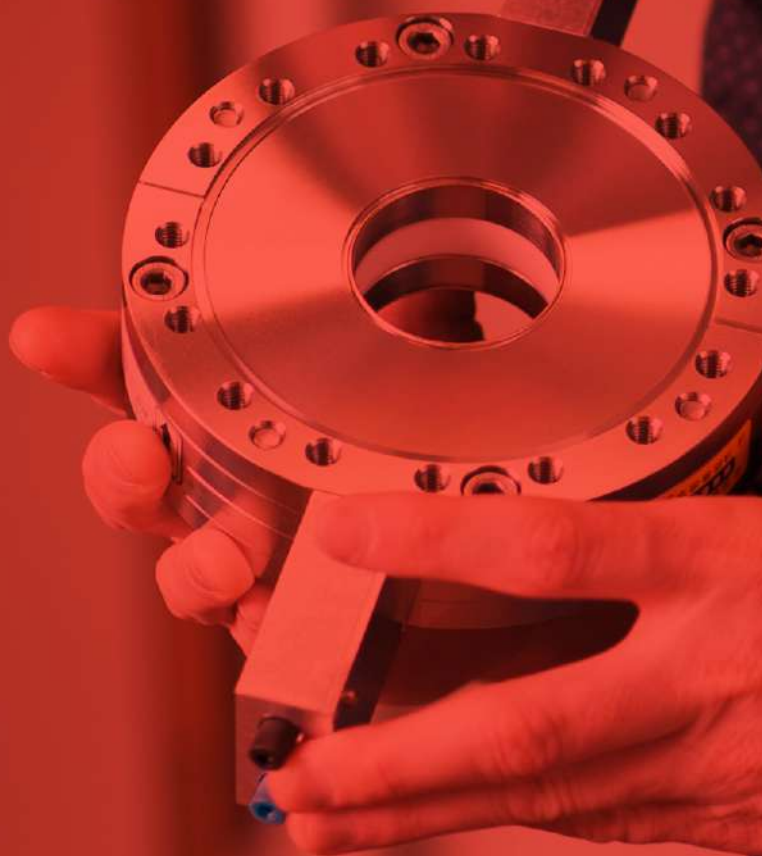


YOUR PARTNER
IN NON-DESTRUCTIVE
DIAGNOSTIC SOLUTIONS FOR
LOW CURRENT MEASUREMENTS



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More than 40 years of experience
recognized in the world of particle accelerators

bergoz
INSTRUMENTATION

Dear Customers,
Dear Users,

BERGOZ Instrumentation is a French SME, founded in 1981, focusing on non-destructive beam instrumentation for particle accelerators.

Taken over in October 2018, Bergoz Instrumentation stays an industrial company, dynamic and fully integrated from R&D to sales and support, including manufacturing and quality assurance.

Always moving forward, we design, develop, and manufacture high-precision Current Transformers and Analog RF Electronics, leveraging our worldwide leadership in this domain.

Self-financed, we have acquired full autonomy to build and sustain strong relationships with research institutes all over the world.

We invest more than 20% of our revenues in R&D to continuously innovate and confirm our scientific recognition.

And based on 40 years of experience, we provide expertise and advices to our end-users, ensuring perfect consistency between their beam requirements and our instruments performance. We are known to face successfully technological challenges with our premium solutions.

Our non-intercepting measurement systems allow a characterization of low current particle beams without disturbing beam quality. This exceptional strength is recognized throughout the particle accelerator landscape. 99% of the world's high-energy particle accelerators of all technologies use our instruments: Colliders, Synchrotron Light Sources, Laser-Plasma Wakefield Accelerators, Free Electron Lasers..., as well as medical accelerators.

Our driver is the scientists' satisfaction; our means are high product quality, manufacturing excellence, respect of commitments and customer intimacy. In addition to these values, we attach great importance to the quality of life at work via CSR actions, such as our own production of honey!

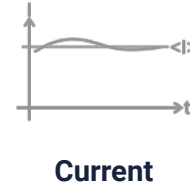
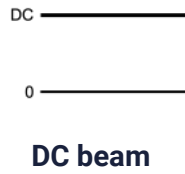
We are proud to spread our made-in-France knowhow widely across the globe!

Etienne Touzain
CEO



NPCT

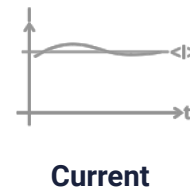
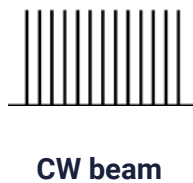
DC beam current measurement



Full Scale Range	±20 mA, ±200 mA, ±2 A, ±20 A
Resolution	0.5 μA rms / $\sqrt{\text{Hz}}$
Output Bandwidth	DC to 10kHz (-3dB)
Linearity error	≤ 0.1 %
In-flange sensor aperture	From 22.2 mm to 198.4 mm
In-air sensor aperture	From 55 mm to 245 mm

CWCT & BCM-CW-E

Precise average current measurement of CW beam or macropulses



Resolution	0.5 μA rms
Operating Frequency	From 15 MHz to 500 MHz
Response Time	1 μs
In-flange sensor aperture	From 22.2 mm to 198.4 mm

ACCT

Precise waveform measurement of long pulses



Chopped DC



Current

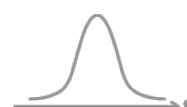
Full Scale Range	$\pm 1 \text{ mA to } \pm 2 \text{ A}$
Resolution	$\leq 1.5 \text{ } \mu\text{A rms}$
Droop	$\leq 2 \% / \text{ms}$
Bandwidth	From 3 Hz to 1 MHz (-3 dB)
In-flange sensor aperture	From 22.2 mm to 198.4 mm
In-air sensor aperture	From 16 mm to 245 mm

FCT

Very fast non-destructive pulse observation



Single pulse



Longitudinal profile

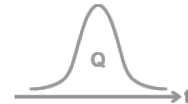
Sensitivity	From 0.25 to 5 V/A
Bandwidth	Up to 1.5 GHz
Rise time	$\leq 230 \text{ ps}$
In-flange sensor aperture	From 22.2 mm to 198.4 mm
In-air sensor aperture	From 16 mm to 245 mm

ICT & BCM-IHR-E

Beam charge measurement



Single pulse



Charge

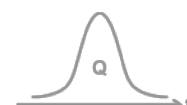
Sensitivity (ICT alone)	From 0.25 to 10 Vs/C
Full Scale Range	From 800 pC to 400 nC
Noise on single bunch	0.55 pC
In-flange sensor aperture	From 22.2 mm to 198.4 mm
In-air sensor aperture	From 16 mm to 245 mm

Turbo-ICT & BCM-RF-E

Very low charge measurement



Single pulse

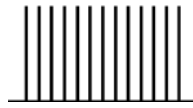


Charge

Bunch length	≤ 100 ps
Resolution	10 fC or 1% of the charge
Bunch Repetition	≤ 2 MHz
In-flange sensor aperture	From 22.2 mm to 198.4 mm
In-vacuum sensor aperture	55 mm and 82 mm

BPM

Custom BPM analog electronics on demand



CW beam

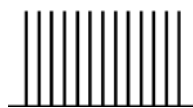


Position

Beam types	CW beam or macropulses
Resolution X & Y Multi-pass	1 μm
Resolution X & Y Single-pass	< 150 μm
Electronics chassis	19" 3U RF-shielded up to 16 stations

BLM

Low-cost beam loss counting



CW beam



Loss

Models	Single-ended (SE) or Differential (DIF)
Single particle detection efficiency	> 30 %
Maximum count rate	> 10MHz
BLM-SE dimensions	69 x 34 x 18 mm
BLM-DIF dimensions	96 x 46 x 21 mm

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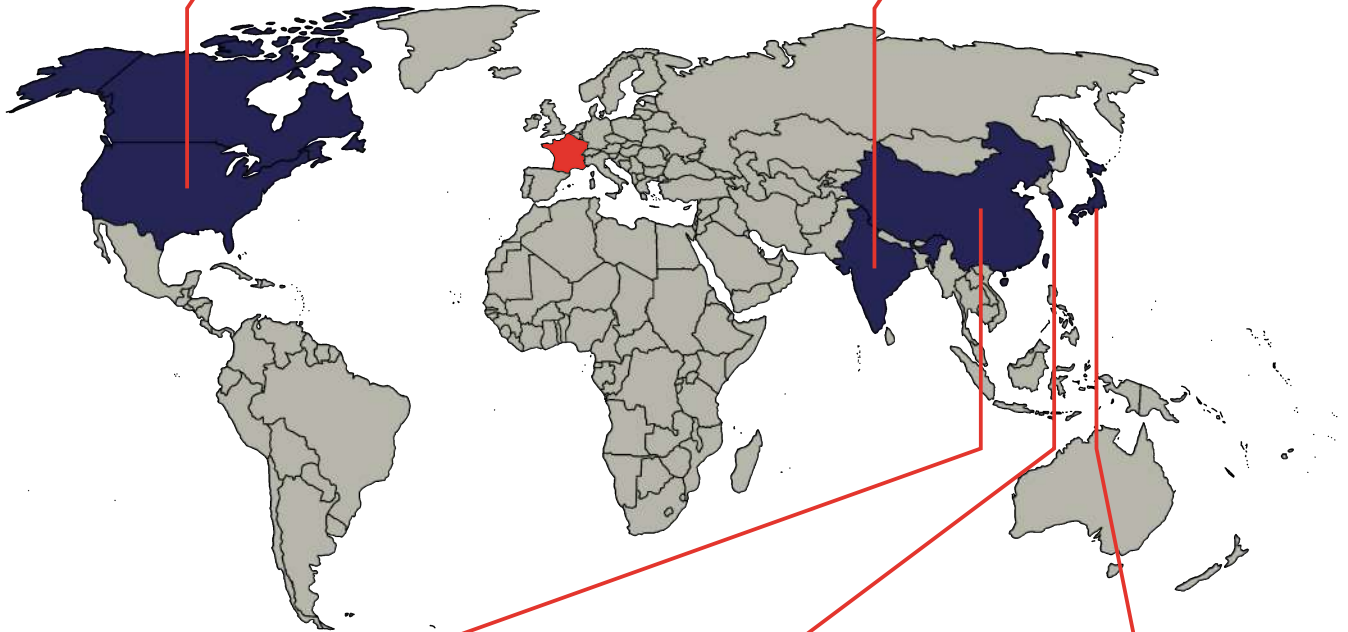
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