sylvac

Experts in connected metrology !



DIGITAL INDICATOR Ø45MM

MINI

IOT READY

SWISS MADE

SIS Smart Inductive System

Discover our brand new S_Dial Mini : the smallest digital indicator in the world with integrated Bluetooth® technology and IP67 protection.

Bluetooth®

Ø45

Small diameter

Small dial diameter of 45mm with bigger display for easy reading.

Many functions

Analogical scale, Preset, min/max/ delta and more on Smart models.

Ø8-h6

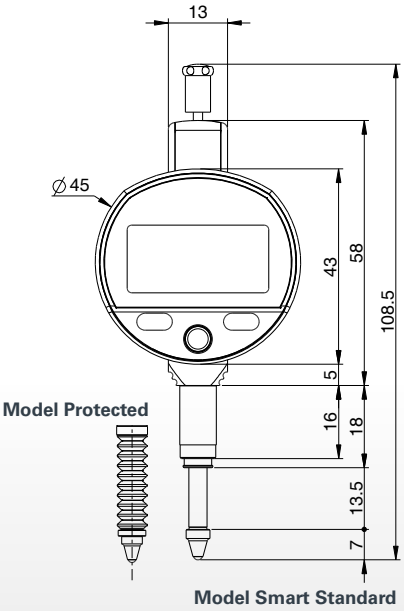
Standard clamping stem Ø8-h6 and interchangeable contact point.

Sylvac SA - Avenue des Sciences 19, 1400 Yverdon-les-Bains (CH)
Tel. +41 21 637 67 57 - Email. info@sylvac.ch - Web. www.sylvac.ch

FEATURES

- Compact, small diameter (Ø45 mm)
- Improved mechanical design
- Water and coolant resistant, protection rating IP54 or IP67 according to IEC 60529 (depends on model)
- Data output RS 232 combined with external power supply and Bluetooth® (depends on model)
- Interchangeable contact point M2.5
- Clamping stem Ø 8-h6 of hardened and ground stainless steel. Dovetail back
- Automatic power shut down

Bluetooth® POWER



DATA

Models Smart		805.6121	805.6123	805.6125	805.6523	805.6521	805.6525
Measuring range	mm	12.5	12.5	12.5	12.5	12.5	12.5
Analogic scale		✔	✔	✔	✔	✔	✔
Lifting cap		✔	---	---	---	✔	---
Resolution	mm	0.01	0.01	0.01	0.001	0.001	0.001
Output data		Bluetooth® wireless Technology/USB/RS232					
Execution		Standard	Standard	Protected	Standard	Standard	Protected
Protection		IP67	IP67	IP67	IP67	IP67	IP67

Models Basic		805.4121	805.4125	805.4521	805.4525
Measuring range	mm	12.5	12.5	12.5	12.5
Analogic scale		---	---	---	---
Lifting cap		✔	---	✔	---
Resolution	mm	0.01	0.01	0.001	0.001
Output data		USB/RS232			
Execution		Standard	Protected	Standard	Protected
Protection		IP54	IP67	IP54	IP67

The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Sylvac is under license. Other trademarks and trade names are those of their respective owners.



INSTRUCTIONS

MODE D'EMPLOI

BEDIENUNGSANLEITUNG

MANUALE D'USO

INSTRUCCIONES DE USO

MINI DIAL GAUGE **E**

MINI COMPARATEUR **F**

MINI MESSUHR **D**

MINI COMPARATORE **I**

MINI COMPARADOR **S**

E

1. Operating features of the instrument

- MODE The instrument has two operating modes: basic functions (direct access) and advanced functions. In addition to the configuration functions, you can access to MIN, MAX and DELTA (TIR) mode, plus input of multiplication factor other than 1:1 (see chaps. 3 and 4).

- The «favourite» key gives direct access to the function used most often (see chap. 6).

- SET Sets a Preset value, resets the MIN/MAX mode, verifies a selection, and controls switching off the instrument. By default, SIS mode enables automatic switch-off with no loss of origin (see chap. 7).

- **Personalising the functions**
  It is possible to activate or de-activate certain functions of the instrument via Power RS/USB cable or Bluetooth® (see chap. 9).

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

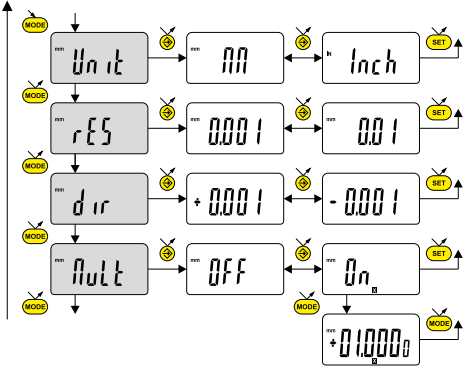
2. Start

Press a button.
For a *Bluetooth*® connection (see chap. 5).

E

4. Advanced functions

Prolonged pressure (>2s) on MODE gives access to the advanced functions. Then, each short press on MODE accesses the required function:



Unit selection (mm or inch)

Choice of resolution 0.01 / 0.001
(only for 0.001mm version)

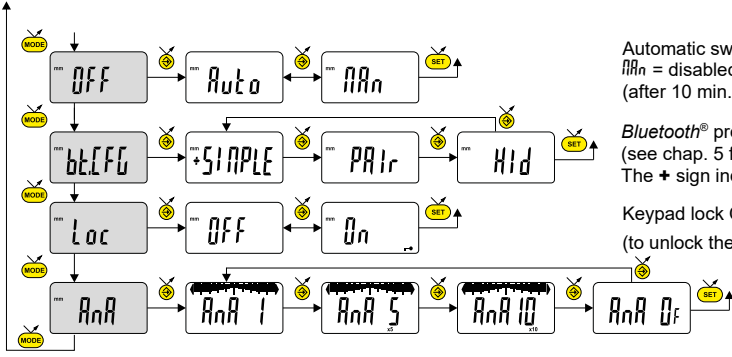
Choice of measurement direction
(positive or negative direction)

Multiplication factor, enable or disable multiplication factor

(value can be modified if On is confirmed by MODE button)

Input of multiplication factor, next digit SET 0....9

MODE save MULT



Automatic switch-off mode
MAn = disabled. Auto = active
(after 10 min. by default).

Bluetooth® profile selection.
(see chap. 5 for details)
The **+** sign indicates the currently active profile.

Keypad lock Only the favourite key remains active.
(to unlock the keypad, press SET for 5 sec).

Selection of the analog scale range :

- AnA 1 : 1 scale = 1 digit
- AnA 5 : 1 scale = 5 digits
- AnA 10 : 1 scale = 10 digits
- AnA OF : de-activate the analog scale range

E

5. *Bluetooth*® configuration

The connection procedure has been designed to be simple and is signalled by the following three states:

- Symbol ᛒ off..... disconnected mode
- Symbol ᛒ blinking..... advertising mode
- Symbol ᛒ on..... connected mode

The following options can be selected to control the *Bluetooth*® module.

On	Enable *Bluetooth*® module (start advertising mode).
OFF	Disable *Bluetooth*® module (terminate active connection).
rESEt	Clear pairing information.
MAC	Display the MAC (Media Access Control) address.

Three Bluetooth® profiles are available.

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

Note:
- *Bluetooth*® pairing information is cleared when the profile is changed.

Connection :

1° Activate *Bluetooth*® compatible software and hardware (Master : PC, Display Unit).

2° Start the instrument. By default the *Bluetooth*® module is active and the instrument is available for connection (advertising mode).

3° If no connnection is established during the advertisement period reactivate the *Bluetooth*® module using the bt / On menu.

4° Instrument is ready to communicate (connected mode.)

Only with paired profile :

Pairing with master is automatically done at first connection.
To connect the instrument to a new master (new pairing), pairing information on the instrument must be cleared using the bt / rESEt menu.

E

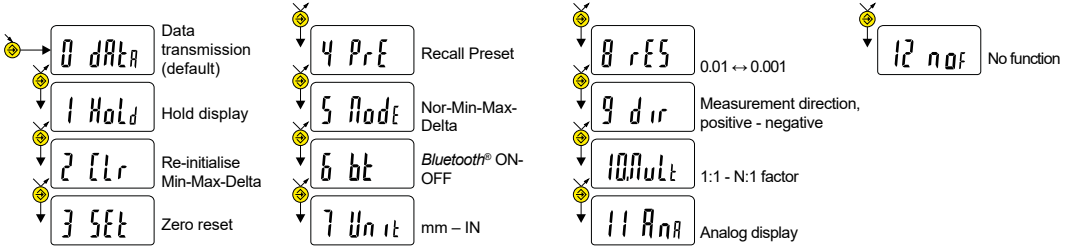
5.1 *Bluetooth*® specifications

Frequency Band	2.4GHz (2.402 - 2.480GHz)
Modulation	GFSK (Gaussian Frequency Shift Keying)
Max Output Power	Class 3: 1mW (0dBm)
Range	Open space: up to 15m Industrial environment: 1-5m
Battery life	Continuous : up to 2 months - Always connected with 4 values /sec. Saver : up to 5 months - The instrument sends value only when the position has changed. Blind/Push : up to 7 months - Value is sent from the instrument (button) or requested from the computer.

Other specifications on the manufacturer's website.

6. Favourite key

The «favourite» key gives direct access to a predefined function, and can be configured according to the needs of the user. In order to assign a function to the «favourite» key, give a prolonged press on , and then select the required function :



Validation of selection: By a prolonged press on or a short press on SET or MODE .

Note :

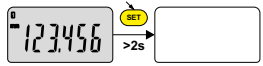
- A function can also be assigned via RS232 using the command <FCT + Function No.> (FCT 0..9 A..F) example : Toggle unit = **<FCT7>,** multiplication factor = **<FCTA>.**

E

7. Switching off

The dial gauge goes automatically into stand-by if not used for 10 minutes, unless automatic switch-off mode has been turned off (see Chap. 4, advanced functions).

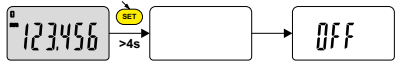
Stand-by mode can be forced by a prolonged press (> 2 sec) on SET :



In stand-by mode, the value of the origin is retained by the sensor (SIS mode), and the instrument automatically restarts with any movement of the measurement probe, RS command, *Bluetooth*® request or press on button.

The instrument can be switched off completely for a long period of non-use, but this will necessitate a zero reset on restart (the origin will be lost):

- Prolonged press (>4 sec) on SET :



8. Re-initialising the instrument

The initial instrument settings can be restored at any time by a prolonged press (>4 sec) simultaneously on MODE and SET until the message rESEt is displayed.

9. Personalising the instrument

Access to the functions of your instrument can be personalised, for more information see manufacturer's website (requires you to connect your instrument via Power RS / USB cable, or *Bluetooth*®).

Possibilities:

- Enable or disable the required functions.
- Modify access to the advanced functions (direct access).

10. Connecting the instrument

The instrument can be connected to a peripheral via a Power (RS or USB) cable or *Bluetooth*®. See page 3 for connecting the Power cable.

Measured values can be transmitted and the instrument driven using predefined commands (see chap. 11 for a list of the main commands).

E

11. List of the main commands

Selection and configuration

CHA+ / CHA-	Change measurement direction
FCT0 ...9...A...F	Assign «favourite» function
MM / IN	Change measurement unit
KEY0 / KEY1	Lock / unlock keypad
MUL [+/-]xxx.xxxx	Modify multiplication factor
PRE [+/-]xxx.xxx	Modify preset value
STO1 / STO0	Activate / de-activate HOLD
ECO1 / ECO 0	Activate / de-activate economic mode
LCAL dd.mm.yy	Modify last calibration date
NCAL dd.mm.yy	Modify next calibration date
NUM x...x (up to 20chars)	Modify the instrument number
MIN /MAX /DEL /NOR	Selecting MIN, MAX, Delta, Normal mode
CLE	Re-initialisation of MIN, MAX or Delta
UNI1 / UNI0	Activate / de-activate change of units
OUT1 /OUT0	Activate / de-activate contin. data transmission
ANA ON / ANA OFF	Activate / de-activate the analog scale
FACT1/FACT5/FACT10	Range of the analog scale
PRE ON / PRE OFF	Activate / de-activate Preset function
PRE	Recall Preset
SET	Zero reset
RES1 / RES2	Change of resolution
SBY xx	xx number of minutes before stand-by
BT0/BT1	Activate / de-activate *Bluetooth*® module
BTRST	Clear pairing information

Interrogation

?	Current value?
CHA?	Measurement direction?
FCT?	«favourite» function active?
UNI?	Measurement unit active?
KEY?	Keypad locked?
MUL?	Multiplication factor?
PRE?	Preset value?
STO?	Status of HOLD function?
ECO?	Current economic mode
LCAL?	Date of last calibration?
NCAL?	Date of next calibration?
NUM?	Instrument number?
MOD?	Active mode (MIN, MAX, Delta or Normal)?
SET?	Main instrument parameters?
ID?	Instrument identification code?

Maintenance functions

BAT?	Battery status (BAT1 = OK, BAT0 = low battery)
OFF	Switch-off (wake up using a button or RS)
RST	Re-initialisation of the instrument
SBY	Put instrument in stand-by (SIS)
VER?	Version No. and date of firmware
MAC?	*Bluetooth*® MAC address ?

12. Specifications

Measurement range:	12.5mm	12.5mm
Resolution	0.01mm	0.001mm
Max error	10µm ±1 digit	4µm
Repeatability:	2µm	
Weight:	75g	
Measurement force (standard) ±20% :	0.5-0.9N	0.5-0.9N
Measurement force (protected) ±20% :	0.6-1.3N	0.6-1.3N
Max. speed of travel:	1.7m/s	
No. of measurements / second:	up to 10 meas/s MIN/MAX mode: up to 20 meas/s	
Measurement unit:	metric/english (Inch)	
Maximum Preset (10µm resolution):	±999.99 mm / ±39.9995 IN	±99.999 mm / ±3.99995 IN
Measurement system:	Sylvac inductive system (patented)	
Power:	1 x 3V lithium battery, type CR2032, 220mAh	
Average battery life:	8'000 hours (with *Bluetooth*® enabled, see chapter 5.1)	
Data output:	RS232 compatible / *Bluetooth*® 4.0 (see chapter 5)	
Working temperature (storage):	+5 to +40°C (-10 to +60°C)	
Electromagnetic compatibility:	as per EN 61326-1	
IP rating (in accordance with IEC60529):	IP 67	
Fixing and space envelope:	Ø8h6 (3/8''), interchangable M2.5 (4-48-UNF) probe (as per DIN 878)	

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.

The *Bluetooth*® word mark and logos are registered trademarks owned by the *Bluetooth*® SIG, Inc. and any use of such marks by Sylvac is under license. Other trademarks and trade names are those of their respective owners.

U.S./Canada Certification

Sylvac

m.n.: S_Dial MINI

This device contains
FCC ID: 2AAQS-ISP091201
IC: 11306A-ISP091201

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.

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 body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Brazil Certification

Description:

This module is based on Nordic Semiconductor nRF8001 µBlue *Bluetooth*® Low Energy Platform. The nRF8001 is a single chip transceiver with an embedded baseband protocol engine, suitable for ultra-low power wireless applications conforming to the *Bluetooth*® Low Energy Specification contained within v4.0 of the overall *Bluetooth*® specification. The nRF8001, used in the current revision of ISP091201, is a production product using a RoM for the baseband protocol engine.

Este equipamento opera em caráter secondário, isto é, não tem direito à proteção contra interferência prejudicial, mesmo de estações do mesmo tipo e não pode causar interferência a sistemas operando em caráter primário.



Mexico certification

Contiene modulo inalámbrico
Marca: Sylvac
Modelo: ISP091201D
IFT: RCPSYIS14-0655

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

SYLVAC SA
Avenue des Sciences 19
CH-1400 Yverdon

Tel +41 21 637 67 57
Fax +41 21 637 67 40
Email admin@sylvac.ch
www.sylvac.ch

EU DECLARATION OF CONFORMITY (DoC)

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

Name	S_Dial Mini Smart
Description	Mini digital indicator
Part Numbers	805-6121, 805-6123, 805-6125, 805-6521, 805-6523, 805-6525

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

2001/95/EU	General product safety
2014/30/EU	EMC
2011/65/EU & 2015/863/EU	RoHS
2014/53/EU	RED

and complies with the following harmonized standards or other normative documents

EN 61326-1:2021	Electrical equipment for measurement, control and laboratory use – EMC requirements
EN IEC 63000:2018	Technical documentation for the assessment of electrical and electronic, products with respect to the restriction of hazardous substances
EN 300 328 V2.2.2	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 28, 2023
Name (position)	Eric Schnyder (CEO)
Signature	