sylvac

Experts in connected metrology !



Discover our brand new S_Dial CBG Smart, for internal two-point bore measurements. More efficiency and easy to use, with integrated Bluetooth® Technology.

Bluetooth®



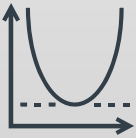
Bore gauges

The digital indicator can be used with different types of bore gauges.



Preset

The Preset is made by one single click on the Master button.



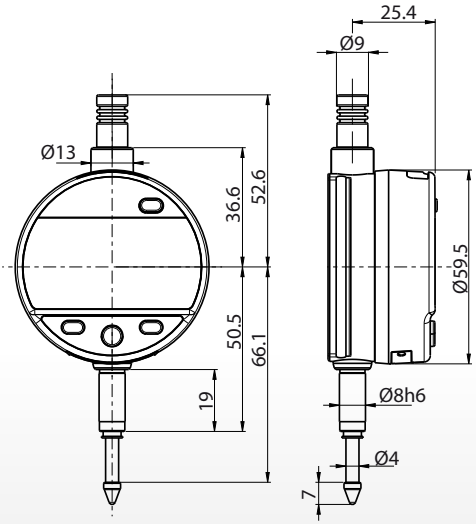
Min value

Introduction of the Preset value on the saved Min value

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Tel. +41 21 637 67 57 - Email. info@sylvac.ch - Web. www.sylvac.ch

FEATURES

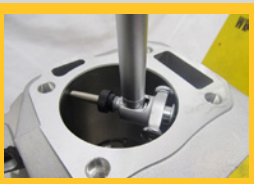
- Special version for cylindrical bore gauges
- Data output Power, Proximity & Bluetooth®
- Introduction of the Preset value on the saved Min value
- Quick measure of the reversal point
- Robust construction
- Water and coolant resistant
- Broad choice of functions (MIN/MAX/DELTA, TOL, PRESET, AUTO OFF, etc.)
- Automatic wake-up and sleeping mode, Absolute System S.I.S*
- Maximum error of 3 µm

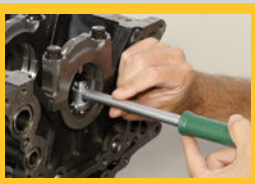


Bluetooth® POWER PROXIMITY

DATA

Specifications		805.6317
Measuring range	mm	12.5
Resolution	mm	0.001
Error max. fe	µm	3
Repeatability	µm	2
Functions		mm/inch, preset (max 999.999) min/max/delta, tolerances, resolution, direction of measurement, 4 references, automatic or manual switch off, key lock
Output data		Bluetooth® wireless Technology/USB/RS232
Protection		IP54






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CBG DIAL GAUGE **E**

COMPARATEUR CBG **F**

CBG MESSUHR **D**



INSTRUCTIONS

MODE D'EMPLOI

BEDIENUNGSANLEITUNG

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1 . Operating features of the instrument

- MODE The instrument has two operating modes: First level functions (direct access) and Second level functions. In addition to the configuration functions, available access to display tolerances settings (see chaps. 3 and 4)

- The «favourite» key gives direct access to the function used most often (see chap. 8)

- CLEAR Sets a Preset value, reset the MIN, verifies a selection, and controls switching off the instrument. By default, SIS mode enables automatic switch-off with no loss of origin (see chap. 10).

- PRESET MASTER Preset the origin to the master (>2s, see chapter 9)

- Personalising the functions

It is possible to activate or de-activate certain functions of the instrument via RS232 (see chap. 12)

- Data transmission parameters

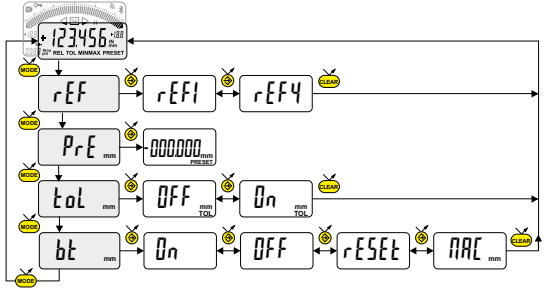
4800Bds, 7 bits, even parity, 2 stop bits

2. Start

Press a button. (For a *Bluetooth*© connection, see chap 7.)

3. First level functions

Each short press on MODE gives direct access to the First level functions:



Choice of reference (REF1 to REF4)

Inputting a Preset value (see chap. 6)

Tolerance display (inputting tolerance limits, see chap. 5)

Bluetooth® (depending on model). Enable / disable reset *Bluetooth*® module or display its MAC address.

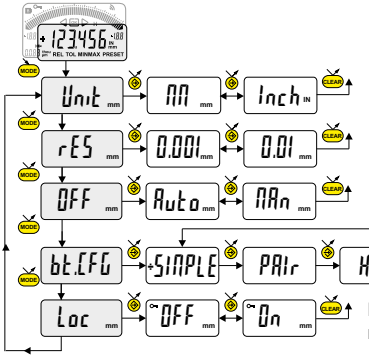
Note:

- It is possible to assign a different preset value to each of the 4 References. Similarly, different tolerance limits can be assigned to References REF1 to 4.

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4. Second level functions

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



Units selection (mm or Inch)

Choice of resolution 0.01 ↔ 0.001 depending on version)

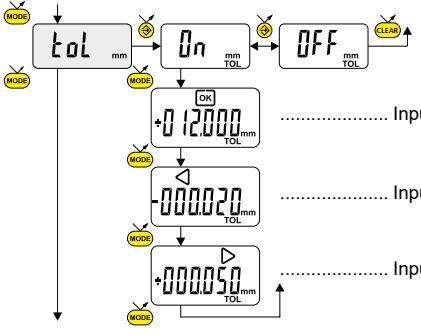
Automatic switch-off mode
MAn = de-activated. Auto = active (after 10 min.)

Bluetooth® profile selection (depending on model, see chap. 7 for details). The + sign indicates the currently active profile.

Keypad lock, Only the DATA and CLR functions of the favorite key remains actives. (to unlock the keypad, press CLEAR for 5 sec.)

5. Inputting (or modifying) tolerance limits

The tolerance limits are defined by introducing lower and upper intervals, compared to the nominal rating.



..... Input the nominal value (see chap. 6)

..... Input the lower tolerance limit (see chap. 6)

..... Input the upper tolerance limit (see chap. 6)

Note 1 :

- If no tolerance limits have been defined by the user, the instrument will only display the tolerance limit indicators but will not turn on the indicator lights (red - green - yellow).

Note 2 :

- Depending on the case, we can cross the indicators (red and yellow) by reversing the order of the tolerance limit input. (lower limit > upper limit)

7. *Bluetooth*® configuration (depending on model)

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 equipement without driver installation).

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

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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.

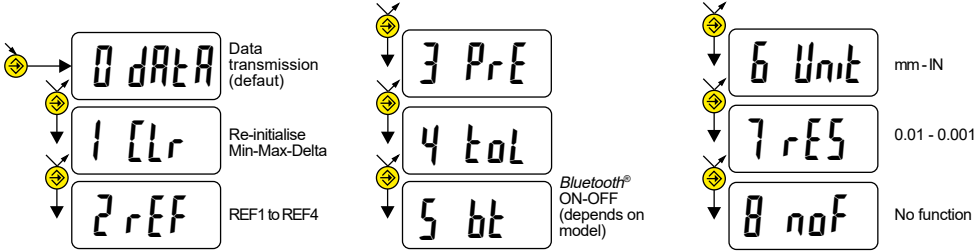
7.1 *Bluetooth*® specifications

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

8. 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 MODE or CLEAR

Note : a function can also be assigned via RS232 using the command <FCT + Function No.>
example : Change of Unit = **<FCT6>**, Changing resolution: = **<FCT7>**

9 Adjustment of the instrument

- Beforehand, input the dimension of the standard master in the Preset value (see chap. 3)
- Reset the measurement value by a short press on Clear
- Make a standard measurement (going through the turnaround point)
- Adjust the instrument by pressing Preset Master button (>2s)
- The instrument is adjusted and ready to measure.

9.1 Measure

- Make the measurements going through the turnaround point. The digital display stores and displays the MIN measured value.
- Before each new measurement, reset the measured value by a short press on 

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10. Switching off

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

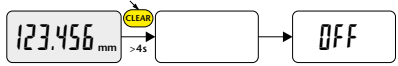
Stand-by mode can be forced by a prolonged press (> 2 sec) on CLEAR :



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 of a 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 CLEAR :



11. Re-initialising the instrument

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

12. 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 a Proximity or Power RS / USB cable).

Possibilities:
- Enable or disable the required functions
- Modify access to the Second level functions (direct access)

12.1 Application with MAX value measurement

Activate the mode Int-Ext Max by sending the command CFGCBGMAX (see chap. 14)

13. Connecting the instrument

The instrument can be connected to a peripheral via a Proximity (RS or USB), Power (RS or USB) cable, or *Bluetooth*®.
See page 2 for cable connection.
Measured values can be transmitted and the instrument driven using predefined retro-commands (see chap. 14 for a list of the main commands)

Note:
In Tolerance mode, the tolerance limit lights remain lit only for a few seconds while the measurement stabilises. On the other hand, they will remain lit continuously if the instrument is connected to, and powered by, the Power RS (USB) cable.

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14. List of the main commands

Selection and configuration

FCT0 ...9...A...F	Assign «favourite» function
MM / IN	Change measurement unit
KEY0 / KEY1	Lock / unlock keypad
PRE [+/-]xxx.xxx	Modify preset value
STO1 / STO0	Activate / de-activate HOLD
TOL1 / TOL0	Activate / de-activate tolerances
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 20 chars)	Modify the instrument number
TOL +/-xxx.xxx +/-yyy.yyy +/-zzz.zzz	Inputting nominal and current tolerance limits
CLE	Re-initialisation of MIN, MAX or Delta
UNI1 / UNI0	Activate / de-activate change of units
OUT1 /OUT0	Activate / de-activate contin. data transmission
PRE ON / PRE OFF	Activate / de-activate Preset function
PRE	Recall Preset
SET	Zero reset
RES2 / RES3	Change of resolution
AOFF	Activates/deactivates the automatic switch-off
REF1/.../REF4	Change of REF
SBY xx	xx number of minutes before stand-by
CFGCBGMIN	Activate CBG Mode
CFGCBGMAX	Activate Int-Ext Max Mode

Bluetooth®

BT0/BT1	Activate/de-activate *Bluetooth*® module
BTRST	Reset pairing information

Interrogation

FCT?	«favourite» function active?
UNI?	Measurement unit active?
KEY?	Keypad locked?
PRE?	Preset value?
STO?	Status of HOLD function?
TOL?	Current tolerance limit values?
ECO?	Current economic mode
LCAL?	Date of last calibration?
NCAL?	Date of next calibration?
NUM?	Instrument number?
?	Current value (mode Tol, value followed by <=>)
MOD?	Active mode (MIN)?
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)
REF?	REF active ?
VER?	Version No. and date of firmware
CFGCBG	Active mode (CBG/Int-Ext)

MAC?	*Bluetooth*® MAC address?

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 National Office 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'office national de métrologie.

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

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U.S./Canada Certification

Sylvac

m.n.: S_Dial WORK

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.

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EU DECLARATION OF CONFORMITY (DoC)

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

Name	S_Dial Work CBG Smart
Description	Digital indicators CBG
Part Numbers	805-6317

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	