sylvac

DIGITAL MICROMETER WITH BLUETOOTH® TECHNOLOGY FOR FLUTED SHAFT



Discover the new digital **S_Mike PRO** SMART Fluted Shaft: quick mike with built-in Bluetooth® transmitter for fluted shaft measurements.



S_Mike PRO SMART Fluted Shaft

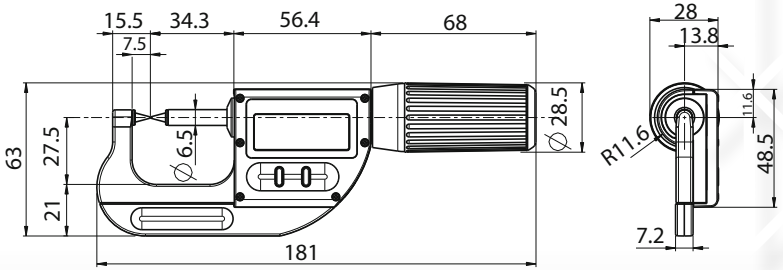
- **Quick mike 10mm/rotation**
- Automatic wake-up and sleeping mode (S.I.S.)
- **Water and oil protected IP67**
- Bluetooth® transmission distance up to 15m
- **Powered by standard CR2032 battery**

Bluetooth®

IP67

sylvac

S_Mike PRO SMART Fluted Shaft



Bluetooth®







TECHNICAL SPECIFICATIONS

Specifications	803.0310
Measuring range	0-25mm
Max. Error. G.	3µm
Repeatability	1µm
Anvils types	Point 30° - Spherical Radius 0.3mm
Connexion	Bluetooth® wireless technology
Specifications	Setting by PC, non-rotating spindle, fast movement, preset, S.I.S.
Adjustable measuring force	5N / 10N

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Instruction manual
Manuel d’instruction
Handbuch
Manuele d’uso
Instrucciones de uso

S_Mike PRO



Bluetooth® IP67 SWISS MADE

1. Maintenance

Store the instrument in a dry place to avoid corrosion of metal parts if not used for a long time.

Do not press the movable key on the anvil: leave a gap of 1-2mm when the instrument is not in use.

Do not use aggressive products (alcohol, trichloroethylene or other aggressive liquids) to clean plastic parts.

Do not store the instrument in a place exposed to sunlight, heat or humidity.

Important: in the event of liquid splashes, wipe off the metal parts of the instrument to ensure proper mechanical operation and avoid corrosion problems.

2. General description

The micrometer is equipped with a Smart Inductive Sensor (SIS) which maintains the reference position even when the instrument is in standby mode. Its non-rotating button principle enables rapid positioning. It features the following operating characteristics:

- Enter preset value.
- Change unit (mm / INCH).
- Measured value transmission via Proximity or Bluetooth® connection (depending on model).
- Protection against dust ingress and liquid splashes (oil, water) to IP67 (IEC 60529).



3. Instrument features

MODE

The instrument has 2 operating modes: basic functions (with direct access) and advanced functions. In addition to the configuration functions, you can select the HOLD function or activate the keyboard lock (LOC function). You can also activate the FMIN function (see chap. 6).

The «favorite» button assigns direct access to the most frequently used function (see chap. 10).

SET

The «SET» button allows you to assign a preset value, quit a selection, and manage instrument switch-off. By default, SIS mode enables automatic switch-off without loss of origin (see chap. 11).

Customizing functions
You can activate or deactivate certain instrument functions via Power RS/USB or Bluetooth® cables (see chap. 13).

Data transmission parameters
4800Bds, 7 bits, even parity, 2 stop bits.

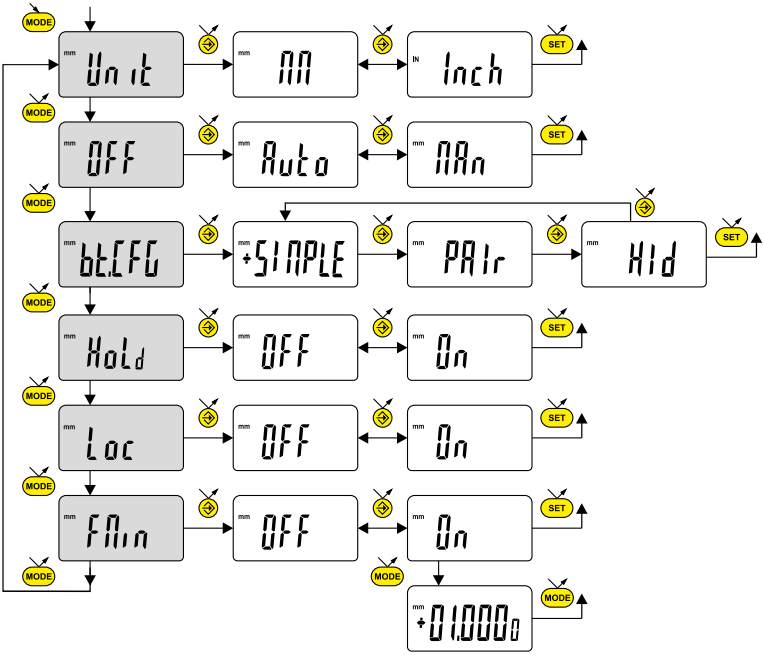
4. Start-up, initialization

Press a button.
The instrument displays «SET» to initialize the reference point. Return the movable key to the anvil (or to a master gauge). Then press SET .

The instrument is now ready for use (check preset value, correct if necessary and reset).

6. Avanced functions

A long press (<2s) on MODE accesses the advanced functions. Each short press MODE then accesses the desired function:



Unit : Unit selection (mm or inch).

OFF : Automatic switch-off mode.

nAn : disabled. Auto : active (after 10min. by default).

bt.EFG : Bluetooth® profile selection (see chap. 9 for details). The + symbol indicates the active profile (depending on model).

HoLd : Select On to activate display freeze when briefly pressing SET .

Loc : Keypad lock. Only the favorite key remains active (to deactivate keypad lock, press SET for 5 sec).

FMin : Activate F_{MIN} function (see chap. 7 for details)

Next digit SET 0...9 MODE save F_{MIN}

Without any pressure (after 5s): return to measuring mode (15s for preset entry)

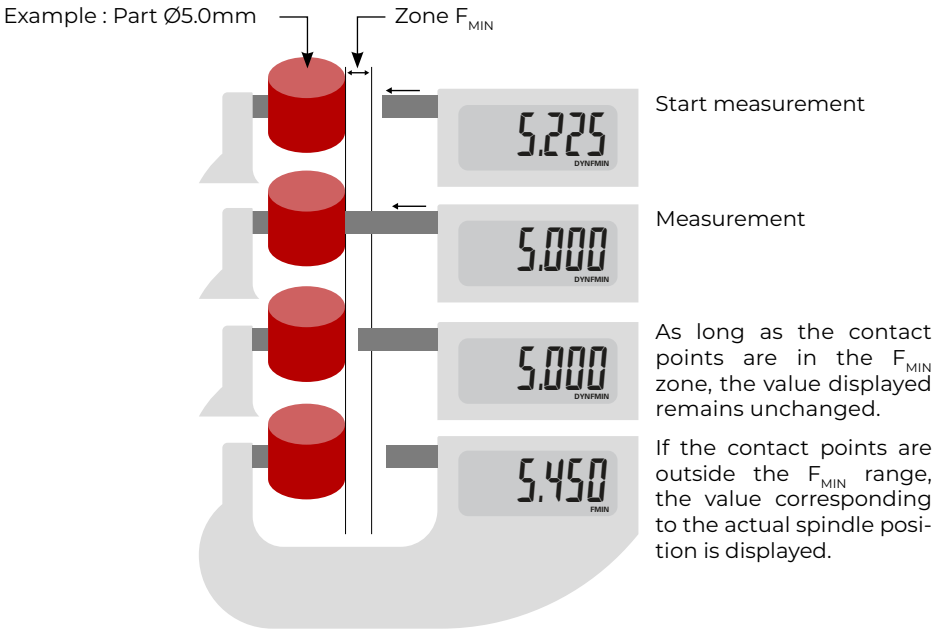
7. F_{MIN} function (depends on model)

The high-speed micrometer features a spring-loaded spindle. This construction ensures high repeatability, thanks to the constant force in the measuring zone.

When the F_{MIN}. mode is active, the minimum measuring value is automatically stored and displayed.

The FMIN stroke value can be set by the user according to his needs (0.010mm to 5.080mm depending on model).

Refer to chapter 6 to activate/deactivate or set the F_{MIN} function.



8. Proximity connection (Non-Bluetooth® instrument only)

The instrument features a non-contact data output for direct connection to a PC or printer via a Proximity cable.

By default, a short press on the button transmits the current value. The data transmission indicator is briefly displayed. Sending data can also be requested by the peripheral device (see chap. 15. List of main commands).

9. Bluetooth® configuration (Instrument Bluetooth® only)

The connection procedure has been designed to be as simple as possible, and is distinguished by the 3 states below:

1. Symbol ᛒ off..... disconnected mode.
2. Symbol ᛒ blink..... discovery mode.
3. Symbol ᛒ on..... connected mode.

The following options can be selected to control the Bluetooth® module.
On Activate Bluetooth® module (start discovery mode).

On	Activate Bluetooth® module (start discovery mode).
OFF	Deactivate Bluetooth® module (terminate active connection).
rESEt	Clear Matching information.
MAC	Display MAC (Media Access Control) address.

Three Bluetooth® profiles are available.

SIMPLE	Unpaired profile (default).
PAIr	Paired and secured profile.
HId	Virtual keyboard mode (compatible with recent equipment without driver installation).

Note:
Bluetooth® Matching information is deleted when the profile is changed.

Connection :

1. Ensure that the Bluetooth® compatible application and hardware are active (PC, measurement unit).
2. Start the instrument. By default, the Bluetooth® module is active and the instrument can be connected (discovery mode).
3. As soon as the instrument is detected, connection is automatic. If the connection was not established while the instrument was in discovery mode, reactivate the Bluetooth® module via the bt / On menu.
4. The instrument is ready to transmit (connected mode)

Only with Matching profile : :

The instrument is automatically matched to the Central (PC) on first connection.

To connect an instrument to a new Central (new pairing), the pairing information must be deleted via menu bt / rESEt.

9.1. Bluetooth® specifications :

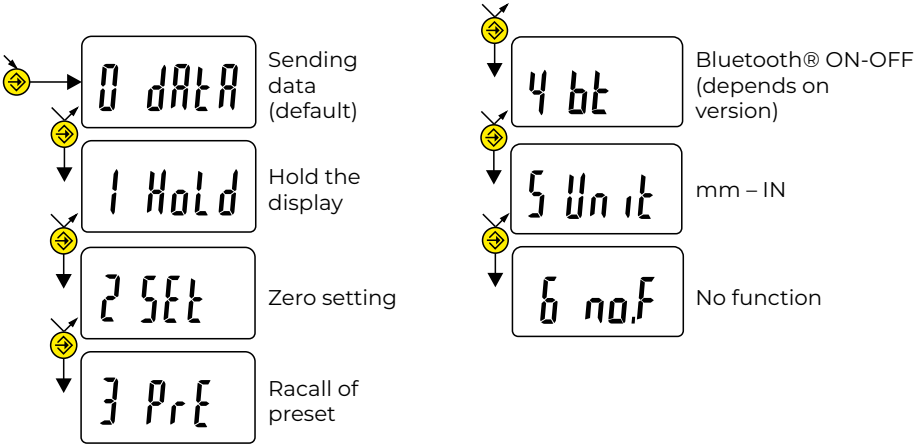
Core version		Bluetooth® 5	
Frequency band		2.4GHz (2.402 - 2.480GHz)	
Max. output power		Class 3: 1mW (0dBm)	
		Classic range (default)	**Long range** [4]
Range	Optimized	up to 20m	up to 80m
Autonomy	Optimized	up to 6 months	up to 2 months
	Saver [2]	up to 6 months	up to 6 months
	Blind/Push [3]	up to 8 months	up to 8 months

[1] Continuous: Always connected with 4 values / sec.
[2] Saver: Instrument sends value when position changes.
[3] Blind/Push: The value is sent from the instrument (button) or requested by computer.
[4] Long range: more information on the manufacturer's website.

10. Favourite key

The «favorite» button provides direct access to a predefined function, and can be configured according to the user's needs.

To assign a function to the «favorite» button, press and hold (>2s) , then select the desired function:



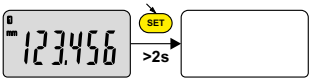
Confirm selection :
Long press on or short press on SET or MODE

Note:
The function assignment can also be made via RS 232, with the command <FCT + Function No> (FCT 0..9 A..F) example: Unit change = <FCT5>

11. Switching off

The instrument automatically goes into stand-by mode after 10 minutes of non-use, unless the automatic switch-off mode is deactivated (see chap.6 advanced functions).

You can force stand-by mode by pressing and holding (>2s) SET :



In stand-by mode, the original value is retained by the sensor (SIS mode), and the instrument is automatically restarted by a movement of the contact points or by RS command, or by pressing a button.

It is possible to switch the instrument off completely for long periods of non-use, but this will require a reset at start-up (loss of origin):

Long press (>4s) on SET:



12. Resetting the instrument

At any time, it is possible to restore the instrument's initial settings, by simultaneously pressing SET and MODE for a long time (>4s) until the message rESEt is displayed.

13. Personnalisation of the instrument

It is possible to customize access to your instrument's functions, for more information see the manufacturer's website (requires a connection to your instrument, via a Proximity cable, or Bluetooth®).

Options:
- Disable or enable desired functions.
- Modify access to advanced functions (direct access).

14. Instrument connection

The instrument can be connected to a peripheral via a Proximity cable, or via Bluetooth®. See chap. 2 for cable connections.

Measurements can be transmitted, and the instrument can be controlled by predefined duplex controls, as listed in the main commands section below.

15. List of main commands

Selection and configuration

BAT?	Transmits battery status (BAT1=ok or BAT0=low)
ID ?	Transmits instrument identification (SY276)
IN	Activates Inch unit
KEY?	Transmits keyboard status (KEY0 or KEY1)
KEY 0 / KEY 1	Disables/enables keypad (except Send Data)
ECO 1 / ECO 0	Enables / disables economy mode
ECO?	Current economy mode
LCAL?	Transmit date of last calibration (DD.MM.YYYY)
LCAL JJ.MM.[AA]AA	Enter date of last calibration
MM	Activates mm unit
NCAL?	Transmit date of next calibration (DD.MM.YYYY)
NCAL JJ.MM.[AA]AA	Enter date of next calibration
NUM ?	Transmit instrument number
NUM X..X (jusqu'à 20car)	Modifies instrument number (10 characters)

OFF	Instrument sleep mode
OUT 0 / OUT 1	Disables/disables continuous data output
PRE?	Transmit preset value (±xxx.yyy[yy])
PRE ±XXX.YYYYYY	Enter preset value (max. 199.999mm / 7.83")
PRE OFF/ PRE ON	Activates/deactivates Preset function
?	Transmits displayed value
RST	Reset instrument (user settings)
SBY	Instrument stand-by (SIS)
SBY XX	xx number of minutes before stand-by
SET?	Transmit instrument configuration (IN or MM, STO0 or STO1, KEY0 or KEY1, BAT1 or BAT0)
STO?	Transmits display status
STO 0 / STO 1	Release/freeze display
UNI?	Transmit unit of measure (IN or MM)
UNI 0 / UNI 1	Lock/release unit change function
VER?	Transmit program version and date (Vx.x DD.MM.YYYY)
BT 0 / BT 1	Disables Bluetooth® module
BTRST	Reset Matching
MAC ?	Transmits Bluetooth® module MAC address
FMIN?	Returns FMIN value
FMIN 0/ FMIN 1	Disable/enable FMIN function
FCT?	Favorites function active?
FCT0…9…A…F	Favorite" function assignment
RES2/3	Change resolution

16. Technical specifications

Resolution	1µm
Forward	10mm/rotation
Number of display refreshes	10/s
Measuring system	Sylvac inductive system (patented)
Battery power supply	1 lithium battery 3V, type CR2032, capacity 220mAh
Average consumption	60µA (continuous)
Standby consumption	12µA
Average autonomy (auto stand-by)	10,000 hours (Bluetooth® see chapter 8)
Data output	S_Connect Proximity or Bluetooth®
Data output settings	4800 baud, 7 bits, even parity, 2 stop bits, no flow control
Operating temperature	+5° to 40°C (+41°F to +104°F)
IP specification (according to IEC60529)	IP67 (CEI 60529)

Further specifications to DIN 863-1

CERTIFICATE OF CONFORMITY
We certify that this instrument has been manufactured in accordance with our Quality Standard and tested with reference to masters of certified traceability by the federal institute of Metrology.

CERTIFICAT DE CONFORMITE
Nous certifions que cet instrument a été fabriqué et contrôlé selon nos normes de qualité et en référence avec des étalons dont la traçabilité est reconnue par l'institut fédéral de métrologie.

QUALITÄTSZEUGNIS
Wir bestätigen, dass dieses Gerät gemäss unseren internen Qualitätsnormen hergestellt wurde und mittels Normalen mit anerkannter Rückverfolgbarkeit, kalibriert durch das eidgenössische Institut für Metrologie, geprüft worden ist.

CERTIFICATO DI CONFORMITÀ
Con il presente si certifica che questo strumento è stato prodotto secondo il nostro standard sulla qualità e controllato rispetto a campioni di riferibilità riconosciuta dall'instituto federale di metrologia.

CERTIFICADO DE CONFORMIDAD
Certificamos que este instrumento ha sido fabricado conforme a nuestras normas de calidad y ha sido controlado en relación con patrónes de trazabilidad reconocida por la oficina nacional de metrología.

Calibration certificate
Because we make our instruments in batches, you may find that the date on your calibration certificate is not current. Please be assured that your instruments are certified at point of production and then held in stock in our warehouse in accordance with our Quality Management System ISO 9001. Re-calibration cycle should start from date of receipt.

Certificat d'étalonnage
En raison de la fabrication de nos instruments par lots de production, il est possible que la date de votre certificat d'étalonnage ne soit pas actuelle. Nous garantissons que nos instruments sont certifiés au moment de leur fabrication puis stockés conformément à notre système de gestion de la qualité ISO 9001. Le cycle de réétalonnage peut commencer à partir de la date de réception.

Zertificat
Da wir unsere Instrumente in Serien herstellen, kann es sein, dass das Datum auf dem Zertifikat nicht aktuell ist. Die Instrumente sind jedoch ab der Herstellung zertifiziert und werden dann gemäß unserem Qualitätsmanagementsystem ISO 9001 in unserem Lager aufbewahrt. Der Nachkalibrierungszyklus kann ab dem Empfangsdatum beginnen.

Certificado de calibración
Puesto que fabricamos nuestros instrumentos por lotes, puede que la fecha de su informe de prueba / certificado de calibración no esté al día. Asegúrese de que los instrumentos estén certificados en nuestro lugar de producción y estén almacenados en nuestro almacén conforme a nuestro sistema de control de calidad ISO 9001. El ciclo de recalibración puede empezar a partir de la fecha de recepción.

Certificato di taratura
Considerata la nostra produzione in serie di strumenti, è possibile verificare che la data di produzione sul rapporto di prova / certificato di taratura non è attuale. Accertarsi che gli strumenti siano correttamente certificati dalla nostra produzione e che sono conservati in stock presso il nostro magazzino secondo il sistema di gestione della qualità ISO 9001. Il ciclo di nuova taratura puo essere avviato dalla data di ricezione.

U.S./Canada certification



FCC ID: 2AAQS-ISP1807
IC: 11306A-ISP1807

Sylvac
m.n : S_Mike PRO

NOTICE :

Changes or modifications made to this equipment not expressly approved by Sylvac may void the FCC authorization to operate this equipment.

NOTICE :

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject

to the following two conditions.

(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE :
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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Radiofrequency radiation exposure Information :
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your

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EU DECLARATION OF CONFORMITY (DoC)

We, Sylvac SA, hereby declare under our sole responsibility that the product

Name	S_Mike Pro BT
Description	Professional micrometer with Bluetooth® wireless technology
Part Numbers	803.0306, 803.0308, 803.0309, 803.0310, 903.0606, 903.1006

has been submitted to a conformity assessment and fulfils the essential requirements of the following European directives

2001/95/EC	General product safety
2014/30/EU	EMC
2011/65/EU & 2015/863/EU	RoHS
2014/53/EU	Radio Equipment Directive (RED)

and complies with the following harmonized standards or other normative documents

EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use – EMC requirements
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
EN 300 328 V1.7.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems

Person authorized to compile the technical file and issue the declaration of conformity: Eric Schnyder

Place and date of issue	Yverdon-Les-Bains, September 12, 2019
Name (position)	Eric Schnyder (CEO)
Signature	