sylvac

Experts in connected metrology !

DIGITAL SCALE WITH BLUETOOTH® TECHNOLOGY

EVO SMART



IOT READY

SWISS MADE

SIS Smart Inductive System

Bluetooth®

Discover our brand new
S_Scale EVO Smart :
Now with Bluetooth® technology.

Ø45

Small diameter

Small dial diameter 45mm with larger display for easy reading.



Rotating display

Display rotating on 270°.



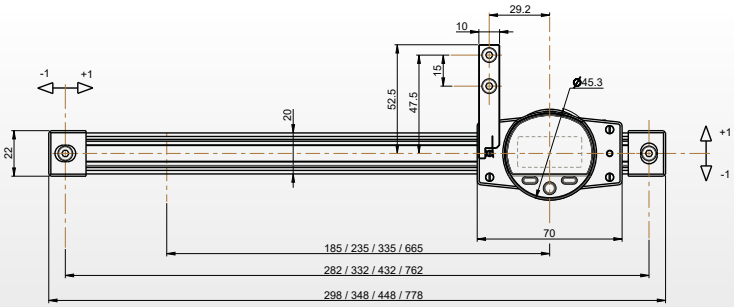
Ref1 / Ref2

Automatic switching of the reference by reversing measuring direction.

Sylvac SA - Avenue des Sciences 19, 1400 Yverdon-les-Bains (CH)
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FEATURES

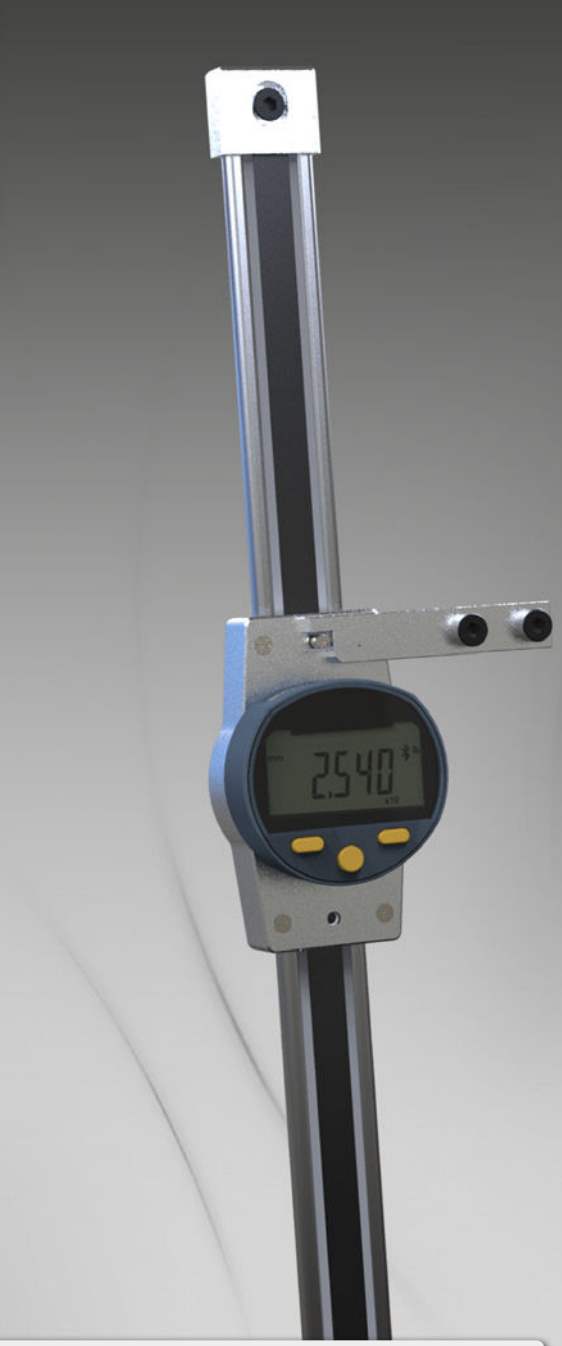
- Bluetooth® technology integrated
- Additional Power output for USB/RS232 wired connection
- Max displacement speed: 2 m/sec
- Clamping device
- Rotating display over 270°
- Stainless steel beam, aluminum carriage
- PRESET function
- 2 references
- Easy to integrate in your projects



DATA

	816-1615	816-1620	816-1630	816-1660
Measuring range mm	150	200	300	600
Type	Horizontal & vertical			
Max. error µm	20		30	
Repeatability µm	10			
Resolution mm	0.01			
Data output	Bluetooth® wireless Technology/USB/RS232			
2 references (REF 1 / REF 2)	✔			
PRESET function	✔			
Selecting of measuring direction	✔			
Rotating display 270°	✔			

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DIGITAL SCALE E

RÈGLE DIGITALE F

EINBAUMESSSCHIEBER D

SCALA DIGITALE I

REGLA DIGITAL S

INSTRUCTIONS
MODE D'EMPLOI
BEDIENUNGSANLEITUNG
MANUALE D'USO
MODO DE EMPLEO

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 select 2 references, or work in Automatic Reference mode (details see chapter 5). You can also enter a multiplication factor (see chapters 3 and 4).

-  The «favourite» key gives direct access to the function used most often (see chap. 7).

- SET Sets a Preset value, verifies a selection, and controls switching off the instrument. By default, SIS mode enables automatic switch-off with no loss of origin (see chap. 8)

- **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. 10).

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

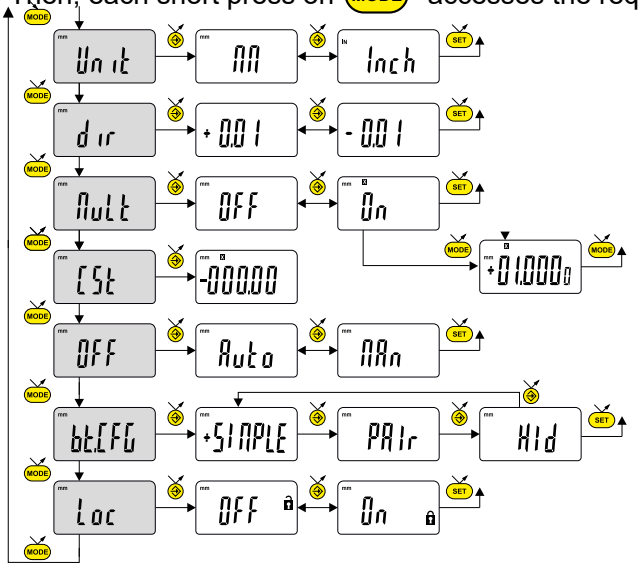
2. Start

Press a button.
For a *Bluetooth*® connection (see chap. 6).

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 Unit selection (mm or inch)

dir Choice of measurement direction (positive or negative direction)

Mult 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

CSt Introduction of a constant value (see chapter 5)

OFF Automatic switch-off mode / Man = disabled, Auto = active (after 10 min. by default).

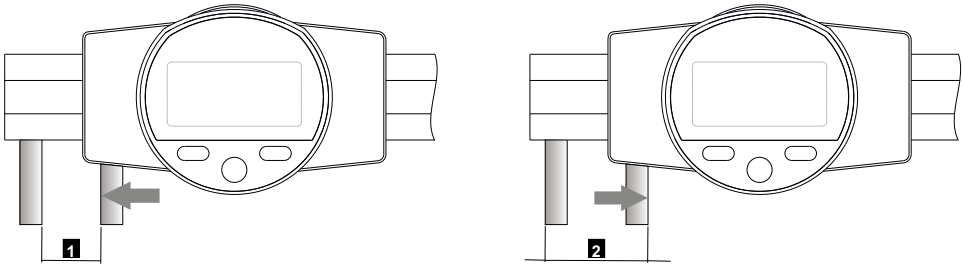
btCFG Bluetooth® profile selection. (see chap. 6 for details) The + sign indicates the currently active profile.

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

5. Automatic references

Depending on the case of use, when reversing the measuring direction, an offset value can be managed to compensate for the dimensions of the measuring probe.

The instrument is then able to switch automatically between its two references.



To use this working mode, select the rEF menu on Auto.

The constant value of the measurement key must first be entered in the CSt menu.

Note :
In Auto Reference mode, the input of the preset value is assigned to the active reference of the measuring direction:

⇨ Positive sense = ref **2**

⇦ Negative sense = ref **1**

In order to change the measuring direction, it is necessary to move >0.2mm in the opposite direction.

6. 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.

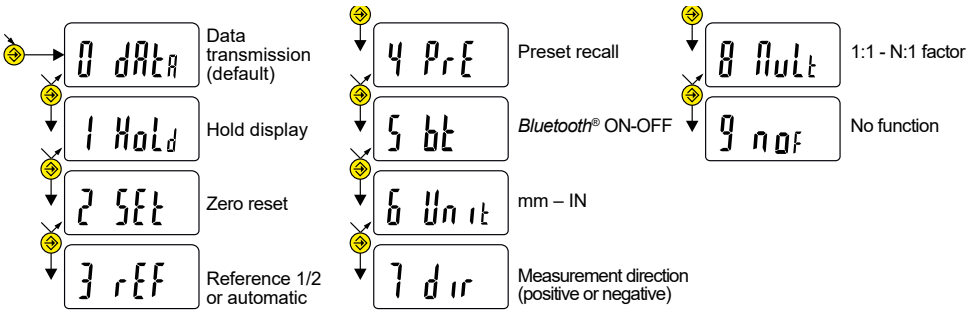
6.1 *Bluetooth*® specifications

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.

7. 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 :

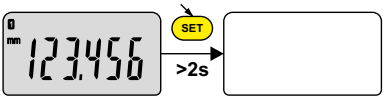
- A function can also be assigned via RS232 using the command <FCT + Function No.> (FCT 0..9 A..F)

  Example : Unit change= <FCT6>, no function =<FCT9>.

8. 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).

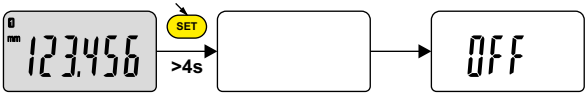
Stand-by mode can be forced by a prolonged press (> 2 sec) on SET :



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 :



9. 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.

10. 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).

11. Connecting the instrument

The instrument can be connected to a peripheral via a Power (RS or USB) cable or *Bluetooth*®. See page 4 for connecting the Power cable.

Measured values can be transmitted and the instrument driven using pre-defined commands (see chap. 12 for a list of the main commands).

E

12. List of the main command

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 number of the instrument
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 battery
PRE	Recall Preset
SET	Zero reset
REF1/REF2	Change of active reference
CST [+/-]xxx.xxx	Introduction of the constant value
REFAUTO1 / REFAUTO0	Activate / de-activate automatic reference
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?
SET?	Main instrument parameters?
ID?	Instrument identification code?
CST?	Valeur de constante ?
REFAUTO?	Référence automatique ?

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
REF?	Active reference ?
SBY	Put instrument in stand-by (SIS)
VER?	Version No. and date of firmware
MAC?	*Bluetooth*® MAC address ?

13. Specifications

Measuring range	150 mm / 6''	200 mm / 8''	300 mm / 12''	600 mm / 24''
Total measuring range	185 mm / 7.2''	235 mm / 9.2''	335 mm / 13.2''	665 mm / 26.2''
Resolution	0.01 mm / .0005''			
Accuracy	30 µm / .0012''	30 µm / .0012''	40 µm / .0015''	50 µm / .0020''
Repeatability	10 µm / .0004'' (±1 digit)			
Max. travel speed	>2 m/s / >80''/s			
No. of measurements per second	Up to 10 mes/s			
Units of measurement	Metric (mm) / English (Inch) (direct conversion)			
Maximum preset (resolution 0.01)	±999.99mm / ±39.9995 IN			
Measuring system	Sylvac inductive system (patented)			
Power supply	1 lithium battery 3V, type CR 2032, capacity 220mAh			
Average autonomy	8'000 hours (with Bluetooth® switched on, see chapter 6.1)			
Data output	RS232 / Bluetooth® 4.0 compatible (see chapter 6)			
Working temperature (storage)	+5 à + 40°C (-10 à +60°C)			
Electromagnetic compatibility	According to EN 61326-1			
IP specification (electronic unit)	IP 54 (according to IEC60529)			

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.

Kalibrierzertifikat

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.

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U.S./Canada Certification

Sylvac

m.n. S_Scale EVO

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, nãotem direito à proteçãocontrainterferênciaprejudicial,mesmodeestaçõesdomesmotipo 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.

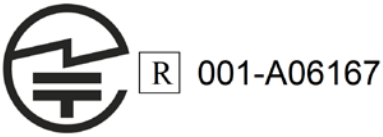
South Korea certification

MSIP-CRM-iNs-ISP091201

Class A Equipment (Industrial Use)

이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

Japan certification



Taiwan certification



警語

經型式認證合格之低功率射頻電機,非經許可,公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻電機之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。

前項合法通信,指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

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EU DECLARATION OF CONFORMITY (DoC)

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

Name	S_Scale Evo Smart
Description	Digital scale with Bluetooth® wireless technology
Part Numbers	816-1615, 816-1620, 816-1630, 816-1660

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

2023/988 (EU)	General product safety Regulation
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, August 12, 2024
Name (position)	Eric Schnyder (CEO)
Signature	