



نماینده انحصاری کمپانی Mahr آلمان



Mahr

Digimar. Height Measuring Instruments

DO YOU WANT TO AIM EVEN HIGHER? FOR THIS THERE IS DIGIMAR.



The latest information on DIGIMAR products can be found on our website: www.mahr.com, WebCode 204



► I Mahr offers you a complete range of products in order for you to obtain the most reliable solution for all your measuring tasks. Whether it's simply scribing a work piece or complex measurements in two dimensions - Digimar Height Measuring Instruments guarantee a maximum of both flexibility and quality. Our motorized Height Measuring Instruments Digimar 817 CLM and 816 CL exceed all customer requirements; they are simple to operate, all the basic functions can be executed with a single key as well as offering a maximum of ease and accuracy.

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Digimar. Height Measuring Instruments

Digimar. Height Measuring Instruments

Overview	
Digimar Height Measuring Instruments	2-2
Motorized Height Measuring Instruments	
Digimar 817 CLM Quick Height High-End Height Measuring Instruments with 2D measurement and a statistics function	2- 4
Digimar 816 CL Height Measuring Instruments for use in the workshop and in production	2-8
Accessories for 817 CLM and 816 CL	2-10
Manual Height Measuring Instruments	
Digimar M 814 N With Cast Iron Base	2-16
Digimar M 814 G With Granite Table Plate	2-17
Accessories for Digimar M 814	2-18
Height Measuring and Scribing Instrument	
Digimar 814 SR	2-19

(Mahr) 2-2 **•** I Digimar. Height Measuring Instruments

Digimar. Height Measuring Instruments **OVERVIEW**

				D) Digimar 817	CLM "(Quick Heigl	nt"	
			Digimar 817 CLM			Digimar 517 CLM			Digimar HIV CLM
Catalog page			2-4			2-4			2-4
Measuring range mm / inch		0-350	/	0-14"	0-600	/	0-24"	0-1000	/ 0-40"
Application range up to mm / inch		520	/	20.47"	770	/	30.35"	1170	/ 46.06"
Measuring error* in μm		1.8+L/	600 (L	in mm)	1.8+L/	600 (L	in mm)	1.8+L/6	00 (L in mm)
Quick Mode			•			•			•
1-D	↑ ^{1D}		•			•			•
2-D			•			•			•
Motorized measuring carriage			٠			•			•
Scribing/marking work pieces									
Bore diameter	٢		٠			٠			•
Max-Min			•			•			•
Tolerance monitoring	TOL		٠			٠			•
Perpendicularity measurement			•			•			•
Straightness measurement			٠			٠			•
Angle calculation	\geq		•			•			•
Statistics	STAT		٠			٠			•
Measuring programs	PROG		40			40			40
Temperature compensation	20°C		٠			٠			•
Air bearings			•			•			•
Integrated USB memory			٠			٠			•
Data interface			RS232			RS232		R	S232
USB printer interface	ł		٠			٠			•
Order no.		4	42901	0	4	42901	1	44	29012

* At 20°C in conjunction with a base plate in accordance to DIN 876/0 and a standard probe K6/51



Digimar. Height Measuring Instruments

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		Distance		Dinimum		Division	044.00
Digimar 810	6 CL	Digimar l	VI 814 N	Digimar	M 814 G	Digimar 814 SR	
Domar 816.0.	Digimar 816.0.						
2-8	2-8	2-16	2-16	2-17	2-17	2-19	2-19
0-350 / 0-14" 0-	-600 / 0-24"	0-320 / 0-12"	0-620 / 0-24"	0-320 / 0-12"	0-620 / 0-24"	0-350 / 0-14"	0-600 / 0-24"
520 / 20.47"	770 / 30.31"	320 / 12.6"	620 / 24.4 "	320 / 12.6"	620 / 24.4"	350 / 14"	600 / 24"
2.8+L/300 (L ir	n mm)	20	30	20	30	40	50
•	•	•	•	•	•	•	•
•	•						
		•	•	•	•	•	•
•	•	•	•	•	•		
•	•	•	•	•	•		
·	-	•		•	•		
		•	•	•	•		
1	1						
•	•						
•	•						
USB / RS23	32	Opto F	RS232	Opto I	RS232	USB / RS23	2 / Digimatic
4429030	4429031	4426540	4426542	4426541	4426543	4426100	4426101

Mahr 2-4

I Digimar. Height Measuring Instruments

Digimar 817 CLM Quick Height

► I The new Height Measuring Instrument **Digimar** 817 CLM with the innovative Quick Mode. Highly accurate rapid measurements, a wide range of measuring and evaluation options and excellent operator comfort.

The best solution for all measuring tasks



Fast measurement per hand Easy to operate due to the "Quick Mode"; an innovative solution from Mahr (patented).



Ill. 1. Move the measuring carriage by hand in the direction of the object to be measured.



Ill. 2. The motor starts, the measurement procedure will automatically be performed.

Measurement using the keypad (speed keys) on the base



Ideal in conjunction with the air bearings for large work pieces.

By using the keys that are integrated into the base; the operator can comfortably move the measuring carriage into the desired position and start a measurement. This eases measurement particularly when measuring large workpieces as these do not have to be moved into position. The operator can keep both hands on the measuring instrument (one hand on the key for the air bearing and other on the high-speed keys) and measure the workpiece in one run.

Highest accuracy and reliability

- Extremely accurate incremental measuring system with double reader head system, insensitive to the contamination of dirt
- Robust guide column, made from stainless steel
- Measuring head in precision ball bearings guide
- Temperature compensation with an integrated temperature sensor





Digimar. Height Measuring Instruments

4 2-5

Ergonomic operating and display unit



• The display unit can be positioned freely with the swivel arm

Universal measurement possibilities

- Wide range of measurement functions in 1D or 2D
- Dynamic measurement functions with the analog display
- Automatic perpendicularity and straightness measurements (in conjunction with accessories)
- Automated measuring procedures (measurement programs)
- Auto function for chain measurements and distance measurements

Extensive evaluation possibilities

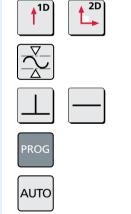
- Transmit data to a PC via RS232 or USB (with an adapter) for example into MS Excel via the MarCom-Software
- Print measured values, statistics, etc. via a USB printer
- Save measued values in the integrated USB memory (will be recognized by a PC as an interchangeable disc drive) or on a USB dongle
- Broad range of statistical evaluations are available



- Large, back-lit display
- Self-explanatory guided operation with icons



Easy to operate all measurement functions with the function keys due to the clearly defined symbols.



USB
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Mahr 2-6

Digimar. Height Measuring Instruments

Height Measuring Instrument Digimar 817 CLM



Features

Measuring system

- Excellent accuracy and reliability due to the optical incremental measurement system with the double reader head
- Dynamic probing system enabling high repeatability
- Air bearings system for light and smooth movement
- Precise measuring head on stainless steel guideways
- Motorised measuring carriage simplifies measurement runs
- Probe constant remains after the instrument is switched off
- Integrated rechargeable battery with a long operating time span for mains independent measurement
- Temperature compensation with an integrated temperature sensor

Operating and display unit

- Large and clearly defined function keys
- Easy to read background lit graphic LCD display
- Operator guidance with self-explanatory icons / pictograms
- Operator prompts and menus are available in several languages
- Possible to set additional zero points on a work piece
- RS232 and / or USB data output for further data processing
- Save measured data on the integrated USB memory or on a USB stick
- USB interface to connect a compatible USB printer
- Additional measuring instruments with Opto RS232-interface can be connected
- Secure the future due to software update potential
- Automatic Stand-by switch mode
- Selectable Auto-off function, without loss of measured values
- Supplied with:

Height Measuring Instrument incl. operating and display unit, Carrier 817h1, Probe K6/51, Setting block 817 eb, Operating instructions, Mains power adapter, USB cable and a Calibration certificate

Technical Data

Measuring range	mm / inch	350 / 14"	600 / 24"	1000 / 40"
Range of application	mm / inch	520 / 20.47"	770 / 30.31"	1170 / 46.06"
Resolution	mm	0.01	/ 0.005 / 0.001 / 0.0005 /	0.0001
	inch	.001" /	.0005" / .0001" / .00005"	/.00001"
Measuring error*	μm		(1.8 + L/600), L in mm	
Repeatability	μm		0.5 (plane) 1 (bore)	
Perpendicularity error (elect. adjusted)	μm	frontal ≤5	frontal ≤6	frontal ≤10
Operating time of rechargeable battery	h		up to 12	
Measuring force	Ν		1.0 ± 0.2	
Permissible relative air humidity	%		65 (non condensed)	
Working temperature	°C / °F		20 ± 1 / 68 ± 1.8	
Operating temperature	°C / °F		10 40 / 50 104	
3-point air cushion, height	μm		ca. 9	
Measuring system	•	incr	emental scale with optical re	eading
Total height	mm / inch	741 / 29.17"	985 / 38.78"	
Base area (L x W)	mm / inch		240 x 250 / 9.45" x 9.84	u –
Weight	kg / lbs	25 / 55.15	30 / 66.14	35 / 77.16
Order no.	2	4429010	4429011	4429012

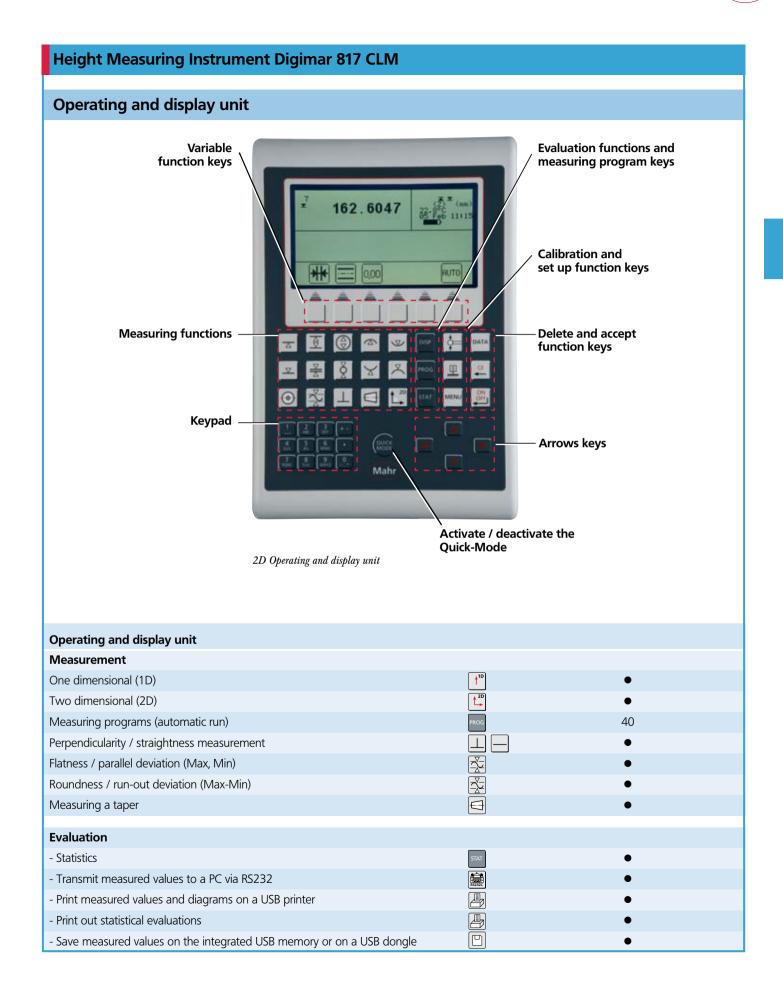
* At 20°C in conjunction with a base plate in accordance to DIN 876/0 and a standard probe K6/51



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2-7



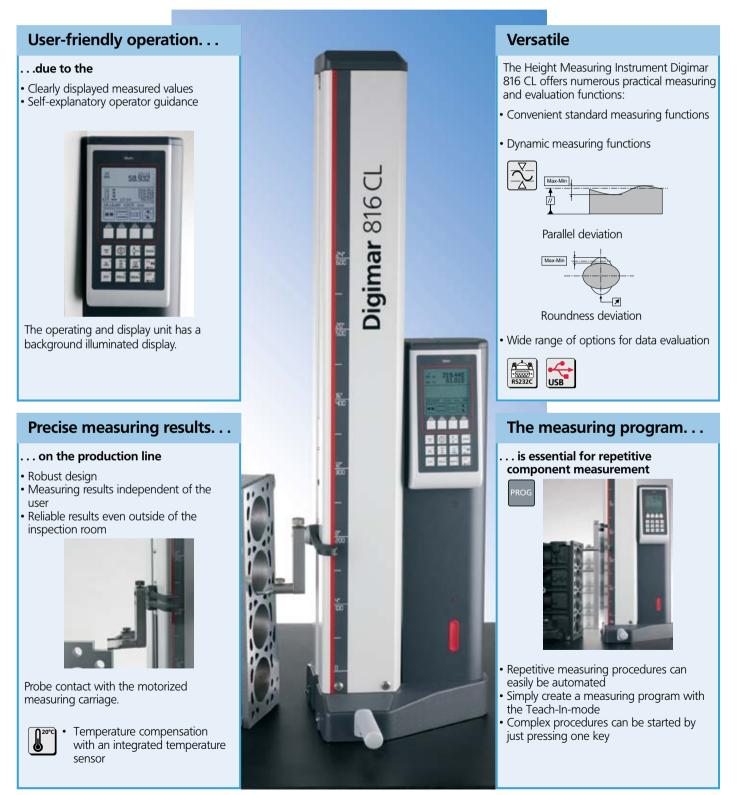
Mahr 2-8

I Digimar. Height Measuring Instruments

Digimar 816 CL

► I The new Height Measuring Instrument **Digimar** 816 CL.

You want to obtain highly accurate measurement results without any complicated procedures? With the Digimar 816 CL you have the perfect partner for simple and accurate measurements both in the workshop or on the production line, just as you expect from Mahr!



Digimar. Height Measuring Instruments

(Mahr)

2-9

Height Measuring Instrument Digimar 816 CL



Features

Measuring system

- Excellent accuracy and reliability due to the optical incremental measurement system with the double reader head
- Dynamic probing system enabling high repeatability
- Air bearings system for light and smooth movement
- Precise measuring head on stainless steel guideways
- Motorized measuring carriage simplifies measurement runs
- Temperature compensation with an integrated temperature sensor
- Probe constant remains after the instrument is switched off
- Integrated rechargeable battery with a long operating time for mains independent measurement

Operating and display unit

- Easy to read background lit graphic LCD display
- Large and clearly defined function keys
- Operator guidance with self-explanatory icons / pictograms
- Possible to set additional zero points on a work piece
- Memory can store up to 99 measured values
- MarConnect data output, select either:
 - USB
- OPTO RS232C
- Supplied with:

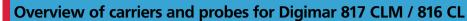
Height Measuring Instrument incl. operating and display unit, Carrier 817h1, Probe K6/51, Setting block 817 eb, Operating instructions, Mains power adapter and a Calibration certificate

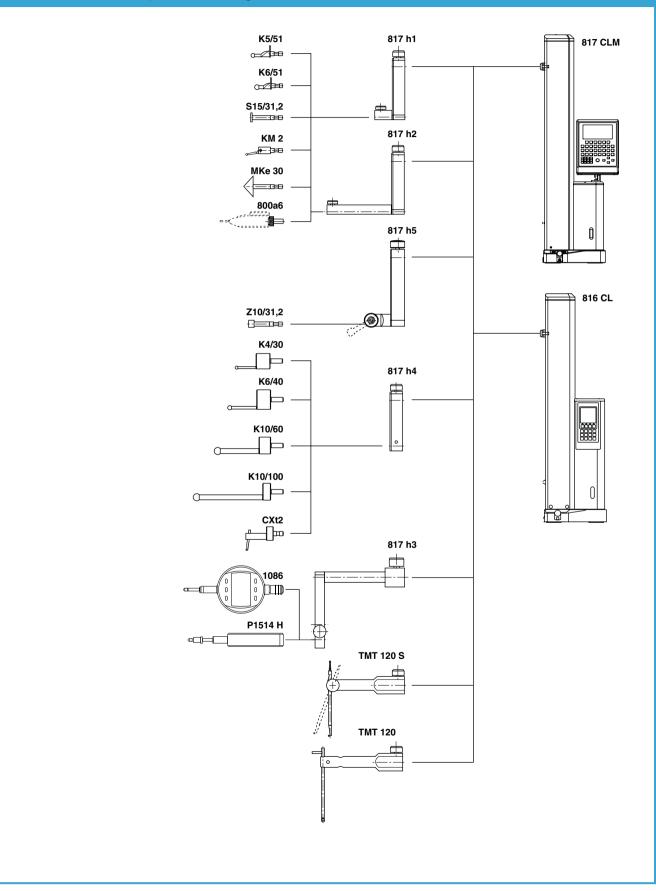
Technical Data

Measuring range	mm / inch	350 / 14"	600 / 24"
Range of application	mm / inch	540 / 21.26"	770 / 30.31"
Resolution	mm (inch)	0.01 / 0.001 (.00	01" / .00005")
Measuring error*	μm	(2.8+L/300	
Repeatability	μm	2 (plane)	3 (bore)
Perpendicularity error (mech.)	μm	frontal ≤15	frontal ≤20
Operating time of rechargeable battery	ĥ	up to	o 14
Measuring force	Ν	1.0 ±	: 0.2
Permissible relative air humidity	%	65 (non co	ondensed)
Working temperature	°C / °F	20 ±1 /	68 ±1.8
Operating temperature	°C / °F	10 40 /	50 104
3-point air cushion, height	μm	ca.	9
Measuring system		incremental scale w	vith optical reading
Total height	mm / inch	741 / 29.17"	985 / 38.78"
Base area (L x W)	mm / inch	240 x 250 / 9).45" x 9.84"
Weight	kg / lbs	25 / 55.15	30 / 66.14
Order no.		4429030	4429031

* 20°C with surface base plate according to DIN 876/0 and standard probe K6/51

(Mahr) 2-10 Mahr 2-10 Digimar. Height Measuring Instruments





Digimar. Height Measuring Instruments | < 2-11 (Mahr)

Height Measuring Instruments Digimar 817 CLM / 816 CL

Accessories

Catalog no.	Description	Shaft length mm	Order no.	817 h1 ₅			817 h2
817 h1	Carrier for a probe	27.5	4429154*				
817 h2	Carrier for a probe	100	4429219	8		84	
317 h5	Carrier with a joint for a probe	35	4429454			↓ ↓ ↓ ↓	
Supplied with	standard accessories			æ	46,5	 	100,5 119,5
				817 h5			
				•		rotatable	
	th mount dia. 6 m Description	ım	Order no.	к 5/51		rotatable K 6/51	
Catalog no. K5/51 K6/51 S15/31,2 Z10/31,2	Description Spherical probe Spherical probe Disc probe Cylindrical probe	ım	4429158 4429254* 4429226 4429227	K 5/51			
Catalog no. K5/51 K6/51 S15/31,2 Z10/31,2 MKe 30	Description Spherical probe Spherical probe Disc probe Cylindrical probe Taper probe Probe M2 incl. styli 8		4429158 4429254* 4429226	K 5/51 S 15/31,2			
	Description Spherical probe Spherical probe Disc probe Cylindrical probe Taper probe	00 ts,	4429158 4429254* 4429226 4429227 4429228			K 6/51	
Catalog no. K5/51 K6/51 S15/31,2 Z10/31,2 MKe 30 KM 2 800 a6	Description Spherical probe Spherical probe Disc probe Cylindrical probe Taper probe Probe M2 incl. styli 8 dia. 2 mm	00 ts,	4429158 4429254* 4429226 4429227 4429228 4429256			K 6/51	
Catalog no. K5/51 K6/51 S15/31,2 Z10/31,2 MKe 30 KM 2 800 a6	Description Spherical probe Spherical probe Disc probe Cylindrical probe Taper probe Probe M2 incl. styli 8 dia. 2 mm Mounting shaft 800	00 ts,	4429158 4429254* 4429226 4429227 4429228 4429256	S 15/31,2		K 6/51	

Mahr 2-12

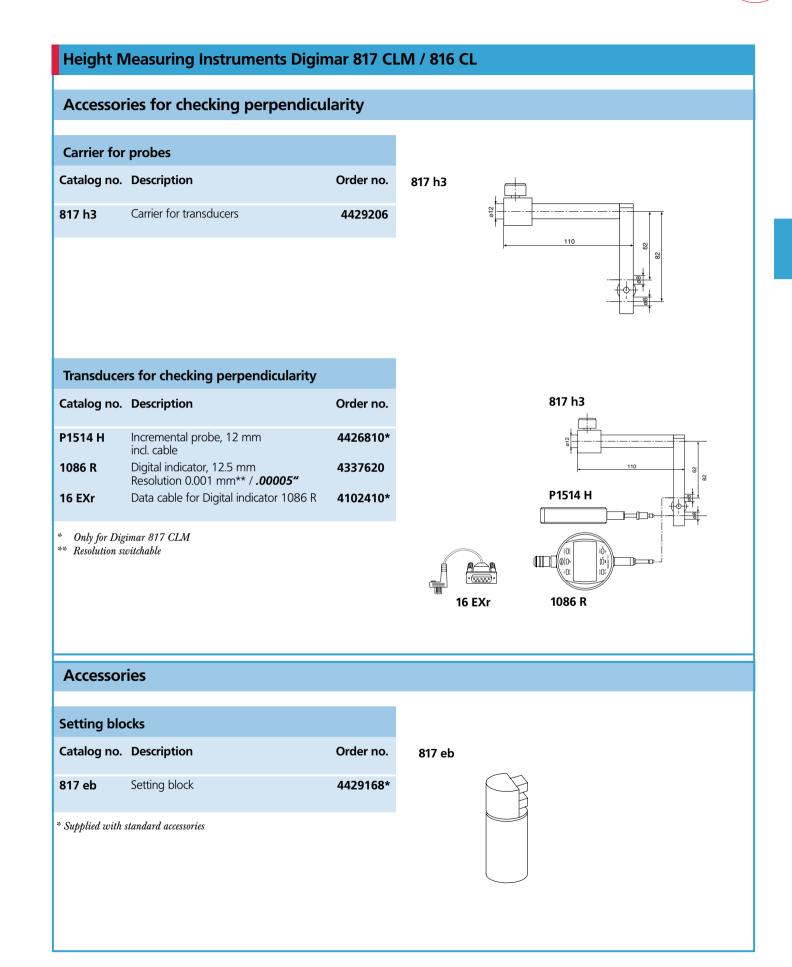
I Digimar. Height Measuring Instruments

Height Measuring Instruments Digimar 817 CLM / 816 CL **Accessories** Carrier for probes with mount dia. 8 mm 817 h4 Catalog no. Description Order no. 817 h4 Carrier for probes 4429220 Probes with mount dia. 8 mm К 4/30 K 6/40 Ball dia. Catalog no. Order no. D mm 4 K4/30 7023813 6 K6/40 7023816 K10/60 10 7023810 K10/100 10 7023615 K 10/60 K 10/100 Universal probe CXt2 see page 2-14 The above Probes requires the Probe Carrier 4429220 in order to be used on either an 817 CLM or 816 CL 103 **Depth probes** TMT 120 Order no. Catalog no. Description Depth probe incl. carrier 4429221 **TMT 120** 0 TMT 120 S 2 depth probes incl. carrier (rotatable) 4429421 120 115 TMT 120 S 123,5 14.5



Digimar. Height Measuring Instruments | < 2-13

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(Mahr) 2-14
 Jigimar. Height Measuring Instruments

Height Measuring Instruments Digimar 817 CLM / 816 CL

Accessory sets for probes

Probe set	817 ts1 consists of:	4429019
817 h2 S15/31,2 Z10/31,2 MKe 30 TMT 120 KM 2	Carrying case for accessories Carrier for probes Disc probe Cylindrical probe Taper probe Depth probe incl. carrier Probe for MarTest styli M2	4429020 4429219 4429226 4429227 4429228 4429221 4429256
817 h4 K4/30 K6/40 K10/60 K10/100	Carrier for probes Spherical probe Spherical probe Spherical probe Spherical probe	4429220 7023813 7023816 7023810 7023615



817 ts1

Probe set 817 ts2 consists of:	4429018
Carrying case for accessories817 h2Carrier for probes\$15/31,2Disc probe\$10/31,2Cylindrical probeMKe 30Taper probeTMT 120Depth probe incl. carrierKM 2Probe for MarTest styli M2	4429020 4429219 4429226 4429227 4429228 4429221 4429256

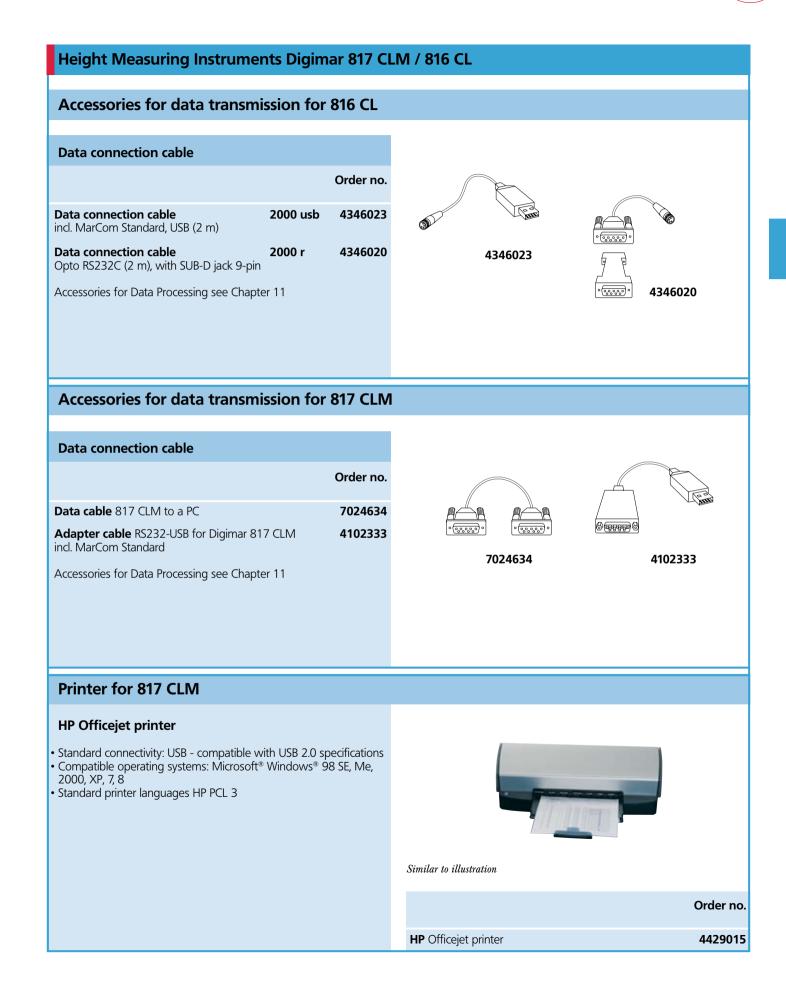


817 ts2

Universal probe set	t CXt2 consists of:		7034000			Probe carrier	+
Case Probe carrier			3015925 3015917	-		37,5	
	Dimension	Shaft length	5015517				╢╟┲┲┓┼
Measuring crook	d = 0.5 mm	l = 78 mm	3015918	And and a second se			
Probe pin /tip:	dia. d = 1.2 mm	l = 75 mm	3015919				
		<i>ls</i> = 15.5 mm					
				N A	D'a ang ba	Tananaka	
Taper probe	dia. d = $0-7.5$ mm		3015920	Measuring	Pin probe	Taper probe	
Spherical probe	TC dia. $dk = 3 mm$		3022000	crook	A		
Spherical probe	TC dia. $dk = 2 mm$	l = 24 mm	3022001	11 1			
Spherical probe	TC dia. $dk = 1 mm$	l = 24 mm	3022002				
Extension M3 – M3	d = 4 mm	l = 20 mm	3015921	~	~ ~	Spherical probe	Extension
Extension M3 – M2.5	d = 4 mm	l = 20 mm	3015888			- ۲ ای الخ	ן <u></u> קעני
The above Probes re		ier 4429220 in	order to be	⊽			
used on either an 81	7 CLM or 816 CL					· •→	·



Digimar. Height Measuring Instruments | < 2-15 (Mahr)



Mahr 2-16

► | Digimar. Height Measuring Instruments

Height Measuring and Scribing Instrument Digimar 814 N Standard Version



Applications

Ideal for measuring:

- Heights
- Center distances between bores and surfaces, widths of ledges, plus marking and scribing of workpieces

Features

With extra rugged, cast iron base with three-point support. To be used on base plates, machine beds and work piece surfaces. Conversion to a 814 G version is quick and easy at any time.

- High accuracy
- Incremental inductive measuring system
- Measuring head with an ball bush guide
- Resistance free measuring system
- Large, easy to read digital display
- Measuring and display unit are incorporated in the measuring head
- Easy to operate due to the hand crank on the side of the measuring head
- Constant measuring force; acting upwards or downwards as required
- Measuring head can be locked in position, ideal for scribing tasks
 With fine adjustment
- Data transmission via Opto RS232C interface
- Digital Preset
- Zero setting in any position
- MAX, MIN and MAX-MIN functions
- Enter tolerance limit for 1 characteristic
- Switch between mm/inch
- Mains independent due to being battery operated
- Universal application due to a broad range of accessories

Technical Data

Measuring range	mm / inch	320 / 12.6"		620 / 24.4"
Resolution	mm (inch)		0.01 / 0.001 (.0005" / .00005"	9
Measuring error	μm	20 / .0008"		30 / .0012"
Repeatability	μm		5 / .0002"	
Perpendicularity error	μm	frontal 20 (300 mm)		frontal 30 (600 mm)
Operating time of the battery	ĥ		2000	
Measuring force	Ν		ca. 3	
Working temperature	°C / °F		20 ±1 / 68 ±1.8	
Operating temperature	°C / °F		540/41104	
Measuring system			inductive	
Total height	mm / inch	513 / 20.20"		813 / 32.01"
Cast iron base (L x W)	mm / inch	205 x 175 / 8.07" x 6.8	9"	205 x 175 / 8.07" x 6.89"
Weight	kg / lbs	6.2 / 13.22		10.5 / 23.15
		4426540		4426542

Order no.

4426540

4426542

Digimar. Height Measuring Instruments | < 2-17 (Mahr)

Height Measuring and Scribing Instrument Digimar 814 G Base plate version



Applications

Ideal for measuring:

- Heights
- Center distances between bores and surfaces, widths of ledges, plus marking and scribing of workpieces

Features

Table plate is made of fine grained black granite (greenstone) which is extremely hard and stable.

Conversion to a 814 N version is quick and easy at any time.

- High accuracy
- Incremental inductive measuring system
- Measuring head with an ball bush guide
- Resistance free measuring system
- Large, easy to read digital display
- Measuring and display unit are incorporated in the measuring head
- Easy to operate due to the hand crank on the side of the measuring head
- Constant measuring force; acting upwards or downwards as required
- Measuring head can be locked in position, ideal for scribing tasks
 With fine adjustment
- Data transmission via Opto RS232C interface
- Digital Preset
- Zero setting in any position
- MAX, MIN and MAX-MIN functions
- Enter tolerance limit for 1 characteristic
- Switch between mm/inch
- Mains independent due to being battery operated
- Universal application due to a broad range of accessories

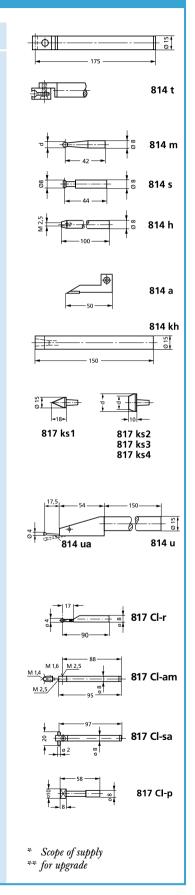
Technical Data

Measuring range	mm / inch	320 / 12.6"		620 / 24.4"
Resolution	mm (inch)		0.01 / 0.001 (.0005" / .00005")	
Measuring error	μm	20 / .0008"		30 / 0.0012"
Repeatability	μm		5 / .0002"	
Perpendicularity error	μm	frontal 20 (300 mm)		frontal 30 (600 mm)
Operating time of the battery	h		2000	
Measuring force	Ν		ca. 3	
Working temperature	°C / °F		20 ±1 / 68 ±1.8	
Operating temperature	°C / °F		540/41104	
Measuring system			inductive	
Total height	mm / inch	558 / 21.97"		858 / 33.78"
Granite plate (L x W)	mm / inch		200 x 300 / 7.87" x 11.81"	
Grade of accuracy			1 DIN 876	
Weight	kg / lbs	14 / 30.86		18.3 / 35.27
Order no.		4426541		4426543

(Mahr) 2-18
 Digimar. Height Measuring Instruments

Accessories for Height Measuring and Scribing Instrument Digimar 814 N / 814 G

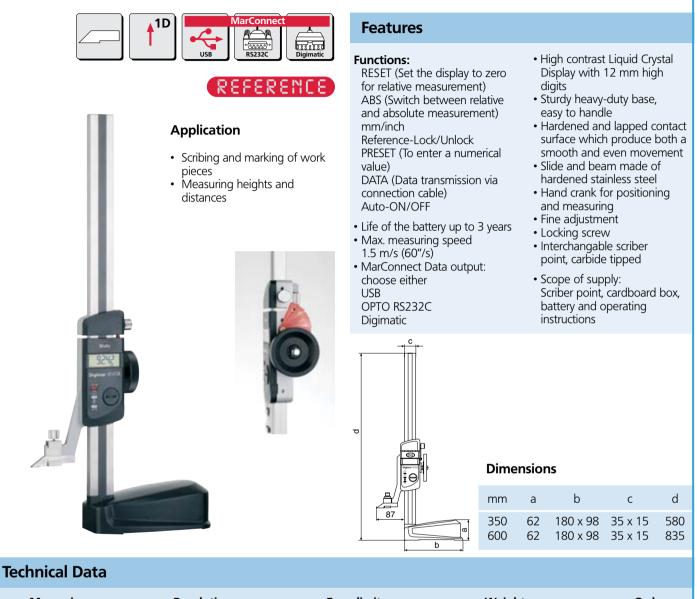
				Order no.
814 t	Probe arm with joint for mounting probes, dial indica and test indicators.	tors, dial comparat	ors	4426510*
	Length of mounting shank Mounting bore	150 mm 8 mm	(5.91") (.315")	
814 m	Spherical probe To mount in probe arm 814 t	2 mm ball 3 mm ball 4 mm ball 5 mm ball 6 mm ball 7 mm ball 8 mm ball	(.0787") (.118") (.157") (.197") (.236") (.276") (.315")	4426525 4426526 4426512 4426527 4426511 4426528 4426509*
814 s	Disc probe for measuring heights, distances, surfaces Especially recommended for narrow shou		ring edges.	4426513
814 h	Probe holder to mount the styli of dial indicators and di For special applications.	M 2.5 al comparators.		4426514
814 a	Scriber for scribing and marking of work pieces. C To be mounted on the Probe arm 814 t.	Carbide tipped.		4426515
814 kh	Halter			4426516
817 ks1 817 ks2 817 ks3 817 ks4	Measuring taper Measuring taper Measuring taper Measuring taper	18 – 24	(0591") (.551"787") (.709"945") (.906" -1.181")	4426071 4426072 4426073 4426074
814 u	Two direction probe for measuring outside and inside diamete slots. Actual ball diameter does not influer		(.157") , recesses and	4426517
814 ua	Interchangeable probe arm for use in conjunction with the two directi	2 mm ball on probe 814 u	(.0787")	4426518
817 Cl-r	Spherical probe	4 mm ruby ball	(.157")	4426498
817 Cl-am	Holder with connection thread	M 2.5, M 1.	6, M 1.4	4426434
817 Cl-sa	Stylus with exchangeable measuring pin			4426433
817 Cl-p	Stylus with parallel measuring faces			4426435
	Battery 3 V, type CR 2032			4102520*
	Dust cover	0–320 mm	(0 - 12.60")	4426616*
	Dust cover	0–620 mm	(0 - 24.41")	4426619*
814 Nf	Cast iron base			4426506**
814 Gf	Table plate			4426507**
814 X	Column with measuring head	0–320 mm	(0 - 12.60")	4426544
814 X	Column with measuring head	0–620 mm	(0 - 24.41")	4426545
16 ESv	Data connection cable Opto RS232C	Length 2 m	(6.56 ft)	4102510



Digimar. Height Measuring Instruments | < 2-19

(Mahr)

Height Measuring and Scribing Instrument Digimar 814 SR



	suring nge	Resolution	Error limit	Weight	Order no.
mm	(inch)	mm / inch	mm / inch	kg / lbs	
350	(14")	0.01 / .0005"	0.04 / .0016"	7 / 15.43	4426100
600	(24")	0.01 / .0005"	0.05 / .0020"	8 / 17.64	4426101

Accessories

	Order no.
Measuring / Scriber Point, carbide tipped 814 SR	
Holder for Test Indicators27 SpBattery 3V, type CR 2032	4123041 4102520
Data Connection Cable USB (2 m)16 EXu	4102357
Data Connection Cable Opto RS232C(2 m), with SUB-D jack 9-pin16 EXr	4102410
Data Connection Cable Digimatic (2 m), Flat plug 10-pin 16 EW	d 4102915

