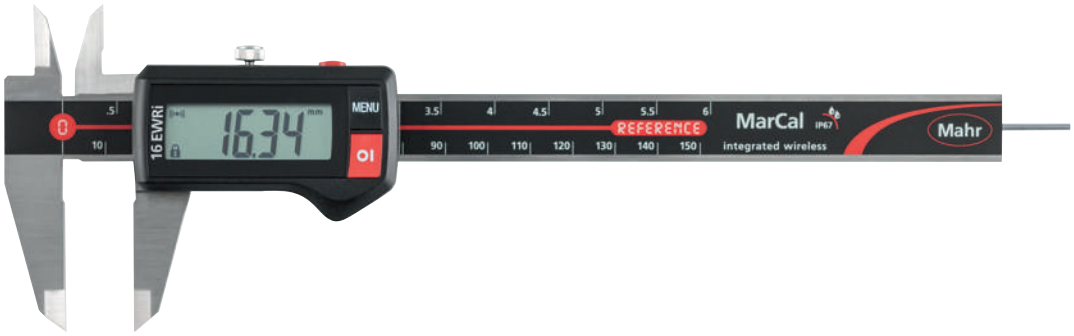
Code Initials	IP	International Protection
First digit	6	Dust-tight
Second digit	7	Protected against temporary immersion in water

MarCal 16 EWRi

Digital Caliper

FUNCTIONS

- ON/OFF
- AUTO-ON / OFF
- HOLD
  (storage of measured values)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- Reversal of counting direction
- mm/inch
- LOCK function (key lock)
- DATA (data transmission)



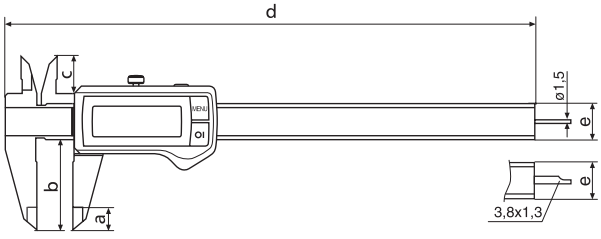
FEATURES

- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated
- in the slide
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

TECHNICAL DATA

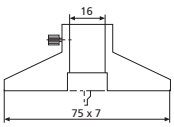
Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod	Friction wheel
		mm	inch	mm/inch	mm	inch			
4103400	16 EWRi	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	
4103401	16 EWRi	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	•
4103402	16 EWRi	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103403	16 EWRi	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103404	16 EWRi	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103405	16 EWRi	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103406	16 EWRi	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		
4103407	16 EWRi	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		•

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103400	10	40	16	235	16
4103401	10	40	16s	235	16
4103402	10	40	16	235	16
4103403	10	40	16	235	16
4103404	10	50	19	285	16
4103405	10	50	19	285	16
4103406	14	64	19	388	16
4103407	14	64	19	388	16



ACCESSORIES

Order no.	Product name	Type
4102020	Depth bridge (75 x 7 mm)	16 Em
4102220	Receiver for instruments with integrated wireless	i-Stick
4102520	Battery 3 V, CR 2032	



16 Em

i-Stick

MarCal 16 EWR

Digital Caliper

FUNCTIONS

- ON/OFF
- AUTO-ON / OFF
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- Reversal of counting direction
- mm/inch
- LOCK function (key lock)

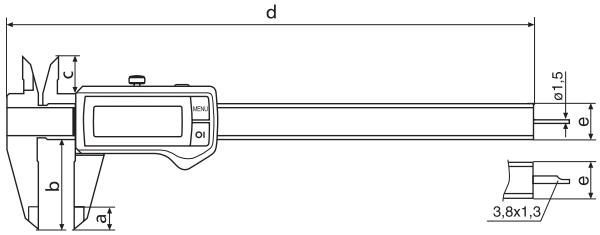
FEATURES

- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide
- **Digit height:** 11 mm
- **Data interface:** none
- **Energy supply:** Battery life approx. 3 years
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

TECHNICAL DATA

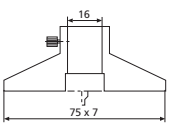
Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod	Friction wheel
		mm	inch	mm/inch	mm	inch			
4103300	16 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	
4103301	16 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	•
4103302	16 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103303	16 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103304	16 EWR	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103305	16 EWR	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103306	16 EWR	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		
4103307	16 EWR	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		•

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103300	10	40	16	235	16
4103301	10	40	16	235	16
4103302	10	40	16	235	16
4103303	10	40	16	235	16
4103304	10	50	19	285	16
4103305	10	50	19	285	16
4103306	14	64	19	388	16
4103307	14	64	19	388	16



ACCESSORIES

Order no.	Product name	Type
4102020	Depth bridge (75 x 7 mm)	16 Em
4102520	Battery 3 V, CR 2032	



16 Em

MarCal 16 EWR

Digital Caliper

RS232C | Digimatic | IP 67 | REF system

FUNCTIONS

- ON/OFF
- AUTO-ON / OFF
- RESET (set display to zero)
- mm/inch
- LOCK function (key lock)
- DATA (data transmission via connection cable)

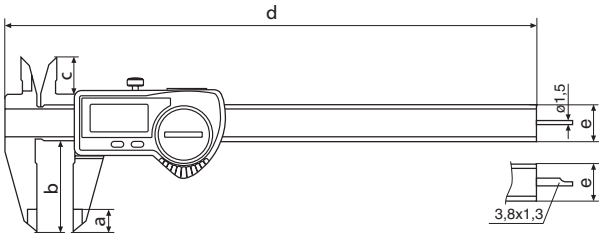
FEATURES

- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

TECHNICAL DATA

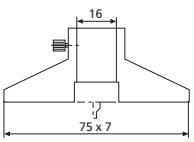
Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod	Friction wheel
		mm	inch	mm/inch	mm	inch			
4103064	16 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	
4103065	16 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	•
4103066	16 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103067	16 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103068	16 EWR	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103069	16 EWR	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103070	16 EWR	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		
4103071	16 EWR	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		•

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103064	10	40	16	235	16
4103065	10	40	16	235	16
4103066	10	40	16	235	16
4103067	10	40	16	235	16
4103068	10	50	19	285	16
4103069	10	50	19	285	16
4103070	14	64	19	388	16
4103071	14	64	19	388	16



ACCESSORIES

Order no.	Product name	Type
4102020	Depth bridge (75 x 7 mm)	16 Em
4102357	16 EXu data connection cable USB (2 m)	16 EXu
4102410	Data connection cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd



16 Em

MarCal 16 ER

Digital Caliper

FUNCTIONS

- ON/OFF
- AUTO-ON / OFF
- RESET (set display to zero)
- mm/inch
- LOCK function (key lock)

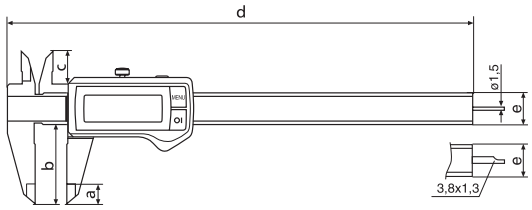
FEATURES

- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Dirt wipers are integrated in the slide
- **Digit height:** 11 mm
- **Data interface:** none
- **Energy supply:** Battery life approx. 3 years
- **IP protection category:** None
- **Package contains:** instruction manual, battery, case

TECHNICAL DATA

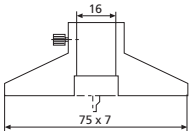
Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod	Friction wheel
		mm	inch	mm/inch	mm	inch			
4103010	16 ER	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	
4103011	16 ER	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	•
4103012	16 ER	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103013	16 ER	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103205	16 ER	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103206	16 ER	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103207	16 ER	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		
4103208	16 ER	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		•

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103010	10	40	16	235	16
4103011	10	40	16	235	16
4103012	10	40	16	235	16
4103013	10	40	16	235	16
4103205	10	50	19	285	16
4103206	10	50	19	285	16
4103207	14	64	19	388	16
4103208	14	64	19	388	16



ACCESSORIES

Order no.	Product name	Type
4102020	Depth bridge (75 x 7 mm)	16 Em
4102520	Battery 3 V, CR 2032	



16 Em

MarCal 16 ER

Digital Caliper

FUNCTIONS

- ON/OFF
- AUTO-ON / OFF
- RESET (set display to zero)
- mm/inch
- LOCK function (key lock)
- DATA (data transmission via connection cable)

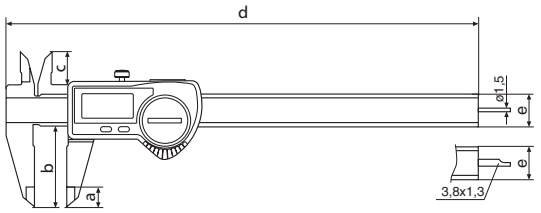
FEATURES

- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Dirt wipers are integrated in the slide
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years
- **IP protection category:** None
- **Package contains:** instruction manual, battery, case

TECHNICAL DATA

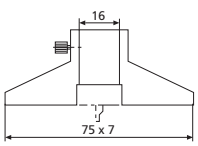
Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod	Friction wheel
		mm	inch	mm/inch	mm	inch			
4103014	16 ER	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	
4103015	16 ER	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round	•
4103016	16 ER	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103017	16 ER	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103018	16 ER	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	
4103019	16 ER	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•
4103020	16 ER	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		
4103021	16 ER	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard		•

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103014	10	40	16	235	16
4103015	10	40	16	235	16
4103016	10	40	16	235	16
4103017	10	40	16	235	16
4103018	10	50	19	285	16
4103019	10	50	19	285	16
4103020	14	64	19	388	16
4103021	14	64	19	388	16



ACCESSORIES

Order no.	Product name	Type
4102020	Depth bridge (75 x 7 mm)	16 Em
4102357	16 EXu data connection cable USB (2 m)	16 EXu
4102410	Data connection cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd



16 Em

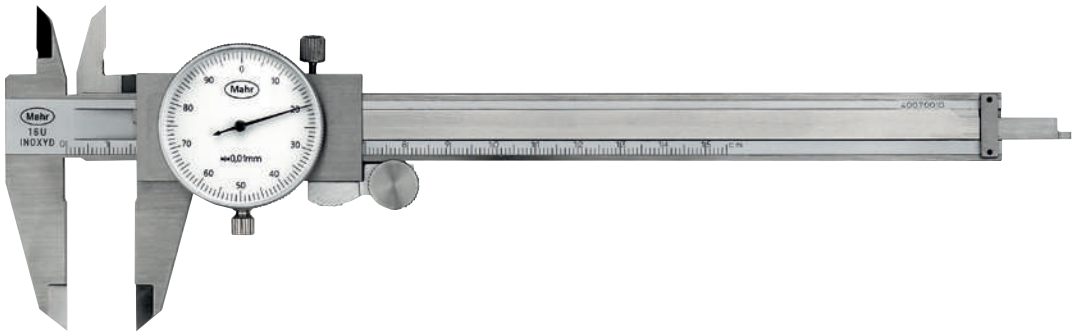
MarCal 16 U

Dial Caliper

SHOCK PROOF | DIN 862

FEATURES

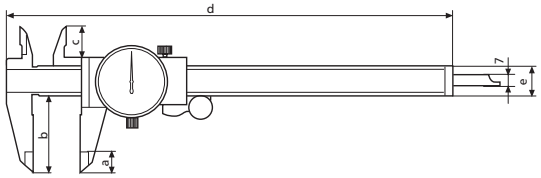
- Large, high contrast dial face
- Shockproof movement
- Zero setting through rotating the dial face and locking screw
- Satin chrome finished line scale
- Locking screw above
- Measuring surfaces made of steel
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Raised guideway for the protection of the scale
- **Package contains:** case



TECHNICAL DATA

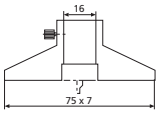
Order no.		4107005	4107107	4107900
Type			16 U	
Measuring range	mm		0 –150	
Measuring range inch	inch			0 –6″
Readings	mm	0.01	0.02	
Scale graduation value	inch			.0001″
Range per rev. in inches (text)	inch			.100″
Range per rev.	mm	1	2	
Error limit	mm		0.03	
Error limit inches (text)	inch			.0012″
Standard			DIN 862	Factory standard
Dial color			White	Black
Depth rod			rectangular	
Friction wheel			•	

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4107005	10	40	16.5	234	16
4107107	10	40	16.5	234	16
4107900	10	40	16.5	234	16



ACCESSORIES

Order no.	Product name	Type
4102020	Depth bridge (75 x 7 mm)	16 Em
4100302	Synthetic leather pouch, black for pocket slide caliper 150 mm	



16 Em

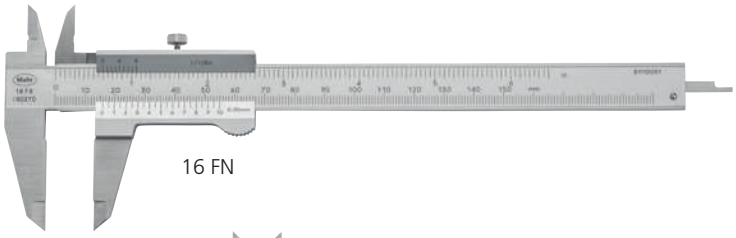
MarCal 16 FN / 16 GN

Caliper with Analog Display

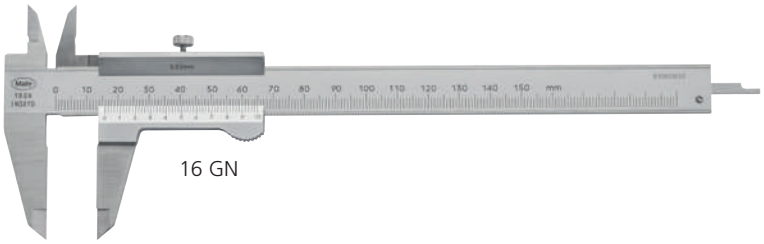
DIN 862

FEATURES

- Vernier and scale have a satin chrome finish for glare free reading
- Locking screw above
- Measuring surfaces made of steel
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Raised guideway for the protection of the scale
- **Package contains:** thread table, case



16 FN

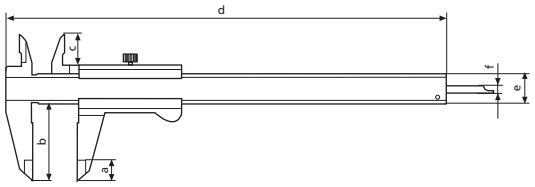


16 GN

TECHNICAL DATA

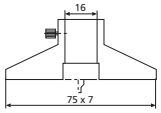
Order no.	Type	Measuring range	Measuring range inch	Vernier value	Vernier value	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm	inch	mm	inch		
4100400	16 FN	0 –150	0 –6″	0.05	1/128″	0.05	.002″	DIN 862	rectangular
4100401	16 FN	0 –200	0 –8″	0.05	1/128″	0.05	.002″	DIN 862	rectangular
4100402	16 FN	0 –300	0 –12″	0.05	1/128″	0.05	.002″	DIN 862	rectangular
4100420	16 FN	0 –150		0.05		0.05		DIN 862	rectangular
4100421	16 FN	0 –200		0.05		0.05		DIN 862	rectangular
4100422	16 FN	0 –300		0.05		0.05		DIN 862	rectangular
4100650	16 GN	0 –150		0.02		0.05		Factory standard	rectangular
4100651	16 GN	0 –200		0.02		0.05		Factory standard	rectangular
4100652	16 GN	0 –300		0.02		0.05		Factory standard	rectangular

Order no.	a	b	c	d	e	f
	mm	mm	mm	mm	mm	mm
4100400	10	40	16	228	16	3.8
4100401	14	50	19	290	17	3.8
4100402	16	64	23	404	20	4.8
4100420	10	40	16	228	16	3.8
4100421	14	50	19	290	17	3.8
4100422	16	64	23	404	20	4.8
4100650	10	40	16	228	16	3.8
4100651	14	50	19	290	17	3.8
4100652	16	64	23	404	20	4.8



ACCESSORIES

Order no.	Product name	Type
4100302	Synthetic leather pouch, black for pocket slide caliper 150 mm	
4102020	Depth bridge (75 x 7 mm)	16 Em



16 Em

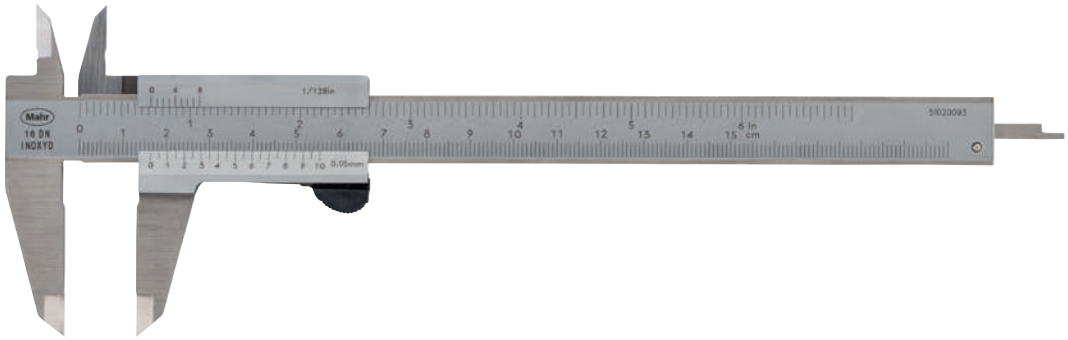
MarCal 16 DN

Caliper with Analog Display

DIN 862

FEATURES

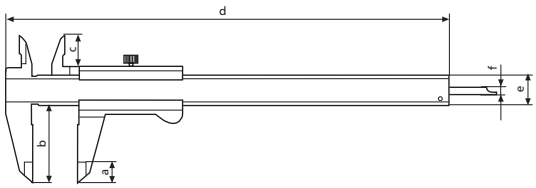
- Vernier and scale have a satin chrome finish for glare free reading
- Thumb clamp
- Measuring surfaces made of steel
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Raised guideway for the protection of the scale
- **Package contains:** thread table, case



TECHNICAL DATA

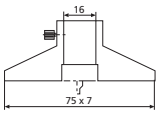
Order no.	Type	Measuring range	Measuring range inch	Vernier value	Vernier value	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm	inch	mm	inch		
4100600	16 DN	0 –150	0 –6″	0.05	1/128″	0.05	.002″	DIN 862	rectangular

Order no.	a	b	c	d	e	f
	mm	mm	mm	mm	mm	mm
4100600	10	40	16	228	16	3.8



ACCESSORIES

Order no.	Product name	Type
4100302	Synthetic leather pouch, black for pocket slide caliper 150 mm	
4102020	Depth bridge (75 x 7 mm)	16 Em



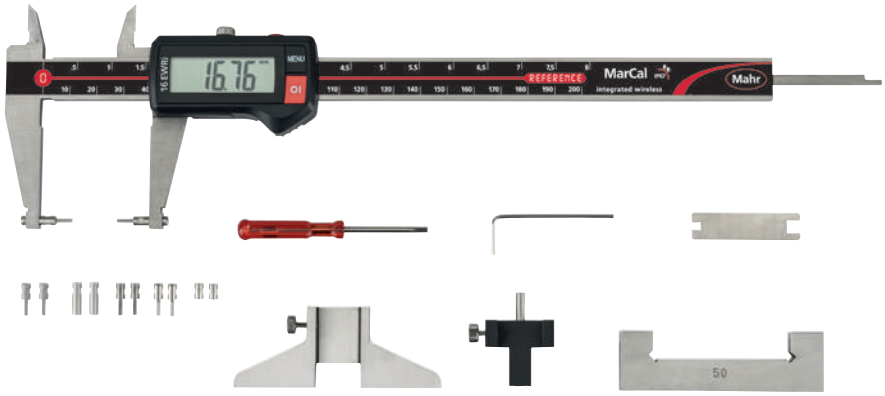
16 Em

MarCal 16 EWRi-V

Digital Universal Caliper

FUNCTIONS

- AUTO-ON / OFF
- ON/OFF
- DATA (data transmission via connection cable)
- HOLD (storage of measured values)
- PRESET (for entering a numerical value)
- RESET (set display to zero)
- mm/inch
- LOCK function (key lock)



FEATURES

- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case, Setting gage for inside measurement 16 Eel, measuring force device 16 Ec, depth measuring bridge 16 Em, anvils for outside measurement 16 Eea 1–3, anvils for inside measurement 16Eei 1–3

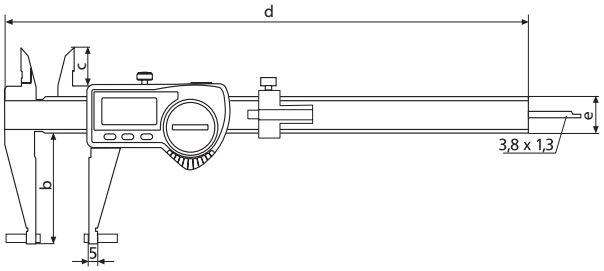
Application:

- Can be used as standard calipers (four measuring directions) with standard accessories for measuring recesses, grooves, etc.
- Can be used with special accessories for measuring threads, bores and gears

TECHNICAL DATA

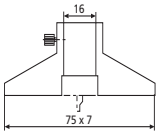
Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod	Incl. accessories
		mm	inch	mm/inch	mm	inch			
4118907	16 EWRi-V	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•

Order no.	b	c	d	e
	mm	mm	mm	mm
4118907	48	16.5	285	16

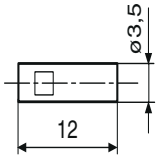


ACCESSORIES

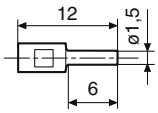
Order no.	Quantity unit	Product name	Type
4102020		Depth bridge (75 x 7 mm)	16 Em
4118810	Piece	Anvil for outside measurement (3.5 x 12 mm)	16 Eea 1
4118811	Piece	Anvil for outside measurement (1.5 x 6 mm)	16 Eea 2
4118812	Piece	Anvil for outside measurement (3.5 x 6 mm)	16 Eea 3
4118813	Piece	Anvil for inside measurement (3.5 x 6 mm)	16 Eei 1
4118814	Piece	Anvil for inside measurement (1.5 x 6 mm)	16 Eei 2
4118815	Piece	Anvil for inside measurement (3.5 x 6 mm)	16 Eei 3
4118816	Piece	Anvil for inside measurement (4 x 2.5 mm)	16 Eei 4
4118817		Setting gage for inside measurement (50 mm)	16 Eel
4118818		Measuring force device	16 Ec
4879602	Piece	Screws M2x8	
4118819		Mounting attachment for thread anvils 844 TG/844Tr and ball anvils 844 Tk	16 Eab
4102220		Receiver for instruments with integrated wireless	i-Stick
4102520		Battery 3 V, CR 2032	



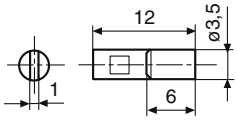
16 Em



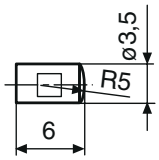
16 Eea 1



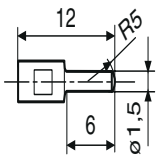
16 Eea 2



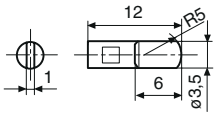
16 Eea 3



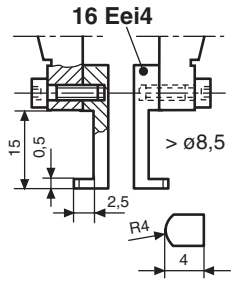
16 Eei 1



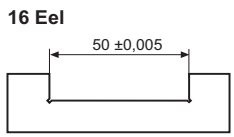
16 Eei 2



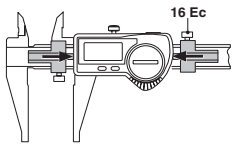
16 Eei 3



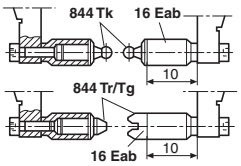
16 Eei 4



16 Eel



16 Ec



16 Eab

MarCal 16 EWR-V

Digital Universal Caliper

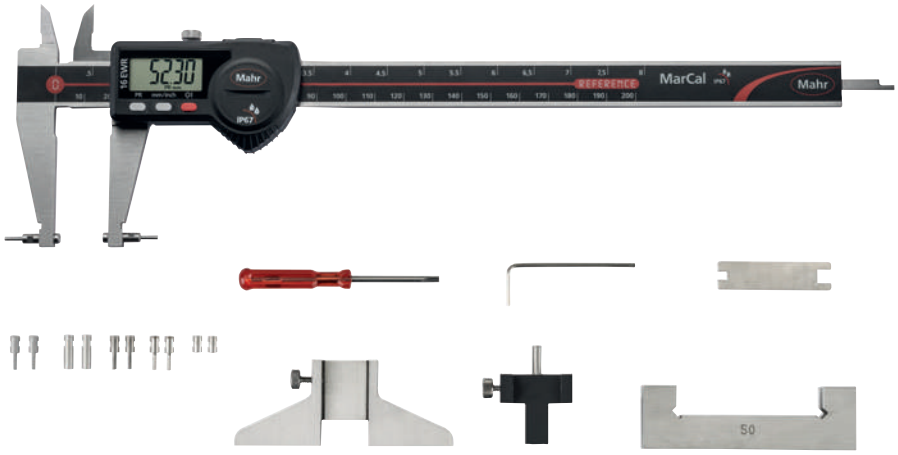
RS232C | Digimatic | IP 67 | REF system

FUNCTIONS

- AUTO-ON / OFF
- DATA (data transmission via connection cable)
- ON/OFF
- PRESET (for entering a numerical value)
- RESET (set display to zero)
- mm/inch
- LOCK function (key lock)

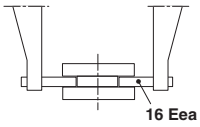
FEATURES

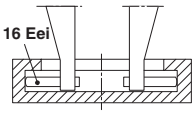
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic, wireless
- **Energy supply:** Battery life approx. 3 years
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case, Setting gage for inside measurement 16 Eel, measuring force device 16 Ec, depth measuring bridge 16 Em, anvils for outside measurement 16 Eea 1–3, anvils for inside measurement 16Eei 1–3, 4118808 without measuring anvils, adjustment bridge and measuring force equipment



Application:

- Can be used as a standard caliper (four types of measurements) with standard accessories to measure recesses, grooves, etc.
- Can be used with additional accessories to measure threads, bores and serration

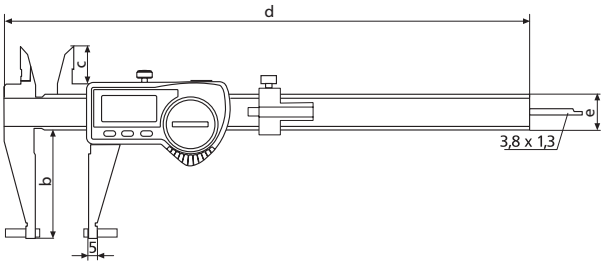




TECHNICAL DATA

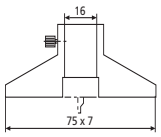
Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod	Incl. accessories
		mm	inch	mm/inch	mm	inch			
4118807	16 EWR-V	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	DIN 862	rectangular	•

Order no.	b	c	d	e
	mm	mm	mm	mm
4118807	48	16.5	285	16

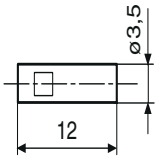


ACCESSORIES

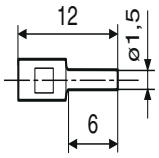
Order no.	Quantity unit	Product name	Type
4118810	Piece	Anvil for outside measurement (3.5 x 12 mm)	16 Eea 1
4118811	Piece	Anvil for outside measurement (1.5 x 6 mm)	16 Eea 2
4118812	Piece	Anvil for outside measurement (3.5 x 6 mm)	16 Eea 3
4118813	Piece	Anvil for inside measurement (3.5 x 6 mm)	16 Eei 1
4118814	Piece	Anvil for inside measurement (1.5 x 6 mm)	16 Eei 2
4118815	Piece	Anvil for inside measurement (3.5 x 6 mm)	16 Eei 3
4118816	Piece	Anvil for inside measurement (4 x 2.5 mm)	16 Eei 4
4118817		Setting gage for inside measurement (50 mm)	16 Eel
4118818		Measuring force device	16 Ec
4879602	Piece	Screws M2x8	
4118819		Mounting attachment for thread anvils 844 TG/844Tr and ball anvils 844 Tk	16 Eab
4102020		Depth bridge (75 x 7 mm)	16 Em
4102357		16 EXu data connection cable USB (2 m)	16 EXu
4102915		Digimatic data cable (2 m)	16 EWd
4102410		Data connection cable RS232C (2 m)	16 EXr
4102520		Battery 3 V, CR 2032	



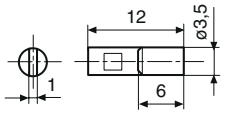
16 Em



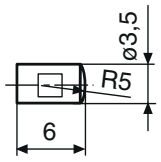
16 Eea 1



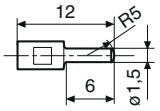
16 Eea 2



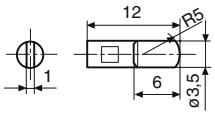
16 Eea 3



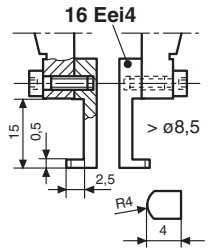
16 Eei 1



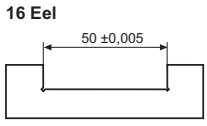
16 Eei 2



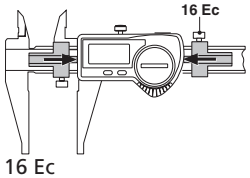
16 Eei 3



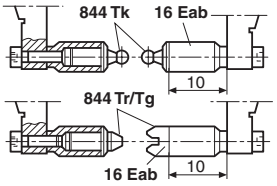
16 Eei 4



16 Eel



16 Ec



16 Eab

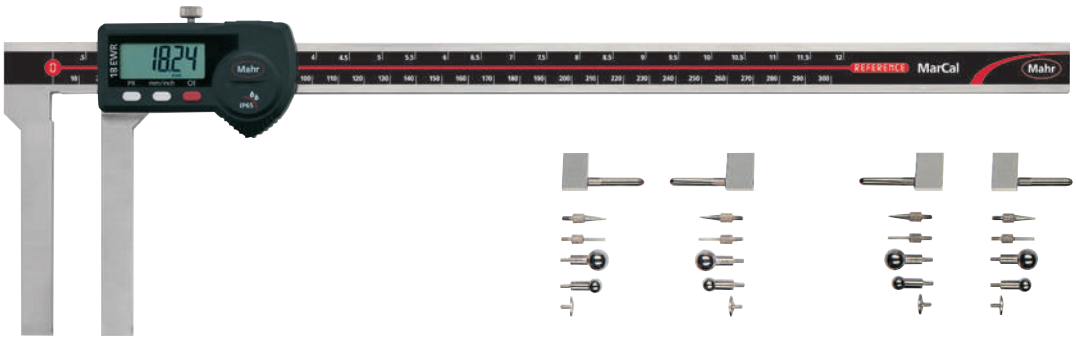
MarCal 18 EWR-V

Digital Universal Caliper

RS232C | Digimatic | IP 65 | REF system

FUNCTIONS

- ON/OFF
- AUTO-ON / OFF
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- mm/inch
- LOCK function (key lock)
- DATA (data transmission via connection cable)



FEATURES

- High contrast analog display
- Locking screw above
- Immediate measurements due to the Reference System
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide
- Slide and beam made of hardened stainless steel
- Measuring faces for outside measurement
- Thread M2.5 measuring jaws to accommodate measuring anvils for internal and external measurements
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 10 mm (300 mm), 12.5 mm (500mm)
- **Data interface:** USB, Opto RS232C, Digimatic, wireless
- **Energy supply:** Battery life approx. 3 years
- **IP protection category:** IP 65
- **Package contains:** battery, case, instruction manual, anvils

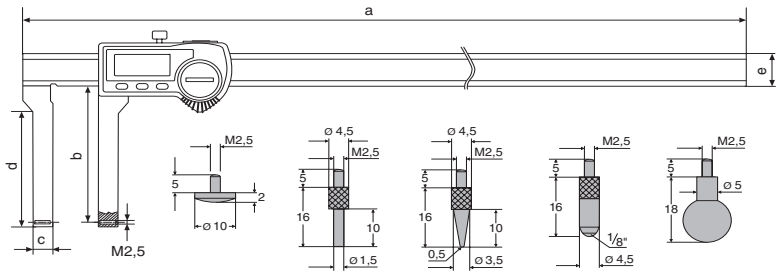
Application:

- For inner and outer measurements of recesses, grooves, etc.
- Individual adjustment by means of measuring anvils with M2.5 thread

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard
		mm	inch	mm/inch	mm	inch	
4112722	18 EWR-V	0 –300	0 –12″	0.01 / .0005″	0.06	.0025″	Factory standard
4112723	18 EWR-V	0 –500	0 –20″	0.01 / .0005″	0.08	.003″	Factory standard

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4112722	410	90	12	75.5	20
4112723	680	100	16	81	25



ACCESSORIES

Order no.	Product name	Quantity unit	Type
4102230	Receiver		e-Stick
4102231	Transmitter for e-Stick		16 EWe
4102357	16 EXu data connection cable USB (2 m)		16 EXu
4102410	Data connection cable RS232C (2 m)		16 EXr
4102520	Battery 3 V, CR 2032		
4102915	Digimatic data cable (2 m)		16 EWd
4112050	Replacement measuring anvil: Spherical plate Ø 10.0 mm	Piece	
4112051	Replacement measuring anvil: Cylindrical stylus Ø 1.5 mm x 10 mm	Piece	
4112052	Replacement measuring anvil: Tip, radius 0.5 mm x 10 mm	Piece	
4112053	Replacement measuring anvil: Sphere diameter 1/8″ length 16 mm	Piece	
4112054	Replacement measuring anvil: Ball dia. 7.0 mm	Piece	
4112055	Replacement measuring anvil: Sphere Ø 10.0 mm	Piece	

16 EWe

e-Stick

MarCal 16 EWRi-C / 16 EWR-C

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-C

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-C

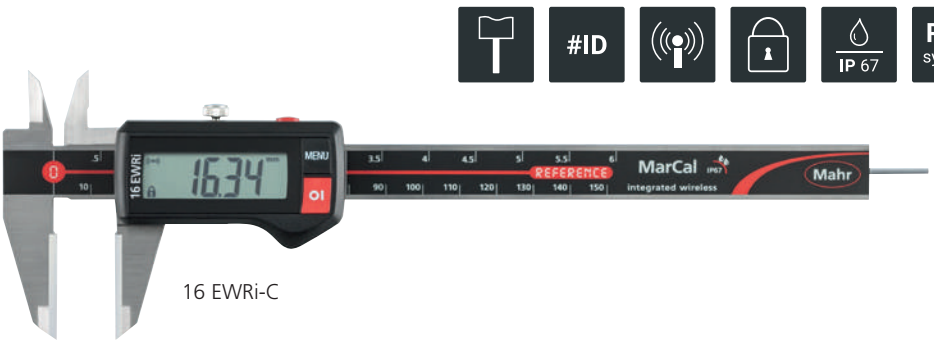
- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 16 EWRI-C

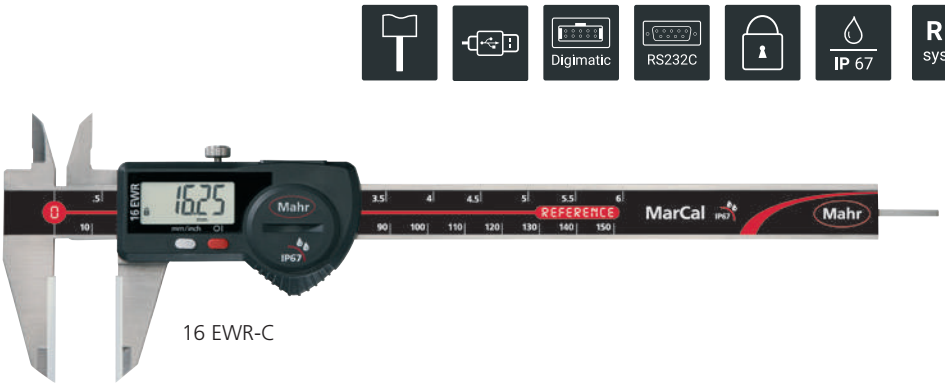
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-C

- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years



16 EWRi-C



16 EWR-C

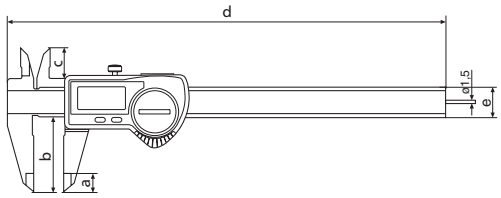
Application:

Outer measuring surfaces made of ceramic, for measuring hard materials

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103372	16 EWRi-C	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round
4103072	16 EWR-C	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	DIN 862	round

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103372	10	40	16	235	16
4103072	10	40	16	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-C**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-C**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-C**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-C, 16 EWRi-C**	Battery 3 V, CR 2032	
4102915	**16 EWR-C**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-H / 16 EWR-H

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-H

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-H

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

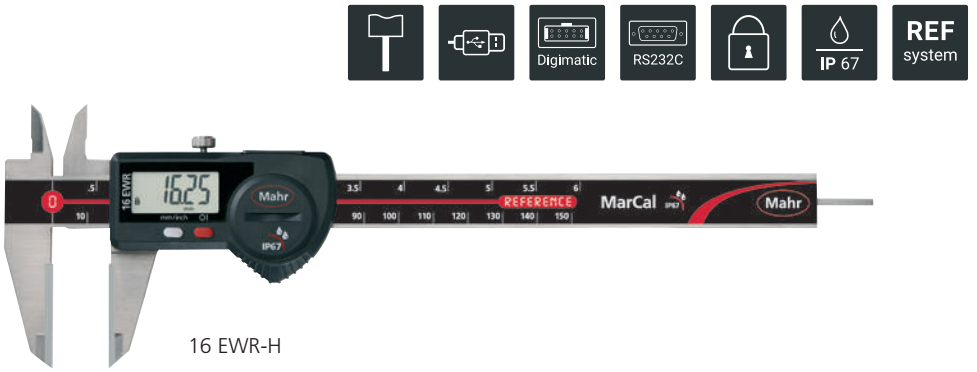
FEATURES 16 EWRI-H

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-H

- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

16 EWRi-H



16 EWR-H

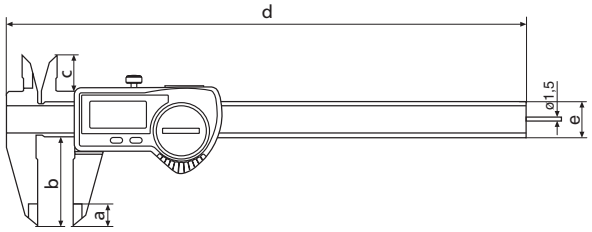
Application:

Outer measuring surfaces made of carbide, for measuring hard materials

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103373	16 EWRi-H	0 –150	0 –6"	0.01 / .0005"	0.03	.001"	DIN 862	round
4103073	16 EWR-H	0 –150	0 –6"	0.01 / .0005"	0.03	.001"	DIN 862	round

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103373	10	40	16	235	16
4103073	10	40	16	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-H**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-H**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-H**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-H, 16 EWRi-H**	Battery 3 V, CR 2032	
4102915	**16 EWR-H**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-AR / 16 EWR-AR

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-AR

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-AR

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

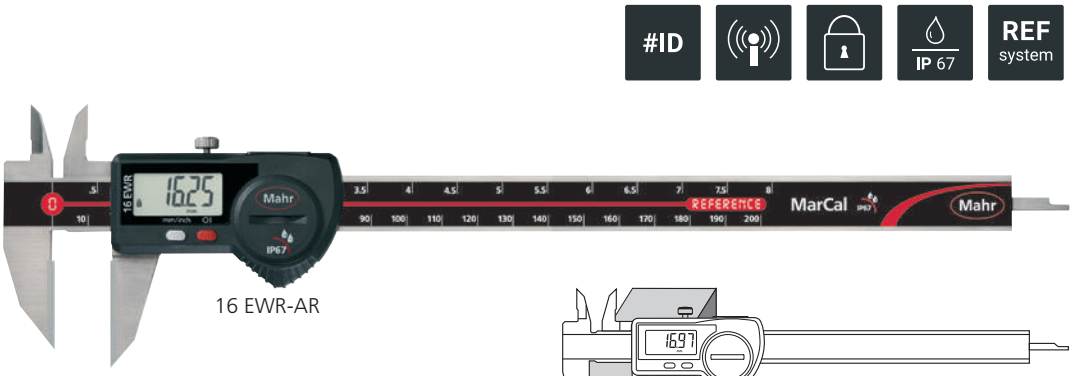
FEATURES 16 EWRI-AR

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

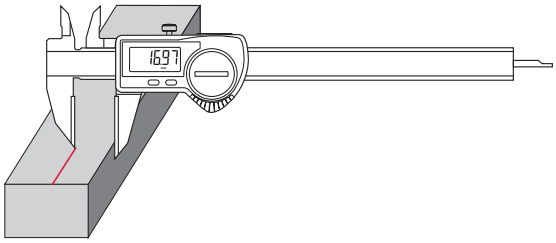
FEATURES 16 EWR-AR

- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

16 EWRi-AR



16 EWR-AR



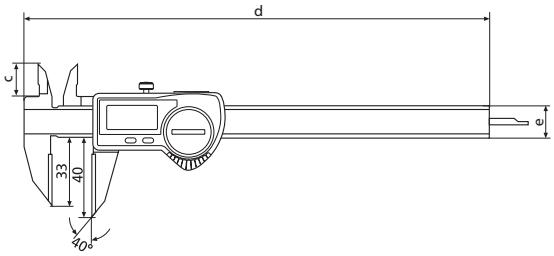
Application:

- Outer measuring surfaces made of carbide
- For marking out workpieces

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103382	16 EWRi-AR	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	Factory standard	rectangular
4103082	16 EWR-AR	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	Factory standard	rectangular

Order no.	c	d	e
	mm	mm	mm
4103382	16.5	285	16
4103082	16.5	285	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-AR**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-AR**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-AR**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-AR, 16 EWRi-AR**	Battery 3 V, CR 2032	
4102915	**16 EWR-AR**	Digimatic data cable (2 m)	16 EWd

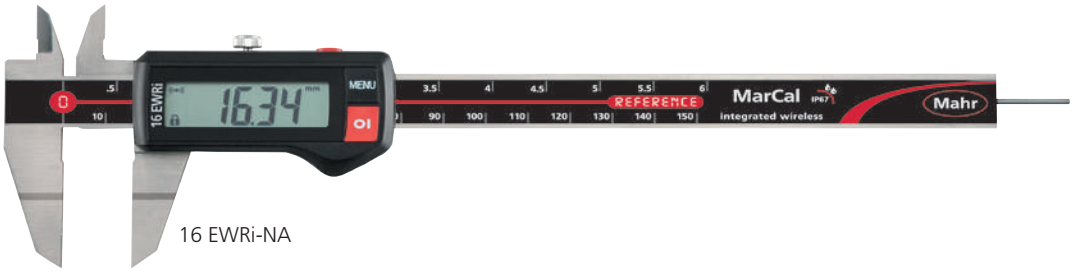
i-Stick

MarCal 16 EWRi-NA / 16 EWR-NA

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-NA

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

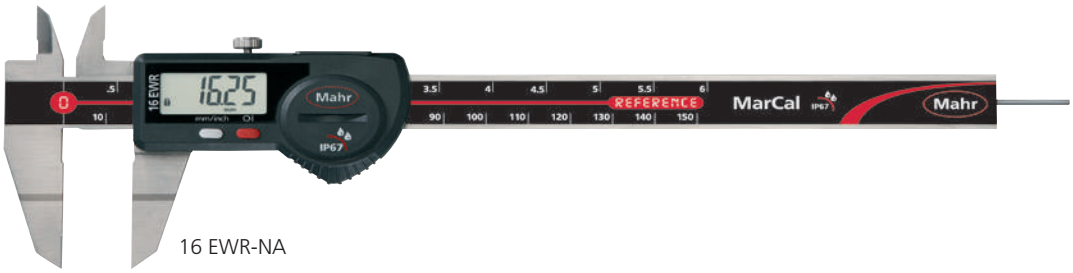


16 EWRi-NA

FUNCTIONS 16 EWR-NA

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via
  connection cable)

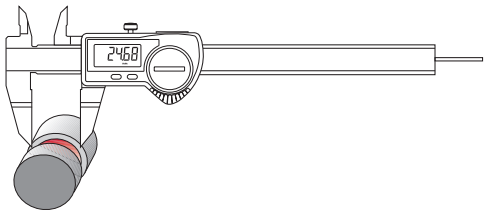
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside
  measurements
- Slide and beam made of
  hardened stainless steel
- Step measuring function
- Immediate measurements
  due to the Reference System
- Raised guideway for the
  protection of the scale
- Excellent resistance against dust,
  coolants and lubricants
- Dirt wipers are integrated
  in the slide



16 EWR-NA

Application:

For measuring keyseats



FEATURES 16 EWRI-NA

- SoftwareMarCom Professional
  free download: www.mahr.com/
  marcom (only for Mahr data
  cables and wireless systems with
  USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated
  wireless
- **Energy supply:** Battery life
  approx. 3 years (approx. 0.5 in
  wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery,
  instruction manual, case

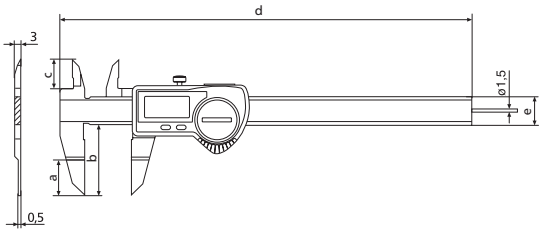
FEATURES 16 EWR-NA

- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto
  RS232C, Digimatic
- **Energy supply:** Battery life
  approx. 3 years

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103374	16 EWRi-NA	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard	round
4103074	16 EWR-NA	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard	round

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103374	20	40	16.5	235	16
4103074	20	40	16.5	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	16 EWRi-NA	Receiver for instruments with integrated wireless	i-Stick
4102357	16 EWR-NA	16 EXu data connection cable USB (2 m)	16 EXu
4102410	16 EWR-NA	Data connection cable RS232C (2 m)	16 EXr
4102520	16 EWR-NA, 16 EWRi-NA	Battery 3 V, CR 2032	
4102915	16 EWR-NA	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-S / 16 EWR-S

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-S

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-S

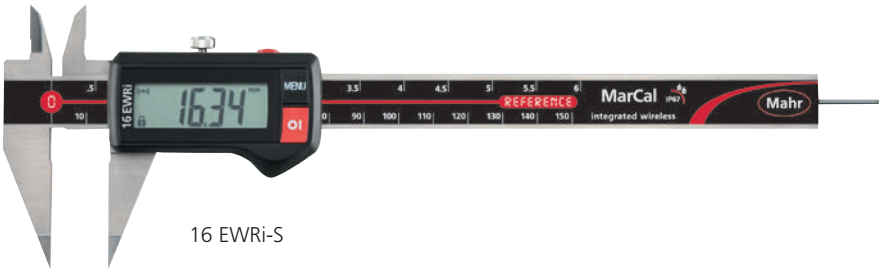
- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 16 EWRI-S

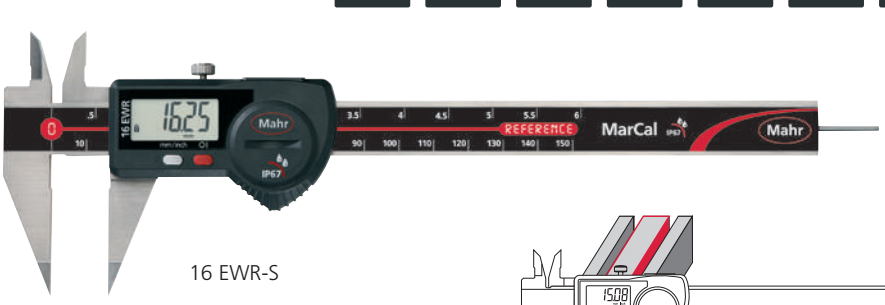
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-S

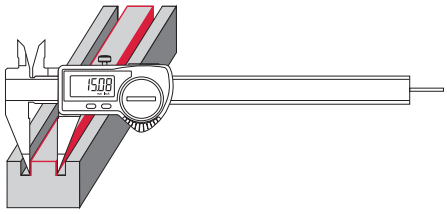
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years



16 EWRi-S



16 EWR-S



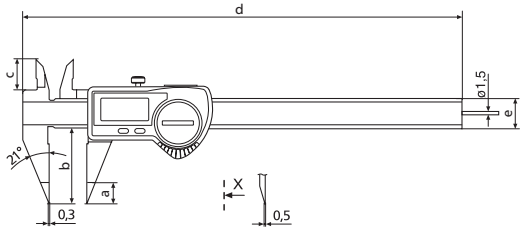
Application:

With pointed jaws e.g. for measuring distances between grooves

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103375	16 EWRi-S	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard	round
4103075	16 EWR-S	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard	round

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103375	10	40	16.5	235	16
4103075	10	40	16.5	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-S**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-S**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-S**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-S, 16 EWRi-S**	Battery 3 V, CR 2032	
4102915	**16 EWR-S**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-SM / 16 EWR-SM

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-SM

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-SM

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Step measuring function
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

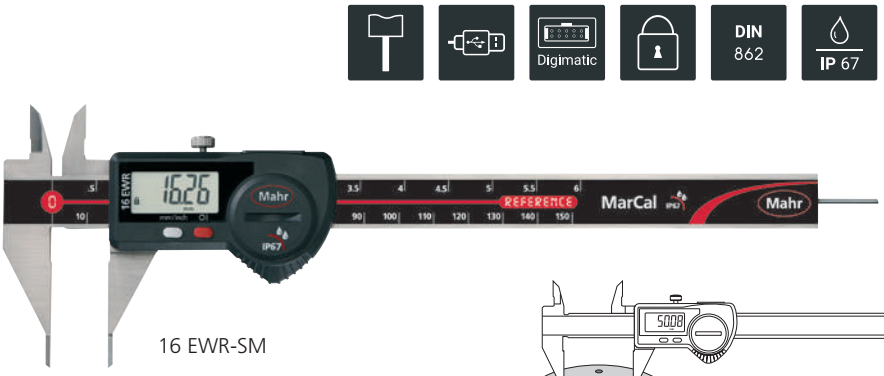
FEATURES 16 EWRI-SM

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-SM

- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

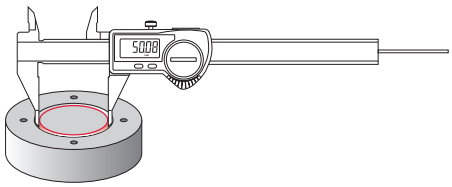
16 EWRi-SM



16 EWR-SM

Application:

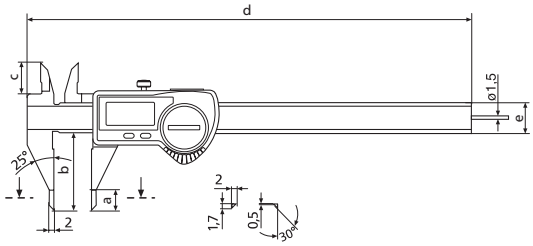
With pointed jaws e.g. for measuring distances between grooves



TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103376	16 EWRi-SM	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard	round
4103076	16 EWR-SM	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard	round

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4103376	10	40	16.5	235	16
4103076	10	40	16.5	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-SM**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-SM**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-SM**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-SM, 16 EWRi-SM**	Battery 3 V, CR 2032	
4102915	**16 EWR-SM**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-VS / 16 EWR-VS

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-VS

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-VS

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

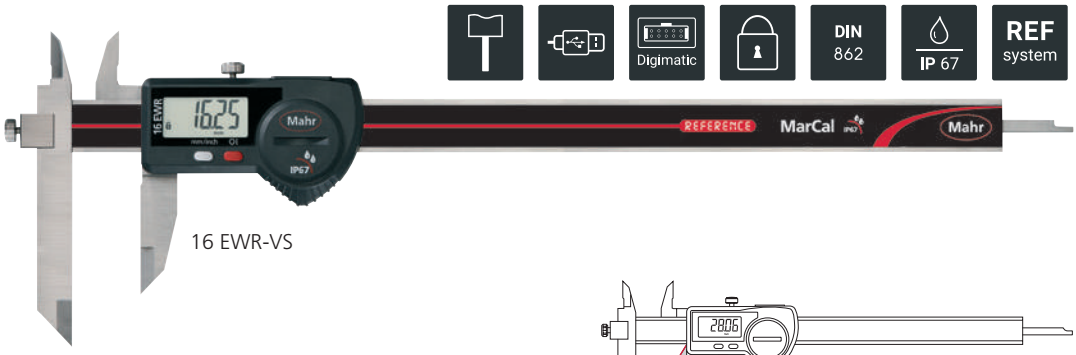
FEATURES 16 EWRI-VS

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

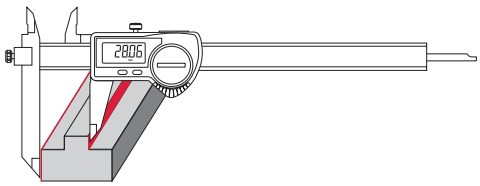
FEATURES 16 EWR-VS

- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

16 EWRi-VS



16 EWR-VS



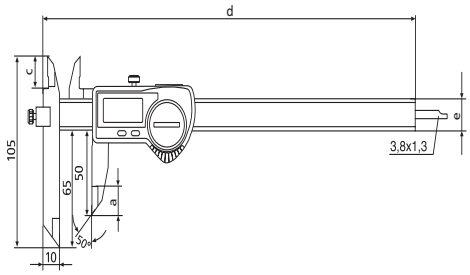
Application:

With moving jaws for measuring stepped workpieces

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103383	16 EWRi-VS	0 –200	0 –8″	0.01 / .0005″	0.04	.0015″	Factory standard	rectangular
4103083	16 EWR-VS	0 –200	0 –8″	0.01 / .0005″	0.04	.0015″	Factory standard	rectangular

Order no.	a	c	d	e
	mm	mm	mm	mm
4103383	14	18	278	16
4103083	14	18	278	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-VS**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-VS**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-VS**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-VS, 16 EWRi-VS**	Battery 3 V, CR 2032	
4102915	**16 EWR-VS**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-BA / 16 EWR-BA

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-BA

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-BA

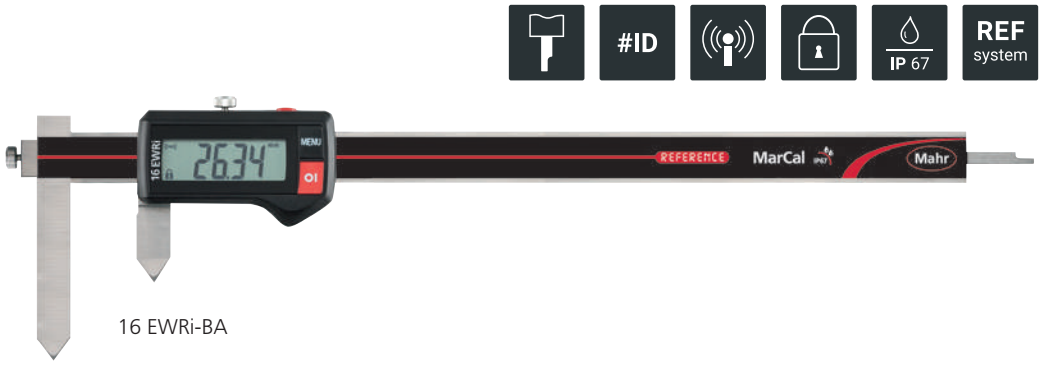
- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 16 EWRI-BA

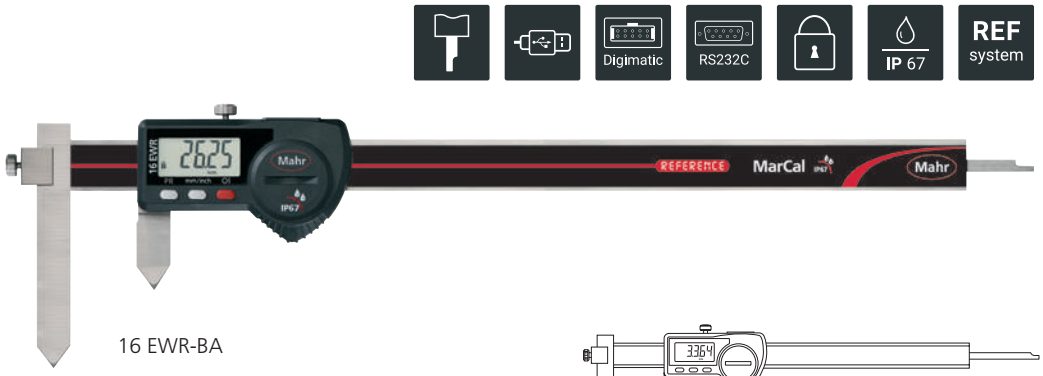
- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-BA

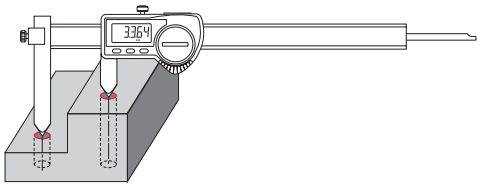
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years



16 EWRi-BA



16 EWR-BA



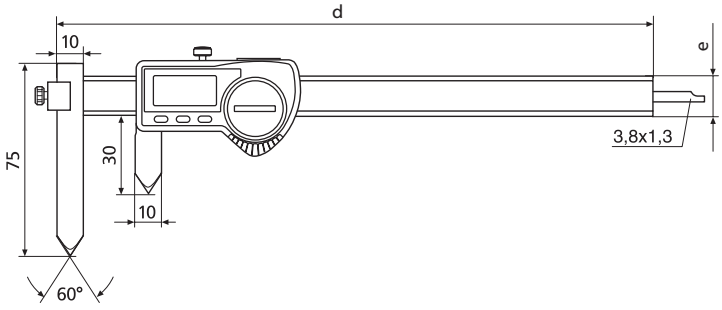
Application:

For measuring the distance between bores

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103384	16 EWRi-BA	10 –210	0.4 –8.3"	0.01 / .0005"	0.04	.0015"	Factory standard	rectangular
4103084	16 EWR-BA	10 –210	0.4 –8.3"	0.01 / .0005"	0.04	.0015"	Factory standard	rectangular

Order no.	d	e
	mm	mm
4103384	278	16
4103084	278	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-BA**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-BA**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-BA**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-BA, 16 EWRi-BA**	Battery 3 V, CR 2032	
4102915	**16 EWR-BA**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-SA / 16 EWR-SA

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-SA

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-SA

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 16 EWRI-SA

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-SA

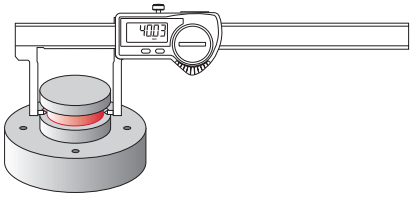
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

#ID | IP 67 | REF system

16 EWRi-SA

RS232C | Digimatic | IP 67 | REF system

16 EWR-SA



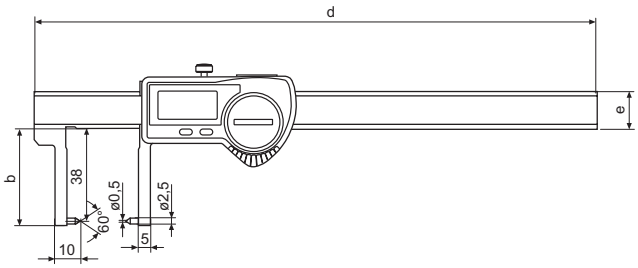
Application:

Inward-angled measuring tips for measuring wall thicknesses and recesses on shafts

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103377	16 EWRi-SA	0 – 140	0 – 6″	0.01 / .0005″	0.03	.001″	Factory standard	none
4103077	16 EWR-SA	0 – 140	0 – 6″	0.01 / .0005″	0.03	.001″	Factory standard	none

Order no.	b	d	e
	mm	mm	mm
4103377	40	235	16
4103077	40	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-SA**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-SA**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-SA**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-SA, 16 EWRi-SA**	Battery 3 V, CR 2032	
4102915	**16 EWR-SA**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-AA / 16 EWR-AA

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-AA

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-AA

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 16 EWRI-AA

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-AA

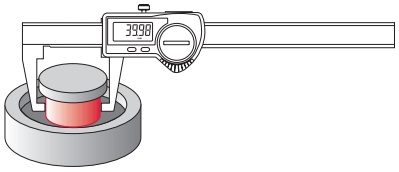
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

#ID | IP 67 | REF system

16 EWRi-AA

RS232C | Digimatic | IP 67 | REF system

16 EWR-AA



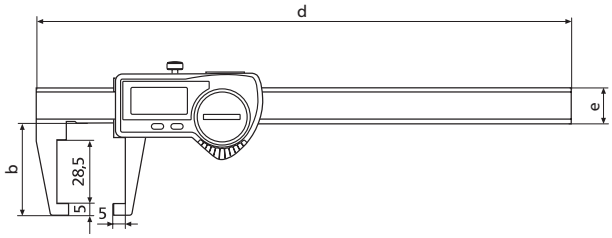
Application:

Inward-angled measuring surfaces for measuring wall thicknesses and recesses on shafts

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103379	16 EWRi-AA	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard	none
4103079	16 EWR-AA	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard	none

Order no.	b	d	e
	mm	mm	mm
4103379	40	235	16
4103079	40	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	16 EWRi-AA	Receiver for instruments with integrated wireless	i-Stick
4102357	16 EWR-AA	16 EXu data connection cable USB (2 m)	16 EXu
4102410	16 EWR-AA	Data connection cable RS232C (2 m)	16 EXr
4102520	16 EWR-AA, 16 EWRi-AA	Battery 3 V, CR 2032	
4102915	16 EWR-AA	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-SI / 16 EWR-SI

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-SI

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-SI

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 16 EWRI-SI

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-SI

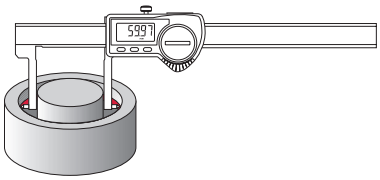
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

#ID | IP 67 | REF system

16 EWRi-SI

RS232C | Digimatic | IP 67 | REF system

16 EWR-SI



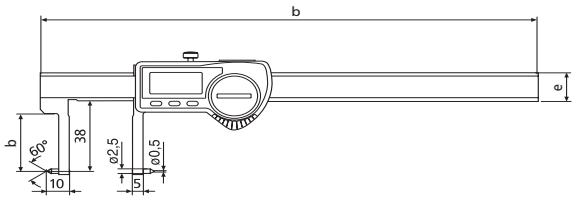
Application:

Outward-angled measuring tips for measuring recesses in bores

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103378	16 EWRi-SI	20 –170	0.8 –6.7″	0.01 / .0005″	0.03	.001″	Factory standard	none
4103078	16 EWR-SI	20 –170	0.8 –6.7″	0.01 / .0005″	0.03	.001″	Factory standard	none

Order no.	b	d	e
	mm	mm	mm
4103378	28	235	16
4103078	28	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-SI**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-SI**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-SI**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-SI, 16 EWRi-SI**	Battery 3 V, CR 2032	
4102915	**16 EWR-SI**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-AI / 16 EWR-AI

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-AI

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 16 EWR-AI

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 16 EWRI-AI

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-AI

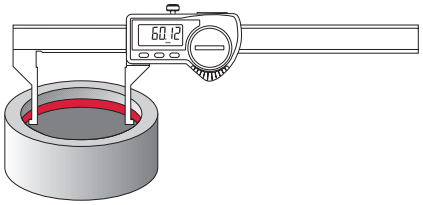
- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

#ID | IP 67 | REF system

16 EWRi-AI

RS232C | Digimatic | IP 67 | REF system

16 EWR-AI



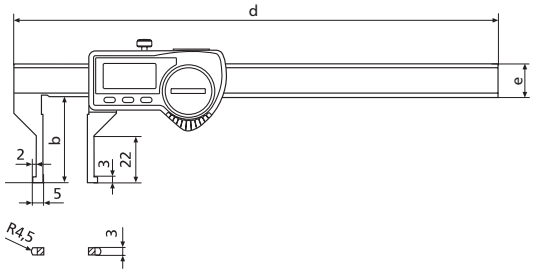
Application:

Outward-angled measuring surfaces for measuring recesses in bores

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103380	16 EWRi-AI	10 –160	0.4 –6.3"	0.01 / .0005"	0.03	.001"	Factory standard	none
4103080	16 EWR-AI	10 –160	0.4 –6.3"	0.01 / .0005"	0.03	.001"	Factory standard	none

Order no.	b	d	e
	mm	mm	mm
4103380	40	235	16
4103080	40	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-AI**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-AI**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-AI**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-AI, 16 EWRi-AI**	Battery 3 V, CR 2032	
4102915	**16 EWR-AI**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-RW / 16 EWR-RW

Digital Caliper for Special Applications

FUNCTIONS 16 EWRI-RW

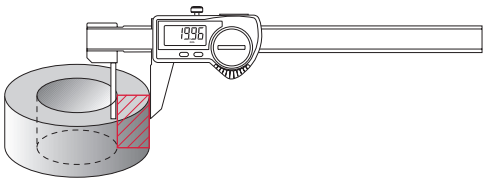
- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

16 EWRi-RW

FUNCTIONS 16 EWR-RW

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- DATA (data transmission via
  connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Slide and beam made of
  hardened stainless steel
- Immediate measurements
  due to the Reference System
- Raised guideway for the
  protection of the scale
- Excellent resistance against dust,
  coolants and lubricants
- Dirt wipers are integrated
  in the slide

16 EWR-RW



Application:

Measurement of wall thicknesses

FEATURES 16 EWRI-RW

- SoftwareMarCom Professional
  free download: www.mahr.com/
  marcom (only for Mahr data
  cables and wireless systems with
  USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated
  wireless
- **Energy supply:** Battery life
  approx. 3 years (approx. 0.5 in
  wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery,
  instruction manual, case

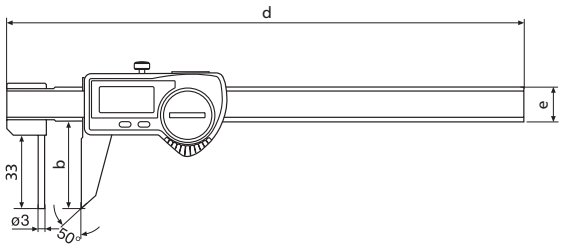
FEATURES 16 EWR-RW

- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto
  RS232C, Digimatic
- **Energy supply:** Battery life
  approx. 3 years

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103381	16 EWRi-RW	0 –150	0 –6″	0.01 / .0005″	0.05	.002″	Factory standard	none
4103081	16 EWR-RW	0 –150	0 –6″	0.01 / .0005″	0.05	.002″	Factory standard	none

Order no.	b	d	e
	mm	mm	mm
4103381	40	235	16
4103081	40	235	16



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-RW**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-RW**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-RW**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-RW, 16 EWRi-RW**	Battery 3 V, CR 2032	
4102915	**16 EWR-RW**	Digimatic data cable (2 m)	16 EWd

i-Stick

MarCal 16 EWRi-LI / 16 EWR-LI

Digital Caliper for Special Applications

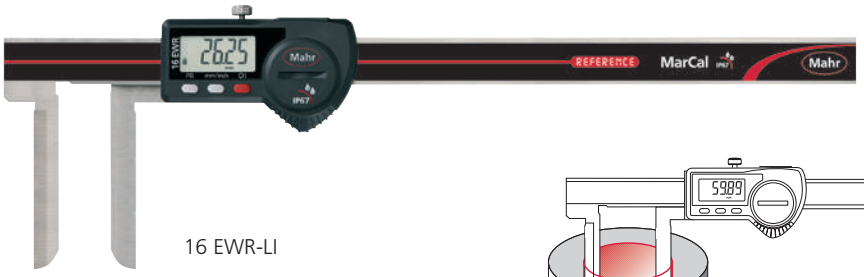
FUNCTIONS 16 EWRI-LI

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

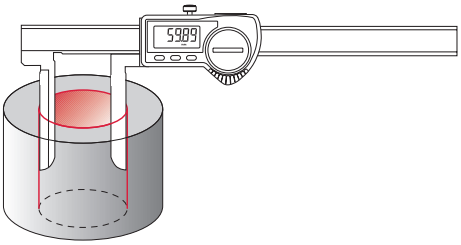
16 EWRi-LI

FUNCTIONS 16 EWR-LI

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring blade for inside measurements
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide



16 EWR-LI



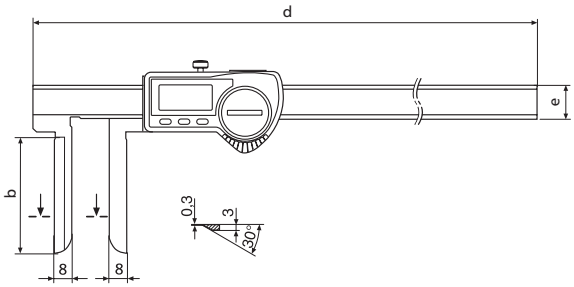
Application:

With long inner blades

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4103385	16 EWRi-LI	10 –200	0.4 –8″	0.01 / .0005″	0.05	.002″	Factory standard	none
4103085	16 EWR-LI	10 –200	0.4 –8″	0.01 / .0005″	0.05	.002″	Factory standard	none

Order no.	b	d	e
	mm	mm	mm
4103385	60	285	16
4103085	60	285	16



FEATURES 16 EWRI-LI

- SoftwareMarCom Professional free download: www.mahr.com/marcom (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

FEATURES 16 EWR-LI

- **Digit height:** 8.5 mm
- **Data interface:** USB, Opto RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	**16 EWRi-LI**	Receiver for instruments with integrated wireless	i-Stick
4102357	**16 EWR-LI**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**16 EWR-LI**	Data connection cable RS232C (2 m)	16 EXr
4102520	**16 EWR-LI, 16 EWRi-LI**	Battery 3 V, CR 2032	
4102915	**16 EWR-LI**	Digimatic data cable (2 m)	16 EWd

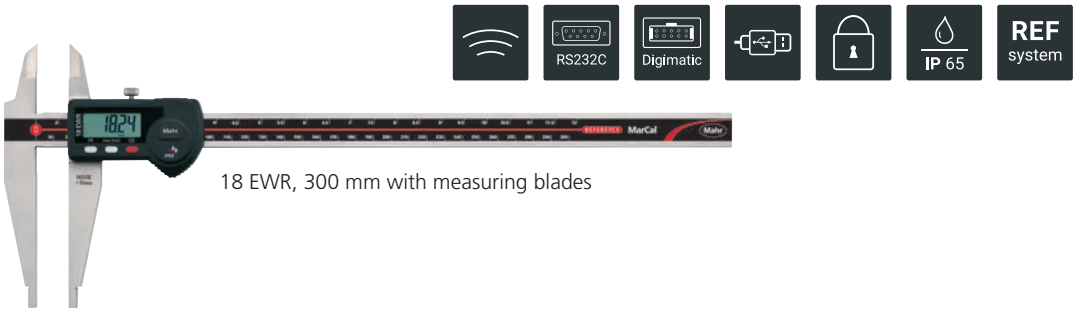
i-Stick

MarCal 18 EWR

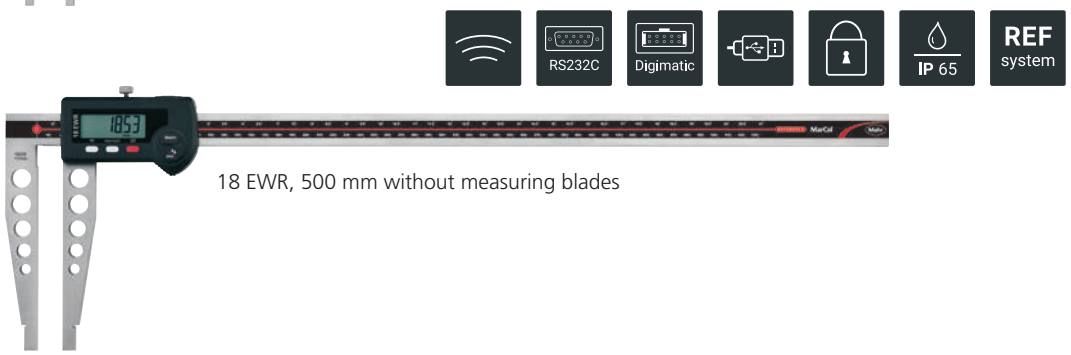
Digital Workshop Caliper

FUNCTIONS 18 EWR

- AUTO-ON / OFF
- DATA (data transmission via connection cable)
- ON/OFF
- PRESET (for entering a numerical value)
- RESET (set display to zero)
- mm/inch
- LOCK function (key lock)
- High contrast analog display
- Locking screw above
- Rounded measuring blades for inside measurements
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the
- protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide



18 EWR, 300 mm with measuring blades

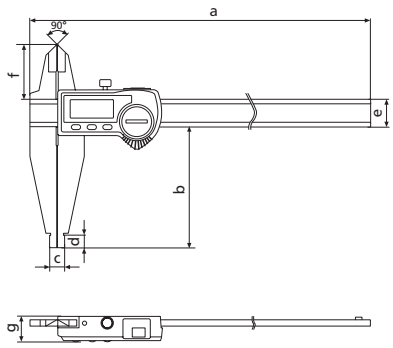


18 EWR, 500 mm without measuring blades

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Measuring blades for outside measurements	Error limit	Error limit inches (text)	Standard	Weight
		mm	inch	mm/inch		mm	inch		kg
4112704	18 EWR	0 –300	0 –12″	0.01 / .0005″	•	0.03	.001″	Factory standard	0.45
4112712	18 EWR	0 –500	0 –20″	0.01 / .0005″	•	0.04	.0015″	Factory standard	1.10
4112714	18 EWR	0 –750	0 –30″	0.01 / .0005″	•	0.05	.002″	Factory standard	1.35
4112716	18 EWR	0 –1000	0 –40″	0.01 / .0005″	•	0.06	.0025″	Factory standard	2.20
4112705	18 EWR	0 –300	0 –12″	0.01 / .0005″		0.03	.001″	Factory standard	0.44
4112713	18 EWR	0 –500	0 –20″	0.01 / .0005″		0.04	.0015″	Factory standard	1.00
4112715	18 EWR	0 –750	0 –30″	0.01 / .0005″		0.05	.002″	Factory standard	1.28
4112717	18 EWR	0 –1000	0 –40″	0.01 / .0005″		0.06	.0025″	Factory standard	2.10

Order no.	a	b	c	d	e	f
	mm	mm	mm	mm	mm	mm
4112704	410	90	10	10	20	40
4112712	650	150	20	20	25	55
4112714	905	150	20	20	25	55
4112716	1165	150	20	20	30	60
4112705	410	90	10	10	20	
4112713	650	150	20	20	25	
4112715	905	150	20	20	25	
4112717	1165	150	20	20	30	



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102230	**18 EWR**	Receiver	e-Stick
4102231	**18 EWR**	Transmitter for e-Stick	16 EWe
4102357	**18 EWR**	16 EXu data connection cable USB (2 m)	16 EXu
4102410	**18 EWR**	Data connection cable RS232C (2 m)	16 EXr
4102520	**18 EWR**	Battery 3 V, CR 2032	
4102915	**18 EWR**	Digimatic data cable (2 m)	16 EWd

16 EWe

e-Stick

MarCal 18 ESA

Digital Workshop Caliper

REF system

FUNCTIONS

- ON/OFF
- RESET (set display to zero)
- mm/inch
- HOLD
  (storage of measured values)
- PRESET (enter anumerical value) from range 500 mm

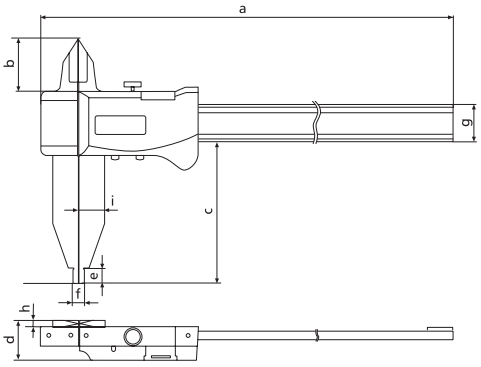
FEATURES

- High contrast analog display
- Locking screw above
- Rounded measuring blades for inside measurements
- Prisma guideway for a more smooth and even movement
- Measuring surfaces made of steel
- Measuring blades for outside measurements
- To reduce the overall weight the slide and beam are made from aluminum and are coated with a hard anodized surface coating (1100 HV)
- Dirt wipers are integrated in the slide
- **Digit height:** 6 mm (300mm), 10,5 mm
- **Data interface:** Opto RS232C (only 300 mm version)
- **Energy supply:** Battery life approx. 2 years
- **IP protection category:** None
- **Package contains:** battery, instruction manual, case

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Measuring blades for outside measure-ments	Error limit	Error limit inches (text)	Standard	Weight
		mm	inch	mm/inch		mm	inch		kg
4112620	18 ESA	0 –300	0 –12″	0.01 / .0005″	•	0.04	.0015″	Factory standard	0.50
4112621	18 ESA	0 –500	0 –20″	0.01 / .0005″	•	0.05	.002″	Factory standard	1.40
4112622	18 ESA	0 –800	0 –32″	0.01 / .0005″	•	0.07	.0025″	Factory standard	1.60
4112623	18 ESA	0 –1000	0 –40″	0.01 / .0005″	•	0.08	.003″	Factory standard	1.80

Order no.	a	b	c	d	e	f	g	h	i
	mm	mm	mm	mm	mm	mm	mm	mm	mm
4112620	450	33	90	17.5	10	10	25	4.5	17
4112621	726	42	150	20.7	15	20	31.9	6	29
4112622	1026	42	150	20.7	15	20	31.9	6	29
4112623	1225	42	150	20.7	15	20	31.9	6	29



ACCESSORIES

Order no.	Product name	Type
4102330	Opto USB Adapter cable RS232-USB (0.2 m)	Opto USB
4102510	Data connection cable RS232C (2 m)	16 ESv
4102520	Battery 3 V, CR 2032	

MarCal 18 NA

Workshop Calipers

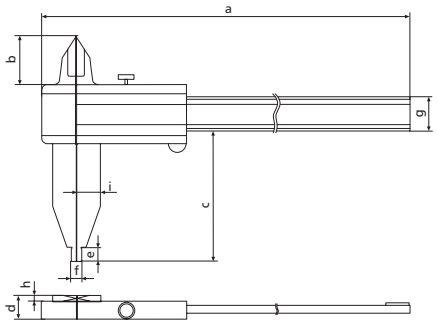
FEATURES

- **To reduce the overall weight the slide and beam are made from aluminum and are coated with a hard anodized surface coating (1100 HV)**
- Vernier and scale have a satin chrome finish for glare free reading
- Parallax free reading
- Locking screw above
- Prisma guideway for a more smooth and even movement
- Measuring surfaces made of steel
- Measuring blades for outside measurements
- **Package contains:** up to 1000 mm delivered with a case, over 1000 mm individually packed

TECHNICAL DATA

Order no.	Type	Measuring range	Vernier value	Measuring blades for outside measurements	Error limit	Standard	Weight
		mm	mm		mm		kg
4112300	18 NA	0 –300	0.02	•	0.04	Factory standard	0.50
4112301	18 NA	0 –500	0.02	•	0.05	Factory standard	1.40
4112302	18 NA	0 –800	0.02	•	0.07	Factory standard	1.60
4112303	18 NA	0 –1000	0.02	•	0.08	Factory standard	1.75
4112304	18 NA	0 –1500	0.02	•	0.16	Factory standard	2.10
4112305	18 NA	0 –2000	0.02	•	0.16	Factory standard	2.50

Order no.	a	b	c	d	e	f	g	h	i
	mm	mm	mm	mm	mm	mm	mm	mm	mm
4112300	450	33	90	17.5	10	10	25	4.5	17
4112301	726	42	150	20.7	15	20	31.9	6	29
4112302	1026	42	150	20.7	15	20	31.9	6	29
4112303	1226	42	150	20.7	15	20	31.9	6	29
4112304	1760	85	200	25	15	30	48.1	6	40
4112305	2260	85	200	25	15	30	48.1	6	40



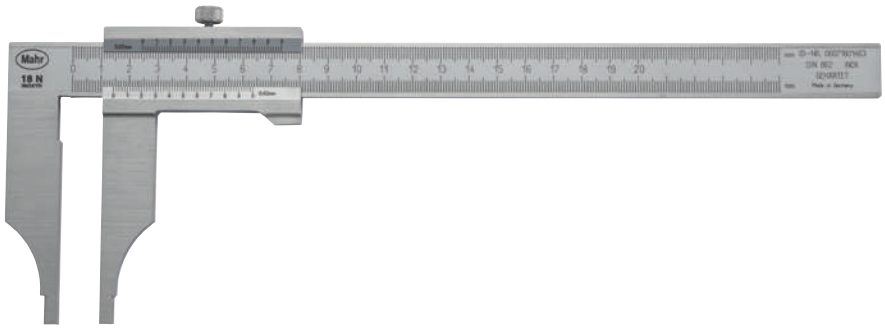
MarCal 18 N

Workshop Calipers

DIN 862

FEATURES

- Vernier and scale have a satin chrome finish for glare free reading
- Locking screw above
- Rounded measuring blades for inside measurements
- Measuring surfaces made of steel
- Slide and beam made of hardened stainless steel
- Raised guideway for the protection of the scale
- **Package contains:** up to 1000 mm delivered with a case, over 1000 mm individually packed



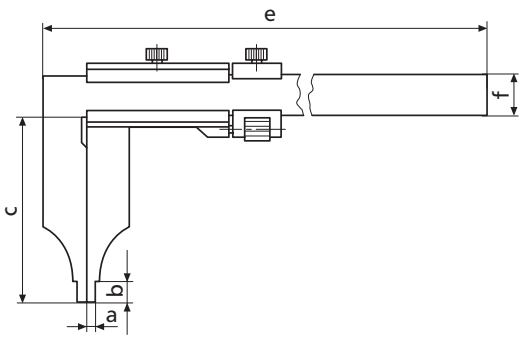
Application:

With two mm scales and vernier scales to directly read external and internal dimensions
- Lower scale for external dimensions
- Upper scale for internal dimensions

TECHNICAL DATA

Order no.	Type	Measuring range	Vernier value	Error limit	Standard
		mm	mm	mm	
4112200	18 N	0 –200	0.02	0.05	Factory standard
4112201	18 N	0 –300	0.02	0.05	Factory standard
4112210	18 N	0 –500	0.05	0.07	DIN 862
4112211	18 N	0 –800	0.05	0.1	DIN 862
4112212	18 N	0 –1000	0.05	0.12	DIN 862
4112213	18 N	0 –1500	0.05	0.18	DIN 862
4112214	18 N	0 –2000	0.05	0.22	DIN 862

Order no.	a	b	c	e	f
	mm	mm	mm	mm	mm
4112200	5	10	80	310	20
4112201	5	10	90	410	20
4112210	10	19	150	675	25
4112211	10	19	150	985	30
4112212	10	19	150	1185	30
4112213	15	19	200	1760	40
4112214	15	19	200	2270	45



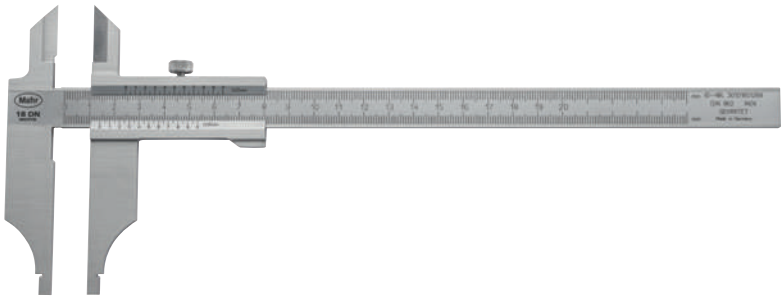
MarCal 18 DN

Workshop Calipers

DIN 862

FEATURES

- Vernier and scale have a satin chrome finish for glare free reading
- Locking screw above
- Rounded measuring blades for inside measurements
- Measuring surfaces made of steel
- Slide and beam made of hardened stainless steel
- Raised guideway for the protection of the scale
- **Package contains:** up to 1000 mm delivered with a case, over 1000 mm individually packed



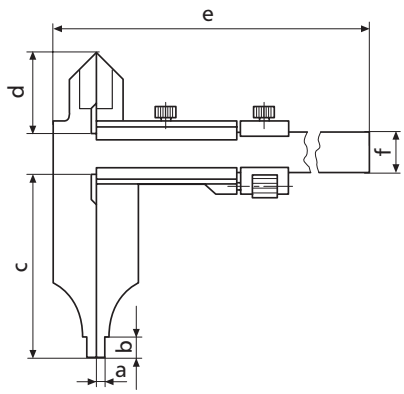
Application:

With two mm scales and vernier scales to directly read external and internal dimensions
- Lower scale for external dimensions
- Upper scale for internal dimensions

TECHNICAL DATA

Order no.	Type	Measuring range	Vernier value	Measuring blades for outside measurements	Error limit	Standard
		mm	mm		mm	
4113200	18 DN	0 –200	0.05	•	0.05	DIN 862
4113201	18 DN	0 –300	0.05	•	0.05	DIN 862
4113202	18 DN	0 –500	0.05	•	0.07	DIN 862
4113203	18 DN	0 –800	0.05	•	0.1	DIN 862
4113204	18 DN	0 –1000	0.05	•	0.12	DIN 862
4113205	18 DN	0 –1500	0.05	•	0.18	DIN 862
4113206	18 DN	0 –2000	0.05	•	0.22	DIN 862

Order no.	a	b	c	d	e	f
	mm	mm	mm	mm	mm	mm
4113200	5	10	80	40	310	20
4113201	5	10	90	40	410	20
4113202	10	19	150	60	675	25
4113203	10	19	150	65	985	30
4113204	10	19	150	67	1185	30
4113205	15	19	200	86	1760	40
4113206	25	19	200	96	2270	45



MarCal 30 EWRi / 30 EWR

Digital Depth Gage

FUNCTIONS 30 EWRI

- ON/OFF
- AUTO-ON / OFF
- RESET (set display to zero)
- mm/inch
- PRESET
  (for entering a numerical value)
- LOCK function (key lock)
- HOLD
  (storage of measured values)
- Reversal of counting direction
- DATA (data transmission)

FUNCTIONS 30 EWR

- AUTO-ON / OFF
- DATA (data transmission via
  connection cable)
- ON/OFF
- PRESET
  (for entering a numerical value)
- RESET (set display to zero)
- mm/inch
- LOCK function (key lock)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring surfaces
  made of steel
- Slide and beam made of
  hardened stainless steel
- Immediate measurements
  due to the Reference System
- Raised guideway for the
  protection of the scale
- Excellent resistance against dust,
  coolants and lubricants
- Dirt wipers are integrated
  in the slide

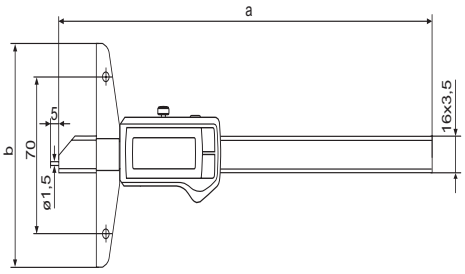
30 EWRi

30 EWR

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard
		mm	inch	mm/inch	mm	inch	
4126755	30 EWRi	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard
4126754	30 EWRi	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	Factory standard
4126756	30 EWRi	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard
4126757	30 EWRi	0 –500	0 –20″	0.01 / .0005″	0.05	.002″	Factory standard
4126700	30 EWR	0 –150	0 –6″	0.01 / .0005″	0.03	.001″	Factory standard
4126699	30 EWR	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	Factory standard
4126701	30 EWR	0 –300	0 –12″	0.01 / .0005″	0.04	.0015″	Factory standard
4126702	30 EWR	0 –500	0 –20″	0.01 / .0005″	0.05	.002″	Factory standard

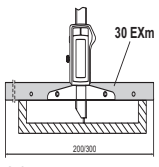
Order no.	a	b
	mm	mm
4126755	234	100
4126754	284	100
4126756	384	150
4126757	584	150
4126700	234	100
4126699	284	100
4126701	384	150
4126702	584	150



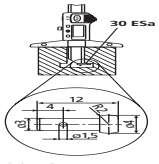
i-Stick

ACCESSORIES

Order no.	For measuring instrument	Quantity unit	Product name	Type
4102220	**30 EWRi**		Receiver for instruments with integrated wireless	i-Stick
4102357	**30 EWR**		16 EXu data connection cable USB (2 m)	16 EXu
4102410	**30 EWR**		Data connection cable RS232C (2 m)	16 EXr
4102520	**30 EWRi, 30 EWR**		Battery 3 V, CR 2032	
4102915	**30 EWR**		Digimatic data cable (2 m)	16 EWd
4125611	**30 EWRi, 30 EWR**	Piece	Anvil (4 mm)	30 ESa
4126510	**30 EWRi, 30 EWR**		Cross beam extension (300 mm)	30 EXm
4126511	**30 EWRi, 30 EWR**		Cross beam extension (200 mm)	30 EXm



30 EXm



30 ESa

MarCal 30 EWRi

Digital Depth Gage

FUNCTIONS

- ON/OFF
- AUTO-ON / OFF
- RESET (set display to zero)
- mm/inch
- PRESET
  (for entering a numerical value)
- LOCK function (key lock)
- HOLD
  (storage of measured values)
- Reversal of counting direction
- DATA (data transmission)

FEATURES

- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring surfaces made of steel
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide
- **Digit height:** 11 mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, case

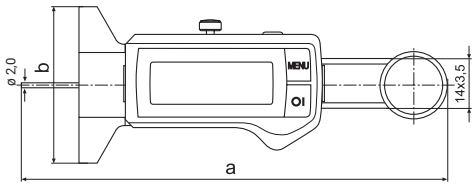
Application:

- Small, handy, practical
- Ideal for mobile use in manufacturing and inspection and on site
- For small measuring depths in bores, grooves, channels, etc.

TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard	Depth rod
		mm	inch	mm/inch	mm	inch		
4126751	30 EWRi	0 –25	0 –1″	0.01 / .0005″	0.02	.0008″	Factory standard	round

Order no.	a	b
	mm	mm
4126751	129	48



ACCESSORIES

Order no.	Product name	Type
4102220	Receiver for instruments with integrated wireless	i-Stick
4102520	Battery 3 V, CR 2032	

i-Stick

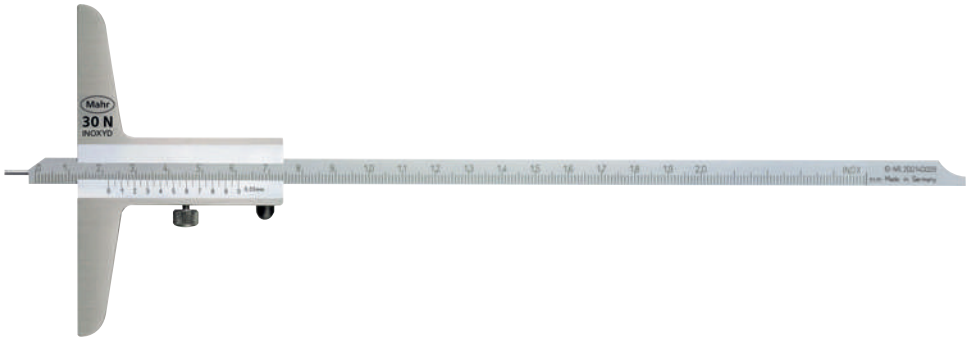
MarCal 30 N

Depth Gage

DIN 862

FEATURES

- Vernier and scale have a satin chrome finish for glare free reading
- Locking screw below
- Hardened measuring pin
- Measuring surfaces made of steel
- Interchangeable beams
- **Package contains:** case



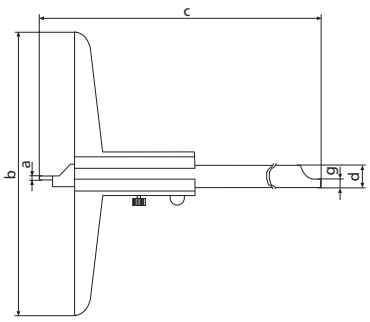
Application:
cInterchangeable measuring rail with 2 different measuring surfaces

- Straight rod: for conventional depth measurements
- Stylus: for measurements in narrow grooves, small bores or uneven surfaces

TECHNICAL DATA

Order no.	Type	Measuring range	Vernier value	Error limit	Standard
		mm	mm	mm	
4127200	30 N	0 –80	0.05	0.05	DIN 862
4127300	30 N	0 –150	0.05	0.05	DIN 862
4127301	30 N	0 –200	0.05	0.05	DIN 862
4127201	30 N	0 –300	0.05	0.05	DIN 862
4127202	30 N	0 –500	0.05	0.07	DIN 862

Order no.	a	b	c	d	g
	mm	mm	mm	mm	mm
4127200	1	50	140	8	
4127300	1.5	100	235	8	3.5
4127301	1.5	100	285	8	3.5
4127201	2	150	390	12	4
4127202	2	150	590	12	4



MarCal 30 EWRi-D / 30 EWR-D

Digital Depth Gage

FUNCTIONS 30 EWRI-D

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 30 EWR-D

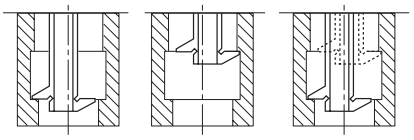
- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission via
  connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring surfaces made of
  steel
- Slide and beam made of h
  ardened stainless steel
- Immediate measurements
  due to the Reference System
- Raised guideway for the
  protection of the scale
- Excellent resistance against dust,
  coolants and lubricants
- Dirt wipers are integrated
  in the slide

30 EWRi-D

30 EWR-D

Application:

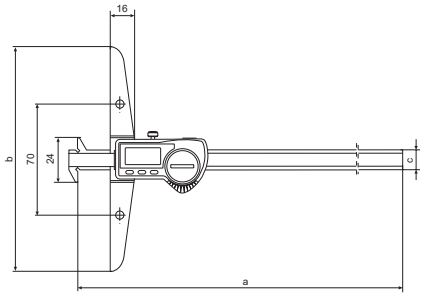
Measuring groove widths and distances between grooves



TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard
		mm	inch	mm/inch	mm	inch	
4126533	30 EWRi-D	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	Factory standard
4126534	30 EWRi-D	0 –300	0 –12″	0.01 / .0005″	0.04	.001″	Factory standard
4126523	30 EWR-D	0 –200	0 –8″	0.01 / .0005″	0.03	.001″	Factory standard
4126524	30 EWR-D	0 –300	0 –12″	0.01 / .0005″	0.04	.001″	Factory standard

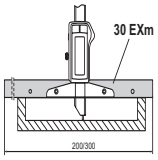
Order no.	a	b	c
	mm	mm	mm
4126533	281	100	12
4126534	381	150	12
4126523	281	100	12
4126524	381	150	12



ACCESSORIES

Order no.	For measuring instrument	Product name	Type
4102220	30 EWRi-D	Receiver for instruments with integrated wireless	i-Stick
4102357	30 EWR-D	16 EXu data connection cable USB (2 m)	16 EXu
4102410	30 EWR-D	Data connection cable RS232C (2 m)	16 EXr
4102520	30 EWRi-D, 30 EWR-D	Battery 3 V, CR 2032	
4102915	30 EWR-D	Digimatic data cable (2 m)	16 EWd
4126510	30 EWRi-D, 30 EWR-D	Cross beam extension (300 mm)	30 EXm
4126511	30 EWRi-D, 30 EWR-D	Cross beam extension (200 mm)	30 EXm

i-Stick



30 EXm

MarCal 30 EWRi-N / 30 EWR-N

Digital Depth Gage

FUNCTIONS 30 EWRI-N

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)

FUNCTIONS 30 EWR-N

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission via connection cable)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring surfaces made of steel
- Slide and beam made of
- hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 30 EWRI-N

- **Digit height:** 11mm
- **Data interface:** Integrated wireless
- **Energy supply:** Battery life approx. 3 years (approx. 0.5 in wireless mode)
- **IP protection category:** IP 67
- **Package contains:** battery, instruction manual, anvils 30 Ent (1mm), 902 (4mm) and 903 (4mm), case

FEATURES 30 EWR-N

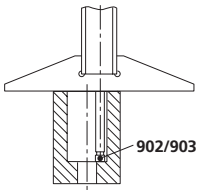
- **Digit height:** 8.5mm
- **Data interface:** USB, RS232C, Digimatic
- **Energy supply:** Battery life approx. 3 years

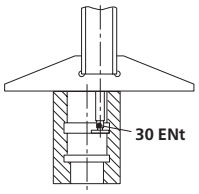
30 EWRi-N

30 EWR-N

Application:

Measuring groove widths and distances between grooves

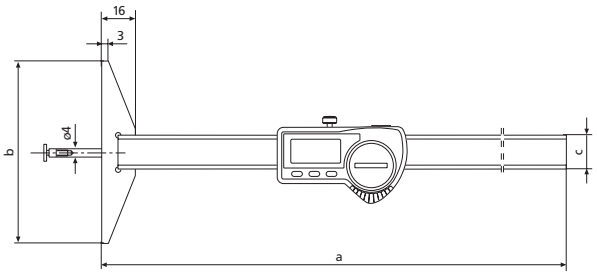




TECHNICAL DATA

Order no.	Type	Measuring range	Measuring range inch	Numerical increment	Error limit	Error limit inches (text)	Standard
		mm	inch	mm/inch	mm	inch	
4126532	30 EWRi-N	0 –100	0 –4″	0.01 / .0005″	0.03	.001″	Factory standard
4126513	30 EWR-N	0 –100	0 –4″	0.01 / .0005″	0.03	.001″	Factory standard

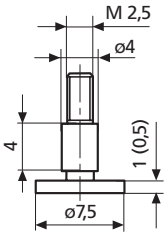
Order no.	a	b	c
	mm	mm	mm
4126532	268	85	16
4126513	268	85	16



ACCESSORIES

Order no.	For measuring instrument	Quantity unit	Product name	Type
4102220	30 EWRi-N		Receiver for instruments with integrated wireless	i-Stick
4102357	30 EWR-N		16 EXu data connection cable USB (2 m)	16 EXu
4102410	30 EWR-N		Data connection cable RS232C (2 m)	16 EXr
4102520	30 EWR-N, 30 EWRi-N		Battery 3 V, CR 2032	
4102915	30 EWR-N		Digimatic data cable (2 m)	16 EWd
4126310	30 EWR-N, 30 EWRi-N	Piece	Disc type anvil (7.5 x 0.5 mm)	30 ENt
4882022	30 EWR-N, 30 EWRi-N	Piece	Disc type anvil (7.5 x 1 mm)	30 ENt

i-Stick



30 ENt

MarCal 30 EWR-U / 30 EWRi-U

Digital Depth Gage

FUNCTIONS 30 EWR-U:

- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission via
  connection cable)

FUNCTIONS 30 EWRI-U:

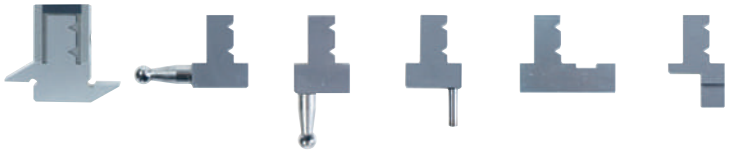
- ON/OFF
- AUTO-ON / OFF
- mm/inch
- LOCK function (key lock)
- RESET (set display to zero)
- PRESET
  (for entering a numerical value)
- DATA (data transmission)
- HOLD
  (storage of measured values)
- High contrast analog display
- Locking screw above
- Lapped guideway
- Measuring surfaces
  made of steel
- Slide and beam made of
  hardened stainless steel
- Immediate measurements
  due to the Reference System
- Raised guideway for the
  protection of the scale
- Excellent resistance against dust,
  coolants and lubricants
- Dirt wipers are integrated
  in the slide

30 EWR-U

30 EWRi-U

Application:

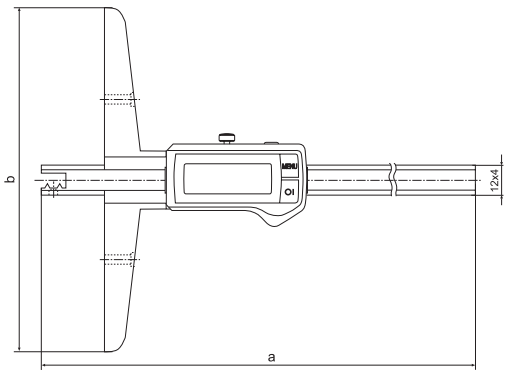
- Measuring groove widths and distances between grooves (with standard 30 Ud anvil with twin hook)
- **This depth gage can also be adapted to other measuring applications with the extensive range of optional accessories (anvils and adjustable measuring bridges)**



TECHNICAL DATA

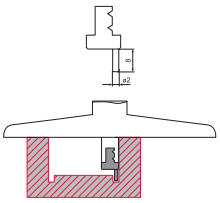
Order no.	Product type	Measuring range	Measuring range	Resolution	Error limit	Error limit	Standard
		mm	inch	mm/inch	mm	inch	
4126623	30 EWR-U	0 –300	0 –12″	0.01 / .0005″	0.04	0.0016″	Factory standard
4126624	30 EWR-U	0 –500	0 –20″	0.01 / .0005″	0.05	0.002″	Factory standard
4126603	30 EWRi-U	0 –300	0 –12″	0.01 / .0005″	0.04	0.0016″	Factory standard
4126604	30 EWRi-U	0 –500	0 –20″	0.01 / .0005″	0.05	0.002″	Factory standard

Order no.	a	b	c
	mm	mm	mm
4126623	385	150	16
4126624	585	150	16
4126603	385	150	16
4126604	585	150	16

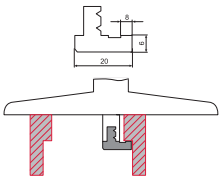


ACCESSORIES

Order no.	For measuring instrument	Product name	Quantity unit	Product type
4102220	30 EWRi-U	Receiver for instruments with integrated wireless		i-Stick
4102357	30 EWR-U	16 EXu data connection cable USB (2 m)		16 EXu
4102410	30 EWR-U	Data connection cable RS232C (2 m)		16 EXr
4102520	30 EWRi-U, 30 EWR-U	Battery 3 V, CR 2032		
4102915	30 EWR-U	Digimatic data cable (2 m)		16 EWd
4126630	30 EWRi-U, 30 EWR-U	Interchangeable anvil with twin hook. For width and distance measurements of recesses, grooves and offsets.	Piece	30 EUd
4126631	30 EWRi-U, 30 EWR-U	Interchangeable anvil with ball insert, Ø 4 mm, angled. For distance measurements in lateral recesses and grooves.	Piece	30 EUw
4126632	30 EWRi-U, 30 EWR-U	Interchangeable anvil with ball insert, Ø 4 mm, straight. For depth measurements in narrow front recesses and grooves and concave measuring points.	Piece	30 EUg
4126633	30 EWRi-U, 30 EWR-U	Interchangeable anvil with measuring pin, Ø 2 x 8 mm. Suitable for all conventional depth measurements and for contacting in small bores and confined spaces.	Piece	30 EUb
4126634	30 EWRi-U, 30 EWR-U	Interchangeable anvil with measuring hook. For width and distance measurements of wide recesses and offsets.	Piece	30 EUh
4126635	30 EWRi-U, 30 EWR-U	Interchangeable anvil with chisel edge for straight measuring rod. For conventional measuring tasks with straight measuring rod.	Piece	30 EUs
4126641	30 EWRi-U, 30 EWR-U	Adjustable measuring bridge 300 mm including fittings. For broad-based support on large workpieces and for offset measurement outside the center of a large bore, e.g. measuring on a gearbox flange.	Piece	30 EUm
4126642	30 EWRi-U, 30 EWR-U	Adjustable measuring bridge 400 mm including fittings. For broad-based support on large workpieces and for offset measurement outside the center of a large bore, e.g. measuring on a gearbox flange.	Piece	30 EUm



30 EUb



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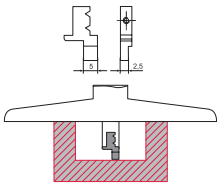

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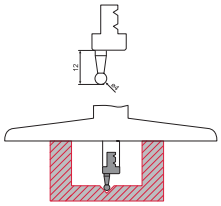

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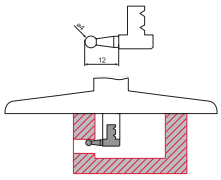

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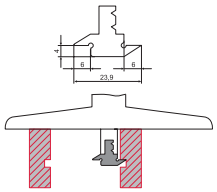

30 EUd

30 EUm

i-Stick