

# Best Deals

of  brown & sharpe

2014

Expiration Date: 12/19/14

00590303

\$159.00



00590093

\$119.00



00599090

\$89.00



**TWIN**  
TESA Wireless Interface



PART OF  
**HEXAGON**

[www.tesagroup.com](http://www.tesagroup.com)

## Brown & Sharpe TLC-TWIN Wireless Solution

Bi-directional communication between a measuring tool and computer is easy with the revolutionary new TLC-TWIN wireless solution from Brown & Sharpe. Connect the TLC-TWIN Emitter/Receiver to your existing TWIN-CAL caliper to send measured data to StatExpress software on your computer and receive instant PASS/ FAIL notifications.

### TLC-TWIN Emitter-Receiver (04760180)

- Bi-directional communication between computer workstation and TWIN enabled measuring tools.
- Range up to 39 feet/12 meters, depending on the surroundings.
- Swiss made.

### TWIN Station Receiver (05030012)

- Connect up to 48 instruments equipped with TLC-TWIN Emitter-receivers to a single, TWIN Station equipped computer.
- Connect to the computer through a standard USB port.
- Aluminum housing provides optimum protection and durability.
- Swiss made.

### Data-Direct (04981001) and StatExpress (04981002) Software

- Use Data-Direct data collection and reporting software to transfer measuring data to any interface. Data can be customized with date and/or hour and saved to .csv format.
- Use StatExpress software to analyze measured results for more advanced quality assurance requirements.



TWIN-CAL IP67 Caliper with TLC-TWIN emitter-receiver attached



TWIN-Cal with TLC-USB or TLC-Digimatic cable



04760181

04760182



04760180

05030012

04981002  
StatExpress Software

Order Number	EDP Number	Description	List Price	Sale Price
04760180	47430	TLC-TWIN Emitter-receiver for Brown & Sharpe TWIN Series Measuring Tool	\$240.00	\$169.00
05030012	47431	TWIN-Station Receiver	\$727.00	\$445.00
04760181	47428	TLC-USB Cable	\$169.00	\$149.00
04760182	47429	TLC-DIGIMATIC Cable	\$201.00	\$179.00
04981001	31440	DataDirect Data Collection and Reporting Software	\$721.00	\$499.00
04981002	31451	StatExpress Quality Assurance Software	\$1,596.00	\$1,299.00

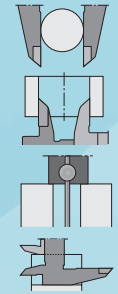
## Brown & Sharpe TWIN-CAL IP67 Digital Caliper

TWIN-CAL IP67 calipers are manufactured with wireless output capability built-in. Just connect the "plug and play" TLC (TESA-LINK Connector) emitter-receiver to the caliper, to begin transmitting data between your TWIN-CAL caliper and the TWIN Station receiver attached to your computer. Use TESA StatExpress or DataDirect software to analyze your data for quality control purposes.

- Highest IP67 protection against dust and liquids, also with cable connection.
- Biggest LCD screen ever with 11 mm digits.
- 12,000 hours battery life with normal usage.
- ABS measuring mode.
- Built-in TWIN-TLC wireless functionality. (Additional components required).
- «Soft touch» feature for a better grip and maximum sensitivity.
- Stainless steel plate cover with PVD deposit ensuring an optimal protection of the housing.

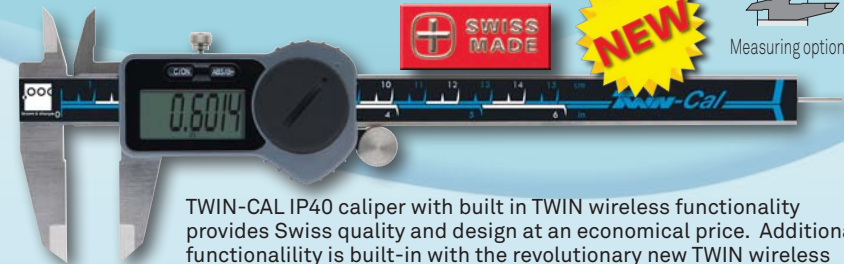


Order Number	EDP Number	Range	Resolution	Thumb-wheel	Depth Rod	List Price	Sale Price
00590302	47236	0-6 in/0-150 mm	.0005 in/0.01 mm	Y	Round	\$195.00	\$159.00
00590303	47237	0-6 in/0-150 mm	.0005 in/0.01 mm	Y	Square	\$195.00	\$159.00
00590304	47238	0-8 in/0-200 mm	.0005 in/0.01 mm	Y	Square	\$245.00	\$199.00
00590305	47239	0-12 in/0-300 mm	.0005 in/0.01 mm	Y	Square	\$360.00	\$299.00



Measuring options

## BROWN & SHARPE TWIN-CAL IP40



TWIN-CAL IP40 caliper with built in TWIN wireless functionality provides Swiss quality and design at an economical price. Additional functionality is built-in with the revolutionary new TWIN wireless connectivity solution.

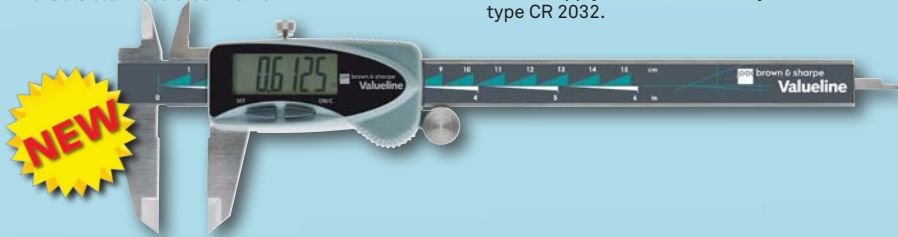
- Swiss Made quality and design.
- Built-in TWIN-TLC wireless functionality (Additional components required).
- IP40 level protection from liquids and dust.
- Absolute and differential measuring system.
- A large, 7/16" LC display for easy reading.
- Durable stainless steel frame.
- Auto shut-off.
- Instant inch/metric conversion.
- Battery life: approx. 1.5 years.
- Power supply: 3V lithium-battery, type CR 2032.

Order Number	EDP Number	Range	Resolution	Thumbwheel	Depth Rod	List Price	Sale Price
00590092	47473	0-6 in/0-150 mm	.0005 in/0.01 mm	Y	Round	\$144.00	\$119.00
00590093	47474	0-6 in/0-150 mm	.0005 in/0.01 mm	Y	Square	\$144.00	\$119.00
00590094	47475	0-8 in/0-200 mm	.0005 in/0.01 mm	Y	Square	\$180.00	\$149.00
00590095	47476	0-12 in/0-300 mm	.0005 in/0.01 mm	Y	Square	\$277.00	\$229.00

## Brown & Sharpe VALUeline Calipers

The Brown & Sharpe VALUeline caliper is the economical solution for taking accurate measurements on the shop floor and in the quality control laboratory. Featuring a large 7/16" LC display and a durable stainless steel frame, VALUeline calipers provide reliable performance at an economical price.

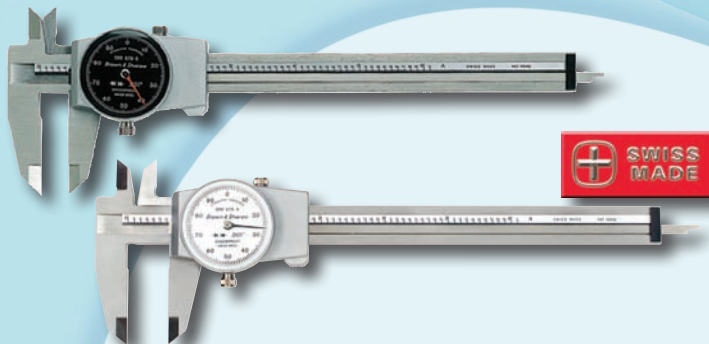
- IP40 level protection from dust.
- Absolute and differential measuring system.
- A large, 7/16" LC display for easy reading.
- Durable stainless steel frame.
- Auto shut-off.
- Instant inch/metric conversion.
- Battery life: approx. 2 years.
- Power supply: 3V lithium-battery, type CR 2032.



Order Number	EDP Number	Range	Resolution	Depth Rod	List Price	Promo Price
00599090	47464	0-6in/0-150mm	.0005in/0.01mm	Square	\$108.00	\$89.00
00599092	47466	0-8in/0-200mm	.0005in/0.01mm	Square	\$135.00	\$109.00
00599093	47467	0-12in/0-300mm	.0005in/0.01mm	Square	\$209.00	\$169.00

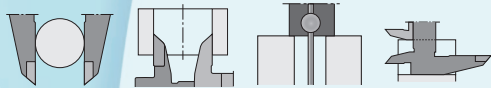
## Brown & Sharpe Dial-Cal® Dial Calipers

World's First & Finest!



- Tough - Anti-backlash, shock-proof design.
- Durable - Covered stainless steel rack.
- Versatile - Measures inside, outside, depth & step.
- Precise - .100"/2mm per revolution.
- Reliable - Adjustable zero set and slide lock.
- Easy-To-Read - 1.25" diameter rotating dial w/lock.

### Measuring Options



Order Number	EDP Number	Range	Resolution	Thumbwheel	Dial Face Color	List Price	Sale Price
599-579-4	51774	0-6 In	.001 in	without	Silver	\$163.00	\$129.00
599-579-5	51879	0-6 In	.001 in	without	Black	\$163.00	\$129.00
599-579-8-1	27594	0-8 In	.001 in	with	Silver	\$289.00	\$229.00
599-579-8-5-1	27593	0-8 In	.001 in	with	Black	\$289.00	\$229.00
599-579-12-1	27592	0-12 In	.001 in	with	Silver	\$344.00	\$239.00
599-579-12-5-1	27591	0-12 In	.001 in	with	Black	\$344.00	\$239.00

## TWIN-CAL IP67 Calipers for Special Applications

Designed for specialized measuring applications, these TWIN-CAL IP67 models feature the same wireless capabilities as other TWIN-CAL models. IP67 protection makes them equally durable as well.



Bore depth measurement



Measurement of thickness-aluminium block



Center to center measurement using a caliper with external jaws

Order Number	EDP Number	Description	Range	List Price	Sale Price
00530423	47405	TWIN-CAL IP67, with rounded measuring jaws for internal dimensions	12 in/300 mm	\$523.00	\$407.00
00530433	47406	TWIN-CAL IP67, with knife-edge jaws for external dimensions	12 in/300 mm	\$592.00	\$441.00
00530443	47407	TWIN-CAL IP67, with short cut measuring faces	12 in/300 mm	\$580.00	\$462.00
00530448	47408	TWIN-CAL IP67, with rotary stop plate	10 in/250 mm	\$596.00	\$476.00
00530473	47409	TWIN-CAL IP67, horizontal scale	12 in/300 mm	\$626.00	\$489.00

## Value-Line Micrometers - Inch

The standard wherever measuring consistency is vital.

### Features:

- Satin-chrome thimble.
- Spindle lock.
- .0001" reading.
- Tungsten carbide tipped faces.
- Straight-line graduations.
- Fixed/friction thimble.
- Black enamel frame.
- Meets Federal specifications.



Individual Micrometers				
Order Number	EDP No.	Range	List Price	Sale Price
599-1-44	25943	0 - 1 in	\$124.00	<b>\$109.00</b>
599-2-44	25944	1 - 2 in	\$128.00	<b>\$113.00</b>
599-3-44	25945	2 - 3 in	\$135.00	<b>\$117.00</b>
599-4-44	25946	3 - 4 in	\$137.00	<b>\$119.00</b>
599-5-44	25947	4 - 5 in	\$153.00	<b>\$133.00</b>
599-6-44	25948	5 - 6 in	\$157.00	<b>\$137.00</b>
Micrometer Sets				
599-181-923	25983	0 - 3 in Without Standards	\$460.00	<b>\$389.00</b>
599-181-923-1	25984	0 - 3 in With Standards	\$506.00	<b>\$429.00</b>
599-181-924	25985	0 - 4 in Without Standards	\$635.00	<b>\$539.00</b>
599-181-924-1	25986	0 - 4 in With Standards	\$683.00	<b>\$579.00</b>
599-182-926	25987	0 - 6 in Without Standards	\$1,035.00	<b>\$879.00</b>
599-182-926-1	25988	0 - 6 in With Standards	\$1,188.00	<b>\$1,009.00</b>
Metric models also available.				
0"-12" and 6"-12" Micrometer Sets also available				

## Micromaster Intrimik

Easy-to-Read, Accurate Measurement of Bore Diameters



Order Number	EDP No.	Range	List Price	Sale Price
599-290-28-1	27499	0.138 -0.158 in/3.5-4 mm	\$979.00	<b>\$795.00</b>
599-290-30-1	27500	0.158 -0.178 in/4-4.5 mm	\$979.00	<b>\$795.00</b>
599-290-32-1	27501	0.178 -0.217 in/4.5-5.5 mm	\$984.00	<b>\$800.00</b>
599-290-34-1	27502	0.217 -0.256 in/5.5-6.5 mm	\$984.00	<b>\$800.00</b>
599-290-35-1	27503	0.240-0.320in/6-8 mm	\$925.00	<b>\$745.00</b>
599-290-42-1	27504	0.320-0.400in/8-10 mm	\$925.00	<b>\$745.00</b>
599-290-50-1	27505	0.400-0.480in/10-12 mm	\$925.00	<b>\$745.00</b>
599-290-60-1	27506	0.430-0.550in/11-14 mm	\$948.00	<b>\$765.00</b>
599-290-70-1	27507	0.550-0.670in/14-17 mm	\$948.00	<b>\$765.00</b>
599-290-80-1	27508	0.670-0.790in/17-20 mm	\$948.00	<b>\$765.00</b>
599-290-100-1	27509	0.790-0.990in/20-25 mm	\$984.00	<b>\$800.00</b>
599-290-120-1	27510	0.990-1.18in/25-30 mm	\$984.00	<b>\$800.00</b>
599-290-140-1	27511	1.18-1.38in/30-35 mm	\$1,055.00	<b>\$855.00</b>
599-290-160-1	27512	1.38-1.58in/35-40 mm	\$1,071.00	<b>\$865.00</b>
599-290-200-1	27513	1.58-1.98in/40-50 mm	\$1,082.00	<b>\$875.00</b>
599-290-240-1	27514	1.98-2.36in/50-60 mm	\$1,117.00	<b>\$895.00</b>

## INTERAPID® Dial Test Indicators

Magnetic resistant Two-way action – no reversing lever Dovetail and adjustable stem adaption Carbide contact point swivels 210° Extremely low measuring pressure Ball bearing and jewelled movement Precise repetitive readings Easy-to-read tilted dial With revolution counter



INTERAPID INDICATORS									
Order Number	EDP Number	Series	Range	Dial Graduations	Dial Dia.	Reading	List Price	Sale Price	
Horizontal Models - for measurement at 12°									
74.111370	42775	312b-1	.060 in	.0005 in	1.5 in	0-15-0	\$273.00	<b>\$243.00</b>	
74.111371	86150	312b-2	.060 in	.0005 in	1.0 in	0-15-0	\$271.00	<b>\$241.00</b>	
74.111372	41680	312b-3	.016 in	.0001 in	1.5 in	0-4-0	\$336.00	<b>\$299.00</b>	
74.111373	41681	312b-4	.016 in	.0001 in	1.5 in	0-4-0	\$339.00	<b>\$302.00</b>	
74.111374	41682	312b-20	.060 in	.001 in	1.0 in	0-15-0	\$276.00	<b>\$246.00</b>	
74.111965	41716	312b-15	.060 in	.0005 in	1.5 in	0-15-0	\$380.00	<b>\$339.00</b>	
Vertical Models									
74.111377	41685	312b-1V	.060 in	.0005 in	1.5 in	0-15-0	\$290.00	<b>\$258.00</b>	
74.111378	41686	312b-2V	.060 in	.0005 in	1.0 in	0-15-0	\$284.00	<b>\$253.00</b>	
74.111379	41687	312b-20V	.060 in	.001 in	1.0 in	0-15-0	\$276.00	<b>\$246.00</b>	
74.111957	41714	312b-3V	.016 in	.0001 in	1.5 in	0-4-0	\$362.00	<b>\$323.00</b>	
74.111958	41715	312b-15V	.060 in	.0005 in	1.5 in	0-15-0	\$382.00	<b>\$340.00</b>	

## BESTEST® Dial Test Indicators



- Easy-to-read “jet-console” face w/ high visibility orange hand.
- Constant clockwise rotation.
- Automatic reversal.
- Swivelling point.
- Carbide tip point.
- Universal mounting.
- Monoblock (Precision Watch) body design.
- Anti-magnetic and corrosion resistant.
- Includes fitted case.

BESTEST INDICATORS									
Catalog No.	EDP No.	Range	Dial Graduations	Dial Dia.	Reading	Point Length	Tip Dia.	List Price	Sale Price
599-7029-5	51732	.030 in	.001 in	1 in	0-15-0	1/2 in	.080 in	\$175.00	<b>\$156.00</b>
599-7030-5	51733	.030 in	.0005 in	1 in	0-15-0	1/2 in	.080 in	\$179.00	<b>\$160.00</b>
599-7031-5	51734	.030 in	.0005 in	1.5 in	0-15-0	1/2 in	.080 in	\$200.00	<b>\$178.00</b>
599-7032-5	51737	.008 in	.0001 in	1 in	0-4-0	1/2 in	.080 in	\$239.00	<b>\$213.00</b>
599-7033-5	51738	.008 in	.00005 in	1.5 in	0-4-0	1/2 in	.080 in	\$253.00	<b>\$226.00</b>
599-7034-5	51735	.020 in	.0005 in	1 in	0-10-0	1-7/16 in	.080 in	\$223.00	<b>\$199.00</b>
599-7035-5	51736	.020 in	.0005 in	1.5 in	0-10-0	1-7/16 in	.080 in	\$243.00	<b>\$217.00</b>

## DIGICO Electronic Indicators

A complete range of dial indicators for comparative measuring of simple and complex features.



Order Number	EDP Number	Description	Range	Resolution	Maximum Permissible Error (µm)	Repeatability Limit (µm)	List Price	Sale Price
01930230	39675	TESA Digico 205MI	0.5 in/12.5 mm	0.0005 in/0.01 mm	20	10	\$262.00	<b>\$229.00</b>
01930231	42061	TESA Digico 305MI	0.5 in/12.5 mm	0.00005 in/0.001 mm	8	2	\$436.00	<b>\$349.00</b>
01930257	46986	TESA Digico 610MI	1 in/25 mm	0.00005 in/0.001 mm	5	2	\$628.00	<b>\$499.00</b>
01930258	46987	TESA Digico 705MI	0.5 in/12.5 mm	0.00005 in/0.001 mm	4	2	\$594.00	<b>\$474.00</b>

## Edge Finders & Audible Edge Finders

Available in three sizes: 1/2", 3/8", and 10mm  
Hardened and ground on all working surfaces



*Audible Edge Finders help assure accuracy by releasing an audible click when the tip jumps. This allows the operator to listen as well as watch the tool.*

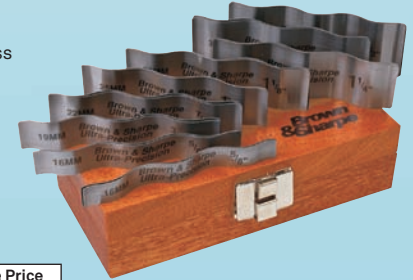
Order Number	EDP Number	End	Size	A (ø)	B (ø)	C (Length)	List Price	Sale Price
<b>Edge Finder</b>								
599-792-1	44596	D	.200 in x .500 in	.200 in	.500 in	2.900 in	\$20.00	\$16.00
599-792-2	27030	S	.375 in x .200 in	.200 in	.375 in	2.900 in	\$15.00	\$12.00
599-792-3	27031	S	.500 in x .200 in	.200 in	.500 in	2.900 in	\$15.50	\$12.50
599-792-4	27032	D	.375 in x .200 in	.200 in	.375 in	3.440 in	\$19.50	\$15.50
599-792-5	27033	D	.500 in x .200 in	.200 in	.500 in	3.510 in	\$20.00	\$16.00
599-792-11	27036	S	10 mm x 10 mm	10 mm	9.5 mm	70 mm	\$17.50	\$14.00
599-792-12	27037	S	10 mm x 10 mm	10 mm	10 mm	70 mm	\$17.50	\$14.00
599-792	44595	S	.500 in x .500 in	.500 in	.500 mm	2.780 in	\$15.50	\$12.50
<b>Audible Edge Finders</b>								
599-792-20	27038	S	.375 in x .200 in	.200 in	.375 in	2.900 in	\$17.50	\$14.00
599-792-21	27039	S	.500 in x .200 in	.200 in	.500 in	2.900 in	\$18.00	\$14.50
599-792-22	27040	S	10 mm x 10 mm	10mm	10 mm	70 mm	\$20.00	\$16.00
599-792-23	27041	S	10 mm x 10 mm	10mm	10 mm	70 mm	\$20.00	\$16.00
599-792-24	27042	S	.500 in x .500 in	.500 in	.500 in	2.780 in	\$18.00	\$14.50
<b>Edge Finder Set</b>								
599-792-9	28447		Consisting of:				\$68.00	\$59.00
		S	.750 in x .750 in	.750 in	.750 in	3.820 in		
		S	.200 in x .375 in/.250 in	.200 in	.375 in/.250 in	2.900 in		
		S	.200 in x .375 in	.200 in	.375 in	.2900 in		
		S	.200 in x .500 in	.200 in	.500 in	2.900 in		
<b>Audible Edge Finder Set</b>								
599-792-19	28448		consisting of:				\$77.00	\$67.00
		S	.750 in x .750 in	.750 in	.750 in	3.820 in		
		S	.200 in x .375 in/.250 in	.200 in	.375 in/.250 in	2.900 in		
		S	.200 in x .375 in	.200 in	.375 in	.2900 in		
		S	.200 in x .500 in	.200 in	.500 in	2.900 in		

S = Single, D = Double

## Ultra Precision Wavy Parallel Set

*Ultra Precision Wavy Parallel Set reliable and precise vertical positioning of workpieces.*

- Parallel within  $\pm .0002$ " — paired  $\pm .0002$ ".
- Made of high quality spring steel, hardened, stress relieved and precision ground.
- Includes 9 pairs 4-1/4" in length, with the following heights: 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2".
- Shims can be compressed, which is useful in the holding thin parts.
- Complete with fitted wooden case.



Catalog No.	EDP No.	List Price	Sale Price
599-921-25	27279	\$173.00	\$135.00

## Ultra Precision 12-Piece Angle Block Set

*Complete with a protective "shop-hardened" molded case*

- Precision ground hardened steel.
- Angular accuracy .0001" per inch,  $\pm 30$  arc seconds.
- 3" long x 1/4" thick.
- Simple, quick angle setups.
- Eliminate calculations and avoid errors.
- Complete set of 12 blocks: 1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°.



Catalog No.	EDP No.	List Price	Sale Price
599-921-18	26883	\$251.00	\$199.00

## Workshop Square Set

*Complete in a shop-hardened, protective molded case!*

- Squareness of the blade edge to the working face of stock is .0006".



Catalog No.	EDP No.	Description	Blades	List Price	Sale Price
599-540-246	27061	3-Pc. Square Set	2", 4", & 6"	\$85.00	\$69.00
599-540-2346	27060	4-Pc. Square Set	2", 3", 4", & 6"	\$106.00	\$86.00

## TESA RUGOSURF Surface Roughness Gages

Surface inspection in the workshop, inspection of incoming goods, or in the laboratory



RUGOSURF 20

**RUGOSURF 20** – Portable surface roughness tester designed for the production workshop.

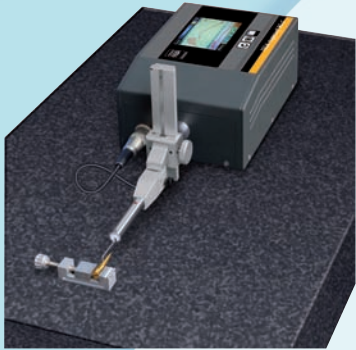
- Measuring range of 400  $\mu\text{m}$  in the Z axis.
- Sturdy metal base.
- IP 67 membrane keypad.
- 15 most commonly used roughness parameters.
- 2" LCD display, parameters and roughness profile displayed after each measurement.
- Easy to use.

**RUGOSURF 10G** - Portable Roughness gage range 400 microns in Z 3 horizontal measuring positions to  $-90^\circ$ ,  $0^\circ$ ,  $90^\circ$ .

- Measurement of the roughness parameter of the primary profile in addition to the roughness parameter.
- 31 roughness parameters in total.
- TFT colour graphic display 2" for easy reading.
- Display of parameters and roughness profiles R and P after each measurement IP 67 Membrane keypad.

**RUGOSURF 90G** - Compact, versatile and powerful roughness gage.

- 1000  $\mu\text{m}$  span in the Z axis.
- Measuring range of 50 mm in the X axis.
- W ripple profiles, P primary profile and R roughness profile measuring.
- 3.5" colour touch screen for ease of use.
- 3-position horizontal measurement at  $-90^\circ$ ,  $0^\circ$ ,  $90^\circ$ .
- 49 roughness parameters.
- Special features of the RUGOSURF 90G :  
Supplied with SB 10/60 probe with removable skid: one single probe can be used to measure roughness or undulation.
- RUGOSURF 90G can measure components with a height of up to 90mm, thanks to a vertical positioning bracket without the need for any additional accessory.
- With the Profile Set 2mm (06960100) the RUGOSURF 90G becomes a profile measurement instrument with a width of 2000  $\mu\text{m}$  measuring in the Z axis (optional).



RUGOSURF 90G Special probe for measure with or without skid

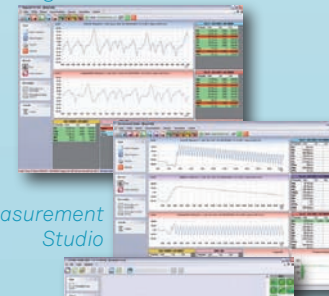
Order Number	EDP Number	Description	List Price	Sale Price
06930013	47126	TESA RUGOSURF 20	\$2,736.00	<b>\$2,325.00</b>
06930011	24720	TESA RUGOSURF 10G	\$3,647.00	<b>\$3,099.00</b>
06930012	29441	TESA RUGOSURF 90G	\$8,743.00	<b>\$7,499.00</b>
04760099	47177	Connection cable: RUGOSURF 20 to Computer	\$27.50	<b>\$19.99</b>
06960062	42217	Connection cable: RUGOSURF 10G and RUGOSURF 90G to Computer	\$280.00	<b>\$224.00</b>

## RUGOSURF Software and Accessories

### RUGOSOFT Software

- Software for RUGOSURF 20 and RUGOSURF 10G.
- Enables the user to import stored measurement values from the device to the computer for management in a database.
- Optimal and detailed visualization of the results: parameters, profiles (P primary profile and R roughness) or a combination of both. Calculation of statistics from a set of measurements.
- Programm creation in the software, which can then be loaded onto the device.
- Customizable measurement report.

Rugosoft



Measurement Studio

### Software MEASUREMENT STUDIO

- For RUGOSURF 90G.
- Enables the import of stored measurement data from the device onto the computer, for management in a database.
- Optimal and detailed visualization of the results: parameters, profiles (W undulation, P primary profile and R roughness) or a combination of both.
- Calculation of roughness parameters. Calculation of statistics from a set of measurements.
- Programm creation in the software, which can then be loaded onto the device.
- Customizable measurement report.



Profil Studio with 2 mm Profile Set and RUGOSURF 90G

### Software PROFILE STUDIO (delivered with 2 mm Profile Set)

- For profile measurement using the RUGOSURF 90G.
- Allows micro and macro geometric identification of a surface.
- Measurement program creation that can be saved for the same measurements on a batch of identical parts from the same set or for subsequent batch measurements.
- Measurement control and calibration controlled from the PC.
- Import and export of parameter settings from and to the device.
- Storage of measurement results and of the measured parameters as well as the database.
- Database search with filters (date, operator, batch).
- Detailed visualization of the measured profile and geometric construction tools (arc, line, point, intersection, angle).
- Measurements reports with customizable header.

Profil Set 2 mm y RUGOSURF 90G



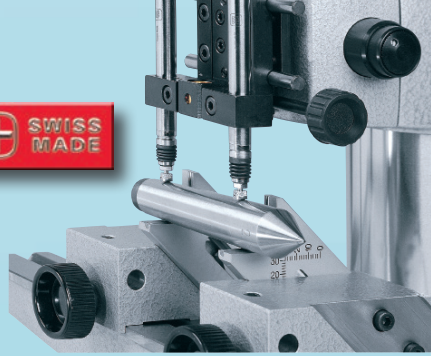
100 mm extension



Order Number	EDP Number	Description	List Price	Sale Price
06960034	23126	RUGOSOFT Software For RUGOSURF 10G and 20 with Cable	\$957.00	<b>\$815.00</b>
06960048	29445	Measurement Studio Software for RUGOSURF 90G with Cable	\$1,937.00	<b>\$1,649.00</b>
06960064	42219	Roughness Standard 0.1 $\mu\text{m}$ (4 $\mu\text{in}$ )	\$1,328.00	<b>\$1,129.00</b>
06960066	42221	Roughness Standard 1.0 $\mu\text{m}$ (40 $\mu\text{in}$ )	\$914.00	<b>\$776.00</b>
06960041	23133	Roughness Standard 2.97 $\mu\text{m}$ (117 $\mu\text{in}$ )	\$338.00	<b>\$289.00</b>
06960100	42063	RUGOSURF 90G Profile Set, 2 mm	\$6,701.00	<b>\$5,699.00</b>
06960056	29453	Extension 100 mm	\$554.00	<b>\$469.00</b>

## TESA Inductive Axial Probes: The Bestsellers

- Excellent repeatability, durability and longevity.
- The measuring bolt is mounted on ball bearings, and is virtually insensitive to radial forces. Protected against the penetration of solid and liquid contaminants by rubber sealing bellows.
- Probe inserts can be replaced or interchanged. A large choice of models with for different geometries, forms and sizes is available.
- Adaptable force by changing the key
- The USB probe allows a direct connection to a computer through a USB port, eliminating the need for an electronic interface (BPX box) or electronic gage amplifier.



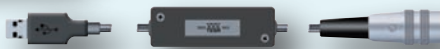
GT21 (599-982-10)



GT22 (599-982-18)



GTL21 USB (03230200)



USB Probe Adaptor (03260500)

Order Number	EDP Number	Description	Repeatability Limit (µm)	Measuring Force (N)	Measuring Range	Maximum Permissible Linearity Errors (µm)	List Price	Sale Price
03230200	46897	GTL21 USB Probe	0.1	0.63	±.080 in/± 2 mm	0.4 + 0.8 • L (MPE)	\$668.00	\$529.00
03230201	47187	GTL22 USB Probe	0.1	0.63	±.080 in/± 2 mm	0.4 + 0.8 • L (MPE)	\$683.00	\$539.00
599-982-10	44752	GT21 Probe with Axial Cable	0.01	0.63	±.080 in/± 2 mm	0.2 + 3 • L <sup>3*</sup>	\$413.00	\$529.00
599-982-18	44753	GT22 Probe with Radial Cable	0.01	0.63	±.080 in/± 2 mm	0.2 + 3 • L <sup>3*</sup>	\$453.00	\$559.00

USB Probe Adater								
Order Number	EDP Number	Description	Resolution	Deviation Span of Indication	Measuring Range	List Price	Sale Price	
03260500	47181	USB Probe Adapter	73.75	0.3% ± 0.1 µm**	±.080 in/± 2 mm	\$436.00	\$349.00	

\* Note: Linearity related to max. perm. Errors (L in Mm).

\*\*Note: Total deviation must include that of both standard probe and adapter.

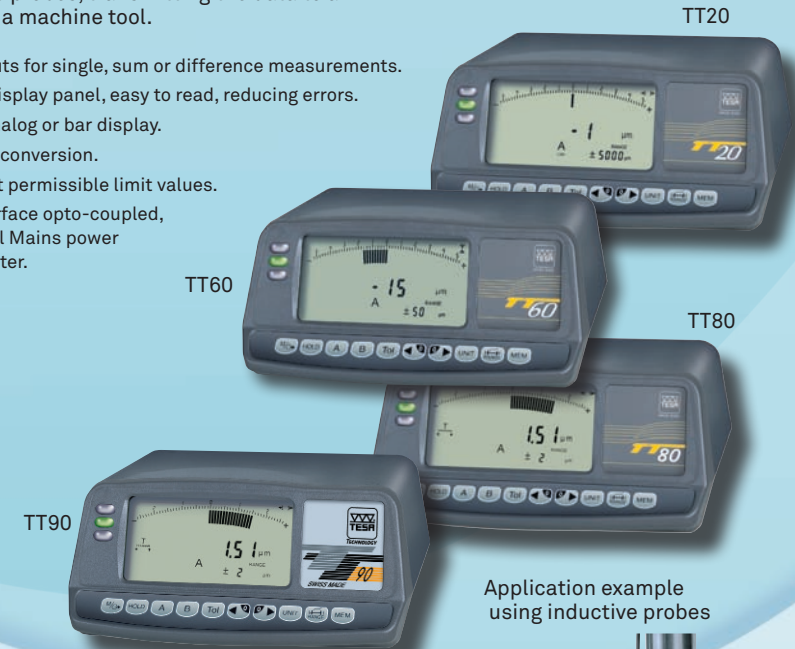
## TESATRONIC TT Electronic Gage Amplifiers

Intelligent display units, combined digital and analog display, for 1 or 2 inductive probes



TESATRONIC gage amplifiers display the measured value of a single inductive probe, or difference measurement using 2 probes. The amplifier manages and synchronises the inductive probes, transmitting the data to a computer or a machine tool.

- 2 probe inputs for single, sum or difference measurements.
- Large LCD display panel, easy to read, reducing errors.
- Choice of analog or bar display.
- Inch/metric conversion.
- Ability to set permissible limit values.
- RS 232 Interface opto-coupled, bidirectional Mains power supply adapter.



Application example using inductive probes



Order Number	EDP Number	Description	Number of Probe Inputs	Number of Measuring Range Settings	Lowest Range Value	Highest Range Value	Numerical Interval	Memory	List Price	Sale Price
04430009	21087	TESATRONIC TT20	1	7	± 5 µm	± 5000 µm	0.1 µm	No	\$1,629.00	\$1,299.00
04430010	47179	TESATRONIC TT60	2	7	± 5 µm	± 5000 µm	0.1 µm	Yes	\$2,261.00	\$1,799.00
04430011	21088	TESATRONIC TT80	2	9	± 0.5 µm	± 5000 µm	0.01 µm	Yes	\$2,716.00	\$2,169.00
04430012	47178	TESATRONIC TT90	2	9/6	± 0.5 µm	± 5000 / ± 1000 µm	0.01 / 0.001 µm	Yes	\$4,861.00	\$3,889.00



## TESA-HITE

### Electronic Height Gages

Over 25 years of technology and innovation have produced the TESA-HITE family of height gages, offering exceptional features at an affordable price. The newest addition to the TESA-HITE family, the TESA-HITE Plus M, offers increased accuracy, a built in air cushion, and a new ergonomically designed control panel providing geometric functions for 1D and 2D measurement.

All TESA-HITE height gages offer a generous 15.95 In/405 Mm and 27.75 In/715 Mm measuring span and their electronics are completely protected against liquid and dust penetration. Automatic diameter measurements can be taken using TESA's patented system for determining the culmination point and TESA-HITE height gages make it easy to capture parallelism errors.



plus·m



## TESA-HITE Plus M 400 and 700:

### The NEW MOTORIZED TESA-HITE Height Gages

- Electronics totally protected against oil and water splashing, dust particles (IP65).
- Integrated air-bearing for easy displacement across the granite plate.
- Easy-to-use, intuitive power control.
- New ergonomically designed control panel, available with built-in printer.
- Patented TESA's opto-electronic system. Long-lasting stability of the glass scale for unbroken high accuracy.
- Geometric functions for 1D or 2D measurement.
- Automatic programming and generation of measurement cycles.
- SCS (Swiss Calibration Service) certificate included.\*

Part No.	TESA-HITE Plus M 400		TESA-HITE Plus M 700	
	With printer	Without printer	With printer	Without printer
EDP No.	00730057	00730045	00730058	00730046
Measuring span	15.95 in/405 mm		27.75 in/715 mm	
Application range with standard insert holder 00760143	22 in/560 mm		33 in/860 mm	
Application range with insert holder 00760057	0 - 24 in / 0 - 615 mm		0 - 35 in / 0 - 915 mm	
Application range with insert holder S07001622	0 - 24 in / 0 - 615 mm		0 - 35 in / 0 - 915 mm	
Max. perm. error	(2.5+3 L) µm (L in m) / (0.0001+0.000003L) in (L in in)			
Repeatability	2s < 1 µm / 2s < 0.00005 in (flat surfaces) 2s < 2 µm / 2s < 0.0001 in (inside bores)			
Resolution	.00001 / .0001 / .001 in .00001 / 0.001 / 0.01 mm			
Max. deviation in perpendicularity (frontal)	8 µm / 0.00031 in		12 µm / 0.00047 in	
Displacement speed	0.6 m/s			
Measuring force	1.0 N ± 0.5 N (acoustic signal)			
Autonomy	60 h			
Weight	27 kg		32 kg	
Air Cushion	Yes		Yes	
Battery pack	6 V battery, rechargeable			
Digital output	RS-232			
Degree of Protection	IP40 for control panel / IP65 for electronic unit and measuring system			
Motorized	Yes			
Measuring head lock	No			
Fine adjustment	No			
Storage temperature range	-10°C to 60°C			
Operating temperature range	10°C to 40°C			
List Price	\$8,375.00	\$7,950.00	\$9,300.00	\$8,750.00
Sale Price	\$7,120.00	\$6,757.50	\$7,905.00	\$7,437.50



\* Swiss Calibration Service certification is traceable to ISO/IEC 17025.



## TESA-HITE 400/700

*Precision in motion.*

TESA-HITE 400 and 700 height gages are fitted with the patented, opto-electronic TESA's measuring system with incremental glass scale. Due to their robust and reliable construction, they are ideally suited for dimensional inspection on the shop floor.

- Wide application range, two sizes available with measuring span of 16in/415mm or 28in/715mm, respectively.
- Integrated air-bearing for easy displacement across the granite plate.
- Electronics totally protected against oil and water splashing, dust particles (IP65).
- Control panel with numerical display to 0.00001 / 0.0001 / 0.001 in or 0.0001 / 0.001 / 0.01 mm.
- Dynamic probing of the workpiece with a constant measuring force.

- Check bores or shafts with ease using TESA's unique device for automatic detection of the culmination point – patented.
- Acoustic signal to acknowledge value capture, also conveniently programmable.
- Ability to measure any deviation in parallelism.
- Possible use of a digital sensor for determining perpendicularity errors with stated angle of the linear regression line.
- Patented TESA's opto-electronic system. Long-lasting stability of the glass scale for unbroken high accuracy.
- Large LC display with symbols for the measuring functions.
- Zero-setting anywhere within the measuring range.
- PRESET function for entering any given value.
- Metric/inch conversion.
- RS 232 data output.
- SCS (Swiss Calibration Service) certificate included.\*

TESA-HITE		
	400	700
Part No.	00730043	00730044
EDP No.	24675	24676
Measuring span	16in/415mm	28in/715mm
Application range with standard insert holder 00760143	22in/570mm	34in/870mm
Application range with insert holder 00760057	0 - 24in / 0 - 625mm	0 - 36in / 0 - 925mm
Application range with insert holder S07001622	0 - 24in / 0 - 625mm	0 - 36in / 0 - 925mm
Max. perm. error	(2.5+4 L)µm (L in m) / (0.0001+0.000004L)in (L in in)	
Repeatability	2s=<2µm/<0.0001in (flat surfaces) 2s=<3µm/<0.00015in (inside bores)	
Resolution	.00001 / .0001 / .001in .00001 / 0.001 / 0.01mm	
Max. deviation in perpendicularity (frontal)	9µm / 0.00035in	13µm / 0.0005in
Displacement speed	0.5m/s	
Measuring force	1.5N ±0.5N (acoustic signal)	
Autonomy	60h	
Weight	80lb.	71lb.
Air Cushion	Yes	Yes
Battery pack	6 V battery, rechargeable	
Digital output	RS-232	
Degree of Protection	IP55 or IP65 for electronic unit and measuring system	
Motorized	No	
Measuring head lock	Yes	
Fine adjustment	Yes	
Storage temperature range	-10°C to 60°C	
Operating temperature range	10°C to 40°C	
List Price	\$4,850.00	\$5,9880.00
Sale Price	\$4,125.00	\$5,085.00

\* Swiss Calibration Service certification is traceable to ISO/IEC 17025.



## TESA-HITE Magna 400/700

*Made to withstand severe workshop conditions.*

Both TESA-HITE Magna 400 and 700 are designed to remain unaffected even in the toughest conditions (water and oil splashing, dust particles). They have exceptional features that make them indispensable for the workshop while also offering the most favorable price-performance relationship. Robust and dependable, their modern design provides the highest resistance for use close to the production area. Each height gage is battery-powered and serve to measure height or step dimensions, diameters, center-to-center distance of bores or grooves, width of nuts, and much more.

Wide application range, two sizes available with measuring span to 16 in/415 mm/16 in or 28 in / 715 mm, respectively.

- Electronics totally protected against oil and waters plashing or dust particles (IP65).
- Control panel with numerical display to 0.001/0.005/0.01mm or 0.0001/0.0002/0.001 in.
- Dynamic probing of the workpiece with a constant measuring force.
- Check bores and shafts with ease using TESA's unique device for automatic detection of the culmination point – patented.
- Acoustic signal to acknowledge value capture, also conveniently programmable.
- Ability to measure parallelism errors.
- TESA's magnetic system, guaranteeing correct operating even in harsh workshop conditions – patented.
- Large LC display, also with symbols for the measuring functions.
- Zero-setting anywhere within the measuring range.
- PRESET function for entering any given value.
- Inch/metric conversion.
- RS 232 data output.
- SCS (Swiss Calibration Service) certificate included.\*

TESA-HITE		
	400	700
Part No.	00730047	00730059
EDP No.	28260	28261
Measuring span	16 in/415 mm	28 in/715 mm
Application range with standard insert holder 00760143	22 in/570 mm	34 in/870 mm
Application range with insert holder 00760057	0 - 24 in / 0 - 625 mm	0 - 36 in / 0 - 925 mm
Application range with insert holder S07001622	0 - 24 in / 0 - 625 mm	0 - 36 in / 0 - 925 mm
Max. perm. error	< 8 µm / < 0.0003 in	
Repeatability	2s=<3 µm / 2s=<0.00015 in (flat surfaces) 2s=<5 µm / 2s=<0.00020 in (inside bores)	
Resolution	.0001 / .0002 / .001 in 0.001 / 0.005 / 0,01 mm	
Max. deviation in perpendicularity (frontal)	—	—
Displacement speed	0.5 m/s	
Measuring force	1.5 N ±0.5 N (acoustic signal)	
Autonomy	60 h	
Weight	14 kg	16 kg
Air Cushion	No	No
Battery pack	6 V battery, rechargeable	
Digital output	RS-232	
Degree of Protection	IP55 or IP65 for electronic unit and measuring system	
Motorized	No	
Measuring head lock	Yes	
Fine adjustment	Yes	
Storage temperature range	-10°C to 60°C	
Operating temperature range	10°C to 40°C	
List Price	\$3,645.00	\$4,650.00
Sale Price	\$3,100.00	\$3,955.00

\* Swiss Calibration Service certification is traceable to ISO/IEC 17025.



## TESA MICRO-HITE Motorized

The speed of a manual height gage combined with the precision of a motorized height gage

Motorized for improved reliability and greater accuracy!

### Consisting of:

- Micro-Hite main instrument.
- Standard insert holder.
- Standard insert with 5mm carbide ball tip.
- Master for determining probe constant.
- Built-in air cushion.
- 1 battery pack.
- 1 power supply.
- Dust cover.
- Instruction manual.



## Power Panel Plus M (00760220)



- Single Axis and 2D Measurement.
- Single Contact and 2 Probe Contact Measurement.
- Polar and Rectangular Coordinates Measurement.
- Chain Dimensioning with Single Probe or 2 Probes.
- Angle Measurements in Two Points.
- Bolt Hole Pattern Analysis.
- Point Translation, Point Creation Capability.
- Perpendicularity (using optional IG-13 Probe).
- 999 Feature Memory Capability.
- Flexible Reporting of Measured Values and Adjustable Header Information.
- SPC Capabilities.
- Rotation of Alignment in X Axis.
- Automatically Runs Parts Programs.
- Adjustable Probe Retraction.
- Temperature Compensation Capability.
- Greater External Printer Selection.
- Greater Accuracy.

Part No.	EDP No.	MICRO-HITE Plus M Model	Measuring Span in/mm	Application range with standard accessory (in/mm)	Application range with S07001622 probe insert holder (in/mm)	Accuracy (L in in/m)	Repeatability on Flat Surface (2s in/μm)	Repeatability Within Bore (2s in/μm)	Perpendicularity error - mechanical, frontal (in/μm)	List Price	Sale Price	
00730063	29275	M-H Plus M 350	14 in/365 mm	20 in/520 mm	29 in/745 mm	(1,9+1,5•L) μm (L in m) (0.0001 + 0.0000015•L) in (L in in)	0.000025 in/0.5 μm	0.00005 in/1 μm	5 μm	\$7,832.00	\$6,655.00	
00730064	29276	M-H Plus M 600	24 in/615 mm	30 in/770 mm	39 in/995 mm	(1,9+1,5•L) μm (L in m) (0.0001 + 0.0000015•L) in (L in in)	0.000025 in/0.5 μm	0.00005 in/1 μm	7 μm	\$8,693.00	\$7,390.00	
00730065	29276	M-H Plus M 900	36 in/920 mm	42 in/1075 mm	51 in/1300 mm	(1,9+1,5•L) μm (L in m) (0.0001 + 0.0000015•L) in (L in in)	0.000025 in/0.5 μm	0.00005 in/1 μm	9 μm	\$13,585.00	\$11,545.00	
00760220	29282	Power Panel Plus M with Built-in Printer									\$2,241.00	\$1,795.00

## TESA MICRO-HITE

The metrological standard for electronic height gages in the workshop

Consisting of:

- Micro-Hite main instrument.
- Standard insert holder.
- Standard insert with 5mm carbide ball tip.
- Master for determining probe constant.
- Electric air pump for air cushion (installed in main instrument).
- 1 battery pack.
- 1 main adaptor.
- Dust cover.
- Instruction manual.



## MICRO-HITE (Manual) Control Panel

Power Panel (00760163)

- Single Axis and 2D Measurement.
- Single Contact and 2 Probe Contact Measurement.
- Polar and Rectangular Coordinates Measurement.
- Chain Dimensioning with Single Probe or 2 Probes.
- Angle Measurements in Two Points.
- Bolt Hole Pattern Analysis.
- Point Translation, Point Creation Capability.
- Perpendicularity (using optional IG-13 Probe).
- Go, No-Go Lights.
- PCMCIA Memory Card Technology.
- Programmable.



Part No.	EDP No.	Models Manual version	Measuring span in/mm	Application range with standard accessory (in/mm)	Application range with S07001622 probe insert holder (in/mm)	Accuracy (in/mm)	Repeatability (in/μm)	Perpendicularity error - mechanical, frontal (in/μm)	List Price	Sale Price	
00790033	29272	M-H 350	14 in/365 mm	20 in/520 mm	29 in/745 mm	(2 + 3 • L) μm (L in m) (0.0001 + 0.000003 • L) in (L in in)	2δ = ±1 μm / ±0.00005 in	7 μm	\$7,921.00	\$6,735.00	
00790034	29273	M-H 600	24 in/615 mm	30 in/770 mm	39 in/995 mm	(2 + 3 • L) μm (L in m) (0.0001 + 0.000003 • L) in (L in in)	2δ = ±1 μm / ±0.00005 in	9 μm	\$8,994.00	\$7,645.00	
00790035	29274	M-H 900	36 in/920 mm	42 in/1075 mm	51 in/1300 mm	(2 + 3 • L) μm (L in m) (0.0001 + 0.000003 • L) in (L in in)	2δ = ±1 μm / ±0.00005 in	11 μm	\$13,875.00	\$11,795.00	
00760163	29280	Power Panel								\$1,701.00	\$1,360.00

## Height Gage Essentials

*Starter Accessory Kit for MICRO-HITE and TESA-HITE Height Gages*

Brown & Sharpe TESA height gage starter accessory kit suitable for most measuring applications in an industrial environment, such as small diameters, grooves, shafts or clearances. Delivered in a compact case



### *TESA IG-13 Digital Probe*

Use the IG-13 probe, along with a MICRO-HITE or MICRO-HITE M height gage, to measure perpendicularity, straightness and the angle of incline.



Order Number	EDP Number	Description	List Price	Sale Price
00760232	47410	Starter Accessory set	\$688.00	\$550.00
599-1011-230	86552	IG-13 Probe Set for Perpendicularity Measurement	\$1,514.00	\$1,211.00
04761047	28895	Cable for using IG-13 Probe with MICRO-HITE Motorized Models	\$55.00	\$49.00
47.61023	41271	Cable to connect MICRO-HITE to PC, RS232 (8 pin to pcat 9 pin female)	\$104.00	\$83.00
04761063	31378	Cable to connect MICRO-HITE Motorized and TESA-HITE models to PC (Sub-D 9 Pole, USB)	\$179.00	\$143.00

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 Fax: (401) 886-2553  
 Email: [tesa-usa@hexagonmetrology.com](mailto:tesa-usa@hexagonmetrology.com)