

# Precision C & $\tan \delta$ Meter

## DAC-PSC-20W



Introducing a current transformer type comparator bridge, DAC-PSC-20W gives automatically Capacitance and Dissipation Power Factor  $\tan \delta$  in a comparative measurement of a specimen and standard capacitor.

The bridge is designed in electronic circuits and the measurement is so simple and quick that data can displayed digitally in a high resolution of 0.001% as  $\tan \delta$  and 0.01% as an error in capacitance from a nominal capacitance only by keying in some parameters on the front panel.

DAC-PSC-20W can also provide great help to research and develop such a wide range of AC Capacitors as rated from 100V to 20kV. Combining with an external CT as option, test currents can be increased to extend testing ranges by 100 times.

■ **Test Specimen** High and Low Voltage Capacitor, Insulators, Bushing, and Cables.

- **Features**
- Precise measurement of Capacitance and  $\tan \delta$
  - Wide Range Measurement:  
Capacitance 1nF – 10  $\mu$ F  
(Max 1000  $\mu$ F with Expanding CT)
  - Testing Voltage AC100V~20kV
  - Minimum Resolution of  $\tan \delta$  :  $1 \times 10^{-5}$ (10ppm)

### Specifications

#### 1) Measuring Ranges

	Standard Capacitor (Option)	
	1000pF	10000pF
Testing Voltage *1	1kV~20kV	100V~2kV
Capacitance (with CT 100:1)*2	0.001uF~1uF (0.001uF~100 $\mu$ F)	0.01uF~10uF (0.01uF~1000 $\mu$ F)
$\tan \delta$	4.000%	
Nominal Value	Csx0.1 – Csx1000(effective 3 digits on CTx100)	
Allowable Range of Capacitance	$\pm 20\%$ *3	

\*1: 50/60Hz

\*2: The maximum range is increased by 100 times.

\*3: Maximum Set Range in error

#### 2) Resolution:

Capacitance( $\Delta C$ ): 0.01%  
 $\tan \delta$ : 0.001%

#### 3) Measurement Accuracy

Capacitance:  $\pm(0.1\%rdg+3\%Rdg+1\text{ digit})$   
 $\tan \delta$ :  $\pm(0.01\%+3\%Rdg+1\text{ digit})$

#### 4) Interface:

USB (2.0/1.1, B type connector) and GP-IB

#### 5) AC source:

AC100V~240V $\pm 10\%$  50/60Hz

#### 6) Size and Weight:

W430×H250×D450 (mm) approx. 25kg

#### 7) Environment

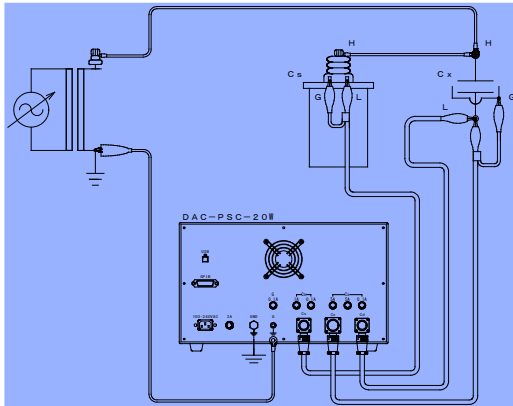
Operating: 15~35 degree C Storage:0~40 Degree C Humidity: less than 80%, no dew.

#### 8) Accessory:

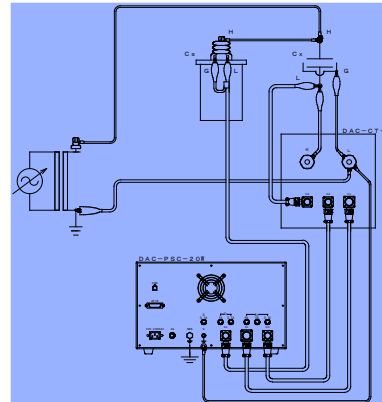
Cs Connecting Cable x1, Cx Connecting Cable x1, AC code x1, Grounding cable x1, Carrying bag x1

Wiring Diagram

■ measurement without Expanding CT



■ measurement with Expanding CT



Options

**EXPANDING CURRENT TRANSFORMER DAC-CT-1**

DAC-CT-1 is a precise Expanding Current Transformer (CT) with a built-in Double CT. Measuring Capacitance range can be expanded by 100 times only by combining this unit with the main unit.

■ Specification

Primary Current : 400A  
 Class : 0.1  
 Current Ratio : 100:1  
 Size and Weight : W270xH365xD270 (mm) Approx. 7kg



**STANDARD CAPACITOR DAC-Cs-102A**

DAC-Cs-102A is a three terminal capacitor filled with SF6 gas, and combined with DAC-PSC-20W as a reference capacitor.

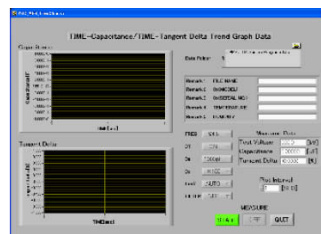
DAC-Cs-102A

■ Specification

Rated Voltage : AC20kV 50/60Hz  
 Nominal Capacitance : 1000pF  $\pm$ 1%  
 tan  $\delta$  : <0.001%  
 Filled Gas : SF6 gas 0.2Mpa(20°C)  
 Size and Weight : W315xH708(mm) Approx. 31kg



Software



Data acquisition is available with a free program by USB Interface. The program comes as standard accessory.

Setting Test Frequency, Cs, Cx Range, tan  $\delta$  range on a PC previously, measurement can be executed automatically in remote with a PC.

The program displays data like tan  $\delta$  and capacitance in curve, and save the data in a txt file in an optional folder.



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**SOKEN** SOKEN ELECTRIC CO., LTD.  
<http://www.soken-jp.com>

3-57-124 Kami-Ishihara, Choufu-City, Tokyo 182-0035 JAPAN  
 TEL +81 42 490 6929 (Export Dept.) FAX +81 42 490 6807