

PRECISION C & TAN δ METER

DAC-PSC-20W



Introducing current comparison-type transformer bridge method, DAC-PSC-20W is designed to measure capacitances and dielectric dissipation factors (tan delta) of capacitors accurately. The meter displays ΔC (%) against a nominal value of a specimen as well as $\tan\delta$ (%). Direct readings of capacitance are also possible. The minimum resolution of $\tan\delta$ is 0.001%. Capacitance range from small to large and voltage range from low to ultra-high are available. The measuring range can be expanded further by using an expanding CT with the meter.

Test Specimen

High and Low Voltage Capacitor

Features

- Precise measurement of Capacitance and $\tan\delta$.
- Desirable for quality test in production line of capacitors.
- Wide measurement range:
- Minimum Resolution of $\tan\delta$: 1×10^{-5} (10ppm)
- Software to remote operation.

Precision C & tanδ Meter DAC-PSC-20W

Specifications

1) Measuring Ranges^{*1*2*4}

Capacitance 50pF - 10μF
Testing Voltage AC 10V - 600kV

(Example)

(Measuring range will be expanded/limited depending on a used Cs and an expanding CT.)

	Standard Capacitor (Option) *1		
	100pF	1000pF	10000pF
Testing Voltage ^{*2*3}	1kV – 300kV	0.1kV – 30kV	10V – 3000V
Capacitance ^{*4}	100pF – 100nF	1000pF – 1μF	0.01uF–10uF
with CT-1 (100:1)	10nF - 10μF	100nF - 100μF	1uF - 1000uF
with CT-2 (200:1)	20nF - 20μF	200nF - 200μF	2μF - 2000μF
with CT-10 (1000:1)	100nF - 100μF	1μF - 1000μF	10μF - 10000μF
tanδ	0.000 – 4.000%		
Nominal Value	Csx0.1 – Csx1000 (effective digit: 3 digits) ^{*5}		
ΔC	±20.00%		

*1: 3 types of standard capacitors from Cs 20pF – Cs 100nF can be registered on the meter.

*2: Testing Frequency: 50/60Hz, Max test voltage = 30,000/capacitance of Cs (pF).

*3: Accuracy guaranteed starting voltage = Max testing voltage / 100

*4: Capacitance ranges are subject to be limited by measurable current capacity 8A.

*5: When using an expanding CT, a nominal value will be equally multiplied.

2) Minimum resolution:

ΔC: 0.01%
Tanδ: 0.001% (0.00001)

3) Measurement Accuracy

Capacitance: ±(0.1%rdg+3%Rdg+1digit)
Tanδ: ±(0.01%+3%Rdg+1digit)

4) Interface:

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

5) AC source:

AC100V - 240V±10%, 50/60Hz

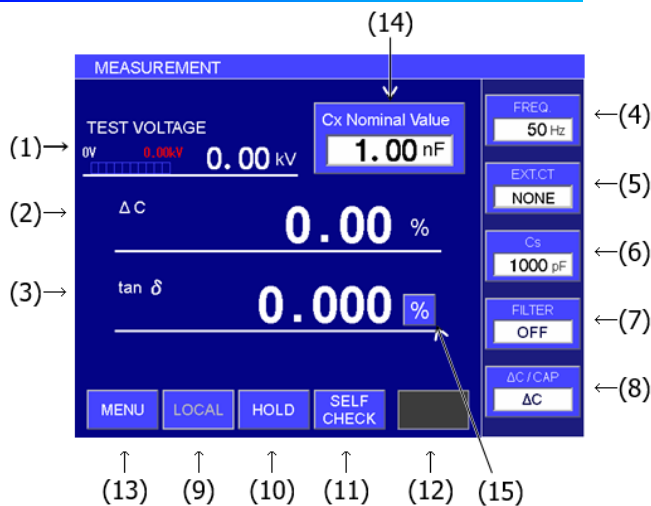
6) Size and Weight:

W430×H250×D450 (mm) approx. 25kg

7) Accessory:

Cs Connecting Cable (3M) x1, Cx Connecting Cable (3M) x1,
Cd Connecting Cable (3M) x 1, AC code x1,
Grounding cable (3M) x1, Carrying bag x1,
Sample software x 1

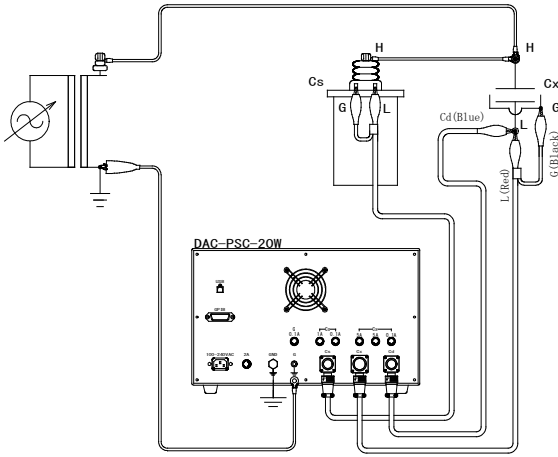
LCD Display



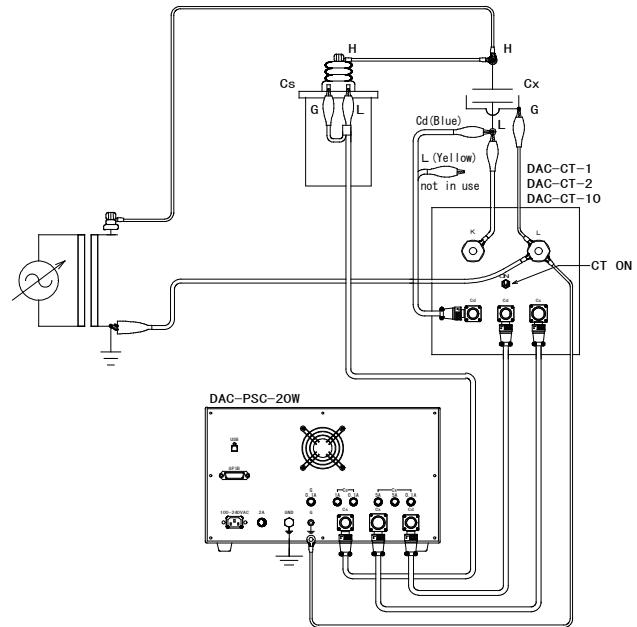
1. Test voltage
2. ΔC/CAPACITANCE
3. tan δ
4. Frequency
5. Condition of Extension CT
6. Cs value
7. Filter
8. ΔC or CAP
9. LOCAL or REMOTE
10. Hold the values
11. Self Check
12. Work lamp
13. Menu button
14. Cx nominal value
15. Switch the tan delta, % ON or OFF
% OFF: 0.00000 – 0.04000
% ON: 0.000% - 4.000%

Connecting Diagrams

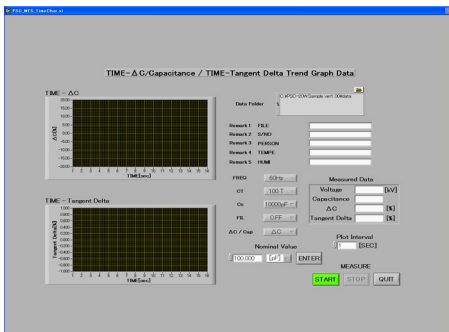
■ Connection without Expanding CT



■ Connection with Expanding CT (When CT is ON)



Sample Software



- Data acquisition is possible through USB interface.
- Remote operation with PC is available, and measured data will be displayed graphically.
- The data is saved to an optional folder in a txt format.

Options

EXPANDING CURRENT TRANSFORMER Model DAC-CT-1 / DAC-CT-2 / DAC-CT-10 TYPE700

Capacitance measurement range can be expanded by 100x, 200x, or 1000x by using an optional expanding current transformer.



DAC-CT-1/DAC-CT-2



DAC-CT-10 TYPE1200

Model	DAC-CT-1	DAC-CT-2	DAC-CT-10 TYPE 1200
Current Ratio	100:1	200:1	1000:1
Rated Current	Max 400A	Max 400A	Max 400A
Class	0.1	0.1	0.1
Connection Type	With terminal	With terminal	Through hole type (φ60mm)
Size	W270xH365xD270 (mm)		W220xH240xD100 (mm)
Weight	Approx. 10kg		Approx. 8kg

Precision C & tan δ Meter DAC-PSC-20W

Option Standard Capacitors

DAC-Cs-101A and DAC-Cs-102A are three-terminal capacitors filled with SF6 gas, and suitable to use as the standards of capacitance & tan δ for dielectric loss tangent tests.

Those can be used as a capacitive divider and a coupling capacitor as well.

■ Model DAC-Cs-101A

Specification

Rated Voltage	: AC40kV 50/60Hz
Nominal Capacitance	: 100pF \pm 1%
tan δ	: <0.001%
Filled Gas	: SF6 gas 0.5Mpa(20°C)
Size and Weight	: W428xH812(mm) Approx.45kg

■ Model DAC-Cs-102A

Specification

Rated Voltage	: AC20kV 50/60Hz
Nominal Capacitance	: 1000pF \pm 1%
tan δ	: <0.001%
Filled Gas	: SF6 gas 0.2Mpa(20°C)
Size and Weight	: W428xH812(mm) Approx.31kg

■ Model DAC-Cs-103

Specification

Rated Voltage	: AC3kV 50/60Hz
Nominal Capacitance	: 10000pF \pm 2%
tan δ	: <0.015%
Insulation Type	: Film capacitor
Size and Weight	: W120xH200xD65(mm) Approx.1.6kg



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of measuring instruments

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