

INSTRUCTIONS

MODE D'EMPLOI

BEDIENUNGSANLEITUNG

MANUALE D'USO

MODO DE EMPLEO

DIAL GAUGE **E**

COMPARATEUR **F**

MESSUHR **D**

COMPARATORE **I**

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, available access to the MIN, MAX and DELTA (TIR) mode, or display of tolerances (see chaps. 3 and 4)

- The «favourite» key gives direct access to the function used most often (see chap. 9)

- SET — Sets a Preset value, reset 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. 11).

- With the «Left and Right» buttons, the user may change the extent of the analogue scale as well as enter the values of the nominal dimension and tolerance limits. (see chap. 6.2)

- Personalising the functions

It is possible to activate or de-activate certain functions of the instrument via RS232 (see chap. 13)

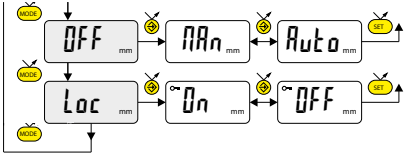
- Data transmission parameters

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

2. Start

Press a button. When used for the first time, the instrument requests selection of the measurement unit required (mm or inch). Choose..... then measure.

..... continuation



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

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

5. Work in MINIMUM, MAXIMUM and DELTA (TIR) modes :

In this operating mode, the digital display stores the MIN, MAX or DELTA value. On the other hand, the analogue scale always indicates the current measured value.

- A short press on SET resets the MIN/MAX stored value (CLEAr)

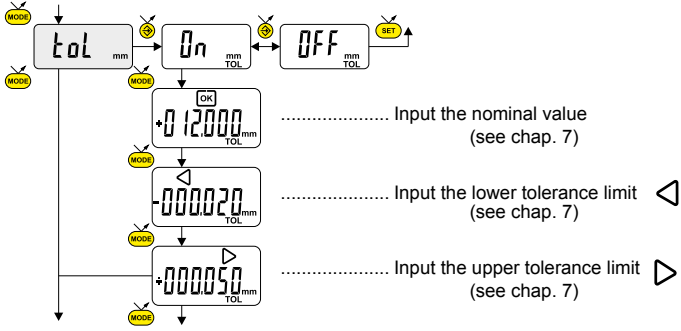
- A long press (>2s) on SET assigns the Preset value to the position of current measurement.

E

6. Inputting (or modifying) tolerance limits

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

6.1 Using the TOL mode

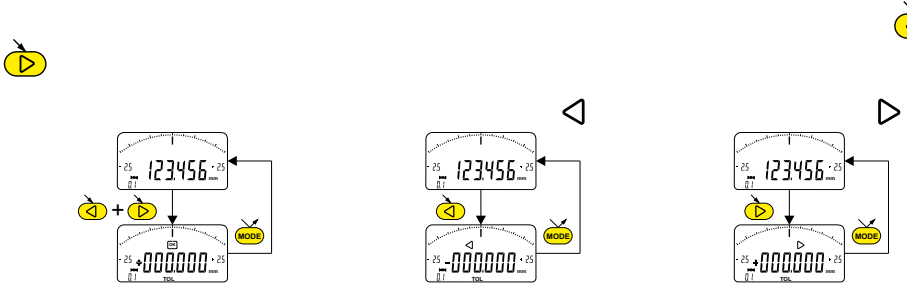


..... Input the nominal value (see chap. 7)

..... Input the lower tolerance limit ◁ (see chap. 7)

..... Input the upper tolerance limit ▷ (see chap. 7)

6.2 Use of the buttons ◁ and ▷:



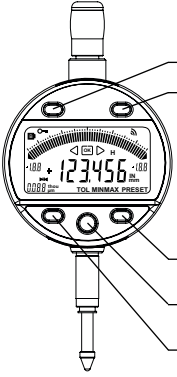
Measurement with internal/external tolerances

- In case of measuring internal ratings, you can cross the indicators (red and yellow) by reversing the order of entering the tolerance intervals (upper interval < lower interval).

E

7 Entering a numeric value

To enter or modify a numeric value (Preset, nominal ratings, tolerance intervals or multiplication factor), you can proceed in two ways:



7.1 Increases / decrases the current value:

◁ Decreases the current value

▷ Increases the current value

Note: - the scanning speed increases with a long press on the button
- save the value with one of the three lower buttons

7.2 Entering digit by digit:

SET Increase of the selected digit

Selection of the next digit

MODE Save the value

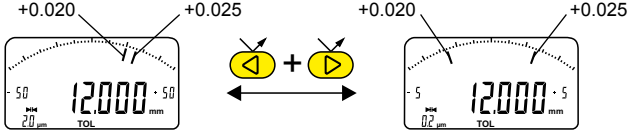
8. Scale the analog display

The user may change the analogue display's scale value by shortly pressing  or  .

8.1 Centring function of the analogue scale

When the tolerance limits are asymmetric with respect to the nominal ratings, it is possible to realign them to the analogue scale, by a short simultaneous press on  and 

Example: $12.000\ ^{+\,0.025}_{+\,0.020}$



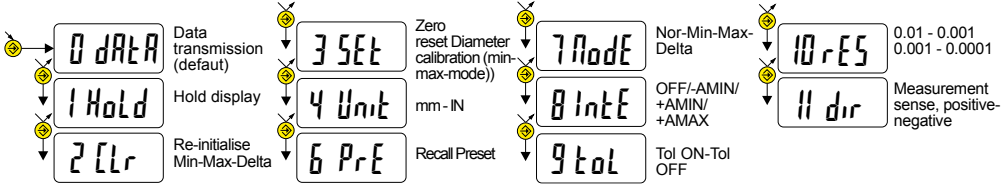
Asymmetric tolerance limits

Realigned tolerance limits

E

9. 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.>
example : Change of Unit = **<FCT4>**

10. 2 points mode (Dynamic adjustment of the Preset)

This mode allow the diameter measurement with a CBG (Cylinder bore gage). It is indicated with the sign PRE.
Proceed as follows :

10.1 Calibration of the instrument

- Enter a Preset value corresponding to the actual size of the standard (see chap. 3)
- Enable the InLE Function. The MIN and the negative measurement sense are activated (default)
- Make a standard measurement (going through the turnaround point)
- Adjust the instrument by selecting the SEt mode and pressing on the button  (see chap. 3)
- The instrument is adjusted and ready to measure.

10.2 Measurement

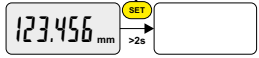
- Make the measurements. The digital display stores and displays the MIN (or MAX) measured value.
- Before each new measurement, reset the measured value by a short press on 

E

11. Switching off

The dial gauge goes automatically into stand-by if not used for 20 minutes, unless Auto 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 or press 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 SET :



12. 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.

13. 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:

- De-activate or active the required functions
- Modify access to the advanced functions (direct access)

14. Connecting the instrument

The instrument can be connected to a peripheral via a Proximity (RS or USB), Power (RS or USB) cable. See page 2 for connecting the Power cable.

Measured values can be transmitted and the instrument driven using predefined retro-commands (see chap. 15 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.

E

15. 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
PRE [+/-]xxx.xxx	Modify preset value
STO1 / STO0	Activate / de-activate HOLD
TOL1 / TOL0	Activate / de-activate tolerances
INTE1 / INTE0	2 points measurement mode
LCAL dd.mm.yy	Modify last calibration date
NCAL dd.mm.yy	Modify next calibration date
NUM xxxxxxxxxx	Modify the instrument number
TOL +/-xxx.xxx +/-yyy.yyy +/-zzz.zzz	Inputting nominal and current tolerance limits
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
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
CFGBAR	xxx

Interrogation

CHA?	Measurement sense?
FCT?	«favourite» function active?
UNI?	Measurement unit active?
KEY?	Keypad locked?
PRE?	Preset value?
STO?	Status of HOLD function?
TOL?	Current tolerance limit values?
INTE ?	2 points 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, 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

16. Specifications

Measurement range:	12.5mm	25mm	
Max error (0.01mm Resolution):	10µm	10µm	(±1 digit)
Max error (0.001mm Resolution):	3µm	4µm	
Repeatability:	2µm		
Weight:	119g	123g	
Measurement force (standard):	0.65-0.9N	0.65-1.15N	
Max. speed of travel:	1.7m/s		
No. of measurements/ sec:	measurement: 10 meas/s MIN/MAX mode: 20 meas/s		
Measurement unit:	metric/english (Inch)		
Maximum Preset (0.01mm Resolution):	±9999.99 mm / ±399.9995 IN		
Maximum Preset (0.001mm Resolution):	±999.999 mm / ±39.99995 IN		
Analogue scale value increment:	min 0.2 µm - max 1 mm / min 0.01 thou - 0.05 IN		
Analogue scale capacity:	min ±5 µm - max ±25 mm / min ± 0.25 thou - max ± 1.25 IN		
Measurement system:	Sylvac inductive system (patented)		
Power:	1 x 3V lithium battery, type CR2032, 220mAh		
Average battery life:	8'000 hours		
Data output:	RS232 compatible		
Range:	up to 15m (depending on the environment)		
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 54		
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 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.

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'ufficio nazionale 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.

SYLVAC SA
Avenue des Sciences 19
CH-1400 Yverdon-Les-Bains

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 WORK Analog
Description	Digital Indicator Analog
Part Numbers	805.5307, 805.5507

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

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

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

