sylvac

SWISS MADE

S_Probe LPD

Smart

Instruction manual

Description

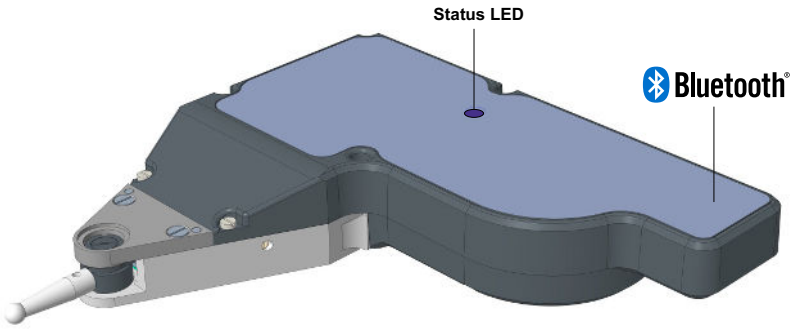
The LPD Smart probe is a high-precision inductive measurement lever probe with built-in Bluetooth® wireless technology. The rugged design and wireless connectivity allow the probe to be used in harsh conditions and hard-to-reach locations.

Connection

Bluetooth®

The probe only transmits data via a Bluetooth® Low Energy wireless connection (Bluetooth® 4.0 or higher). The device starts advertising as soon as the battery is installed. Please use Sylcom, Vmux or Sylvac Anywhere (mobile application) to communicate with your probe through the Sylvac Metrology SIMPLE profile (PAIR profile available through Sylcom, HID profile not available).

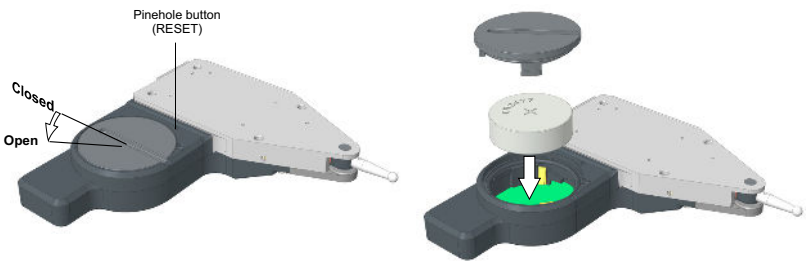
Interface



Battery

If the LED is flashing red, this indicates a low battery (see Status LED). Replace the battery as soon as possible to avoid any issues.

1. Open the battery cover
2. Replace the battery (Lithium CR2477 type)
3. Check the rubber protection position
4. Close the battery cover



Reset button

The reset button is located behind the probe. Use a small tool such as a paper clip to press it.

Bluetooth® reset

A short press on the reset button (< 1s) will erases the Bluetooth® pairing and reset the connection.

Instrument reset

The initial instrument settings can be restored at any time by a prolonged press (>1s) on the reset button. This has the same impact as sending the RST command.

Status LED

A Light Emitting Diode (LED) is used to indicate the status of the probe. The following table gives an overview of the possible codes and their meanings.

LED status	Description
Blue LED on for 3s	A Bluetooth® connection has been established
Blue LED flashing at 1Hz	Device is advertising for a connection / reconnection
Blue LED flashing once in 7s	Device is advertising for a reconnection
Green LED flashing once in 5s	A Bluetooth connection has been established
Red LED flashing once in 5s	Low battery, replace battery
Red LED flashing at 1Hz	General error. Perform a reset

Main commands

The following table lists the main commands that can be used with the probe. Every command must be terminated by a carriage return character (0x0D).

Command	Description
?	Get current position
CFG PRB?	Get active probe length
CFG PRB [+]xx.xxx	Set user probe length
CLE	Clear MIN, MAX and DELTA values
DIR?	Get measuring direction
DIR + / DIR -	Change measuring direction
ECO1/0	Enables economical mode, else back to normal running mod
ID?	Get the device identifier
MAC?	Get Bluetooth® MAC address
MIN / MAX / DEL / NOR	Select MIN, MAX, DELTA or Normal mode
MM / IN	Set measuring unit to millimeters / inches
MOD?	Get active mode (MIN/MAX/DEL/NOR)
PERF1/0	Enables performance mode, else back to normal running mode
RST	Re-initialize the probe
SBY xx	Set delay until standby (default is 10 min), 0 disables standby mode
SET	Set origin (zero) at the current position
SN?	Get serial number
UNI?	Get current measuring unit
VER?	Get firmware version

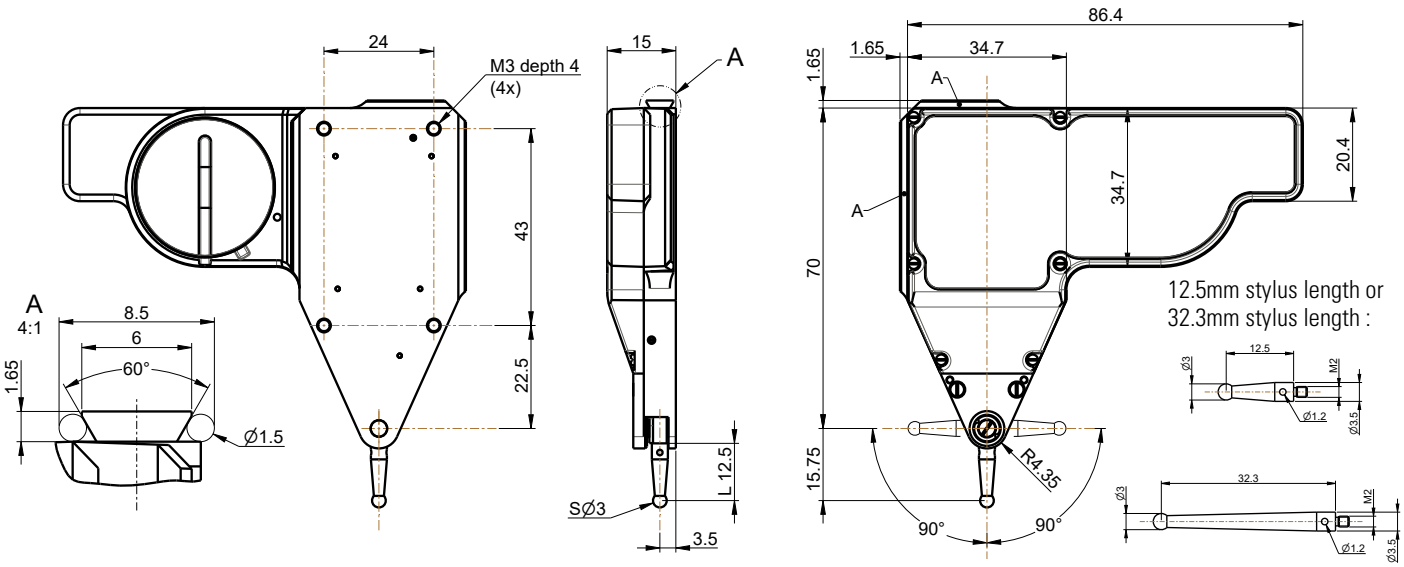
Specifications

Specifications	**801-3006**
Type	LPD Smart
Force	4 - 19 cN ±20% / 2 - 9 cN ±20% [1]
Measuring range	± 0.6 / ± 1.3mm [1]
Resolution	0.01µm
Stylus length	12.5 / 32.3mm [1]
Max error.	0.8 / 2µm [1]
Local max. error	0.3 / 0.7µm [1] [2]
Repeatability	0.07 / 0.15µm [1]
Max. hysteresis (Fu)	0.5 / 1µm [1]
Operating temperature (storage)	+5 à +40°C (-10° à +60°C)
Weight	110g (battery included)
Power supply	
Battery life	3.0V Lithium CR2477
Connection	Bluetooth® 5
Data rate	Standard mode 8d/s (default) - ECO mode 6d/s - PERF* mode 50d/s

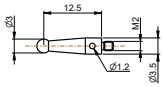
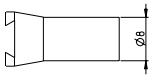
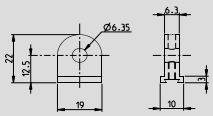
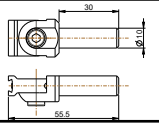
[1] with stylus 32.3mm, reference 801-8004, option
[2] max. local error over 50 µm, unidirectional
[3] 8/24h, 5/7d connected, otherwise standby advertising (Disconnected, master side switched OFF)
*For demanding applications, requires custom software not available from Sylvac

Dimensions

Mechanical drawing (all dimensions in millimeters) :

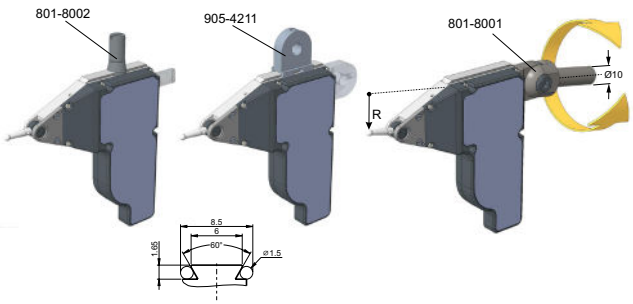


Accessories

Order number	Drawing	Description
801-8003		Stylus M2 Ø3mm, length 12.5mm
801-8004		Stylus M2 Ø3mm, length 32.3mm
801-8002		Clamping stem Ø8
905-4211		Center lug back
801-8001		Adjustable clamping stem Ø10

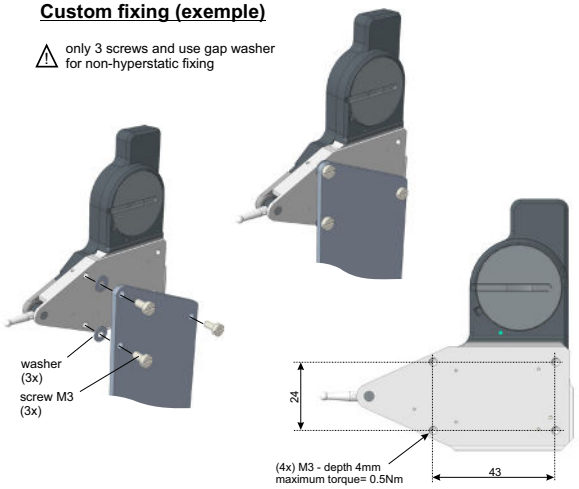
See general catalogue (available on www.sylvac.ch) for dimensions and more accessories.

Accessories for fixing

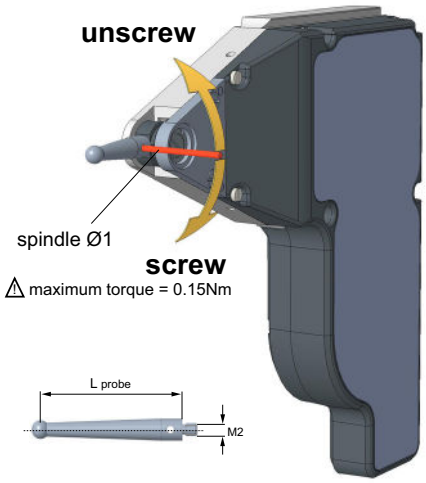


Custom fixing (exemple)

⚠ only 3 screws and use gap washer for non-hyperstatic fixing



Probe change



Note: When replacing with a probe of a different length, you must activate the specific probe length using the command:CFG PRB xx.xxx

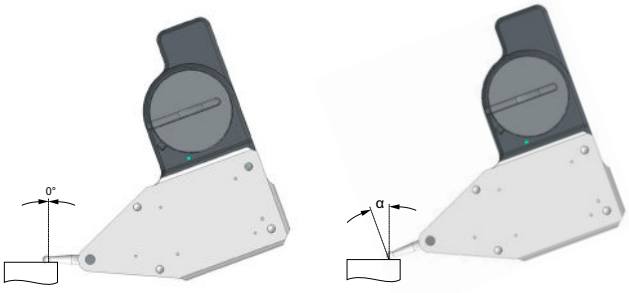
Example: probe L = 32.3 mm → CFG PRB 32.300

Probe orientation

Note: The measurement is accurate if the probe tip is parallel to the surface being measured. If not, the values read must be multiplied by a factor corresponding to the cosine of the contact angle.

Correction factor = **cos *α***

α Angle	Correction factor
0°	1.000
10°	0.985
20°	0.940
30°	0.866
40°	0.766
50°	0.643



Maintenance

Carefully dry all mechanical parts of the instrument after contact with liquids to ensure correct operation and avoid corrosion. Do not use aggressive products (alcohol, trichloroethylene, etc.) to clean plastic parts. Do not expose the instrument to direct sunlight, heat or moisture.

Calibration

CALIBRATION CERTIFICATE

Because our instruments are manufactured in batches, you may find that your calibration certificate appears to be out of date. Please be assured that your instruments are certified at the point of manufacture and then stored in our warehouse in accordance with our ISO 9001 Quality Management System. The recalibration cycle should start from the date of receipt.

Conformity

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.

Bluetooth® radio

U.S./Canada certification

Sylvac
m.n : S_Probe LPD Smart

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

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:
The module ISP1807 is based on Nordic Semiconductor nRF52840 Bluetooth LE system on chip. The nRF52840 is a Bluetooth 5.x SoC that integrates a 64 MHz Arm Cortex-M4 CPU with ultra-low power consumption and Flash/RAM memory.

ANATEL

MODELO : ISP1807
04057-23-14043

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.

Korea South certification

R-C-iNs-ISP1807

Class A Equipment (Industrial Use)

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Japan certification

R 020-200037

Taiwan certification

CCAJ23Y10060T5

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Änderungen vorbehalten

www.sylvac.ch

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