

# IDAS 2823 & 2823-REF

High Precision  $\tan \delta$ / power  
factor measuring instrument

Leaflet

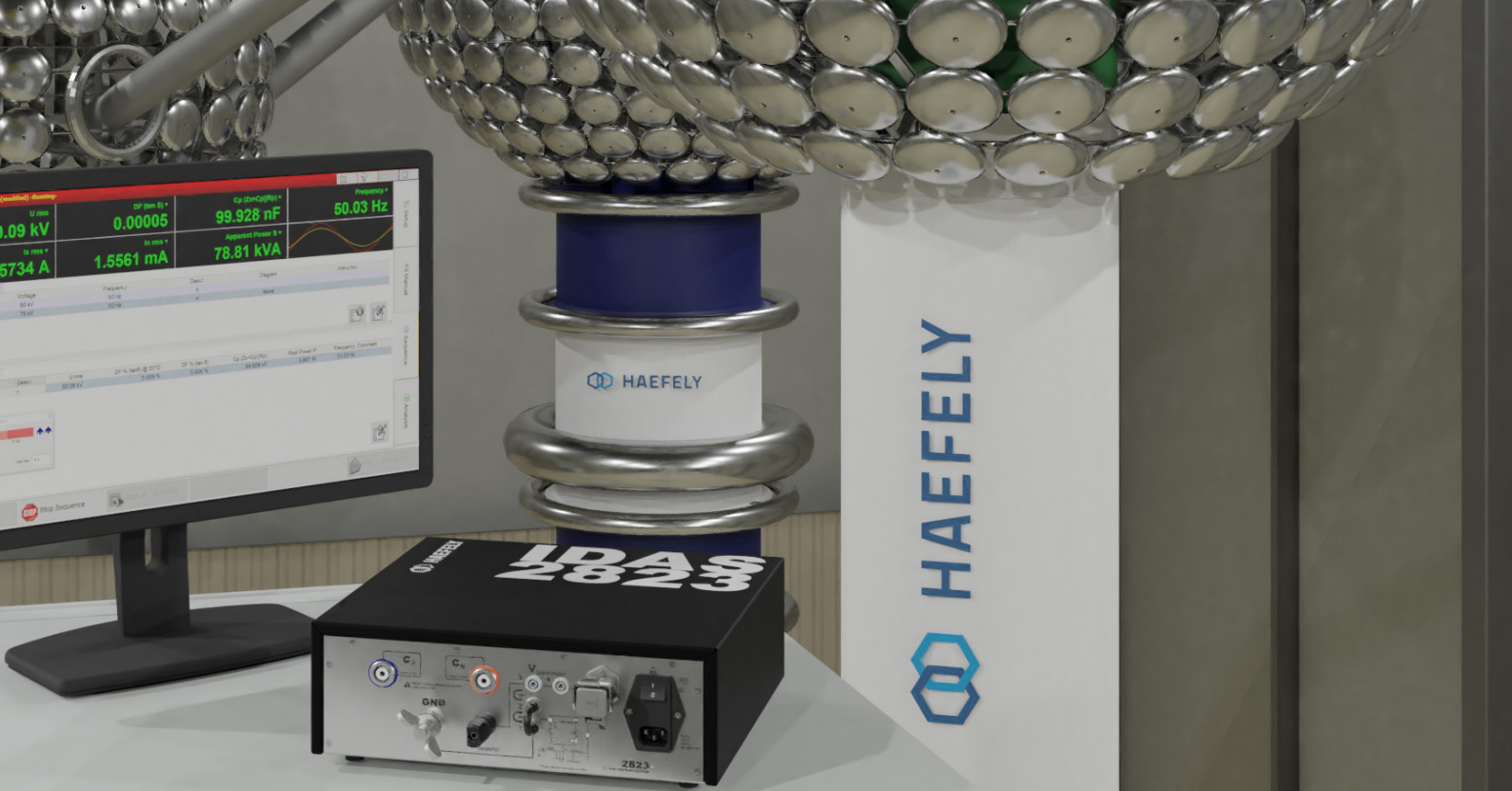


## HAEFELY

Current and voltage – our passion

Designed by

**Tettex**  
INSTRUMENTS

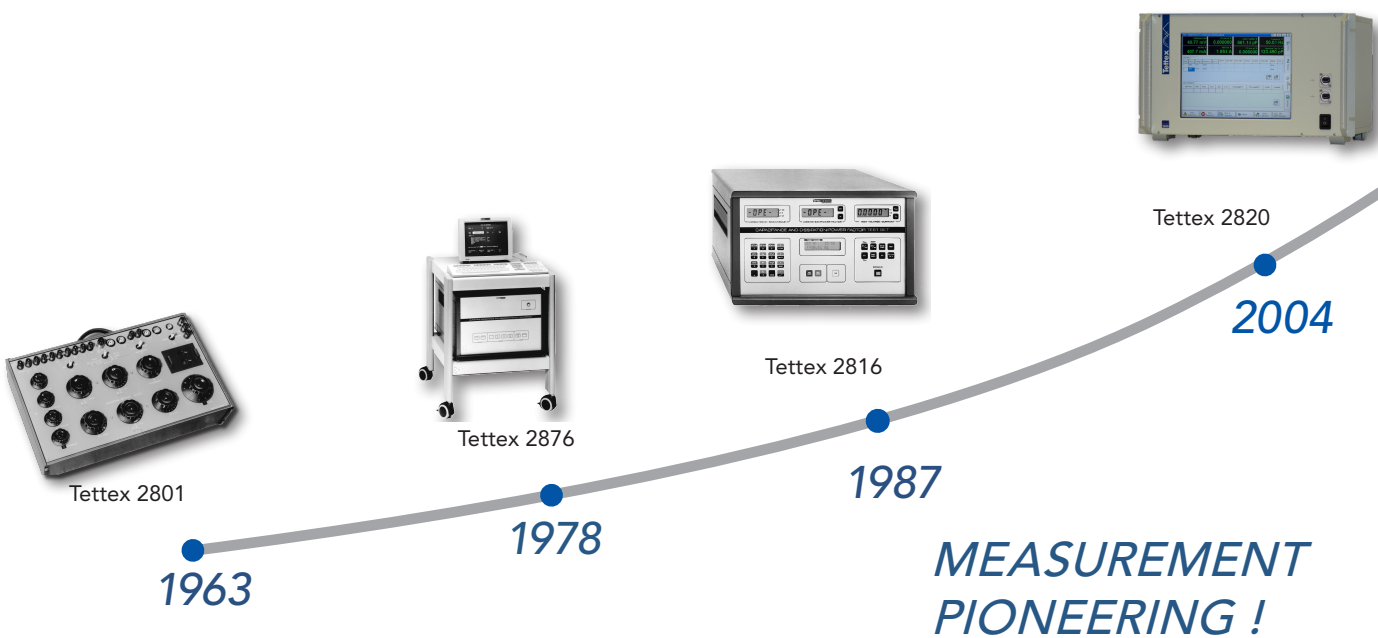


## HIGH PRECISION MEASUREMENT INSTRUMENT

The High Precision  $\tan \delta$  / dissipation factor measuring instrument is designed for measurement of very low dielectric losses of high-voltage apparatus. HAEFELY the pioneer in high voltage testing since 1904, has been continuously developing and improving this product line since the first manual measuring bridge Tettex type-2801 was introduced in 1963.

Tettex brand, a part of Haefely, is recognized world-wide for the accuracy and reliability of our measuring instruments. The 2823 belongs to our new generation of measuring instruments, which is a perfect combination of more than 50 years experience in this field together with state of the art technologies.

The use of optically decoupled connection allows complete galvanic isolation between control room and test field, and guarantees operating personnel the highest safety level.



## FEATURES

Compact, reliable and EMC hardened design, IP50.

Optically decoupled from computer with industrial grade fiber optic connectors.

Up to 15A input current with auto-range.

Extremely low input impedance

LEMO type measuring cables

Mains Powered

Highest accuracy up to 0.02 % ,  $\tan \delta < 1 \times 10^{-5}$

Continuation of a long line of Haefely product line



IDAS 2823

Tettex 2840

2009

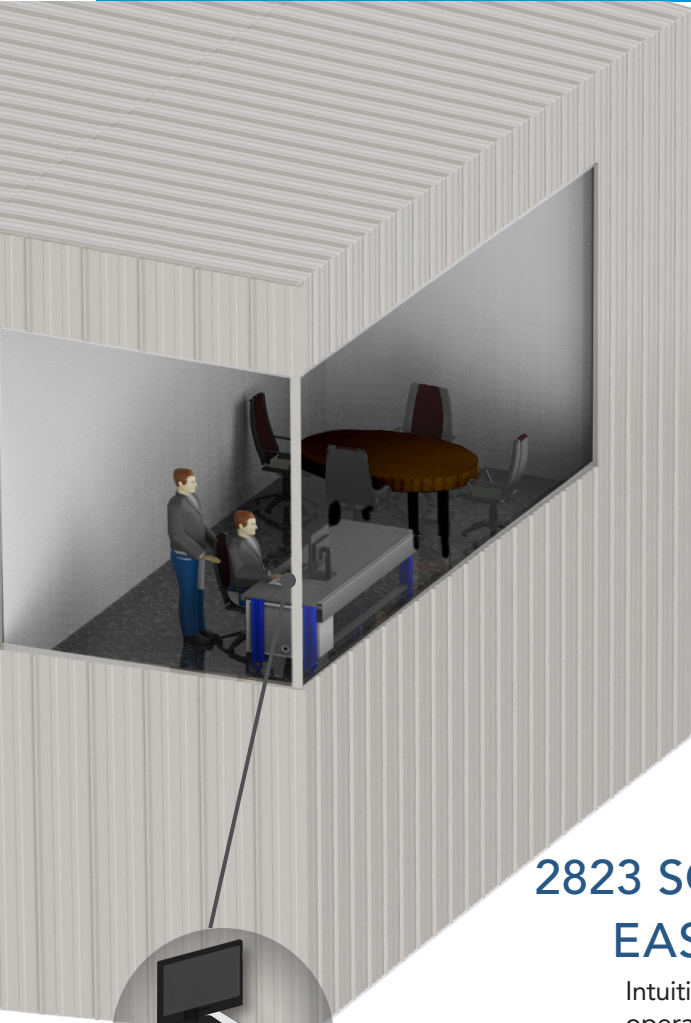
## ADVANTAGES

- Built to be located the HV laboratory attached to the nominal capacitor, which increases safety and reduces connecting time.
- The galvanic isolation ensures full safety of the personnel. With the IDAS 2823, there is no electrical connection between the control room and the high voltage test field.
- Simple connection to test objects without external shunts and no need for a hardware reconnection due to the high input current range
- Increased linearity and extended frequency measuring range up to 1 kHz.
- Backward compatible with older instruments and cabling, same connectors used for over 40 years.
- Connect and forget, no battery pack or recharge needed.
- Best device for routine or type test for oil or dry isolated components (IDAS 2823) or for reference laboratories or special applications like cables or shunt reactor losses measurement (IDAS 2823-REF).
- Turnkey solution from one supplier including standard capacitors, current comparators, test cells, certified calibration, etc.

## APPLICATIONS

Routine and type test of:

- Power Cables & Accessories
- Shunt Reactors losses
- Capacitors
- Instrument Transformers
- Bushings & Isolators
- Metrology Institutes
- Research & Development



**YOUR TEST OBJECT**

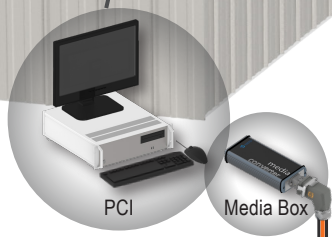


## 2823 SOFTWARE EASY TO USE & PROVED

Intuitive graphical user interface allows for simple operation and minimal training of test personnel.

- Test planning, preparation, execution and first assessment can be handled with just a mouse click.
- The test time for setup can be reduced significantly with definable pop-up graphics.

*RUGGED fiber optic link cable*



PCI

Media Box



## 2823 Galvanic isolation

*RUGGED fiber optic link cable*

Trad. Bridge

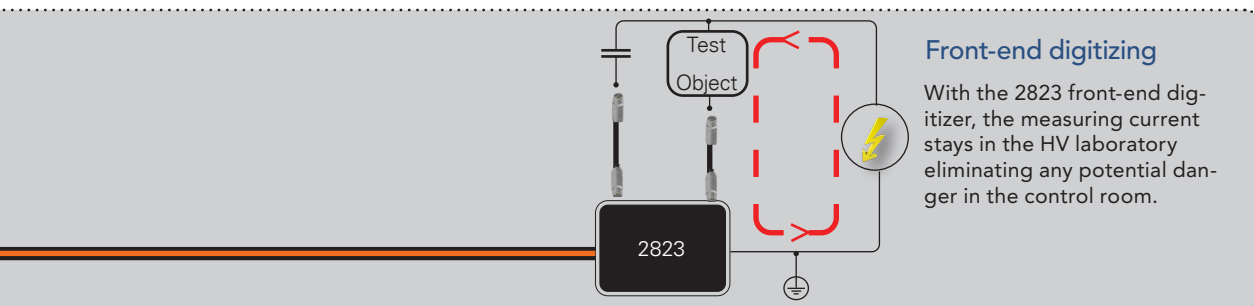


## Traditional measuring instrument

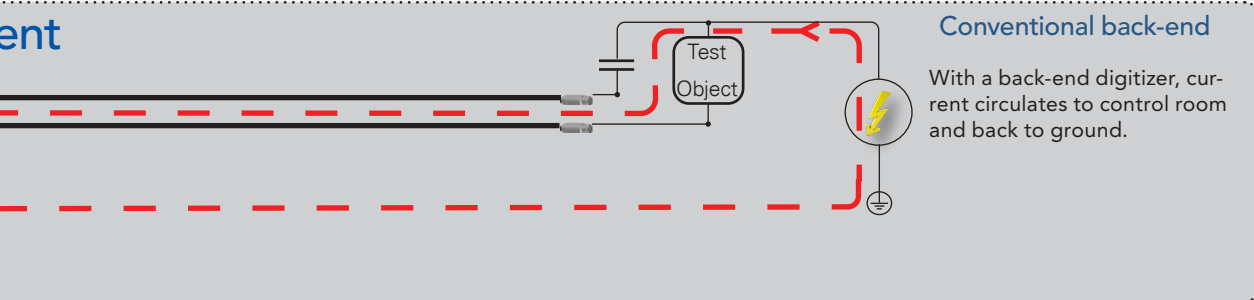
# GALVANIC ISOLATION

Fiber optic link between the 2823 and the control PC provides a complete galvanic isolation, with the following benefits:

- The length of the fibre optic cable does not impact the measurement ratio or the calibration.
- Fully ensures safety of personnel. With the 2823, there is no electrical connection between the control room and the high voltage test room.



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Safety

Report

Filter

Automatic

IEEE

Ease of use

IEC

2823

Diagnosis

Approved

## 2823 BASIC SPECIFICATIONS

	2823	2823-REF
Dissipation factor (tan δ)	± 0.1% RD ± 5 × 10 <sup>-5</sup>	± 0.1% RD ± 1 × 10 <sup>-5</sup>
Capacitance	± 0.1% RD ± 0.05 pF <sup>(1)</sup>	± 0.02% RD ± 0.01 pF <sup>(1)</sup>
Current	0.1% rdg ± 0.1 nA <sup>(1)</sup>	0.05% rdg ± 0.05 nA <sup>(1)</sup>
Current Range	10 μA .... 15 A <sup>(2)</sup>	10 μA .... 15 A <sup>(2)</sup>

<sup>(1)</sup> Temperature range : 23°C ± 5°C

<sup>(2)</sup> Current can be extended up to 10'000A with current extenders 4762, 4761 and 4764

Complete technical specifications in the 2823 Datasheet available at [www.haefely.com](http://www.haefely.com)

## STANDARD PACKAGE

2823		
3490101	Measuring Bridge	2823
3490102	Measuring Bridge	2823-REF

### Including

- Software Basic Package in USB stick
- Fiber Optic - Ethernet adaptor (Media Box)
- Industrial Fiber Optic Cable, 20 m
- Test Report and ground cable
- Instruction Manual (Electronic, PDF)

## OPTIONS

### Cable sets including:

- 1 x Lemo-Lemo Orange marked C<sub>N</sub>
- 1 x Lemo-Lemo Blue marked - C<sub>X</sub>
- 1 x Lemo-Alligator
- 1 x V-Cable

### Available lengths:

4843321	10 m length	28XX/CAB10
4843322	20 m length	28XX/CAB20
4843323	40 m length	28XX/CAB40

### Software

4843241	Office Software Package	28XX/SW
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### Extended Warranty

2 years	2823/WE2
3 years	2823/WE3



Laptop



15

OR



PCI

16



Software

2



Media Box

3



Rugged Fiber Optic

4

- X Standard scope of supply
- X Option
- X Accessory

# ACCESSORIES

## Measurement Cables




10	Shielded Measuring cable (Orange marked - C <sub>N</sub> ),	
4841872	Lemo:	Lemo-Lemo/Orange/2
4840206	- 2 m	Lemo-Lemo/Orange/10
4840041	- 10 m	Lemo-Lemo/Orange/20
4842541	- 20 m	Lemo-Lemo/Orange/40
	- 40 m	



11	Shielded Measuring cable (blue marked - C <sub>X</sub> ), Lemo.	
4841868	- 2 m	Lemo-Lemo/Blue/2
4840203	- 10 m	Lemo-Lemo/Blue/10
4841871	- 20 m	Lemo-Lemo/Blue/20
4844065	- 40 m	Lemo-Lemo/Blue/40



## Measurement cable adaptors

12	4841895 - Lemo Banana		Lemo – Banana
13	4840186 - Lemo - small clamp		Lemo – Alligator
14	4840169 - Lemo - large clamp		Lemo – Clamp

## Accredited Calibration

15	4841146 Accredited Calibration 2823	2823/AccCAL
16	4844207 Accredited Calibration 2823	2823-REF/AccCal

## Computers

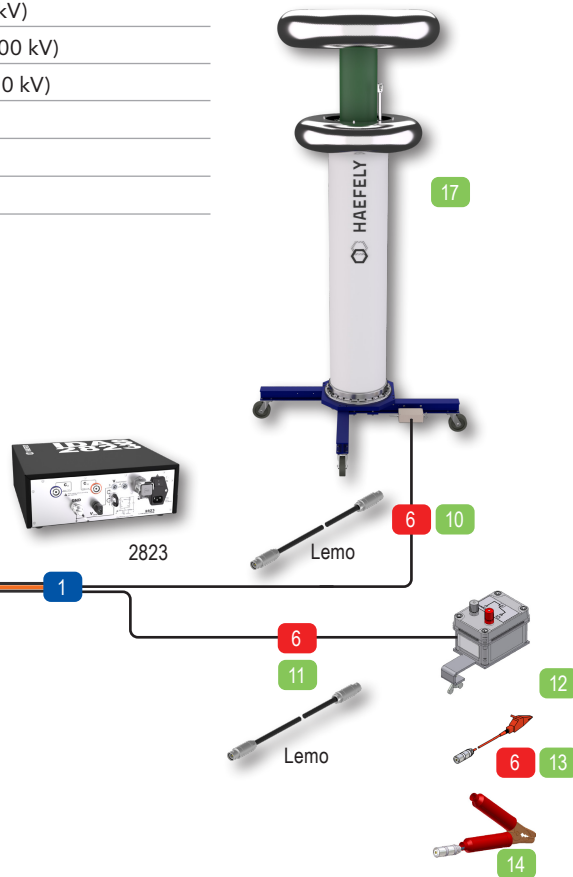
15	4840603 Laptop 15"	
16	Industrial PC (EMC tested)	PCI 811b

## 17 Nominal Capacitor (refers to)

- Type 3320 Air isolated (up to 2 kV)
- Type 3370 SF6 isolated (up to 200 kV)
- Type NK SF6 isolated (above 200 kV)

## Current Extenders (refers to)

- 3490016 Type 4762 (up to 400 A)
- 3490015 Type 4761 (up to 2'000 A)
- 3490017 Type 4764 (up to 10'000 A)



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