



SES2i

Européenne de Services Informatiques & Industriels

DP1000-C

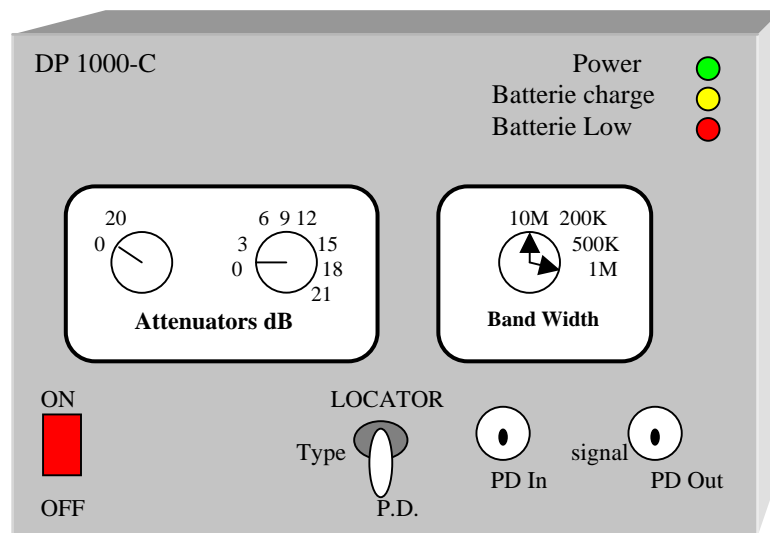
1 - PRESENTATION

The DP1000-C is a Partial Discharges detector/locator dedicated to after manufacturing routine tests, necessary to all Cables Manufacturers according to international standards.

PD signals are displayed by mean of a digital oscilloscope type Fluke 192S (2 channels + 1, 60 MHz band, 1.25 Gs/s and 500 Ms/s single shot). PDs are shown vs phase resolution along with the form and value of the supplied high voltage.

The electronic is mounted in an EMC type 19"-6U box as follows :

Front panel:



PD Input Connector

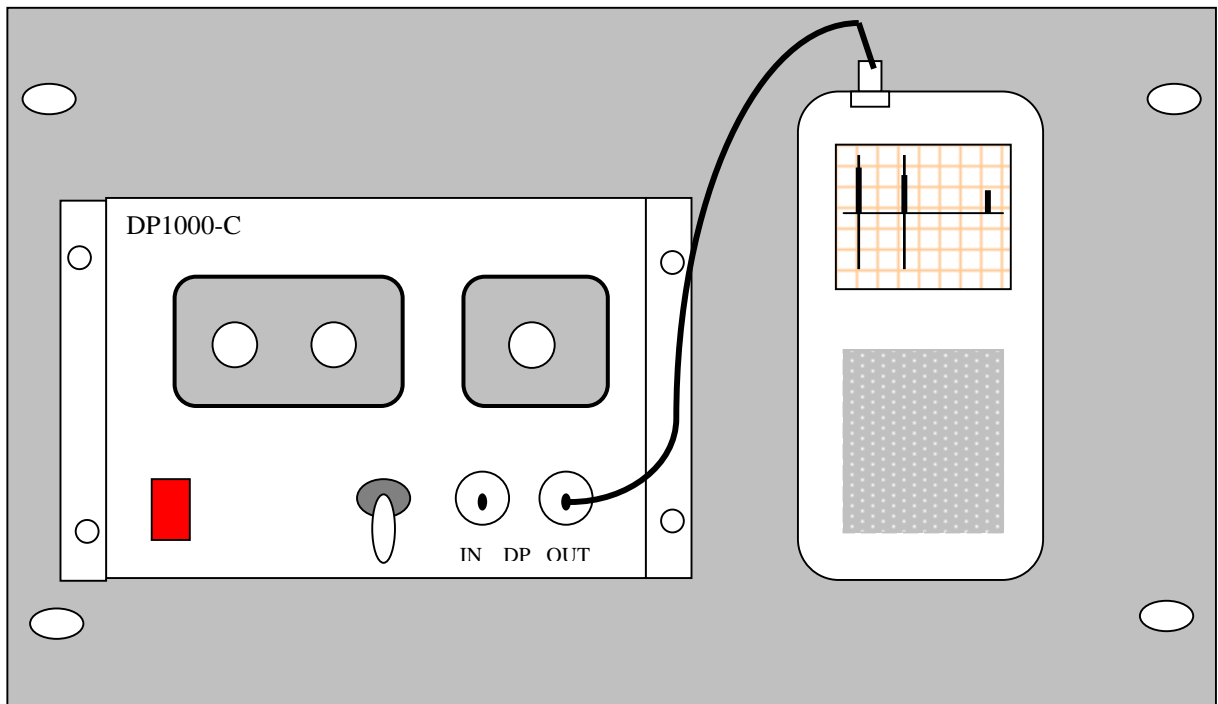
This is a BNC type connector. The signal comes from the blocking capacitor through the matching unit (detection impedance). The maximum amplitude allowed on this input is 10V peak-peak.



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Presentation (19" - 6U)



BAND WIDTH

The amplifier of the DP1000-C offers 4 different band widths in order to comply with all testing figures. It allows to detect and measures the height of the discharges in the cable (band widths 30 KHz-500KHz and 30KHz-1.2MHz) and enables the location of the discharges (band width 10MHz). From these specifications, the DP1000C is applicable to most of the commercial cables on the market from MV to VHV and from 200m long to 4 Kms long.

The band widths :
30 KHz - 200 KHz
30 KHz - 500 KHz
30 KHz - 1.2 MHz
100KHZ - 10 MHZ.

**« PD - LOCATOR » SWITCH**

This option is very interesting while locating small discharges (defaults) in a cable :

In the position "PD" :

the user performs the routine quality tests. Upon detecting a partial discharge signal, the pattern shows on the oscilloscope its position vs phase and hence determine the nature of this discharge : Corona, Contact, Floating or PD in the cable.

In the position "LOCATOR" :

the user can locate the origin of the discharge with a precision of +/- 1m. He can save lot of time and money in eliminating rapidly the portion of the cable which is bad. The shortest length of a measurable cable should be around 100m.

« ON - OFF » and STATUS INDICATORS

When the DP1000C is ON, the "green" lamp is blinking.

The autonomy is about 7 hours. When the batteries are low, the "red" lamp is ON; at this stage the user has one hour stand-by within which he can continue to perform his tests with 3% lower precision. Alternatively, he can connect the power supply - 230Vac - to charge the batteries while continuing his tests.

In charge position, the red light goes OFF and a yellow blinking light goes ON showing the charge status. The batteries are charged within 8 hours in ON position or 4 hours in OFF position .

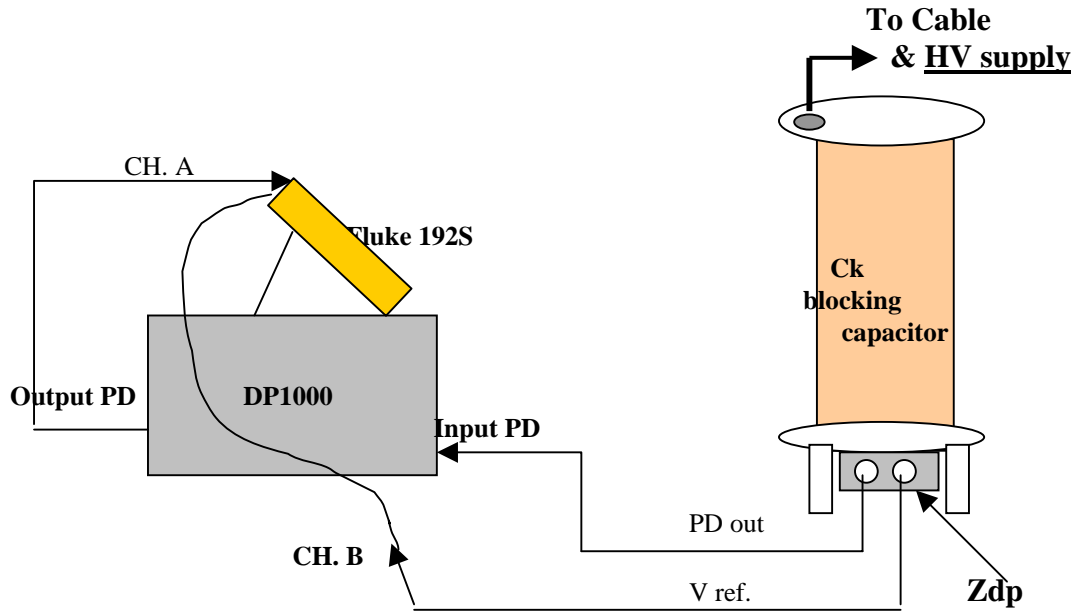
The 230 power supply plug is situated on the rear panel**RESULTS DISPLAY AND BENEFITS**

The DP1000-C package is a general multi uses tool. It allows the user (technicians and electrical engineers) to possess at once a multimeter, an oscilloscope and a PD detector. All these are necessary to perform several works in factory or on site.

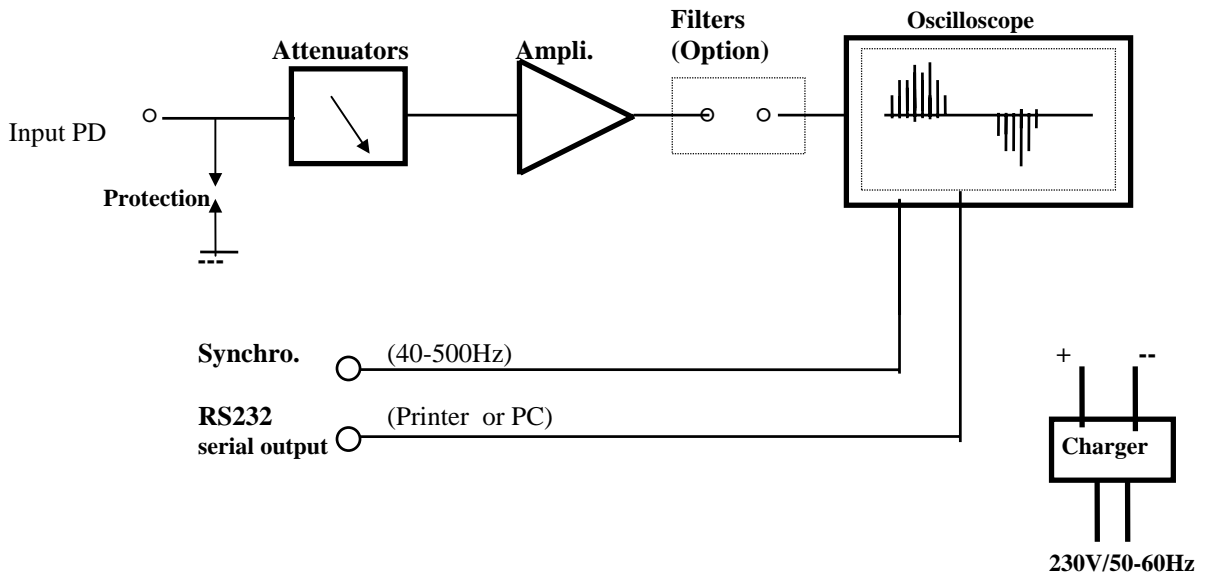
The Fluke 192S oscilloscope displays the results with an extreme precision and understanding of the signal behaviour. Two cursors provide the facility to obtain the length measurements of the cable and of the location of a PD (default).



CONNEXIONS



GENERAL DIAGRAM



CARACTERISTICS



Dimensions 19" - 6U.

- * Power Supply : 230V - 50/60Hz + Battery @ 6/7H autonomy
- * PD Input : Impedance 50 ohms
- * Gain : 60 dB for measuring; 20dB for location
- * Sensibility : @ 0.5 pC for C < 1nF
- * Dynamic : 42 dB
- * FREQ. Band Width : 30 - 200 KHz; 30 - 500 KHz; 30 - 1.2 MHz
100KHz - 10 MHz.
- * Localisation : Cable lengths > 100 meters
- * Precision : + / - 1 meter
- * Synchro : variable (external)
- * RS232 (option) : Printer, compatible PC.
- * Software (option) : Data Transfer to be saved on a hard disk.

SPECIFICATIONS

The Benefit of DP1000-C

- Visualisation of the discharges pattern,
- Visualisation and measurement of the PDs in peak + and peak -
- Visualisation of one separate PD to identify its nature
- Visualisation VS phase
- Visualisation of PDs VS many 50/60Hz cycles → evolution of the default.
- Measure the PDIV (PD inception voltage) and PDEV (PD extinguishing voltage)
- RS232 (option) → Printer
- Software (option) → Transfer of data to a computer
- 4 Band Widths → 200KHZ; 500KHZ; 1.2MHZ; 10MHZ
- Location of defaults → Cables testing and qualification.

Environment

Temperatures

Functioning +5 to + 50°C

Storage -20 to + 60°C

Vibrations maxi 3g

Chocks maxi 15g

Protection IP20

SES2i guaranties its equipment for a period of 18 months.